

Program Summary

ARVO
2017

Global Connections
in Vision Research

May 7 – 11
Baltimore Convention Center
Baltimore, Md.



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The Association for Research
in Vision and Ophthalmology

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Program Overview

Saturday, May 6		
	Room	Time
Registration/Badge Printing	Pratt Street Lobby	7am–6pm
ARVO Imaging Conference (separate registration required)	Ballroom 1-2	8–5:30pm
ARVO Education Courses (separate registration required)		
Big Data: Current status and future directions	Level 300	8:30am–4:30pm
Diabetic retinopathy: Past, present and future	Level 300	8:30am–4:30pm
Demystifying statistics and research for ophthalmic investigators	Level 300	8:30am–4:30pm
Stem cells and organoids as models of tissue differentiation and eye diseases	Level 300	8:30am–4:30pm
Retinitis pigmentosa: Novel treatments and challenges	Level 300	1–4:30pm
ARVO Foundation/Dowling Society Gala (tickets required)	Hilton Baltimore, Key Ballroom	7–10pm
Sunday, May 7		
	Room	Time
Registration/Badge Printing	Pratt Street Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Exhibits	Exhibit Hall	9am–5pm
Symposia	See Program	8:30–10:30am
Ocular Trauma Session	316	8:30–10:30am
Posters/All Posters Session*	Exhibit Hall	8:30–10:15am/10:45–11:45am*/1:30–3:15pm/3:15–5pm
NEI Town Hall	314	10:40–11:50
Opening Keynote Session	Hall G	12noon–1:15pm
Pizza with the Experts (separate registration required)	328	1:30–3pm
EVER/ARVO Workshop	316	1:30–3pm
SIGs/Workshops	See Program	1:30–3pm
Genetics Group	Ballroom 2	1:30–3pm
Papers/Minisymposia	See Program	3:15–5pm
Basic/Clinical Lecture	Hall G	5:15–7:15pm
Beckman-Argyros Award Lecture	Ballroom 2	5:30–6:30pm
Sunday Social (ticket required)	Power Plant Live!	7:30–10:30pm (ticket required)
Monday, May 8		
	Room	Time
Registration/Badge Printing	Pratt Street Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
NAEVR Defense Briefing	328	7:30–8:30am
Exhibits	Exhibit Hall	9am–5:30pm
Posters/All Posters Session*	See Program	8:30–10:15am/11am–12:45pm/2:45–3:45pm*/3:45–5:30pm
Papers/Minisymposia	See Program	8:30–10:15am/11am–12:45pm/3:45–5:30pm
Section Business Meetings	See Program	10:15–10:55am
SIGs/Workshops	See Program	1–2:30pm
Low Vision Group	308	1–2:30pm
China-ARVO Networking Forum	328	1–2:30pm
NEI Roundtable	316	1–2:30pm
Proctor Award Lecture	Hall G	5:45–6:30pm
Weisenfeld Award Lecture	Hall G	6:45–7:30pm
Student/Trainee Social	Charles Street Lobby	7:30–9pm
Tuesday, May 9		
	Room	Time
Registration/Badge Printing	Pratt Street Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Exhibits	Exhibit Hall	9am–5:30pm
Posters/All Posters Session*	See Program	8:30–10:15am/11am–12:45pm/2:45–3:45pm*/3:45–5:30pm
Papers/Minisymposia	See Program	8:30–10:15am/11am–12:45pm/3:45–5:30pm
Research Grant Administrators Program (separate registration required)	342	8am–4:30pm
General Business Meeting	324	10:15–10:55am
SIGs/Workshops	See Program	1–2:30pm
Clinician Scientist Forum	316	1–2:30pm
ARVO Foundation WEAVR Luncheon (separate registration required)	Hilton Baltimore, Holiday Ballroom	1–2:30pm
MIT Outstanding Poster Award Competition	Hall B	1–2:30pm
ARVO/Champalimaud Award Lecture	Hall G	5:45–7pm
Wednesday, May 10		
	Room	Time
Registration/Badge Printing	Pratt Street Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Breakfast with the Experts (separate registration required)	328	7–8:30am
Exhibits	Exhibit Hall	9am–5:30pm
Posters/All Posters Session*	See Program	8:30–10:15am/11am–12:45pm/2:45–3:45pm*/3:45–5:30pm
Papers/Minisymposia	See Program	8:30–10:15am/11am–12:45pm/3:45–5:30pm
SIGs/Workshops	See Program	1–2:30pm
Multidisciplinary Ophthalmic Imaging Group	Ballroom 2	1–2:30pm
Cogan Award Lecture	Hall G	5:45–6:30pm
Friedenwald Award Lecture	Hall G	6:45–7:30pm
Classical Concert	Hilton Baltimore, Holiday 4–6	8–10pm
ARVO Karaoke Night (ticket required)	PBR Baltimore	9pm–12midnight
Thursday, May 11		
	Room	Time
Registration	Pratt Street Lobby	7am–2pm
ARVO Central	Exhibit Hall	7am–2:30pm
Symposia	See Program	8:30–10:30am
Posters/All Posters Session*	See Program	8:30–10:15am/10:30–11:30am*/11:30am–1:15pm
Honolulu Kickoff Reception	Exhibit Hall	10:30–11:30am
Papers	See Program	11:30am–1:15pm
Closing Keynote Session	Hall G	1:30–3:15pm

* All Posters— all first authors will be present

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Important Policies

Use of recording/photography/audiotape/video equipment: Recording by any means (photographing, audiotaping, videotaping) of any presentations or sessions at any ARVO Meeting is prohibited, except by an ARVO-authorized agent for official purposes or by First Authors who want to photograph their own poster presentations. Violators risk confiscation of their equipment and/or dismissal from the Annual Meeting as deemed appropriate by ARVO.

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Clinical Trials Registration Policy: All clinical trials that will be reported in ARVO Annual Meeting abstracts must be registered on a publicly available database. The required acknowledgement of the First Author, acting as the authorized agent for all authors, certifies that any research presented in the abstract that reports on a clinical trial is registered, and the registration location and number are included on the abstract, in compliance with the ARVO Statement on Registering Clinical Trials, arvo.org/clinicaltrials/. For more information on this policy, refer to the Clinical Trials Registration Index at arvo.org/am/programsummary.

Program Summary

Program Summary: Online at arvo.org/am/programsummary. Abstracts are referred to in the *Program Summary* by program number (not page number) and session number.

Online Planner: Abstracts may be viewed and printed from the online planner at arvo.org/online_planner.

ARVO 2017 Mobile App: Offers complete search functionality for the Annual Meeting Program. Plan your schedule or sync with your schedule in the Online Planner. Download from the App Store, Google Play and elsewhere.

Photography Release

By attending the ARVO Annual Meeting, attendees agree to allow their names, likenesses and images either in audio, photographic or video format recorded onsite to be used by ARVO and the ARVO Foundation for Eye Research for educational and promotional purposes.

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The Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting online program materials and print publications aim to promote vision research and scientific discourse for educational purposes. ARVO accepts no responsibility for any products, presentations, opinions, statements or positions expressed; and inclusion of such material within the Meeting, the publications or posted online does not constitute an endorsement by ARVO.

Continuing Medical Education

ARVO is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

ARVO designates this live activity for a maximum of 29.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Please refer to the *Pocket Guide* for the complete CME information.



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See arvo.org/am/programsummary for:

- ARVO Commercial Relationships Policy
- Commercial Relationships Index
- Statement on Registering Clinical Trials
- Clinical Trials Index

Children in the Convention Center

Children under 18 years old must be accompanied by a parent or guardian at all times. Parents/guardians who bring children into paper sessions must remove them immediately if they become disruptive. Children are not allowed to accompany parents/guardians in sessions/events where tickets are required or food is provided, except events for which children's tickets are available for purchase. Under no circumstances are children permitted in the exhibit hall during set-up or dismantle times.

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How to Use the Program Summary

The *Program Summary* provides a summary of the ARVO 2017 Annual Meeting Scientific Program and information about other Meeting events and activities. Abstracts are not included. Abstracts are available online for viewing and printing. See below for details.

The scientific program is organized chronologically by day, session time and program number. All sessions scheduled within the same time slot are listed together (see thumb index at the side of each page).

A Program Daily Schedule is included for each day to provide a quick view of the scheduled paper and poster sessions, symposia, award lectures, business meetings, workshops and special interest groups (SIGs). These program schedules are located at the beginning of each scientific program day.

Page headers include the day, type of session and the program number range on each page.

Indices

There are four indices to assist you in locating sessions, moderators and presentations.

- **Author Index** — All authors are listed alphabetically by last name. Boldface type is used to indicate the program number and poster board number of the abstract for which the author is First (Presenting) Author. Bold and italic type indicates a symposium presentation. This index is located in the back of this book.
- **Moderator Index** — This is a listing of the session moderators alphabetically by last name. Included are the moderator's name, session day, date, time, location, title and Commercial Relationships Disclosure, if applicable. This index is located in the back of this book.
- **Clinical Trial Registration Index** (online only) — This is a listing by program number of the clinical trial registration information for each applicable presentation as indicated at the time of abstract submission. See ARVO Statement on Registering Clinical Trials in the Index. This index can be found online at arvo.org/AMindices.
- **Commercial Relationships Index** (online only) — This is a listing by program number of the commercial relationships and names of firms with which commercial relationships exist for each First Author and Co-author as indicated. First Authors or

Program information, printing abstracts and other features

For searchable information about the scientific program, authors, printable abstracts and to develop your own personal Meeting itinerary, visit arvo.org/online_planner.

Abstracts also will be available at iovs.arvojournals.org, the version of record, in June 2017.

Co-authors who indicated “none” for commercial relationship are not included in this index. See Commercial Relationships Policy in the Index. This index can be found online at arvo.org/am/programsummary.

Paper Sessions/Symposia/Minisymposia:

Room 301
Monday, May 08, 2017 11:00 AM-12:45 PM
Glaucoma
230 IOP Measurement and Characterization I
1597 — 11:15 Goldman applanation tonometer error relative to true intracameral Intraocular pressure in vitro and in vivo. Sean J. McCafferty. Ophthalmology, University of Arizona, Tucson, AZ *CR ↗

Poster Sessions:

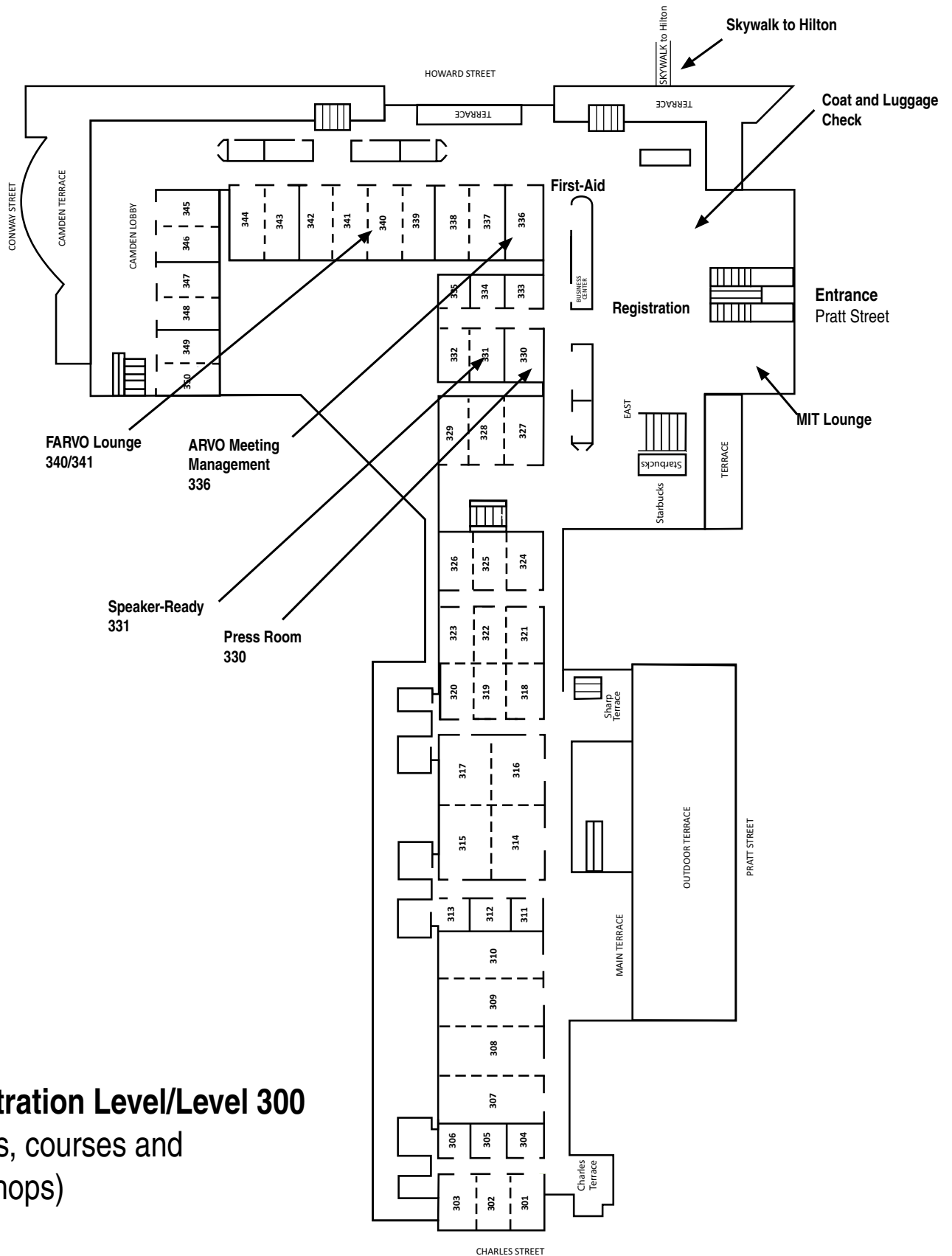
Exhibit/Poster Hall A0381-A0394
Monday, May 08, 2017 8:30 AM-10:15 AM
Retinal Cell Biology
219 Stem cells for ganglion cell regeneration and repair
1360 — A0381 Direct induction of functional neurons from adult human retina derived fibroblast-like cells. Lili Hao, Z. Xu, W. Luo, Y. Yan, H. Sun, S. Chen. ZhongShan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

*CR refers to the program number in the Commercial Relationships (CR) Index for Disclosures.

↗ refers to the program number in the Clinical Trial (CT) Registration Index.

Poster board numbers indicate the Exhibit Hall location of the presentation. For example, A0318 will be located in Poster Area A and B1098 will be located in Poster Area B.

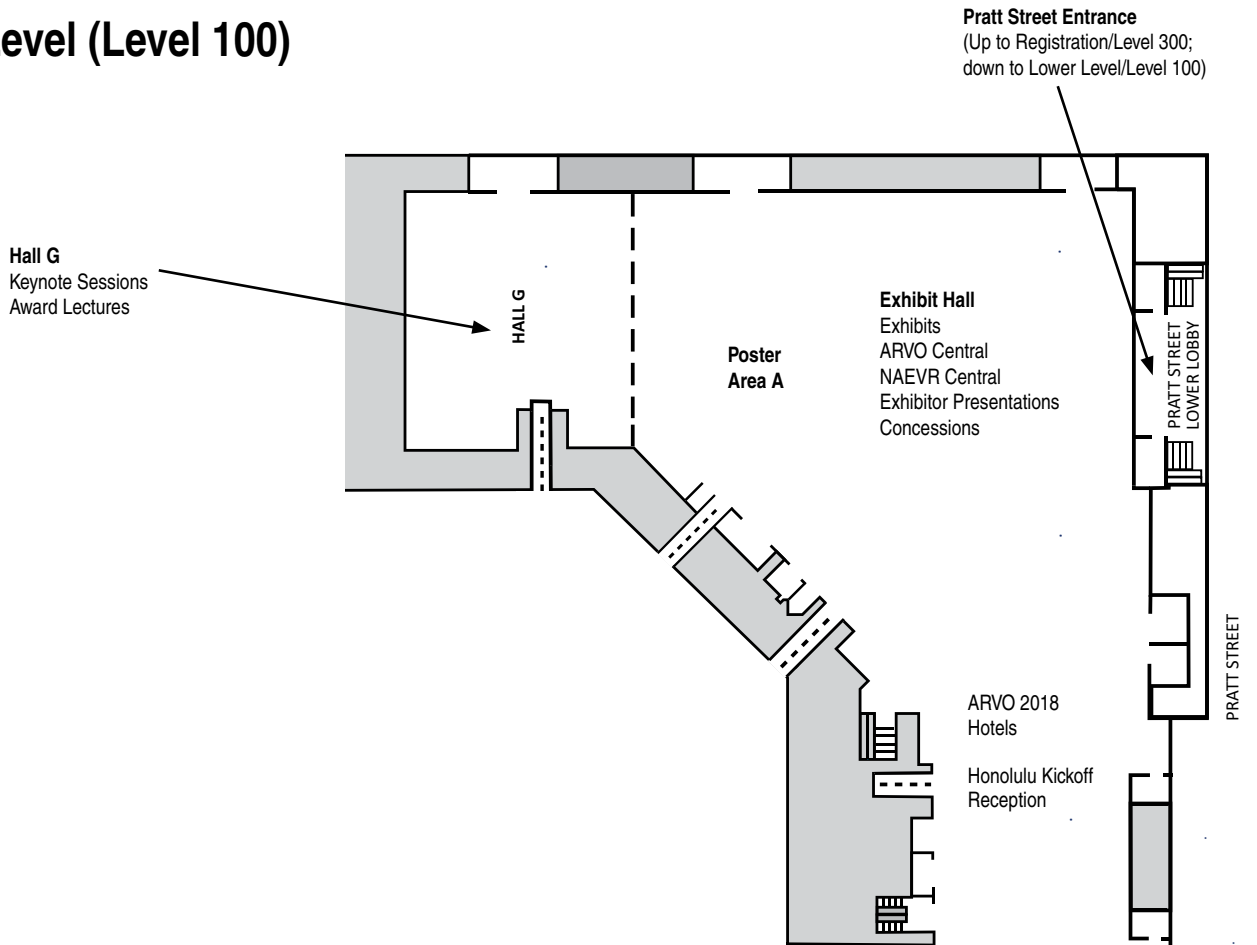
Meeting Rooms/Convention Center



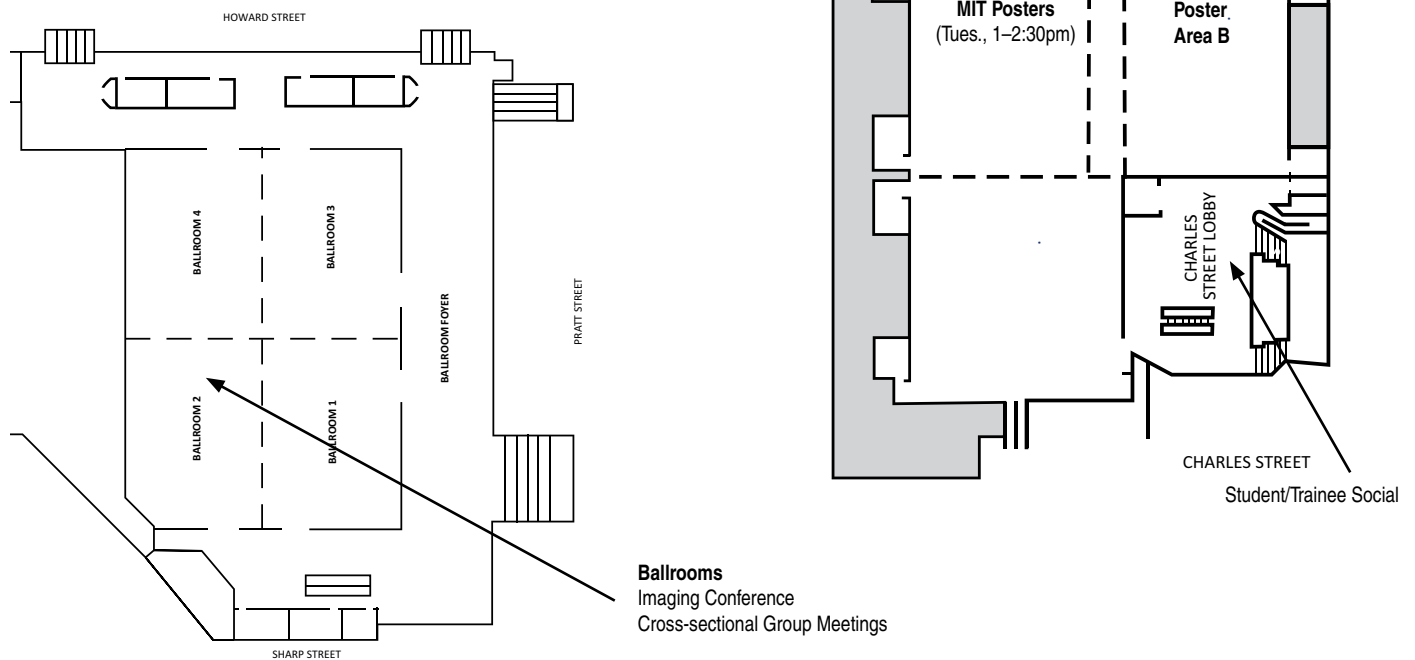
Registration Level/Level 300
 (offices, courses and workshops)

Meeting Rooms/Convention Center

Baltimore Convention Center Lower Level (Level 100)



Level 400 — Ballrooms



ARVO Office Information

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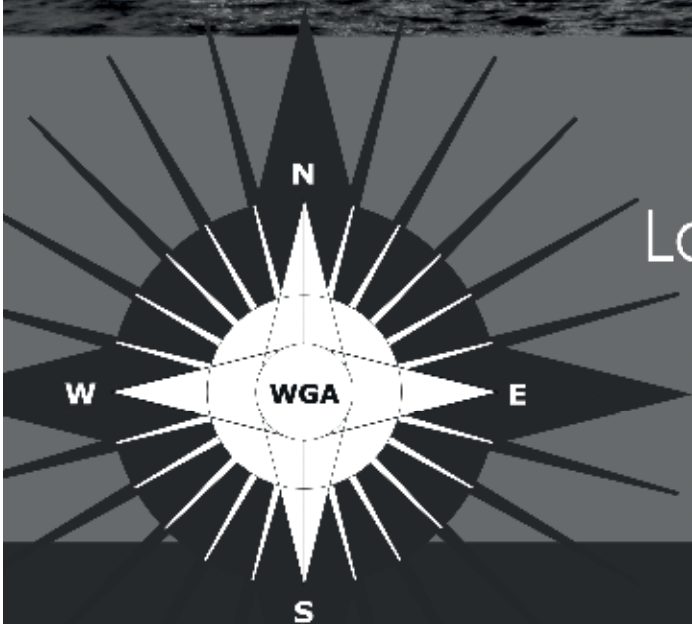
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WORLD GLAUCOMA CONGRESS
JUNE 28–JULY 1, 2017
HELSINKI



May 15, 2017
Late registration deadline

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THE GLOBAL GLAUCOMA NETWORK
www.worldglaucoma.org

In Memoriam

ARVO recognizes and honors members who we lost in 2016 and 2017.

Eliot L. Berson, FARVO

March 19, 2017

Professor of Ophthalmology at Harvard Medical School, and the Founding Director of the Berman-Gund Laboratory for the Study of Retinal Degenerations, Berson is known for his important research in understanding potentially blinding diseases and for the development of the first treatment for retinitis pigmentosa. He was the 1992 recipient of the Friedenwald Award.

Bosco Tjan, PhD

December 2, 2016

Professor of psychology, University of Southern California, and co-director of the Cognitive Neuroimaging Center at Dornsife, Tjan was considered an expert in the adaptations people make when suffering central vision loss. He was an editorial board member for the *Journal of Vision*.

Lynn A. Olzak, PhD

October 13, 2016

An ARVO member for more than 35 years, Olzak served on the Annual Meeting Program Committee and Low Vision Initiative Working Groups. She was an associate professor at Miami University of Ohio from 1998 through 2015.

Lynette Feeney-Burns, PhD

July 23, 2016

A long-time vision researcher and ARVO member, Feeney-Burns' most recent position was a research professor, department of ophthalmology, University of Missouri. She was the first female editorial board member of *Investigative Ophthalmology & Visual Science*.

Barrett Haik, MD, PhD

July 22, 2016

Chairman of the ophthalmology department at the University of Tennessee Health Science Center since 1995, Haik transformed the department into the Hamilton Eye Institute. He also built the ophthalmic oncology service at St. Jude Children's Research Hospital in Memphis.

Christina Enroth-Cugell, MD, FARVO

June 15, 2016

Emeritus professor of biomedical engineering and neurobiology at Northwestern University, Enroth-Cuggell will be remembered as a renowned vision scientist and distinguished researcher. A long-time ARVO member, she received the 1983 Friedenwald Award for her groundbreaking research and contributions to the study of visual physiology.

Scott Smemo, PhD

May 19, 2016

A postdoctoral fellow at Columbia Medical Center in New York, Smemo received the 2014 Genentech Research Fellowship from the ARVO Foundation. His research focused on genetic causes for macular degeneration in humans.

Abraham Spector, PhD, FARVO

April 19, 2016

Before becoming Professor Emeritus, Spector was the Malcom Aldrich Professor and Director of Research in the Department of Ophthalmology, Columbia University Medical School. He received the ARVO Proctor Medal for his work on the aging process of the lens and the formation of cataracts. He was president of ARVO in 1976.

Friederike Mackensen, MD

April 19, 2016

A faculty member at the University Eye Hospital in Heidelberg and the University Eye Hospital in Mainz, Mackensen focused her research on clinical trials for the diagnosis and medical treatment of uveitis, with emphasis on the genetics of the disease.

Robert Nussenblatt, MD, FARVO

April 17, 2016

Director of the Laboratory of Immunology at the National Eye Institute, NIH, Nussenblatt was a world-renowned expert on inflammatory diseases affecting the eye, including uveitis. He authored the book *Uveitis: Fundamentals and Clinical Practice* — now in its fourth edition. A long-time ARVO member, he received the 1991 Proctor medal and served as president in 1998-1999.

John Krauskopf, PhD

February 3, 2016

Best known for co-authoring a series of articles on the cardinal axes of color space, followed by the analysis of cone inputs to chromatic channels in primate LGN, Krauskopf most recently served as research professor of neural science at New York University until his retirement in 2003.

We're proud of our members and their contributions to ARVO and the vision and eye research community. If you know of a member who has passed away, please let us know at arvo.org/submitobit.

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NAEVR
National Alliance For
Eye And Vision Research

Visit NAEVR Central in the Exhibit Hall

Hours: Sunday – Wednesday, 9am – 4pm

Hosted by NAEVR’s James Jorkasky and David Epstein

- Contact Congress to support vision research funding increases
- Learn about research funding resources, such as multiple Department of Defense (DoD) funding opportunities to meet critical vision research gaps

NAEVR’s Defense-Related Vision Research Opportunities Session

Monday, May 8, 7:30 – 8:30am, 328

NAEVR has invited DoD representatives to speak about funding opportunities and past DoD awardees to offer insights into how researchers can be most responsive to the funding Program Announcement.



ARVO social events: Everyone is welcome!



Sunday Social at PowerPlant Live!

Sun., May 7, 7:30 – 10:30pm

PowerPlant Live!

34 Market Street, Baltimore
(admission ticket required)

Power Plant Live! is Baltimore’s premier dining and entertainment destination located just one block from the world famous Inner Harbor. Join meeting attendees for great food, drinks, music, dancing, games and more. With several different venues, Power Plant Live! provides a diverse array of activities for everyone. This event is family-friendly so purchase tickets for your entire family to join in the fun.

Student/Trainee Social

Mon., May 8, 7:30 – 9pm

Baltimore Convention Center
Charles Street Lobby

All trainees attending the Meeting are invited to join us in honoring the 2017 Travel Grant Recipients. Come and mingle with your colleagues, make new acquaintances, and meet members of the ARVO Board of Trustees.

ARVO Classical Concert

Wed., May 10, 8 – 10pm

Hilton Baltimore Hotel
401 W. Pratt Street, Baltimore
Ballroom Holiday 6

The popular ARVO Classical Concert is performed by multi-talented ARVO members. Relax and enjoy the music.



ARVO Karaoke

Wed., May 10, 9pm – 12midnight

PBR Bar, a Cowboy Bar
34 Market Street, Baltimore
(admission ticket required)

Show your vocal talents or cheer on your favorite performer at the ARVO karaoke night! Admission includes one drink. Light snacks will also be available. You must be 21 years or older to attend this event.

Honolulu Welcomes ARVO 2018 Kick-Off Reception

Thurs., May 11, 10:30 – 11:30am

Baltimore Convention Center
Exhibit Hall

Join ARVO and Hawaii CVB as we look forward to the ARVO 2018 Annual Meeting.

Saturday

May 6, 2017

Education Courses
Separate registration fee required

ARVO
2017

Global Connections
in Vision Research

MAY 7 – 11 | BALTIMORE

Saturday, May 6 – Education courses (education courses require separate registration)

Room		8:30am–4:30pm	1pm–4:30pm		
Level 300	001 Big Data: Current status and future directions				
Level 300	004 Stem cells and organoids as models of tissue differentiation and eye diseases				
Level 300	003 Demystifying statistics and research for ophthalmic investigators				
Level 300			005 Retinitis pigmentosa: Novel treatments and challenges		
Level 300	002 Diabetic retinopathy: Past, present and future				

ARVO Annual Meeting Registration
Pratt Street Lobby
7am – 6pm

ARVO Imaging Conference
Ballroom 1 and 2
8am – 5:30pm
(separate registration required)

ARVO Foundation and Dowling Society
Gala Awards Ceremony and Dinner
Hilton Baltimore, Key 1 – 8
6– 10pm
(tickets required)

Level 300

Saturday, May 06, 2017 8:30 AM-4:30 PM

001 Big Data: Current status and future directions

Big Data is one of the most frequently used terms in the press. This course will inform participants about what Big Data actually is, what are some of the Big Data sets available in vision research, some of the analytics used on Big Data and some of the potential applications of Big Data.

Moderators: Michael Chiang, Anne Coleman and Seth Blackshaw

— 8:30 **Introduction and Welcome.** Anne Coleman. Ophthalmology, UCLA Medical Center, Los Angeles, CA

— 9:00 **Tapping into Health Care Claims Databases to Learn About Ocular Diseases.** Joshua D. Stein. Kellogg Eye Center/University of Michigan, Ann Arbor, MI

— 9:20 **Clinical Registries and “Big Data”.** Paul P. Lee. Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI*CR

— 9:40 **Mining EHR Data.** Michael F. Chiang. Oregon Health & Science University, Portland, OR*CR

— 10:00 **Panel Discussion -M Chiang, P Lee, J Stein**

— 10:30 **Break**

— 10:45 **Visualizing Big Data.** Aaron Y. Lee. University of Washington, Seattle, WA*CR

— 11:05 **Applications of Machine Learning and Deep Learning.** Adnan Tufail. Moorfields Eye Hospital, London, United Kingdom; Institute of Ophthalmology, UCL, London, United Kingdom*CR

— 11:25 **Big Data and Ophthalmic Genetics.** Michael B. Gorin. Ophthalmology, Stein Eye Institute - UCLA, Los Angeles, CA; Human Genetics, David Geffen School of Medicine, Los Angeles, CA

— 11:45 **Panel Discussion - M Gorin, A Lee, A Tufail**

— 12:15 **Lunch**

— 1:15 **Epigenetic changes associated with age-related macular degeneration.** Jiang Qian. Wilmer Eye Institute, Baltimore, MD

— 1:35 **Transcriptomics.** Salil Lachke. Department of Biological Sciences, University of Delaware, Newark, DE

— 1:55 **A standardized toolbox of highly specific, immunoprecipitation-grade antibodies against human transcription factors and associated proteins.** Heng Zhu. Room 333, Edward D. Miller Research Building, Baltimore, MD*CR

— 2:15 **Break**

— 2:30 **Parsing retinal development and disease at the single cell level.** David Cobrinik. The Vision Center and The Saban Research Institute, Children’s Hospital Los Angeles, Los Angeles, CA; Roski Eye Institute, USC Keck School of Medicine, Los Angeles, CA

— 2:50 **Single-cell RNA-Seq: a window into retinal cell specification and diversification.** Seth Blackshaw. Johns Hopkins University School of Medicine, Baltimore, MD

— 3:10 **Panel Discussion - S Blackshaw, D Cobrinik, SA Lachke, J Qiam, H Zhu**

— 3:40 **Panel Discussion - Brainstorming on next steps and global collaborations**

— 4:15 **Closing remarks.** Michael F. Chiang. Oregon Health & Science University, Portland, OR*CR

Level 300

Saturday, May 06, 2017 8:30 AM-4:30 PM

002 Diabetic retinopathy: Past, present and future

Diabetes is a global epidemic afflicting approximately 400 million people, and retinopathy is one of its most feared complications, which affects over 90% of patients after 25 years of diabetes. The course will cover various aspects of diabetic retinopathy, including genetic associations and systemic factors, and will provide an outstanding platform for the vision community for a balanced discussion of the experimental and clinical aspects of diabetic retinopathy.

Moderators: Renu Kowluru and Arup Das

— 8:30 **Introduction and welcome.** Renu A. Kowluru. Kresge Eye Inst/Wayne State University, Detroit, MI

— 8:40 **Clinical Overview of Diabetic Retinopathy.** Arup Das. University of New Mexico School of Medicine, Albuquerque, NM; Ophthalmology, NM VA Health Care System, Albuquerque, NM*CR

— 9:05 **Epidemiology of Diabetic Retinopathy.** Tien Y. Wong. Singapore National Eye Centre, Singapore, Singapore; Duke-NUS Medical School, National University of Singapore, Singapore, Singapore*CR

— 9:30 **Systemic factors associated with diabetic retinopathy.** Emily Chew. Epidemiology & Clinical Applications, National Eye Institute, Bethesda, MD

— 9:55 **Discussion**

— 10:05 **Break**

— 10:20 **Update on the Genetics of Diabetic Retinopathy.** Lucia Sobrin. Harvard Med Mass Eye & Ear Infirmary, Boston, MA

— 10:45 **Resistance of Diabetic Retinopathy to Arrest its Progression after Termination of Hyperglycemia- Metabolic Memory & Epigenetics.** Renu A. Kowluru. Kresge Eye Inst/ Wayne State University, Detroit, MI

— 11:10 **Inflammation and Angiogenesis in Diabetic Retinopathy- Role of Lipid Metabolites.** Lois E. Smith. Childrens Hospital/Harvard University, Boston, MA

— 11:35 **Discussion**

— 11:50 **Lunch**

— 12:50 **Basic science of diabetic retinopathy.** Timothy S. Kern. Case Western Reserve University, Cleveland, OH; Research, Stokes VA Medical Center, Cleveland, OH

— 1:15 **Cellular targets of diabetic retinopathy.** Sayon Roy. Boston University School of Medicine, Boston, MA

— 1:40 **Novel Biomarkers in Diabetic Retinopathy - Their Role in Clinical Practice and in Research.** Alicia Jenkins. The University of Sydney, Sydney, NSW, Australia

— 2:05 **In vivo Retinal Imaging for Diabetic Retinopathy: New Perspective of a Known Entity.** Susanna S. Park. UC Davis Eye Center/ University of California, Sacramento, CA

— 2:30 **Break**

— 2:45 **Clinical Trials on Anti-VEGF and other therapies in diabetic retinopathy.** M Elizabeth Hartnett. Moran Eye Center/University of Utah School of Medicine, Salt Lake City, UT; University of Utah, Salt Lake City, UT

— 3:10 **Emerging Stem/Progenitor Cell Therapies for Diabetic Retinopathy.** Maria B. Grant. Eugene and Marilyn Glick Eye Institute/ Indiana University, Indianapolis, IN

— 3:35 **Emerging diagnostic strategies for diabetic retinopathy.** Ashwath Jayagopal. F. Hoffmann-La Roche Ltd, Basel, Switzerland*CR

— 4:00 **Discussion**

— 4:10 **Discussion**

— 4:25 **Summary.** Arup Das. University of New Mexico School of Medicine, Albuquerque, NM; Ophthalmology, NM VA Health Care System, Albuquerque, NM

Level 300

Saturday, May 06, 2017 8:30 AM-4:30 PM

003 Demystifying statistics and research for ophthalmic investigators

This course will bring together clinicians and statisticians to address these challenges. At the end of this course, you will understand what is wrong with correlation coefficients, what a confidence interval actually represents, the key elements of a sample size calculation and a lot more. The course will focus on understanding statistical fundamentals and the correct interpretation of ophthalmic data. Examples of what-not-to-do and why will be discussed. Formulae will be kept to a minimum - so no calculators needed!

Moderators: Bruce Gaynes, Sarah Coupland and Gabriela Czanner

— 8:30 **Introduction and welcome.** *Gabriela Czanner.* Eye and Vision Science and Biostatistics/University of Liverpool, Liverpool, United Kingdom; Clinical Eye Research Centre, St. Paul's Eye Unit, The Royal Liverpool and Broadgreen University Hospitals, Liverpool, United Kingdom

— 8:35 **Introduction - Bruce I Gaynes**

— 8:45 **Introduction to research theory: The research hypothesis.** *Bruce I. Gaynes.* Loyola University, Maywood, IL

— 9:15 **Deductive vs. inductive reasoning and study design.** *Bruce I. Gaynes.* Loyola University, Maywood, IL

— 10:15 **Break**

— 10:30 **Understanding study power and fundamental statistical principles for clinical research.** *Bruce I. Gaynes.* Loyola University, Maywood, IL

— 11:00 **Selection of study subjects and sampling.** *Bruce I. Gaynes.* Loyola University, Maywood, IL

— 11:30 **Sample size calculations.** *Gabriela Czanner.* Eye and Vision Science and Biostatistics/University of Liverpool, Liverpool, United Kingdom; Clinical Eye Research Centre, St. Paul's Eye Unit, The Royal Liverpool and Broadgreen University Hospitals, Liverpool, United Kingdom

— 12:00 **Lunch**

— 1:00 **Data management - how should I collect data during my study?** *Catey V. Bunce.* Primary Care and Public Health Sciences, Kings College London, London, United Kingdom; London School of Hygiene & Tropical Medicine, London, United Kingdom

— 1:30 **Statistics: What are the 10 things that I need to know about statistics in ophthalmology? Choosing correct methods and interpretation.** *Gabriela Czanner.* Eye and Vision Science and Biostatistics/University of Liverpool, Liverpool, United Kingdom; The Royal Liverpool and Broadgreen University Hospitals, Clinical Eye Research Centre, St. Paul's Eye Unit, Liverpool, United Kingdom

— 2:00 **Fuss about p-value: How do I compare two treatments? Why is the p-value never enough?** *Ana Quartilho.* Moorfields Eye Hospital, London, United Kingdom; UCL Institute of Ophthalmology, London, United Kingdom

— 2:30 **Break**

— 2:45 **Appraisal of research papers: How do I read and review research papers?** *Marta Garcia-Finana.* Department of Biostatistics, University of Liverpool, Liverpool, United Kingdom

— 3:15 **Missing data: Why does it matter? How to approach the challenges it presents?** *Ana Quartilho.* Moorfields Eye Hospital, London, United Kingdom; UCL Institute of Ophthalmology, London, United Kingdom

— 3:45 **Panel Discussion**

— 4:15 **Closing remarks.** *Gabriela Czanner.* Eye and Vision Science and Biostatistics/University of Liverpool, Liverpool, United Kingdom; Clinical Eye Research Centre, St. Paul's Eye Unit, The Royal Liverpool and Broadgreen University Hospitals, Liverpool, United Kingdom

Level 300

Saturday, May 06, 2017 8:30 AM-4:30 PM

004 Stem cells and organoids as models of tissue differentiation and eye diseases

The use of stem cell populations and organoids to generate replacement cells/tissues/organs to correct acquired and genetic human eye diseases as well as drug screening is proving to be crucial to the development of the new therapies for eye diseases.

Moderator: Lisa Neuhold

— 8:30 **Stem Cell Therapy and Organoids as Potential Therapeutic Intervention.** *Paul A. Sieving.* National Eye Institute, NIH, Bethesda, MD

— 8:45 **Introduction.** *Thomas A. Reh.* University of Washington, Seattle, WA *CR

— 9:15 **Questions**

— 9:25 **Cornea: Niche regulation of limbal stem cells.** *Scheffer C. Tseng.* R&D, TissueTech, Inc., Miami, FL; Ocular Surface Center, Miami, FL *CR

— 9:50 **Lens: regeneration of lens from endogenous stem cells.** *Kang Zhang.* University of California, San Diego, La Jolla, CA

— 10:15 **Questions**

— 10:25 **Break**

— 10:45 **RPE Stem Cell Transplantation and Endogenous Activation.** *Jeffrey Stern.* Neural Stem Cell Institute, Rensselaer, NY

— 11:10 **Photoreceptor synapse formation in vivo and in retinal organoid cultures.** *Anand Swaroop.* N-NRL, Bldg 6, National Eye Institute, NIH, Bethesda, MD

— 11:35 **Retinal Ganglion Cells: Differentiation and integration of RGCs into adult retinas.** *Jeffrey L. Goldberg.* Ophthalmology, Stanford University, Palo Alto, CA

— 12:00 **Questions**

— 12:15 **Lunch**

— 1:25 **Bioengineering Cornea Tissues for in vitro and in vivo Utility.** *David Kaplan.* Tufts University, Medford, MA

— 1:50 **Development of biomaterials to control the microenvironment for cell-based retinal regeneration strategies.** *Rebecca L. Carrier.* Northeastern University, Boston, MA

— 2:15 **Questions**

— 2:25 **A retinal organoid view into the mechanisms of human eye development and regeneration.** *Valeria Canto Soler.* Johns Hopkins University School of Medicine, Baltimore, MD *CR

— 2:50 **Patient-specific 3D Engineered Ocular Tissue to Identify Mechanism of AMD Onset and Progression.** *Kapil Bharti.* National Eye Institute, Bethesda, MD

— 3:15 **Questions**

— 3:25 **Break**

— 3:40 **Microengineered Physiological Biomimicry: Human Organ-on-Chips.** *Dan Huh.* University of Pennsylvania, Philadelphia, PA *CR

— 4:05 **Questions**

— 4:15 **Summary and Closing Remarks.** *Valeria Canto Soler.* Johns Hopkins University School of Medicine, Baltimore, MD *CR

Level 300

Saturday, May 06, 2017 1:00 PM-4:30 PM

005 Retinitis pigmentosa: Novel treatments and challenges

Retinitis pigmentosa (RP) is the fourth most common causes of blindness in the industrial world.

Moderators: *Ygal Rotenstreich, Ifat Sher, Gerald Fishman*

— 1:00 **Introduction and Welcome.** *Ygal Rotenstreich.* Goldschleger Eye Research Institute, Sheba Medical Center, Tel Hashomer, Israel; Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel

— 1:05 **Outcome Measures for Clinical Trials in Patients with Inherited Retinal Degenerations.** *Mark E. Pennesi.* Casey Eye Institute/Oregon Health & Science University, Portland, OR*CR

— 1:25 **Nutritional Interventions for Inherited Retinal Diseases.** *Paul S. Bernstein.* Moran Eye Center/University of Utah School of Medicine, Salt Lake City, UT

— 1:45 **Objective Visual Field and 9-cis Beta-Carotene Treatment for Retinitis Pigmentosa.** *Ygal Rotenstreich.* Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel; Goldschleger Eye Institute, Sheba Medical Center, Tel Hashomer, Israel*CR,↗

— 2:05 **Strategies for Genetic Screening in Patients with Inherited Retinal Dystrophies.** *Tamar Ben-Yosef.* Technion Israel Institute of Technology, Haifa, Israel

— 2:25 **Break**

— 2:40 **Stem Cell Therapies for the Treatment of Retinal Degenerative Diseases.** *David M. Gamm.* Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI; McPherson Eye Research Institute, University of Wisconsin-Madison, Madison, WI*CR

— 3:00 **Gene Therapy for Hereditary Retinal Diseases.** *Eyal Banin.* Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel↗

— 3:20 **CRISPR/Cas technologies for genome and epigenome editing.** *Albert W. Cheng.* The Jackson Laboratory for Genomic Medicine, Farmington, CT; Department of Genetics and Genome Sciences, University of Connecticut Health Center, Farmington, CT

— 3:30 **Clinical Implementation of Gene Supplementation and Genome CRISPR-surgery in RP.** *Stephen H. Tsang.* Edward S. Harkness Eye Institute/Columbia University, New York, NY

— 3:40 **Argus II Clinical Trial Update.** *Mark S. Humayun.* Ophthalmology, USC Roski Eye Institute/University of Southern California, Los Angeles, CA*CR,↗

— 4:00 **Animal studies of subretinal approach to prosthetic restoration of sight.** *Daniel V. Palanker.* Ophthalmology, Stanford University, Stanford, CA*CR

— 4:20 **Q & A and Discussion**

— 4:25 **Summary and Closing remarks.** *Mark E. Pennesi.* Casey Eye Institute/Oregon Health & Science University, Portland, OR*CR

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. *CR Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

Sunday

May 7, 2017

ARVO
2017

Global Connections
in Vision Research

MAY 7 – 11 | BALTIMORE

Sunday, May 7

Room	8:30–10:30am Symposia	10:40–11:50am	12noon–1:15pm	1:30–3pm Cross-Sectional Group/Workshops/SIGs	3:15–5pm Papers/Minisymposia	5:15–7:15pm Basic/Clinical Lecture	5:30–6:30 — 0pm
Hall G			116 ARVO/Alcon Keynote Opening Session		145 OCT Angiography in AMD [RE] #816-821	164 Improving global eye health: Beating the odds for neglected and emerging diseases around the world [CO, CL, EY, GEN, GL, IM, LY, MOI] #1165-1170	
Ballroom 1				123 Managing Patients with Diabetic Macular Edema, Neovascular AMD, and Retinal Vein Occlusion: How to Best Utilize Data from Clinical Trials — SIG [RE, CL, IM, PH, VN]	143 Retinal glia [RC] #802-808	165 Beckman- Argyros Award in Vision Research #1171	
Ballroom 2				117 GEN Group: New tools and methodologies for ocular genetics: Promises and challenges [GEN]	142 Dry Eye I [CO] #795-801		
Ballroom 3	101 Light-based treatment strategies for blinding eye disease — Symposium [AP, BI, CO, EY, GL, IM, LE, LY, MOI, PH, RC, RE, VI] #1-6			124 Lasker/IRRF Initiative on Amblyopia — SIG [EY, RE, VI, VN]			
Ballroom 4	102 Homologies between the brain and the eye: Can ocular researchers lead the way or are we following our 'brainy' colleagues? — Symposium [IM, AP, BI, GL, PH, RC] #7-12			125 Conclusions and recommendations from the TFOS Dry Eye Workshop II - SIG [CO]	144 Biochemistry and Molecular Biology of AMD I [BI] #809-815		
Room 301				126 Role of mitochondria in retinal health and diseases — SIG [RC, BI]	146 Deep learning for image segmentation and classification [MOI] #822-827		
Room 307				127 Beyond Axial Length: Modern Imaging Biomarkers for Better Understanding Myopia Development and Progression — SIG [MOI, AP, CL, CO, RE]	147 Genetics and modeling of lens and anterior segment anomalies — Minisymposium [LE] #828-833		
Room 308				128 Inflammation activation in the pathogenesis of glaucoma — SIG [RC, EY, GL, IM, PH]			
Room 309				118 NIH-CSR workshop on the peer review of grant applications	148 Frequency of Visual Impairment and Eye Disease and Their Risk Factors [CL] #834-840		
Room 310				119 Addressing global blindness and eye diseases through research	149 Systemic influences on ocular disease [IM] #841-847		
Room 314		114 NEI Audacious Goals Initiative Town Hall		120 How to write and publish a high impact vision research article: The dos and don'ts			
Room 316		103 Ocular Trauma		121 EVER/ARVO workshop: Update on mitochondrial optic neuropathies	150 Pharmacology and Cellular Mechanisms [GL] #848-853		
Room 321				129 National Academies of Sciences of Medicine and Engineering, Making Eye Health A Population Health Imperative Report: Closing the gaps in eye care — SIG [PH, GL, GEN]	151 Retinoblastoma: From Genetics and Pathology to Therapy [AP] #854-859		
Room 324					152 Nystagmus and Gaze Holding [EY] #860-866		
Room 328				122 Pizza with the experts			

ARVO Annual Meeting
Registration
Pratt Street Lobby
7am – 6pm

Exhibit hours: 9am–5pm
Exhibit Hall opens
7am for poster mounting

NAEVR Central
in the Exhibit Hall
9am – 4pm

ARVO/Alcon
Opening Keynote
Mary-Claire King, PhD
University of Washington
12noon – 1:15pm
Hall G

Sunday Social
Power Plant Live!
7:30 – 10:30pm
(admission required)

Sunday, May 7 ■ Posters

8:30–10:15am

Session Number	Session Title	Program Number	Board Number
104	AMD Imaging 1 [RE]	13 - 57	A0001 - A0045
105	Diabetic retinopathy: medical (non-surgical) [RE]	58 - 102	A0138 - A0182
106	Development of the Retina [RC]	103 - 126	A0210 - A0233
107	Cornea Wound Healing and Repair [CO]	127 - 175	A0317 - A0365
108	Genetic Epidemiology [CL]	176 - 188	B0120 - B0132
109	Cytokines; growth factors; Antiangiogenic drugs [PH]	189 - 211	B0220 - B0242
110	Retina; RPE; Mechanisms [PH, MOI, VN]	212 - 262	B0243 - B0293
111	Retinal degeneration. Models and mechanisms [RC, LV]	263 - 294	B0316 - B0347
112	Adaptive optics ophthalmoscopy: technology and application [MOI]	295 - 316	B0494 - B0515
113	Accommodation and presbyopia correction [VI]	317 - 340	B0562 - B0585

21

1:30–3:15pm

Session Number	Session Title	Program Number	Board Number
130	Determinants of PR development and repair [RC]	341 - 367	A0183 - A0209
131	AMD Imaging 2 [RE]	368 - 405	A0234 - A0271
132	AMD and anti-VEGF therapy 1 [RE]	406 - 440	A0272 - A0306
133	Dry eye, non-clinical [CO]	441 - 499	A0366 - A0424
134	Uveitis therapeutics: remedy and Relief [IM, MOI]	500 - 527	B0055 - B0082
135	Autoimmune Ocular disease: selfies gone wrong [IM, VI]	528 - 564	B0083 - B0119
136	Structural/functional genomics and gene variants [BI, VN]	565 - 585	B0133 - B0153
137	Biochemistry and molecular biology of the retina [BI]	586 - 636	B0154 - B0204
139	Imaging: Macula Retina, Blood Flow, OCT Angiography [GL]	692 - 746	B0439 - B0493
140	Eye movements [EY]	747 - 762	B0586 - B0601
141	Cataract Surgery Outcomes and Epidemiology [LE]	763 - 794	B0602 - B0633

3:15–5pm

Session Number	Session Title	Program Number	Board Number
138	Image Processing and Interpretation [MOI, VI]	637 - 691	B0384 - B0438
153	AMD and anti-VEGF therapy 2 [RE]	867 - 911	A0046 - A0090
154	Diabetic macular edema clinical research [RE, AP]	912 - 958	A0091 - A0137
155	Cornea Development [CO]	959 - 988	A0307 - A0316
156	Corneal neovascularization, immunology and neuropathy [CO]	969 - 1022	B0001 - B0054
157	Outer Retina Function [VN]	1023 - 1037	B0205 - B0219
158	New insights in RPE anatomy and physiology [RC]	1038 - 1059	B0294 - B0315
159	Intraocular pressure; aqueous humor dynamics [PH]	1060 - 1078	B0348 - B0366
160	Anti-inflammatory; antibiotics; antivirals [PH]	1079 - 1095	B0367 - B0383
161	Posterior segment mechanisms and functions in eye development and myopia [AP]	1096 - 1116	B0516 - B0536
162	Aberrations, optical models [VI, AP]	1117 - 1141	B0537 - B0561
163	Cataract Surgery - IOLs [LE]	1142 - 1164	B0634 - B0656

Poster board numbers correspond to poster location in Exhibit Hall

A = Poster Area A, B = Poster Area B

10:45 – 11:45am: All Posters and Networking — authors will be present at poster boards

Ballroom 3

Sunday, May 07, 2017 8:30 AM-10:30 AM

Anatomy and Pathology/Oncology /
 Biochemistry/Molecular Biology / Cornea /
 Eye Movements/Strabismus/Amblyopia/Neuro-
 Ophthalmology / Glaucoma / Immunology/
 Microbiology / Lens / Low Vision /
 Multidisciplinary Ophthalmic Imaging /
 Physiology/Pharmacology / Retinal Cell Biology /
 Retina / Visual Psychophysics/Physiological
 Optics

101 Light-based treatment strategies for blinding eye disease

Ophthalmic light-based therapies harness the power and the precision of light and the specificity of light-activated drugs and nanoparticles. The importance of optical properties of cornea, lens and other eye tissues, in the design of the light-based strategies will be highlighted. The success of this approach depends on international and multidisciplinary efforts to create a continuous dialogue in a common language among physicists and engineers among other basic scientists, as well as clinicians. This symposium brings together experts with perspectives from various disciplines to discuss pathways and opportunities for minimally invasive emerging and future light-based strategies to prevent vision loss from diseases including tumors, corneal disease, glaucoma, and diseases of the retina.

Moderators: *Yeni H. Yucel, Janis T. Eells, Timothy S. Kern and David R. Williams*

— 8:30 Introduction

1 — 8:36 Principles of light-based therapies and emerging strategies in medicine. *Brian C. Wilson.* University of Toronto, Toronto, ON, Canada

2 — 8:53 Optogenetic Technologies and Beyond: Tools for Mapping and Repairing Complex Biological Systems. *Ed Boyden.* Massachusetts Institute of Technology, Cambridge, MA

3 — 9:10 Tissue optics in the eye: fundamental considerations for light-based therapies. *Randolph Glickman.* Dept of Ophthalmology, University of Texas Health Science Center San Antonio, San Antonio, TX

4 — 9:27 Biophotonic Treatment of Corneal Diseases. *Dimitri Azar.* Univ of Illinois at Chicago, Chicago, IL *CR

5 — 9:44 Light-based strategies to treat glaucoma. *Tony Realini.* Ophthalmology, West Virginia University, Morgantown, WV *CR

6 — 10:01 Biophotonic treatment of tumors inside and around the eye. *Arun D. Singh.* Ophthalmic Oncology, Cole Eye Institute, Cleveland Clinic Foundation, Cleveland, OH

— 10:18 Q&A and Discussion

Ballroom 4

Sunday, May 07, 2017 8:30 AM-10:30 AM

Biochemistry/Molecular Biology / Glaucoma /
 Immunology/Microbiology / Physiology/
 Pharmacology / Retinal Cell Biology

102 Homologies between the brain and the eye: Can ocular researchers lead the way or are we following our 'brainy' colleagues?

Many eye researchers may be aware that the neural retina and pigment epithelium derives from an outpouching of the diencephalon of the brain. Many are not aware of the subtle anatomical homologies of components of the eye such as the uveal tract, sclera and the physiological homologies; for example between the aqueous humor with their corresponding elements in the cranial cavity. Many ophthalmologists may have learned basic neuroscience during medical school and professional training but soon become very eye-centric. This symposium will allow participants to connect their ocular focus with current brain research to identify which recent advances in the brain - if any - can be applied to the eye.

Moderators: *Paul McMenamin, Catherine Bowes Rickman and Britta Engelhardt*

7 — 8:30 Introduction - Developmental and anatomical homologies: Setting the scene. *Paul McMenamin.* Dept of Anatomy & Dev Biology, Monash University, Melbourne, VIC, Australia

8 — 8:36 Immune surveillance in the brain. *Britta Engelhardt.* University of Bern, Bern, Switzerland

9 — 8:58 Autoimmune disease of the CNS: Multiple Sclerosis and Experimental Autoimmune Encephalitis (EAE)-lesson from the brain. *Claude C. Bernard.* Australian Regenerative Medicine Institute, Monash University, Clayton, VIC, Australia

10 — 9:20 Lymphomas of the eye and brain - very close cousins (or the same entity?). *Sarah E. Coupland.* Molecular and Clinical Cancer Medicine, University of Liverpool, Liverpool, United Kingdom

11 — 9:40 Brain and retinal degenerative diseases: Is there a common thread? *Catherine Bowes Rickman.* Ophthal & Cell Biology, Duke University Medical Center, Durham, NC

12 — 10:00 Connections between aqueous humor/cerebral spinal fluid dynamics and disease. *W Daniel Stamer.* Duke University, Durham, NC *CR

— 10:20 Panel Discussion: Q&A

Room 316

Sunday, May 07, 2017 8:30 AM-10:30 AM

103 Ocular Trauma

— 8:30 Ocular Trauma

Exhibit/Poster Hall A0001-A0045

Sunday, May 07, 2017 8:30 AM-10:15 AM

Retina

104 AMD Imaging 1**Moderator: Philip J. Rosenfeld**

13 — A0001 Effect of Sildenafil Citrate on Choroidal Thickness in Age-Related Macular Degeneration. *Vivian S. Vuong¹, S. Tran³, J. V. Migacz¹, I. Gorczynska¹, D. Cunefare², S. Farsiut², G. Yiu¹.* ¹Ophthalmology and Vision Science, UC Davis, Sacramento, CA; ²Biomedical Engineering, Duke University, Durham, NC; ³Rosalind Franklin University of Medicine and Science, North Chicago, IL

14 — A0002 Three dimensions of quantitative metamorphopsia measurement - do disease specific patterns exist? *Daniela Claessens¹, R. V. Krueger².* ¹Gemeinschaftspraxis Lindenthal, Cologne, Germany; ²app4eyes, Duesseldorf, Germany *CR

15 — A0003 Personalized Prognosis in Early/Intermediate Age-Related Macular Degeneration based on Drusen Regression. *Hrvoje Bogunovic, A. Montuoro, M. Baratsits, M. Karantonis, S. M. Waldstein, F. G. Schlanitz, U. Schmidt-Erfurth.* Department of Ophthalmology, Medical University of Vienna, Vienna, Austria *CR

16 — A0004 Longitudinal analysis of structural and functional changes in patients with reticular drusen and age-related macular degeneration. *Julia Steinberg, M. Saßmannshausen, M. Fleckenstein, F. G. Holz, S. Schmitz-Valckenberg.* Department of Ophthalmology, University of Bonn, Bonn, Germany *CR

17 — A0005 Early OCT Angiography changes of type 1 choroidal neovascularization secondary to AMD treated with anti-VEGF. *Elisabetta Pilotto¹, A. Daniele¹, F. Guidolin¹, E. Convento¹, E. Longhin¹, R. Parrozzani¹, E. Midena^{1,2}.* ¹Department of Ophthalmology, University of Padova, Padova, Italy; ²G.B. Bietti Foundation, IRCCS, Roma, Italy

18 — A0006 Comparison of Optical Coherence Tomography Angiography and Indocyanine Green Angiography in Type 1 and 2 Neovascular Age-related Macular Degeneration. *Reinhard Told, S. Sacu, A. Hecht, M. Baratsits, K. Eibenberger, M. E. Kroh, S. Rezar, F. G. Schlanitz, A. Pollreisz, U. Schmidt-Erfurth.* Department of Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria *CR, ✗

19 — A0007 Automated 3D Choroidal Segmentation Using Multimodal Complementary Information. *Zhihong Hu¹, Z. C. Wang¹, S. R. Sadda^{1,2}.* ¹Retina, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, University of California, Los Angeles, Los Angeles, CA *CR

20 — A0008 Changes in the foveal avascular zone in maculopathy patients with intravitreal anti-VEGF injection observed by optical coherence tomography angiography. *Xun Xu, K. Liu.* Department of Ophthalmology, Shanghai First People's Hospital, Shanghai, China

21 — A0009 Treatment-Naïve quiescent choroidal neovascularization in geographic atrophy secondary to age-related macular degeneration. *Vittorio Capuano¹, A. Miere¹, L. Querques², R. Sacconi², A. Carnevali², F. Bandello², E. SOUIED¹, G. Querques^{2,1}.* ¹Service Universitaire d' Ophthalmologie, Centre hospitalier Intercommunal de Créteil, Créteil, France; ²Department of Ophthalmology, University Vita-Salute, Milan, Italy

22 — A0010 Early changes in retinal morphology during the first three weeks after anti-VEGF (re-)treatment for neovascular age-related macular degeneration. *Philipp Enders, V. Sitniska, L. Altay, S. Fauser.* Center of Ophthalmology, University Hospital of Cologne, Germany, Cologne, Germany ✗

23 — A0011 Comparison of the reliability of confocal color, flash color, and fundus autofluorescence imaging for the quantitative assessment of geographic atrophy. *Yue Shi¹, J. Lei¹, S. R. Sadda^{1,2}.* ¹Doheny Eye Institute, University of California at Los Angeles, Los Angeles, CA; ²Department of Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA *CR

24 — A0012 Choroidal vascularity index and Choroidal thickness in Eyes with Reticular Pseudodrusen. *Swetha Bindu Velaga¹, M. G. Nittala¹, K. Vupparaboina², S. Jana², J. Chhabalani², S. R. Sadda¹.* ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, L V Prasad Eye Institute, Hyderabad, India *CR

25 — A0013 Deep Learning Based Decision Support System for Automated Diagnosis of Age-related Macular Degeneration (AMD). *Sajib Kumar Saha¹, D. Xiao¹, B. Fernando², M. Tay-Kearney³, D. An^{1,4}, Y. Kanagasingam¹.* ¹CSIRO, Perth, WA, Australia; ²ANU, Canberra, ACT, Australia; ³Royal Perth Hospital, Perth, WA, Australia; ⁴Lions Eye institute, Perth, WA, Australia

26 — A0014 OCT-Leakage in neovascular AMD - identification and location of abnormal fluid and response to anti-VEGF therapy. *Claudia Farinha^{1,2}, T. Santos¹, A. Santos¹, M. Lopes¹, D. G. Alves¹, R. Silva^{1,2}, J. G. Cunha-Vaz^{1,3}.* ¹AIBILI, Coimbra, Portugal; ²Ophthalmology Department, Centro Hospitalar e Universitário de Coimbra (CHUC), Coimbra, Portugal; ³Faculty of Medicine, University of Coimbra, Coimbra, Portugal *CR

27 — A0015 Evaluation of Coronary Heart Disease as a Risk Factor for Sight Threatening Reticular Pseudodrusen. *Rachel V. McCarter¹, G. J. McKay¹, N. B. Quinn¹, U. Chakravarthy¹, T. MacGillivray², G. Robertson², E. Pellegrini², E. Trucco³, M. Williams⁴, T. Peto¹, B. Dhillon², E. van Beek⁵, D. E. Newby⁴, R. E. Hogg¹.* ¹Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom; ²VAMPIRE project, Centre for Clinical Brain Sciences, The University of Edinburgh, Edinburgh, United Kingdom; ³VAMPIRE project, Computing, School of Science and Engineering, University of Dundee, Dundee, United Kingdom; ⁴Centre of Cardiovascular Science, University of Edinburgh, Edinburgh, United Kingdom; ⁵Clinical Research Imaging Centre, University of Edinburgh, Edinburgh, United Kingdom

28 — A0016 Morphologic risk factors for disease progression in early and intermediate age-related macular degeneration. *Ferdinand G. Schlanitz, M. Baratsits, H. Bogunovic, S. Sacu, M. Karantonis, A. Montuoro, U. Schmidt-Erfurth.* Ophthalmology, Medical University Vienna, Vienna, Austria *CR, ✗

29 — A0017 Effect of Human Central Nervous System Stem Cells Subretinal Transplantation on Progression of Geographic Atrophy Secondary to Non Neovascular Age-Related Macular Degeneration. *Muneeswar Gupta Nittala¹, A. H. Hariri¹, A. Uji¹, S. Velaga¹, J. Naor², S. R. Sadda¹.* ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Kodiak Sciences Inc., Palo Alto, CA *CR, ✗

30 — A0018 Comparison Of 2 Techniques Of Optical Coherence Tomography Angiography (Zeiss & Heidelberg Engineering) In A Series Of Patients With Neovascular Age-Related Macular Degeneration. *Simone Kellner^{1,2}, S. Weintitz^{1,2}, G. Farmand¹, U. Kellner^{1,2}.* ¹Rare Retinal Disease Center, Augenzentrum Siegburg, MVZ ADTC Siegburg GmbH, Siegburg, Germany; ²RetinaScience, Bonn, Germany

31 — A0019 Inter-scan repeatability of drusen and geographic atrophy measurements using spectral domain optical coherence tomography in eyes with Age related macular degeneration. *Jyotsna Maram, M. G. Nittala, A. H. Hariri, S. R. Sadda.* Ophthalmology, Doheny eye Institute, Alhambra, CA *CR

32 — A0020 Imaging Hydroxyapatite in sub-RPE Deposits by Fluorescence Lifetime Imaging Microscopy (FLIM). *Richard Thompson¹, K. R. Hegde², H. Szmanski¹, H. Zeng¹, T. J. McGill³, M. Neuringer³, K. Eslami¹, A. Puche¹, I. Lengyel⁴.* ¹Dept of Biochemistry and Molec Biology, University of Maryland School of Medicine, Baltimore, MD; ²Dept Biological Sciences, Coppin State University, Baltimore, MD; ³ONPRC, Oregon Health Sciences University, Beaverton, OR; ⁴Centre for Experimental Medicine, Queens University Belfast, Belfast, United Kingdom *CR

- 33 — A0021 Optical coherence tomography angiography and Contrast imaging comparison in Neo-vascular AMD.** *Vasuki Gnana Jothi¹, G. Casalino², U. Chakravarthy¹.* ¹Ophthalmology, Royal Victoria Hospital Belfast, Belfast, United Kingdom; ²Department of Ophthalmology, San Raffaele Scientific Institute, Milan, Italy *CR
- 34 — A0022 Fundus Autofluorescence Patterns within Geographic Atrophy (GA) in Age-Related Macular Degeneration.** *Julia M. Agee², M. Ahmad¹, A. Rastogi², Y. Tong², R. Larochelle², C. Curcio¹, T. Smith².* ¹Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ²Ophthalmology, New York University School of Medicine, New York, NY
- 35 — A0023 Comparison of Swept Source OCT Enface Choroidal Vasculography with ICG Angiography.** *Carl Glittenberg.* Topcon Europe Medical, Capelle an den IJssel, Netherlands; Karl Landsteiner Institute for Retinal Research and Imaging, Vienna, Austria *CR
- 36 — A0024 Non-Exudative Age-Related Macular Degeneration Foveal Avascular Zone Area, Foveal Vessel Density, and Ganglion Cell Complex Thickness.** *Gurdeep Jhaj¹, S. Glazman², E. M. Shrier¹, I. Bodis-Wollner².* ¹Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY; ²Neurology, SUNY Downstate Medical Center, Brooklyn, NY *CR
- 37 — A0025 Fundus autofluorescence and choroidal thickness by spectral domain optical coherence tomography in dry age-related macular degeneration in mexican population.** *Marlon Rafael Garcia Roa, R. Garcia Franco, V. Romero, M. Vazquez, X. Mira.* Retina, Instituto Mexicano de Oftalmologia, Queretaro, Mexico
- 38 — A0026 Implications of Drusen Burden on Optical Coherence Tomography Angiography Findings in Nonexudative Age-related Macular Degeneration in the AVATAR Study.** *Allison Watts², D. Manjunath^{1,2}, R. P. Singh², S. K. Srivastava², P. K. Kaiser², A. V. Rachitskaya², A. Schachat², J. Reese², J. Ehlers².* ¹School of Medicine, Case Western Reserve University, Cleveland, OH; ²Cole Eye Institute, Cleveland Clinic, Cleveland, OH *CR
- 39 — A0027 Does OCT angiography provide biomarkers of visual outcome in the treatment of exudative AMD? Robert Raut, N. Palejwala, S. Itty, M. Barakat.** Retinal Consultants of Arizona, Phoenix, AZ
- 40 — A0028 Lesion area, perimeter and diameter as prognostic markers for the progression of geographic atrophy (GA) secondary to age-related macular degeneration.** *Lukas Goerdt¹, M. Pfau¹, M. Lindner¹, S. Thiele¹, J. Nadal¹, M. Schmid², S. Schmitz-Valckenberg¹, F. G. Holz¹, M. Fleckenstein¹.* ¹Department of Ophthalmology, University of Bonn, Bonn, Germany; ²Department of Medical Biometry, Informatics and Epidemiology, University of Bonn, Bonn, Germany *CR, ✗
- 41 — A0029 OCT-A in non-neovascular AMD.** *Emanuela Aragona¹, M. Cicinelli¹, A. Rabiolo¹, A. marchese¹, L. De Vitis¹, A. Carnevali^{1,2}, C. Giuffrè¹, L. Querques¹, F. Bandello¹, G. Querques¹.* ¹Department of Ophthalmology, IRCCS San Raffaele Scientific Institute, University Vita-Salute San Raffaele, Milan, Italy, Milano, Italy; ²Department of Ophthalmology, University of Magna Graecia, Catanzaro, Italy, Catanzaro, Italy *CR
- 42 — A0030 Expeditious bilateral murine fundus fluorescein angiography (FFA): Maximizing optical imagery with a transportable digital camera.** *Moshe Ehrenberg¹, S. Ehrenberg², O. Schwob¹, O. Benny¹.* ¹Institute of Drug Research, Hebrew University, Jerusalem, Israel; ²Technion Medical School, Haifa, Israel
- 43 — A0031 Retinal Structure and Functional Correlation in Subjects with Dry Age-Related Macular Degeneration Using Spectral Domain Optical Coherence Tomography and Scotopic Microperimetry.** *Kenneth Chang¹, M. G. Nittala², A. H. Hariri², S. Velaga², K. G. Csaky³, K. Nandanam², T. Daniels³, Z. Hu², V. Chopra^{2,4}, S. R. Sadda^{2,4}.* ¹Herbert Wertheim College of Medicine, Florida International University, Doral, FL; ²Doheny Eye Institute, Los Angeles, CA; ³Retina Foundation of the Southwest, Dallas, TX; ⁴Department of Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA *CR
- 44 — A0032 Retinal pseudocysts in geographic atrophy secondary to non-exudative age-related macular degeneration.** *Kevin C. Chen, T. Lin, W. R. Freeman.* UCSD, San Diego, CA
- 45 — A0033 Difference between polypoidal choroidal vasculopathy and age-related macular degeneration in spectral domain OCT: from the perspective of choroidal vascular architecture.** *Chen-Jin Jin, K. Lai, L. Zhou, S. Yu, C. Huang, X. Zhong, L. Lin.* Ophthalmology, Zhongshan Ophthalmic Center, Guangzhou, China
- 46 — A0034 Optical coherence tomography angiography in treated neovascular age related macular degeneration.** *Maria K. Gemenetzi¹, M. Eleftheriadou¹, A. Dubis¹, S. D. Esposti¹, Z. Ali², D. Hanumunthadu^{1,3}, K. Balaskas^{2,4}, P. J. Patel^{1,3}.* ¹NIHR Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust, London, United Kingdom; ²Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester, United Kingdom; ³UCL Institute of Ophthalmology, London, United Kingdom; ⁴University of Manchester, Manchester, United Kingdom *CR
- 47 — A0035 Quantitative Analysis of Choroidal Vasculature Underlying Pigment Epithelial Detachment in Age-related Macular Degeneration and Polypoidal Choroidal Vasculopathy.** *Malini Bakthavatsalam, D. S. Ng, A. Lam, C. Y. Cheung, T. Chi Wai, M. E. Brelen.* Department of ophthalmology and visual science, Chinese university of Hong Kong, Hong Kong, Hong Kong
- 48 — A0036 Fundus autofluorescence from drusen is spectrally different from that of lipofuscin.** *Martin Hammer¹, L. Kreilkamp¹, L. Sauer¹, T. Ach², T. Smith³, C. Curcio⁴.* ¹Dept of Ophthalmology, University of Jena, Jena, Germany; ²University hospital Würzburg, Würzburg, Germany; ³New York University School of Medicine, Department of Ophthalmology, New York, NY; ⁴Department of Ophthalmology, University of Alabama School of Medicine, Birmingham, AL
- 49 — A0037 Comparison between Spectral Domain and Swept Source Optical Coherence Tomography Angiographic Imaging of Choroidal Neovascularization in Age-Related Macular Degeneration.** *Giovanni Gregori¹, A. R. Miller¹, Q. Zhang², F. Zheng¹, J. R. Dias¹, Z. Yehoshua¹, W. J. Feuer¹, C. Chen², S. Kubach³, M. K. Durbin³, R. K. Wang², P. J. Rosenfeld¹.* ¹Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²Department of Bioengineering, University of Washington, Seattle, WA; ³Carl Zeiss Meditec, Dublin, CA *CR
- 50 — A0038 Comparing Area Measurements of Choroidal Neovascularization Obtained using Different Swept Source OCT Angiographic Scan Patterns in Neovascular Age-Related Macular Degeneration.** *Fang Zheng³, Q. Zhang¹, A. R. Miller³, J. R. Dias³, E. Motulsky³, G. Liu³, Z. Chu¹, C. Chen¹, S. Kubach², L. De Sistiernes², W. J. Feuer³, G. Gregori³, M. K. Durbin², R. K. Wang¹, P. J. Rosenfeld³.* ¹University of Washington, Seattle, WA; ²Carl Zeiss Meditec, Dublin, CA; ³University of Miami-Bascom Palmer, Miami, FL *CR
- 51 — A0039 Optical coherence tomography features preceding the onset of geographic atrophy and neovascular disease.** *Giliann K. Collins¹, R. E. Silver¹, R. Louzada^{2,3}, E. A. Novais^{2,4}, J. S. Duker², D. Ferrara², J. M. Seddon^{1,2}.* ¹Ophthalmic Epidemiology and Genetics Service, Tufts Medical Center, Boston, MA; ²New England Eye Center, Ophthalmology, Tufts University School of Medicine, Boston, MA; ³Ophthalmology, Federal University of Goiás, Goiânia, Brazil; ⁴Ophthalmology, Federal University of São Paulo (UNIFESP), São Paulo, Brazil *CR
- 52 — A0040 Assessing lesion activity in neovascular AMD from colour images and optical coherence tomograms.** *Barney C. Reeves¹, S. P. Harding², T. Peto², A. Muldrew², L. Scott¹, C. Rogers¹, U. Chakravarthy².* ¹School of Clinical Sciences, University of Bristol, Bristol Royal Infirmary, United Kingdom; ²Institute of Clinical Science, Queen's University Belfast, Belfast, United Kingdom; ³Eye and Vision Science, University of Liverpool, Liverpool, United Kingdom

53 — A0041 Topographic Analysis of Choroidal Neovascularization (CNV) and Macular Atrophy (MA) in Neovascular Age-related Macular Degeneration (NVAMD): Findings from TREX-AMD Trial. Nizar S. Abdelfattah¹, A. H. Hariri¹, M. Al-Sheikh¹, S. Pitetta¹, A. Ebraheem¹, S. R. Sadda¹, C. C. Wyckoff². ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Retina Consultants of Houston, Blanton Eye Institute, Houston Methodist Hospital, Houston, TX *CR, ✗

54 — A0042 Neovascular Subtypes in Treatment Naive Exudative Age-Related Macular Degeneration in Costa Rica. Jose D. Morales, L. Wu. Retina, Asociados de Mácula Vitreo y Retina de Costa Rica, Naranjo, Costa Rica *CR

55 — A0043 Prevalence of Quiescent Neovascularization in Intermediate and Late Non-Exudative Age-Related Macular Degeneration and the Incidence of Subsequent Exudation using Swept-Source Optical Coherence Tomography Angiography. Joao R. Dias^{1,3}, Q. Zhang², L. Roisman^{1,3}, F. Zheng¹, C. Chen², A. R. Miller¹, E. Motulsky¹, G. Liu¹, S. Kubach⁴, L. De Sisternes⁴, W. J. Feuer¹, G. Gregori¹, M. K. Durbin¹, R. K. Wang², P. J. Rosenfeld¹. ¹Ophthalmology, Bascom Palmer Eye Institute, Miami Beach, FL; ²Bioengineering, University of Washington, Seattle, WA; ³Ophthalmology, Federal University of Sao Paulo, Sao Paulo, Brazil; ⁴Advanced Development, Carl Zeiss Meditec, Dublin, FL *CR

56 — A0044 Defining disease endophenotypes in neovascular AMD by unsupervised machine learning of large-scale OCT data. Philipp Seeböck^{1,2}, S. M. Waldstein¹, R. Donner², B. Gerendas¹, A. Sadeghipour¹, A. Osborne³, U. Schmidt-Erfurth¹, G. Langs². ¹Christian Doppler Laboratory for Ophthalmic Image Analysis, Department of Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria; ²Computational Imaging Research Lab, Department of Biomedical Imaging and Image-guided Therapy, Medical University of Vienna, Vienna, Austria; ³Genentech, San Francisco, CA *CR

57 — A0045 Correlation of Vascular Impairment with Geographic Atrophy Progression Analyzed with Swept Source OCT Angiography and Variable Interscan Time Analysis. Ivana N. Despotovic², E. M. Moul¹, C. B. Rebhun², S. B. Ploner³, J. Zacharia², A. Alibhai², C. Moreira², B. Lee¹, C. R. Baumal², P. J. Rosenfeld⁴, J. S. Duker², J. G. Fujimoto¹, N. Waheed². ¹Department of Electrical Engineering and Computer Science, and Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts, Cambridge, MA; ²New England Eye Center at Tufts Medical Center, Boston, Massachusetts, Boston, MA; ³Pattern Recognition Lab, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany, Erlangen, Germany; ⁴Bascom Palmer Eye Institute Univ of Miami Miller Sch of Med, Miami, FL *CR

Exhibit/Poster Hall A0138-A0182

Sunday, May 07, 2017 8:30 AM-10:15 AM

Retina

105 Diabetic retinopathy: medical (non-surgical)

Moderator: Hiroko Terasaki

58 — A0138 Retinopathy correlation to frequency and severity of blood glucose spikes in Type 1 Diabetes using continuous glucose monitors. Michael L. FERM¹, M. Shah¹, J. H. Cope², B. Szirth¹, A. S. Khouri¹. ¹Institute of Ophthalmology and Visual Science, Rutgers New Jersey Medical School, Morristown, NJ; ²Diabetes Institute, University of Florida, Gainesville, FL

59 — A0139 Obstructive Sleep Apnea Is Not Associated with Diabetic Retinopathy Severity: A Retrospective Analysis. Aimee C. Chang, T. P. Fox, A. Wu. Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY

60 — A0140 The Association Between Hyperreflective Dot On OCT And Its Response To Intravitreal Bevacizumab In Macular Edema Secondary To Diabetic Retinopathy And Retinal Vein Occlusion. HyeSeong Hwang, J. Chae, S. Hyung, J. Kim, D. Kim. Department of Ophthalmology, Chungbuk National University Hospital, Cheongju, Korea (the Republic of)

61 — A0141 Comparison of quantitative versus subjective assessment of lesion distribution in diabetic retinopathy. Connie M. Sears^{1,2}, M. G. Nittala¹, C. Jayadev³, C. Ramachandra⁴, S. R. Sadda^{1,5}. ¹Doheny Image Reading Center, Doheny Eye Institute, Los Angeles, CA; ²Harvard Medical School, Boston, MA; ³Narayana Nethralaya Eye Institute, Bangalore, India; ⁴Eyenuk, Inc., Los Angeles, CA; ⁵Department of Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA *CR

62 — A0142 Retinal Layer Location of Increased Retinal Thickness and Retinal Thinning on the cohort of the EUROCONDOR clinical trial. Miguel Á. Costa¹, L. Ribeiro¹, J. Garcia-Arumi², P. Scanlon⁴, J. Grauslund⁵, F. Bandello¹⁰, J. Gibson³, E. Midea⁸, G. E. Lang¹¹, S. P. Harding¹², C. A. Egan¹³, P. Massin⁷, T. Santos¹, B. Ponsati⁵, J. G. Cunha-Vaz¹, R. Simó⁶. ¹AIBILI - Association for Innovation and Biomedical Research on Light and Image, Coimbra, Portugal; ²Department of Ophthalmology, Vall d'Hebron University Hospital, Barcelona, Spain; ³Department of Vision Sciences, Aston University, Birmingham, United Kingdom; ⁴Gloucestershire Hospitals NHS Foundation Trust, Cheltenham, United Kingdom; ⁵BCN Peptides, Barcelona, Spain; ⁶Diabetes and Metabolism Research Unit and CIBERDEM, Vall d'Hebron Research Institute, Barcelona, Spain; ⁷Department of Ophthalmology, Lariboisière Hospital, Paris, France; ⁸Department of Ophthalmology, University of Padova, Padova, Italy; ⁹Department of Clinical Research, Research Unit of Ophthalmology, University of Southern Denmark, Odense, Denmark; ¹⁰Department of Ophthalmology, University Vita-Salute, Scientific Institute San Raffaele, Milano, Italy; ¹¹Department of Ophthalmology, University of Ulm, Ulm, Germany; ¹²Department of Eye & Vision Science, Institute of Ageing and Chronic Disease, University of Liverpool, Liverpool, United Kingdom; ¹³Moorfields Eye Hospital NHS Foundation Trust, London, United Kingdom *CR, ✗

63 — A0143 Anti-inflammatory effects and mechanisms of metformin on high-glucose challenged monocytes. Yue Li, T. Zhou, P. A. Edwards, H. Gao, X. Qiao. Ophthalmology, Henry Ford Health System, Detroit, MI

64 — A0144 Comparison of Diabetic Retinopathy Severity Identified on Ultrawide Field Retinal Images and Ultrawide Field Fluorescein Angiograms. Joanne T. Rocha¹, A. N. Bustamante¹, M. H. Arroyo^{1,2}, J. K. Sun^{1,3}, L. P. Aiello^{4,3}, P. S. Silva^{4,3}. ¹Ophthalmology, The Medical City, Pasig City, Philippines; ²American Eye Center, Makati, Philippines; ³Ophthalmology, Harvard Medical School, Boston, MA; ⁴Beetham Eye Institute, Joslin Diabetes Center, Boston, MA *CR

65 — A0145 Aflibercept for treatment-resistant DME: 48-week outcomes. Bobak Bahrami^{1,2}, T. Hong², R. Nair^{1,2}, A. Chang^{1,2}. ¹Save Sight Institute, University of Sydney, Sydney, NSW, Australia; ²Sydney Institute of Vision Science, Sydney, NSW, Australia *CR, ✗

66 — A0146 The influence of intraocular pressure on the severity of diabetic retinopathy. Kay T. Khine¹, A. Guduru¹, P. Challa², D. Fleischman¹. ¹Ophthalmology, University of North Carolina - Chapel Hill, Carrboro, NC; ²Duke University, Durham, NC

- 67 — A0147 Successful panretinal photocoagulation leads to changes in the retinal venular vascular geometry in patients with proliferative diabetic retinopathy.** *Thomas Lee Torp^{1,2}, A. Stage Vergmann^{1,2}, R. Kawasaki³, T. Y. Wong⁴, T. Peto^{3,2}, J. Grauslund^{1,2}.* ¹Department of Ophthalmology, Odense University Hospital, Odense C, Denmark; ²Department of Clinical Research, University of Southern Denmark, Odense, Denmark; ³Department of Public Health, Yamagata University Faculty of Medicine, Yamagata, Japan; ⁴General Cataract and Comprehensive Ophthalmology, Singapore National Eye Center, Singapore, Singapore; ⁵Queen's University Belfast, Belfast, United Kingdom ✕
- 68 — A0148 SD OCT and OCT angiography parameters in the optic nerve head and peripapillary tissue of diabetic patients without diabetic retinopathy.** *Galina Dimitrova¹, E. Chihara², H. Takahashi², H. Amano³, K. Okazaki².* ¹Ophthalmology, City General Hospital, Skopje, Macedonia (the former Yugoslav Republic of); ²Ophthalmology, Sensho-kai Institute, Kyoto, Japan
- 69 — A0149 Diabetic Therapy and Diabetic Retinopathy.** *Jacob Liechty, E. M. Bowie.* Pennsylvania State College of Medicine, Hummelstown, PA
- 70 — A0150 Self-help, lifestyle and awareness influence sight-threatening retinopathy in patients attending diabetic eye clinics in India and Nepal.** *Raju P Sapkota¹, T. Upadhyaya², G. Gurung³, A. Biswas⁴, D. Jaisankar⁵, R. Raman⁵, S. Pardhan¹.* ¹Vision and Eye Research Unit (VERU), Postgraduate Medical Institute, Faculty of Medical Science, Anglia Ruskin University, Cambridge, United Kingdom; ²Department of Medicine, Gandaki Medical College Teaching Hospital, Pokhara, Nepal; ³Department of Ophthalmology, Gandaki Medical College Teaching Hospital, Pokhara, Nepal; ⁴Department of Ophthalmology, Kurseong Sub-divisional Hospital, Darjeeling, India; ⁵Sankara Netralaya Eye Hospital, Chennai, India
- 71 — A0151 Early retinal changes in Optical Coherence Tomography in patients with type 1 diabetes under intensified insulin therapy.** *Christian Pruenke¹, B. Gerendas², K. B. Hatz¹, U. Schmidt-Erfurth³, A. Montuoro³, A. Kaider⁴.* ¹University of Basel, Binningen, Switzerland; ²Vienna Reading Center, University of Vienna, Vienna, Austria; ³University Eye Clinic, Medical University Vienna, Vienna, Austria; ⁴Center for Medical Statistics, Medical University Vienna, Vienna, Austria ✕
- 72 — A0152 Real-life visual and anatomical outcomes with fluocinolone acetonide (FAC) and cumulative cost of treatment in the treatment of chronic diabetic macular edema (DME).** *Rita Gonçalves, P. Coelho, C. Teixeira, R. Carvalho, B. Vieira, T. Maio.* Ophthalmology, Hospital Pedro Hispano, Porto, Portugal
- 73 — A0153 Retinal oxygen saturation is an independent contributor to the severity of retinopathy in diabetic patients.** *Toke Bek¹, E. Stefansson², S. H. Hardarson².* ¹Dept of Ophthalmology, Aarhus University Hospital, Aarhus C, Denmark; ²Ophthalmology, University of Iceland, Reykjavik, Iceland *CR
- 74 — A0154 Correlation Analysis Between Foveal Avascular Zone And Peripheral Ischemic Index In Diabetic Retinopathy: A Pilot Study.** *Luigi Capone¹, A. Rabiolo¹, M. Cicinelli¹, E. Corbelli¹, G. Baldin¹, A. Carnevali^{1,2}, R. Lattanzio¹, L. Querques¹, G. Querques¹, F. Bandello¹.* ¹Vita-Salute San Raffaele University, Milano, Italy; ²University Magna Graecia, Catanzaro, Italy *CR
- 75 — A0155 Parafoveal OCT angiography features in diabetic patients without clinical diabetic retinopathy: a qualitative and quantitative analysis.** *Anne Sikorav¹, M. Goudot¹, O. Semoun¹, A. Miere¹, C. JUNG¹, B. Courbebaisse², M. Srour¹, E. Souied¹.* ¹Creteil Hospital, University Paris Est, Paris, France; ²Henri Mondor Hospital, Paris, France
- 76 — A0156 Changes in Clinical Laboratory Results with Rapid Correction of Hyperglycemia.** *Keval A. Ray¹, D. Verghese¹, B. Bird¹, M. J. Schardt¹, J. Calva-Moreno¹, D. Gritsyuk¹, A. Rao^{2,4}, R. A. DeLa Cadena⁵, W. J. Foster^{1,3}.* ¹Department of Ophthalmology, Lewis Katz School of Medicine at Temple University, Philadelphia, PA; ²Center for Metabolic Disease Research, Lewis Katz School of Medicine at Temple University, Philadelphia, PA; ³Department of Bioengineering, College of Engineering at Temple University, Philadelphia, PA; ⁴Section of Endocrinology, Diabetes and Metabolism, Lewis Katz School of Medicine at Temple University, Philadelphia, PA; ⁵Department of Physiology, Lewis Katz School of Medicine at Temple University, Philadelphia, PA *CR, ✕
- 77 — A0157 Patient comfort using green (532 nm) versus yellow (577 nm) panretinal photocoagulation with the laser indirect ophthalmoscope for proliferative diabetic retinopathy.** *Brett Weinstock, M. K. Adam, S. Kasi, D. S. Ehmann, J. Hsu, S. Garg, A. Ho, A. Chiang.* Retina, Wills Eye Hospital, Philadelphia, PA *CR, ✕
- 78 — A0158 Effects of Metformin Treatment on Retinal Blood Flow in Diabetic Mice.** *Joy Zhang, Y. Li, T. Zhou, P. A. Edwards, H. Gao, X. Qiao.* Ophthalmology, Henry Ford Health System, Bloomfield, MI
- 79 — A0159 The need for early retinopathy screening and improved awareness in diabetic patients in Hangzhou, China.** *Zhiqing Chen¹, R. P. Sapkota², D. Zheng³, S. Pardhan².* ¹Eye Center, Second Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou, China; ²Vision and Eye Research Unit (VERU), Postgraduate Medical Institute, Faculty of Medical Science, Anglia Ruskin University, Cambridge, United Kingdom; ³Postgraduate Medical Institute, Faculty of Medical Science, Anglia Ruskin University, Cambridge, United Kingdom
- 80 — A0160 Early Automatic Detection of Minute Microvasculature Changes in Diabetic Patients Using Retinal Optical Coherence Tomography Angiography Images.** *Omar Helmy¹, N. Eladawi², M. Elmog², A. El-Baz², S. Schaal¹.* ¹Ophthalmology and Visual sciences, University of Massachusetts Medical School, Worcester, MA; ²Bioengineering, University of Louisville Speed school of Engineering, Louisville, KY *CR
- 81 — A0161 The region-dependent neovascularization and macular layer-specific edema and ischemia in proliferative diabetic retinopathy.** *Weiye Li, M. Hadziahmetovic, J. Lange.* Ophthalmology, Drexel University, Philadelphia, PA
- 82 — A0162 Correlation of total HbA1c load with prevalence of diabetic retinopathy among type 1 diabetic patients treated with intensified insulin therapy from the onset of disease.** *Katja B. Hatz^{1,2}, H. Zulewski³, B. Gerendas³, A. Minder⁶, U. Schmidt-Erfurth², R. Lehmann⁴, A. Kaider⁵, C. Pruenke^{6,3}.* ¹VISTA Klinik, VISTA Klinik Binningen, Binningen, Switzerland; ²Vienna Reading Center, Klinik für Augenheilkunde und Optometrie, Vienna, Austria; ³University of Basel, Basel, Switzerland; ⁴University of Zurich, Zurich, Switzerland; ⁵Medical University Vienna, Vienna, Austria; ⁶Kantonsspital Liestal, Liestal, Switzerland *CR, ✕
- 83 — A0163 Retinal Layer Thickness across 8 Decades of Type 1 Diabetes (DM): Strong correlations with PDR.** *Ward Fickweiler¹, S. R. Peterson^{1,1}, H. Keenan^{3,2}, G. L. King^{3,2}, L. P. Aiello^{4,1}, J. K. Sun^{4,1}.* ¹Beetham Eye Institute, Joslin Diabetes Center, Boston, MA; ²Vascular Cell Biology Section, Joslin Diabetes Center, Boston, MA; ³Medicine, Harvard Medical School, Boston, MA; ⁴Ophthalmology, Harvard Medical School, Boston, MA *CR

84 — A0164 Variable Interscan Time Analysis (VISTA-) Optical Coherence Tomography Angiography (OCTA) of Blood Flow Speeds in Eyes with Diabetic Retinopathy.

Eric M. Moul^{1,2}, *S. B. Ploner*^{3,1}, *C. B. Rebhun*⁴, *A. Alibhai*⁴, *B. Lee*⁴, *C. Moreira*⁴, *E. A. Novais*^{4,6}, *J. Schottenhamml*^{1,3}, *L. Husvogi*^{1,3}, *A. K. Maier*³, *P. J. Rosenfeld*⁵, *J. S. Duker*⁴, *N. Waheed*⁴, *J. G. Fujimoto*¹. ¹Electrical Engineering and Computer Science, MIT, Cambridge, MA; ²Health Sciences and Technology, Harvard-MIT, Cambridge, MA; ³Pattern Recognition Lab, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; ⁴New England Eye Center, Tufts Medical Center, Boston, MA; ⁵Ophthalmology, University of Miami Miller School of Medicine, Miami, FL; ⁶School of Medicine, Federal University of Sao Paulo, Sao Paulo, Brazil *CR

85 — A0165 Efficacy and safety of Fluocinolone acetonide implant use for the treatment of refractory diabetic macular oedema and its impact on the hospital diabetic eye services.

Anastasios Sepetis, *S. Mourtzoukos*. Portsmouth Hospitals NHS Trust, Portsmouth, United Kingdom *CR

86 — A0166 Macular Choroidal Thickness, Volume And Hemisphere Asymmetry In Patients With Diabetes And Microalbuminuria.

*Lucas B. Farias*¹, *D. Lavinsky*¹, *J. Lavinsky*¹, *C. Z. Banfica*¹, *W. Schneider*¹, *P. Tetelbom*¹, *L. Canani*². ¹Ophthalmology, Federal University of Rio Grande do Sul/ UFRGS, SP, Brazil; ²Endocrinology, Federal University of Rio Grande do Sul/ UFRGS, Porto Alegre, Brazil ✕

87 — A0167 Comparison of efficacy of intravitreal versus sub-Tenon injection of triamcinolone acetonide during cataract surgery for diabetic macular edema.

takaaki andoh, *T. Oshitari*, *T. tatumi*, *S. Yamamoto*. ophthalmology and visual science, chiba university graduate school of medicine, Chiba, Japan

88 — A0168 Thioredoxin plays a key role in retinal neuropathy prior to endothelial damage in diabetic mice.

*Xiang Ren*¹, *J. D. Ash*², *L. Kong*¹. ¹Dalian Medical University, Dalian, China; ²University of Florida, Gainesville, FL

89 — A0169 Exposure Of Contralateral Eyes To Laser Radiation During Retinal Photocoagulation.

donald gauldin, *S. Ferguson*, *S. Ahmed*, *S. Uwaydat*. ophthalmology, university of arkansas for medical sciences, Little Rock, AR

90 — A0170 One-year safety outcomes of intravitreal implant of fluocinolone acetonide 0.19 mg in clinical practice assessed by intraocular pressure measurement.

*António Figueiredo*¹, *J. Dias*², *C. Marques-Neves*^{1,3}, *R. Silva*^{4,5}, *A. Meireles*⁶. ¹Ophthalmology, ALM Oftalmolaser, Lisbon, Portugal; ²Ophthalmology, Joaquim Chaves Saúde, Lisbon, Portugal; ³Ophthalmology, Hospital de Santa Maria. Faculty of Medicine, University of Lisbon, Lisbon, Portugal; ⁴Ophthalmology, Coimbra Hospital and University Center (CHUC); Faculty of Medicine, University of Coimbra (FMUC), Coimbra, Portugal; ⁵Ophthalmology, Association for Innovation and Biomedical Research on Light and Image (AIBILI), Coimbra, Portugal; ⁶Ophthalmology, Centro Hospitalar do Porto - Hospital Santo António, Porto, Portugal *CR

91 — A0171 Reduced foveal thickness correlates with depressed foveal visual function in eyes with diabetic retinopathy.

*Jose R. Davila*¹, *J. C. Bavinger*¹, *G. E. Dunbar*¹, *M. S. Stem*¹, *V. M. de Castro*¹, *G. R. Jackson*², *T. W. Gardner*¹. ¹Kellogg Eye Center, University of Michigan, Ann Arbor, MI; ²MacuLogix, Harrisburg, PA *CR

92 — A0172 Optical Coherence Tomography Angiography Parameters to Determine Progression in Diabetic Retinopathy.

*William Binotti*¹, *A. C. Romano*^{1,2}. ¹Ophthalmology, Neovista Eye Institute, Limeira, Brazil; ²Retina, UNIFESP- Paulista School of Medicine, São Paulo, Brazil *CR

93 — A0173 Quantification of retinal nonperfusion associated with neovascularization in diabetic retinopathy using ultrawide field fluorescein angiography.

*Sally Baxter*¹, *A. Ashir*², *B. J. Nguyen*¹, *E. Nudleman*¹. ¹Shiley Eye Institute, University of California San Diego, La Jolla, CA; ²Drexel University College of Medicine, Philadelphia, PA

94 — A0174 Opening the Black Box: Visualization of Deep Neural Network for Detection of Disease in Retinal Fundus Photographs.

Laura C. Huang, *C. Yu*, *R. A. Kleinman*, *R. A. Shields*, *R. G. Smith*, *C. Lam*, *D. Yi*, *D. Rubin*. Ophthalmology, Stanford University, Palo Alto, CA

95 — A0175 Early detection of microvascular retinal changes in patients Type 1 Diabetes Mellitus and no signs of diabetic retinopathy using OCT Angiography.

*Fabio Scarinci*¹, *F. Picconi*², *P. Giorno*¹, *D. De Geronimo*¹, *M. Varano*¹, *S. Frontoni*², *M. Parravano*¹. ¹Ophthalmology, IRCCS G.B. Bietti Eye Foundation, Rome, Italy; ²Endocrinology, Diabetes and Metabolism, S. Giovanni Calibita Fatebenefratelli Hospital-University of Rome Tor Vergata, Rome, Italy

96 — A0176 Evaluation and referral of diabetic eye disease within the endocrinology and primary care office setting: A quality improvement project.

*Fabiana Q. Silva*¹, *T. Banaee*¹, *L. Olansky*², *M. Lansang*², *R. P. Singh*¹. ¹Ophthalmology, Cleveland Clinic Foundation, Cleveland, OH; ²Department of Endocrinology, Diabetes and Metabolism, Cleveland Clinic Foundation, Cleveland, OH *CR

97 — A0177 Advanced Glycation Endproducts in capsulorhexis specimen: Correlation with Diabetic Retinopathy.

*Ram H. Nagaraj*¹, *S. Rakee*¹, *J. Rankenberg*¹, *L. Bonnell*¹, *B. Wagner*¹, *A. Lynch*¹, *C. Henning*², *M. Glomb*². ¹Ophthalmology, University of Colorado School of Medicine, Aurora, CO; ²Institute of Chemistry-Food Chemistry, Martin-Luther-University Halle-Wittenberg, Halle, Germany

98 — A0178 Subtle changes in diabetic retinas localized in 3D using OCT.

Edmund Arthur, *J. A. Papay*, *B. P. Haggerty*, *C. A. Clark*, *A. E. Elsner*. School of Optometry, Indiana University, Bloomington, IN

99 — A0179 Variability of retinal layer thicknesses within diabetic subjects.

*Joel A. Papay*¹, *M. S. Muller*², *A. E. Elsner*^{1,2}. ¹School of Optometry, Indiana University, Bloomington, IN; ²Aeon Imaging LLC, Bloomington, IN

100 — A0180 Switching corticosteroids therapy for diabetic macular edema.

Carlos Marques-Neves^{2,1}, *J. Castro e Sousa*³, *D. Martins*⁴, *A. Sampaio*⁵, *P. Kaku*⁶. ¹Ophthalmology, Hospital de Santa Maria. Faculty of Medicine, University of Lisbon, Lisbon, Portugal; ²Ophthalmology, ALM Oftalmolaser, Lisbon, Portugal; ³Ophthalmology, Centro Hospitalar Leiria, Leiria, Portugal; ⁴Ophthalmology, Centro Hospitalar de Setúbal, Setúbal, Portugal; ⁵Ophthalmology, Instituto de Microcirurgia Ocular (IMO), Lisbon, Portugal; ⁶Ophthalmology, Hospital da Cruz Vermelha Portuguesa, Lisbon, Portugal

101 — A0181 Outer retinal changes in patients with diabetes and no or mild non-proliferative diabetic retinopathy.

Gabor M. Somfai^{1,2}, *J. Tian*², *W. Lee*², *R. K. Lee*³, *A. E. Kuriyan*², *N. Gregori*², *W. J. Feuer*², *W. Shi*², *S. Pineda*², *H. Gerding*¹, *W. Smiddy*², *D. Cabrera DeBuc*². ¹Retinology Unit, Pallas Kliniken, Olten, Switzerland; ²Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL *CR

102 — A0182 Sustained release intravitreal dexamethazone implant in the treatment of proliferative diabetic retinopathy and diabetic macular edema.

Angelo M. Minnella, *M. Federici*, *G. Amorelli*, *G. Gambini*, *V. Paglieti*, *M. Savastano*, *B. Falsini*, *A. Caporossi*. Institute of ophthalmology, Catholic University of Sacred Hearth, Rome, Italy

Exhibit/Poster Hall A0210-A0233

Sunday, May 07, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

106 Development of the Retina

Moderators: Luke A. Wiley and Judy M. Ogilvie

103 — A0210 Oxytocin Receptor Ontogeny in the Mouse RPE. Nathaniel York^{2,4}, A. Lutz², D. M. Pillers^{3,4}, B. R. Pattnaik^{1,4}. ¹Pediatrics, Ophthalmology and Visual Sciences, University of Wisconsin, Madison, WI; ²Pediatrics, University of Wisconsin, Madison, WI; ³Pediatrics, Genetics, University of Wisconsin, Madison, WI; ⁴McPherson Eye Research Institute, Madison, WI

104 — A0211 Yki (YAP-TAZ) promotes non-neural PE fate and is regulated by the PP2A phosphatase. Scott J. Neal, Q. Zhou, D. F. DeSantis, F. Pignoni. Ophthalmology, SUNY Upstate Medical University, Syracuse, NY

105 — A0212 Transcription factors of the RPE play a role in choroid vascularization. Yamit Cohen¹, H. Cohen², R. Elkon¹, P. Blinder³, M. Idelson¹, B. Reubinoff², S. Itzkovitz⁵, R. Ashery-Padan¹. ¹Molecular genetics and biochemistry, Tel Aviv University, Tel Aviv, Israel; ²Particle physics, Tel Aviv University, Tel Aviv, Israel; ³Neurobiology, Tel Aviv University, Tel Aviv, Israel; ⁴Gynecology, Hadassah medical center, Jerusalem, Israel; ⁵Molecular cell biology, Weizmann Institute of Science, Rehovot, Israel

106 — A0213 Contribution of multiple MITF gene family members to RPE development in zebrafish. James Lister, S. A. Spencer. Human and Molecular Genetics, Virginia Commonwealth University, Richmond, VA

107 — A0214 Conserved Pathways Govern Formation of the Non-Neural Ocular Epithelium: RPE Determinants Specify PE fate in the eye disc of *Drosophila*. Francesca Pignoni, Q. Zhou, D. F. DeSantis, S. J. Neal. Ophthalmology, SUNY Upstate Medical University, Syracuse, NY

108 — A0215 Severe retinal dysplasia and detachment in mice lacking Maturin. Michael Zuber, G. Bachay, R. Martinez-De Luna, W. J. Brunken, A. S. Viczian. Ophthalmology, SUNY Upstate Medical University, Syracuse, NY

109 — A0216 Immature photoreceptor layer and inner retinal layers in full term neonates identified with optical coherence tomography. David Xu¹, D. Su¹, M. Del Signore², S. Isenberg^{1,2}, D. Sarraf¹. ¹Stein Eye Institute, Los Angeles, CA; ²Los Angeles Biomedical Research Institute, Torrance, CA *CR

110 — A0217 The effect of rhythmic activity on neurite outgrowth of developing retinal explants in *rd1* mice. Chuan-Chin Chiao^{1,2}, M. Lee², P. Chen¹. ¹Dept of Life Science, National Tsing Hua University, Hsinchu, Taiwan; ²Institute of Systems Neuroscience, National Tsing Hua University, Hsinchu, Taiwan

111 — A0218 Elucidating the roles of homeodomain transcription factors Six3 and Six6 in retinal differentiation. Raven Diacou¹, X. Li³, A. Cvekl¹, G. Oliver², W. Liu¹. ¹Ophthalmology and Visual Sciences, Albert Einstein College of Medicine, Bronx, NY; ²Center for Vascular and Developmental Biology, Northwestern University Feinberg School of Medicine, Chicago, IL; ³Surgery, Harvard Medical School, Boston, MA

112 — A0219 Laminin β 2 Chain Regulates Retinal Progenitor Cell Behavior Via Dystroglycan. Dmitri Serjanov^{1,2}, G. Bachay^{1,2}, D. D. Hunter^{1,2}, W. J. Brunken^{1,2}. ¹Upstate Medical University, Syracuse, NY; ²SUNY Eye Institute, Syracuse, NY

113 — A0220 Characterization of zebrafish *her9* regulation and function in retinal development. Ann C. Morris¹, C. E. Coomer¹, S. G. Wilson^{1,2}. ¹Biology, University of Kentucky, Lexington, KY; ²Biology, University of Missouri, Columbia, MO

114 — A0221 Semaphorin 6A (Sema6A) elaborates direction-selective (DS) circuits by an unexpected mechanism. Rebecca James¹, M. Brown¹, A. Kolodkin^{1,2}. ¹Solomon H. Snyder Department of Neuroscience, The Johns Hopkins School of Medicine, Baltimore, MD; ²Howard Hughes Medical Institute, Chevy Chase, MD

115 — A0222 Temporal and spatial inhibition of *Mab21L2* as a model system for coloboma and anophthalmia. Lena Gunhaga. Umeå Centre for Molecular Medicine, Umeå, Sweden

116 — A0223 Loss of Macf1 abolishes ciliogenesis and disrupts apicobasal polarity establishment in the retina. Helen May-Simera¹, J. Gumerson², C. Gao², M. M. Campos², T. Li². ¹Johannes Gutenberg University, Mainz, Germany; ²National Eye Institute, Bethesda, MD

117 — A0224 Title: Characterization of Capn5 expression and function in the zebrafish retina. Cagney Coomer, A. C. Morris. Biology, University of Kentucky, Lexington, KY

118 — A0225 Identification and characterization of long noncoding RNAs in retinal progenitor cell competence. Brian S. Clark¹, T. Thien¹, C. Zibetti¹, E. Aranda-Michel¹, F. Shiau¹, S. Blackshaw^{1,2}. ¹Department of Neuroscience, Johns Hopkins University, Baltimore, MD; ²Department of Ophthalmology, Johns Hopkins University, Baltimore, MD

119 — A0226 Age-dependent post-translational modification of neuronal activity-regulated pentraxin (Narp) in the mouse retina. Ushananthini Shanmugalingam, A. E. Morris, P. D. Smith. Neuroscience, Carleton University, Ottawa, ON, Canada

120 — A0227 Dopamine is an Opsin 5-dependent modulator of vascular development in the eye. Richard A. Lang¹, R. N. Van Gelder³, P. Iuvone⁴, S. Vemaraju¹, E. Buhr³, S. Rao², M. Nguyen¹. ¹Cincinnati Children's Hospital Medical Center, Cincinnati, OH; ²Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ³Ophthalmology, University of Washington, Seattle, WA; ⁴Departments of Ophthalmology and Pharmacology, Emory University School of Medicine, Atlanta, GA

121 — A0228 Tbx3 expression in the eye field is induced by inhibition of the BMP and Activin/TGF β signaling pathways. Andrea S. Viczian, K. A. Wong, M. Zuber. Ophthalmology, SUNY Upstate Medical Univ, Syracuse, NY

122 — A0229 β -catenin promotes non-neural cell fate in the developing *Drosophila* eye through canonical Wnt signaling. Dana F. DeSantis^{1,2}, Q. Zhou², S. J. Neal², F. Pignoni^{1,2}. ¹Neuroscience and Physiology, SUNY Upstate Medical University, Syracuse, NY; ²Ophthalmology and Center for Vision Research, SUNY Upstate Medical University, Syracuse, NY

123 — A0230 Identification of an enhancer that regulates *Otx2* expression during early retinal differentiation. Punita Bhansali, A. Cvekl, W. Liu. Ophthalmology, Albert Einstein College of Medicine, New York, NY

124 — A0231 Differential Regulation of Tandemly-Duplicated Cone Opsins by Thyroid Signaling in the Zebrafish Retina. Robert Mackin, D. Mitchell, D. L. Stenkamp. Biology, University of Idaho, Moscow, ID

125 — A0232 CRISPR-mediated *Otx2* and *OC1* KO in the chicken retina. Miruna Ghinia, K. Gonzalez, M. Emerson. City College of New York, CUNY, New York, NY

126 — A0233 Cell cycle gene reactivation in *rd1* mouse retina prior to degeneration. Jiyao Zhu, J. M. Ogilvie. Biology, Saint Louis University, St. Louis, MO

Exhibit/Poster Hall A0317-A0365

Sunday, May 07, 2017 8:30 AM-10:15 AM

Cornea

107 Cornea Wound Healing and Repair**Moderators: Krystal R. Huxlin and Marion K. Gordon**

127 — A0317 Retinoic acid engineered amniotic membrane used as a graft or homogenates: a comparative study of their positive effects on corneal alkali burns. *Romain Joubert^{1,2}, C. Belville^{2,3}, E. Daniel^{1,2}, N. Bonnin^{1,2}, A. Comptour², F. Chiambaretta^{1,2}, V. Sapin², L. Blanchon².* ¹Ophthalmology, CHU Clermont-Ferrand, Clermont-Ferrand, France; ²EA 7281 - Retinoids Reproduction Developmental Diseases, Université d'Auvergne, Clermont-ferrand, France; ³GrED - INSERM U1103 - CNRS UMR 6293, Clermont Universités, Clermont-ferrand, France

128 — A0318 Sphingolipids in the Human Cornea, to boldly go where no one has gone before. *Sarah E. Nicholas¹, S. Priyadarsini¹, M. Stiles¹, S. Khanam², N. A. Manda², D. Karamichos¹.* ¹Ophthalmology, University of Oklahoma Health Science Center, Oklahoma City, OK; ²Departments of Ophthalmology, University of Tennessee Health Science Center, Memphis, TN

129 — A0319 Novel approaches to anchoring therapeutic factors to corneal stroma to promote wound healing. *David Myung^{1,2}, A. R. Djalilian³, S. Heilshorn⁴, J. L. Goldberg^{1,2}, A. Kreymerman¹, A. Kumar¹, C. Madh¹, M. Eslani³, X. Shen³, I. Putra³, G. Fernandes-Cunha¹, W. Koh³, H. Lee⁵.* ¹Ophthalmology, Stanford University, San Jose, CA; ²Ophthalmology, VA Palo Alto Health Care System, Palo Alto, CA; ³University of Illinois at Chicago, Chicago, IL; ⁴Materials Science & Engineering, Stanford University, Stanford, CA; ⁵Chemical and Biomolecular Engineering, Yonsei University, Seoul, Korea (the Republic of) *CR

130 — A0320 Corneal myofibroblasts and TGFβ inhibit nerve regeneration during wound healing post-PRK. *Krystal R. Huxlin, K. Jeon, H. B. Hindman.* University of Rochester, Rochester, NY

131 — A0321 The effect of crosslinked CMHA-S gel drops on in vivo corneal chemical burns. *Cassie Sprague¹, B. M. Wirostko², B. Mann^{2,3}, J. McDaniel¹, G. L. Griffith¹.* ¹Ocular Trauma, United States Army Institute of Surgical Research, San Antonio, TX; ²EyeGate Pharmaceutical, Inc., Salt Lake City, UT; ³SentrX Animal Care, Salt Lake City, UT *CR

132 — A0322 Evaluating the effect of hyaluronic acid-containing artificial tear products on corneal wound re-epithelialization in an in vivo preclinical study. *Abayomi Ogundele¹, W. W. Kao², E. C. Carlson¹.* ¹Department of Ophthalmology, Novartis Pharmaceuticals Corporation, East Hanover, NJ; ²Ophthalmology, College of Medicine at the University of Cincinnati, Cincinnati, OH *CR

133 — A0323 Amniotic Membrane Allografts Maintain Key Biological Properties Post SCCO₂ And Lyophilization Processing. *Jennifer McDaniel, A. Johnson, D. O. Zamora.* Ocular Trauma, USAISR, Fort Sam Houston, TX

134 — A0324 Role of Exosomes in Regulation of Corneal Angiogenesis and Wound Healing. *Kyuyeon Han, J. Chang, D. Azar.* Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL

135 — A0325 FAK Signaling Regulates the Difference in T1 and T3's Ability to Stimulate SMA. *Srinivas Sriram, X. Q. Guo, A. E. Hutcheon, J. D. Zieske.* Ophthalmology, Harvard Medical School, Schepens Eye Research Institute/MEE, Boston, MA *CR

136 — A0326 Potential Approach to Reverse Corneal Myofibroblast Formation. *Xiaoqing Q. Guo, S. S. Sriram, J. A. Tran, A. E. Hutcheon, J. D. Zieske.* Ophthalmology, Harvard Medical School, Schepens Eye Research Institute/MEE, Boston, MA *CR

137 — A0327 Effect of ST266, an amnion-derived multipotent progenitor cell-derived secretome, in a corneal incision model for post-operative inflammation. *Howard Wessel¹, E. Gill¹, E. Klitsch¹, K. J. Mandell¹, D. Culp², J. Prater², B. C. Gilger^{2,3}, L. Brown¹.* ¹Noveome Biotherapeutics, Pittsburgh, PA; ²Powered Research LLC, Research Triangle Park, NC; ³Veterinary Medicine, North Carolina State University College, Raleigh, NC *CR

138 — A0328 Overexpression of MMPs in Corneas Requiring Penetrating and Deep Anterior Lamellar Keratoplasty. *Matilda F. Chan^{2,1}, C. Oldenburg^{1,2}, J. Kemmer², S. M. Clay², D. G. Hwang^{2,1}, M. Wolf¹.* ¹Proctor Foundation, University of California, San Francisco, San Francisco, CA; ²Department of Ophthalmology, University of California, San Francisco, San Francisco, CA

139 — A0329 Alginate-encapsulated adipose-derived stem cells: a storable solution for the delivery of therapeutic proteins to the ocular surface. *Stephen Swioklo¹, A. J. Shortt², C. J. Connon¹.* ¹Institute of Genetic Medicine, Newcastle University, Newcastle Upon Tyne, United Kingdom; ²Institute of Immunity and Transplantation, University College London, London, United Kingdom

140 — A0330 Inhibition of NLRP3 Inflammasome Pathway by Butyrate Improves Corneal Wound Healing in Corneal Alkali Burn. *Fang Bian, Y. Xiao, Z. Mahira, S. C. Pflugfelder, D. Li, C. S. De Paiva.* Ophthalmology, Baylor College of Medicine, Houston, TX

141 — A0331 Semaphorin3A is an inducer of neuronal growth and nerve regeneration in adult corneas. *Victor H. Guaiquil, Q. Zhou, Y. Luo, T. Nguyen, M. Rosenblatt.* Ophthalmology and Visual Sciences, University of Illinois-Chicago, Chicago, IL

142 — A0332 Transparency of suture able, nanofiber reinforced, alginate hydrogels for corneal wound healing. *Piotr Stafiej^{2,1}, F. Küng^{2,1}, D. W. Schubert¹, F. E. Kruse², T. A. Fuchsluger².* ¹Institute of Polymer Materials, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; ²Department of Ophthalmology, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany

143 — A0333 In Vivo Corneal Injury Models with Lewisite and Sulfur Mustard for the Evaluation of Effective Treatments. *Neera Tewari-Singh¹, D. Goswami¹, R. Kant¹, D. Kumar¹, D. A. Ammar², J. Petrash², R. W. Enzenauer², C. R. Crouch³, R. P. Casillas³, R. Agarwal¹.* ¹Department of Pharmaceutical Sciences, University of Colorado Denver, Aurora, CO; ²Department of Ophthalmology, University of Colorado Denver, Aurora, CO; ³MRIGlobal, Kansas City, MO

144 — A0334 SIRT1: Expression in the cornea and its role in corneal wound healing. *Rajiv R. Mohan^{1,2}, G. anumanthan^{3,2}, T. Ratnakar^{3,2}, S. Gupta^{3,2}, M. K. Fink^{3,2}, P. R. Sinha^{3,2}, S. D. Heil³, S. S. Chaurasia³, E. A. Giuliano³, N. P. Hesemann².* ¹Mason Eye Institute and VMTH, University of Missouri-Columbia, Columbia, MO; ²Ophthalmology, Truman VA Hospital, Columbia, MO; ³VMTH, University of Missouri, Columbia, MO

145 — A0335 The Effect of Nitric Oxide on Human Corneal Epithelial Wound healing. *JooHee Park¹, D. Kim¹, R. S. Chuck², C. Park¹.* ¹Department of Ophthalmology, Dongguk University, Ilsan Hospital, Goyang-si, Korea (the Republic of); ²Department of Ophthalmology and Visual Sciences, Montefiore Medical Center, Albert Einstein College of Medicine, Bronx, NY *CR

146 — A0336 The effect of human growth hormone on corneal wound healing in mice. *Xi Han, X. Chen, Y. Liu, W. R. Kam, D. A. Sullivan, J. Ding.* Schepens Eye Research Institute/ Massachusetts Eye and Ear/Harvard Medical School, Boston, MA *CR

147 — A0337 Growth of human corneal epithelial cell on silk films with different nanopographies. *Yuncin Luo, M. Sun, V. H. Guaiquil, M. Rosenblatt.* Department of Ophthalmology and Visual Sciences, University of Illinois Eye and Ear Infirmary, Chicago, IL

- 148 — A0338 Differential Corneal Fibrosis in Desmin Deficiency.** *Sonny Caplash, P. Bargagna-Mohan, A. Pietraszkiewicz, C. Hampton, R. Mohan.* Neuroscience, University of Connecticut Health Center, Farmington, CT
- 149 — A0339 Optimized gene therapy normalizes wound healing and stem cell marker expression in cultured diabetic limbal epithelial cells.** *Andrei A. Kramerov¹, M. S. Ghiam^{1,2}, A. V. Ljubimov^{1,2}.* ¹Ophthalmology Research, Cedars-Sinai Medical Center, Los Angeles, CA; ²David Geffen School of Medicine, University of California at Los Angeles, Los Angeles, CA
- 150 — A0340 Effect of conditioned medium on corneal epithelial cells wound healing in vitro.** *Renata R. Loureiro, P. Cristovam, J. Covre, J. A. Gomes.* Ophthalmology and Visual Science, Federal University of São Paulo, São Paulo, Brazil
- 151 — A0341 Influence of the molecular weight on the suture retention properties of polycaprolactone.** *Florian Küng^{1,2}, D. W. Schubert², P. Staffeij^{1,2}, F. E. Kruse¹, T. A. Fuchsluger¹.* ¹Department of Ophthalmology, Friedrich-Alexander Universität Erlangen-Nürnberg, Erlangen, Germany; ²Institute of Polymer Materials, Friedrich-Alexander Universität Erlangen-Nürnberg, Erlangen, Germany
- 152 — A0342 A Sema7a derived RTS-disintegrin peptide binds to integrin alpha1beta1 and promotes migration of myeloid-derived suppressor cells (MDSCs).** *Pei-Yu Wu², S. An², H. Lee¹, D. Varma², E. Kim², Z. Liu², J. Sarkar², A. Pradeep², A. Ahn², C. Mun², A. Lopez², I. RAJU², S. Jain².* ¹Department of Medicinal Chemistry and Pharmacognosy, University of Illinois at Chicago, Chicago, IL; ²Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL
- 153 — A0343 Semaphorin 7a is differentially expressed in myeloid-derived suppressor cells (MDSCs) under naïve and inflammatory conditions.** *Seungwon An, E. Kim, D. Varma, I. RAJU, A. Pradeep, C. Mun, A. Ahn, A. Lopez, Z. Liu, S. Jain.* Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL
- 154 — A0344 Mice gender and strain affect neurotrophin secretion and corneal nerve regeneration after injury.** *Azucena H. Kakazu¹, T. L. Pham¹, S. Sullivan², K. Terry IP, J. He¹, H. E. Bazan¹.* ¹Ophthalmology and Neuroscience, LSU Health, New Orleans, LA; ²School of Medicine, LSU Health, New Orleans, LA; ³University of New Orleans, New Orleans, LA
- 155 — A0345 Potential role of topical bovine colostrum in remodeling corneal epithelial cells after an acute ocular alkali burn in mice.** *Laura Di Meglio¹, A. Tarfff¹, R. Yee², P. Gupta¹, A. Annadanam¹, M. D. Cano¹, W. May¹, A. Behrens¹.* ¹Ophthalmology, The Wilmer Ophthalmological Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Molecular Microbiology & Immunology, Johns Hopkins University, Baltimore, MD
- 156 — A0346 MMP14-Mediated Differential Regulation of VEGFR1, 2, & 3 Expression in Corneal Epithelial Cells vs. Corneal Keratocytes.** *Jin-Hong Chang, K. Han, D. Azar.* Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL
- 157 — A0347 BIOcular™ Dressings for Corneal Repair.** *Lauren A. Costella¹, M. Patterson¹, R. Redmond², A. Eiseman³, C. Tison¹.* ¹Biomedical Technologies Group, Luna Innovations, Charlottesville, VA; ²Wellman Center for Photomedicine, Massachusetts General Hospital, Boston, MA; ³Storm Eye Institute, Medical University of South Carolina, Charleston, SC *CR
- 158 — A0348 Role of MMP13 in Wound Healing in the Diabetic Mouse Cornea.** *Patrick S. Lee, H. Sun, N. Gao, F. X. Yu.* Ophthalmology, Wayne State University School of Medicine, Detroit, MI
- 159 — A0349 Corneal wound healing mechanisms modulated by novel antimicrobial peptides.** *Anne Kasus-Jacobi^{1,2}, A. J. Stock¹, G. L. Griffith³, H. A. Pereira^{1,2}.* ¹Pharmaceutical Sciences, University of Oklahoma Health Sciences Center, Oklahoma City, OK; ²Oklahoma Center for Neuroscience, University of Oklahoma Health Sciences Center, Oklahoma City, OK; ³Ocular Trauma, United States Army Institute for Surgical Research, San Antonio, TX *CR
- 160 — A0350 Neutrophil Extracellular Traps (NETs) delay Epithelial Wound Healing in-vitro: Implications in chronic Ocular GVHD.** *Satyabrata Sinha, I. RAJU, S. AN, A. Pradeep, B. Surenkhuu, A. D'costa, P. Wu, S. Gulati, A. Lopez, C. Mun, A. Ahn, S. Jain.* Ophthalmology and Visual Sciences, UIC EAR & EYE INFIRMARY, Chicago, IL
- 161 — A0351 Effects of exogenous recombinant human bone morphogenic protein-7 on the corneal wound healing.** *Jin Kwon Chung.* Ophthalmology, Soonchunhyang University College of Medicine, Soonchunhyang University Seoul Hospital, Seoul, Korea (the Republic of)
- 162 — A0352 Treatment of persistent epithelial defects with the regenerating agent (RGTA).** *Michael Moeller-Hansen¹, N. Jakobsen^{1,2}, J. Cabrerizo^{1,2}.* ¹The Eye Clinic, Rigshospitalet-Glostrup, Copenhagen, Denmark, Herning, Denmark; ²Copenhagen Eye Foundation, Copenhagen, Denmark
- 163 — A0353 Superior and Inferior Corneal Epithelial Long Term Remodeling in Myopic Corrections with Small Incision Lenticule Extraction (SMILE).** *Priya Patel¹, A. J. Kanellopoulos^{1,2}.* ¹Dept of Ophthalmology, New York University, West Orange, NJ; ²Laservision.gr Institute, Athens, Greece *CR
- 164 — A0354 An ex vivo model using porcine eyeballs for wound healing studies.** *Mario Crespo-Moral¹, L. Soriano-Romani^{1,2}, A. López-García^{1,2}, Y. Diebold^{1,2}.* ¹Ocular surface group, IOBA - University of Valladolid, Valladolid, Spain; ²Biomedical Research Networking Center on Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), Valladolid, Spain
- 165 — A0355 Corneal woundhealing model employing a bioreactor.** *Ioana-Sandra Tarau¹, R. Schmid², C. Lotz³, A. Rossi², S. Schürlein³, H. Walles³, F. Groeber-Becker², J. Hansemann², J. Hillenkamp¹.* ¹Ophthalmology, Augenklinik des Universitätsklinikums Würzburg, Würzburg, Germany; ²Translationszentrum "Regenerative Medizin" des Fraunhofer-Instituts für Grenzflächen- und Bioverfahrenstechnik IGB, Würzburg, Germany; ³Lehrstuhl für Tissue Engineering und Regenerative Medizin der Universität Würzburg, Würzburg, Germany
- 166 — A0356 Outcomes of multiple-dose fibrin glue during in-office pterygiectomy.** *Jesus A. Martinez^{1,2}, J. Ha¹, S. L. Creemers¹.* ¹Visionary Eye Doctors, Rockville, MD; ²Ophthalmology, Washington Hospital Center, Washington, DC
- 167 — A0357 Phototherapeutic keratectomy and matrix ReGeneraTingAgent (RGTA, polycarboxymethyl glucose sulfate) as a treatment method in patients with corneal erosion syndrome.** *Ewa Mrukwa-Kominek, A. Bonczar, A. Urgacz-Lechowicz.* Ophthalmology, University Clinical Center, Medical University, Katowice, Poland
- 168 — A0358 The Use of a Full-Thickness Corneal Penetration Wound Model to Simulate Battlefield Ocular Trauma.** *Gregory A. Hutcheson^{1,2}, D. O. Zamora¹, B. Lund¹, J. Cleland¹, J. C. Rabin².* ¹Ocular Trauma Division - US Army Institute for Surgical Research, UIW Rosenberg School of Optometry, San Antonio, TX; ²Rosenberg School of Optometry, University of the Incarnate Word, San Antonio, TX
- 169 — A0359 Interleukin-6 expression in an ex vivo model of equine corneal wound healing.** *Gil Ben-Shlomo, R. F. Wehrman.* Veterinary Clinical Sciences, Iowa State University, College of Veterinary Medicine, Ames, IA
- 170 — A0360 Attenuating Ocular Sulfur Mustard Injury with Restasis.** *Marion K. Gordon¹, R. A. Hahn¹, P. Zhou¹, Y. Chang¹, K. K. Svoboda², D. Gerecke¹.* ¹Pharmacology & Toxicology, Rutgers University, Piscataway, NJ; ²Biomedical Sciences, Baylor College of Dentistry, Texas A&M, Dallas, TX

171 — A0361 A Systematic Review of A Matrix Therapy Agent (RGTA) Effect in Neurotrophic Keratopathy. *Dariusz Rokicki¹, E. Mrukwa-Kominek².* ¹Laboratoires Thea, Clermont-ferrand, France; ²Ophthalmology, University Clinical Center, Medical University, Katowice, Poland *CR

172 — A0362 Nicergoline: A Novel Treatment for Persistent Corneal Epithelial Defect. *Valeria Oliva, J. Cabral, J. Serna-Ojeda, V. Boulosa, A. J. Ramirez-Miranda, A. Navas, E. O. Graue-Hernandez.* Cornea, Institute of Ophthalmology “Conde de Valenciana”, CDMX, Mexico

173 — A0363 Alterations in Basal Lamina Stiffness Lead to Impaired Epithelial Cell Migration. *Obi E. Onochie, C. Rich, V. E. Trinkaus-Randall.* Ophthalmology, Biochemistry, Boston University School of Medicine, Boston, MA

174 — A0364 A Compressed Collagen Gel Vehicle for Stem Cell Therapy of Wounded Corneas. *Martha L. Funderburgh¹, K. J. Sylakowski², I. Khandaker¹, G. Shojaati¹, J. L. Funderburgh¹.* ¹Department of Ophthalmology, Univ of Pittsburgh Sch of Med, Pittsburgh, PA; ²Pathology, University of Pittsburgh, Pittsburgh, PA

175 — A0365 Thermal injuries of the cornea: Injury patterns and histopathology. *Karel Capek¹, S. D. Trocmé^{1,2}, K. Merkley³, H. K. Hawkins^{4,5}, C. J. Jimenez^{1,6}, C. C. Finnerty^{7,6}, D. N. Herndon¹.* ¹Burn Surgery, Shriners Hospitals for Children, Galveston, TX; ²Ophthalmology, MD Anderson Cancer Center, Houston, TX; ³Ophthalmology, University of Texas Medical Branch, Galveston, TX; ⁴Pathology, Shriners Hospitals for Children, Galveston, TX; ⁵Pathology, University of Texas Medical Branch, Galveston, TX; ⁶Surgery, University of Texas Medical Branch, Galveston, TX; ⁷Research, Shriners Hospitals for Children, Galveston, TX ✕

Exhibit/Poster Hall B0120-B0132

Sunday, May 07, 2017 8:30 AM-10:15 AM

Clinical/Epidemiologic Research

108 Genetic Epidemiology

Moderator: Stuart MacGregor

176 — B0120 Genetic, environmental and phenotypic risk factors for progression of age-related macular degeneration. *Vasilena Sitnilska¹, E. Kersten², L. Altay¹, T. Schick¹, P. Enders¹, C. C. Hoyng², A. I. Den Hollander², S. Fauser¹.* ¹Department of Ophthalmology, University of Cologne, Cologne, Germany; ²Department of Ophthalmology, Radboud University Nijmegen Medical Center, Nijmegen, Germany

177 — B0121 Deep Phenotype Association Study in AREDS2 Suggests Pleiotropic Genetic Associations with Ocular and Systemic Disease. *Tiarnan D. Keenan^{1,2}, M. Simmons¹, F. Van Asten¹, A. Singhal³, R. Ratnapriya⁴, E. Agron¹, A. Swaroop¹, Z. Lu³, E. Chew¹.* ¹National Eye Institute, National Institutes of Health, Bethesda, MD; ²University of Manchester, Manchester, United Kingdom; ³National Center for Biotechnology Information, National Library of Medicine, National Institutes of Health, Bethesda, MD *CR

178 — B0122 Getting to the root of MacTel: joint dissection of genetic risk loci and ocular phenotypes. *Roberto Bonelli^{1,2}, T. Scerri^{1,2}, T. E. Clemons³, F. Sallo⁴, I. Leung⁴, T. MacTel Consortium³, T. Peto^{4,5}, M. Bahl^{1,2}.* ¹Population Health and Immunity, Walter + Eliza Hall Institute of Medical Research, Parkville, VIC, Australia; ²The University of Melbourne, Melbourne, VIC, Australia; ³The EMMES Corporation, Rockville, MD; ⁴Department of Research and Development, NIHR BMRC at Moorfields Eye Hospital NHS Foundation Trust and UCL IoO, London, United Kingdom; ⁵Centre for Public Health, Queen’s University Belfast, Belfast, Ireland

179 — B0123 Incidence and de-novo mutation rate of Marfan syndrome and risk of ectopia lentis. *Ricky Cui, N. Diehl, B. Mohnney.* Mayo Clinic, Rochester, MN

180 — B0124 Heritability of retinal vascular fractals: a twin study. *Anna Stage Vergmann¹, R. Broe¹, L. Kessel^{2,5}, J. Hougaard³, K. Kyvik⁴, M. Larsen^{2,5}, I. Munch^{2,6}, J. Grauslund¹.* ¹Odense University Hospital, Odense C, Denmark; ²University of Copenhagen, Faculty of Health and Medical Sciences, Copenhagen, Denmark; ³Department of Ophthalmology, Skånes University Hospital, Malmö, Sweden; ⁴Department of Clinical Research, University of Southern Denmark, Odense, Denmark; ⁵Department of Ophthalmology, Rigshospitalet - Glostrup, Glostrup, Denmark; ⁶Department of Ophthalmology, Zealand University Hospital, Roskilde, Denmark

181 — B0125 Newly identified genes for refractive error and risk of myopia. *Virginie J. Verhoeven^{1,6}, A. Iglesias⁷, M. S. Tedja¹, E. M. van Leeuwen¹, P. G. Hysi², R. Wojciechowski^{3,4}, C. J. Hammond², C. Klaver^{1,5}.* ¹Department of Ophthalmology / Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands; ²Department of Twin Research and Genetic Epidemiology, King’s College London School of Medicine, London, United Kingdom; ³Inherited Disease Research Branch, National Human Genome Research Institute, US National Institutes of Health, Baltimore, MD; ⁴Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ⁵Department of Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands; ⁶Department of Clinical Genetics, Erasmus Medical Center, Rotterdam, Netherlands; ⁷Department of Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands

182 — B0126 Chromosome 11p is Significantly Linked to Myopia in Caucasian Families. *Anthony Musolf¹, C. L. Simpson³, B. A. Moiz¹, K. A. Long¹, D. D. Lewis¹, C. D. Middlebrooks¹, L. Portas², F. Murgia², E. B. Ciner³, D. Stambolian⁴, J. E. Bailey-Wilson¹.* ¹National Human Genome Research Institute, National Institutes of Health, Baltimore, MD; ²Institute of Population Genetics, Sassari, Italy; ³Salus University, Elkins Park, PA; ⁴Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA; ⁵Department of Genetics, Genomics and Informatics, University of Tennessee Health Science Center, Memphis, TN

183 — B0127 European ancestry is associated with lower risk of primary open angle glaucoma in Latinos. *X. Raymond Gao¹, D. Nannini¹, M. Torres², R. Varma².* ¹Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²USC Roski Eye Institute, Department of Ophthalmology, University of Southern California, Los Angeles, CA

184 — B0128 Exome-focused Rare and Common Variant Analyses of Ocular Traits in a Sardinian Cohort. *Roberto Y. Cordero^{1,2}, J. E. Bailey-Wilson², L. Portas², F. Murgia², M. Pirastu³, D. Stambolian⁴, C. L. Simpson^{1,2}.* ¹Genetics, Genomics and Informatics, University of Tennessee Health Science Center, Memphis, TN; ²Computational and Statistical Genomics Branch, National Human Genome Research Institute, Baltimore, MD; ³Institute of Population Genetics, National Research Council of Italy, Sassari, Italy; ⁴Ophthalmology, University of Pennsylvania, Philadelphia, PA

185 — B0129 Expression profiling of extracellular long noncoding RNAs and message RNAs in aqueous humor of glaucoma patients. *Lili Xie¹, B. Jiang¹, M. Mao².* ¹Dep. of Ophthalmology, The 2nd Xiangya Hospital, Central South University, Changsha, China; ²Ophthalmology, Univ of California, San Francisco, CA ✕

186 — B0130 Genetic heritability and associations of Pigmentary Glaucoma. *Mark J. Simcoe¹, A. Nag¹, E. Yonova¹, K. M. Williams^{1,2}, B. Wissinger³, C. J. Hammond^{1,2}, N. Weisschuh³, P. G. Hysi^{1,2}.* ¹Department of Twin Research and Genetic Epidemiology, St Thomas’ Hospital, King’s College London, London, United Kingdom; ²Ophthalmology, King’s College London, London, United Kingdom; ³Institute for Ophthalmic Research, University of Tübingen, Tübingen, Germany

187 — B0131 Genetic Native Ancestry and Clinical Determinants of the OCT-Measured Retinal Structure in Latinos. *Darryl R. Noursome¹, R. McKean-Cowdin¹, M. Torres², X. Jiang², A. H. Kashani², B. Burkemper², R. Varma².* ¹Preventive Medicine, University of Southern California, Los Angeles, CA; ²Ophthalmology, University of Southern California, Los Angeles, CA *CR

188 — B0132 The Amish Eye Study: Baseline Quantitative Ocular Characteristics on a Unique Cohort. Jonathan L. Haines¹, N. Restrepo¹, Y. Song¹, R. Lauw¹, L. D. Adams², D. Fuzzell¹, L. J. Caywood², V. Horst², T. MacKay³, D. Dana³, M. G. Nittala⁴, S. R. Sadda^{4,5}, W. K. Scott², D. Stambolian³, M. A. Pericak-Vance². ¹Epidemiology and Biostatistics, Case Western Reserve University, Cleveland, OH; ²Hussman Institute for Human Genomics, University of Miami Miller School of Medicine, Miami, FL; ³Ophthalmology and Genetics, University of Pennsylvania, Philadelphia, PA; ⁴Doheny Image Reading Center, Doheny Eye Institute, Los Angeles, CA; ⁵Ophthalmology, University of California, Los Angeles, CA

Exhibit/Poster Hall B0220-B0242

Sunday, May 07, 2017 8:30 AM-10:15 AM

Physiology/Pharmacology

109 Cytokines; growth factors; Antiangiogenic drugs

189 — B0220 CNTF treatment prevents development of pathological tuft formation in VLDLR -/- mice. Edith Aguilar¹, F. Bucher¹, M. Rosenfeld¹, S. Sakimoto¹, S. Murinello¹, M. Gantner², K. eade², S. Diaz-Aguilar¹, M. Kitano¹, M. Friedlander^{1,2}. ¹Cell Biology, Scripps Research Institute, Del Mar, CA; ²The Lowy Medical Research Institute, San Diego, CA

190 — B0221 Systemic Effects of AAV. COMPAng1 in the Ins2Akita Diabetic Mouse. Malkit Singh^{2,1}, S. Choi², P. Soininen², Z. Sandhu², D. Fang², D. Vashist², A. Bohner², X. Zhang², Y. Wu², L. Carroll¹, Y. Huang³, H. Uehara². ¹Ophthalmology, University of Texas Medical Branch / The Houston Methodist Hospital, Galveston, TX; ²Ophthalmology, Moran Eye Center, University of Utah, Salt Lake City, UT; ³Internal Medicine - Nephrology, University of Utah, Salt Lake City, UT

191 — B0222 H-1129 suppresses neovascularization through inhibition of secretion of VEGF and proliferation of vascular endothelial cells. Yoko Yoshida^{1,2}, A. Kasai^{1,2}, H. Hidaka^{1,2}. ¹D. Western Therapeutics Institute, Inc., Nagoya, Japan; ²Human Research Promotion and Drug Development, Mie University, Tsu, Japan *CR

192 — B0223 The Potential Roles of IL-33 and TGF-β1 in the Pathogenesis of Stevens - Johnson syndrome/ Toxic Epidermal Necrolysis. Omer Iqbal¹, C. S. Bouchard¹, M. iwashima², S. Tilf, P. Bu¹. ¹Ophthalmology, Loyola University Chicago, Maywood, IL; ²Loyola University Medical Center, Maywood, IL

193 — B0224 The efficacy of aflibercept in treating retinopathy of prematurity in the mouse model of oxygen-induced retinopathy. Sarina M. Amin, S. Agarwal, W. Smith, J. G. Guevara. Ophthalmology, University of Florida, Gainesville, FL

194 — B0225 Blockade of Apelin Receptor (APJ) can inhibit developmental retinal vessel outgrowth in pups and promote normal neovascularization and reduce pathological neovascularization in OIR model in mice. Eunice Cheung, P. Stevis, Y. Ray, S. J. Wiegand, C. Romano, I. Lobov. Regeneron Pharmaceuticals, Tarrytown, NY *CR

195 — B0226 Therapeutic potential of topical administration of H-1129, an isoquinoline sulfonamide derivative, in wet AMD and proliferative diabetic retinopathy. Kengo Sumi^{1,3}, H. Hidaka^{1,3}, Y. Yoshida^{1,3}, A. Kasai^{1,3}, T. Izuhara^{1,3}, M. Sugimoto^{2,3}, M. Kondo^{2,3}. ¹D. Western Therapeutics Institute, Inc., Nagoya, Japan; ²Department of Ophthalmology, Mie University, Tsu, Japan; ³Human Research Promotion and Drug Development, Mie University, Tsu, Japan *CR

196 — B0227 The long leap from drug affinity to efficacy: Intervening factors that strongly influence clinical outcomes. Eric Wakshull¹, E. Day², J. Yang², X. Wang², S. Yadav², W. Hanley². ¹Bioanalytical Sciences, Genentech, South San Francisco, CA; ²Genentech, Inc., South San Francisco, CA *CR

197 — B0228 Aflibercept therapy can lead to vascular abnormalities. Adam Wylegala, F. Wylegala, E. Wylegala. Ophthalmology, Railway Hospital, Katowice, Katowice, Poland

198 — B0229 Panobinostat reduces neovascularization in an alkali-induced corneal injury model. Jianping Chen, S. Su. Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

199 — B0230 RGX-314, an AAV8 expressing an anti-VEGF protein, strongly suppresses subretinal neovascularization and vascular leakage in mouse models. Ji-kui Shen¹, Y. liu¹, S. D. Fortmann¹, S. Yoo², K. Kozarsky², J. Wang¹, P. A. Campochiaro¹. ¹Ophthalmology, Johns Hopkins Wilmer Eye Inst, Baltimore, MD; ²REGENXBIO Inc, Rockville, MD *CR

200 — B0231 Magnolol reduces retinal neovascularization in the OIR model and protects HUVECs under hypoxia via HIF-1α/VEGF pathway. Xiaoling Liang, B. Yang, Y. Xu, Y. Hu, X. Lu, Z. Xu. Zhongshan University; State Key Laboratory, Guangzhou, China

201 — B0232 Multifunctional small molecule TLR4 antagonist for treating ocular neovascularization. Suchismita Acharya^{1,3}, S. K. Panda³, J. Cai², D. L. Stankowska¹. ¹North Tx Eye Research Institute, UNT health Science Center, Fort Worth, TX; ²Ophthalmology, University of Texas Medical Branch, Galveston, TX; ³AyuVis Research LLC, Dallas, TX *CR

202 — B0233 Anti-VEGF induced nephropathy following intravitreal administration: a potential toxicity. Deepak Mangla¹, M. Gill¹, S. E. Quaggin². ¹Department of Ophthalmology, Northwestern University, Chicago, IL; ²Northwestern Department of Medicine, Feinberg Cardiovascular Institute, Chicago, IL

203 — B0234 The effect of nicotinamide phosphoribosyl transferase inhibitor JSNMP-029 on corneal neovascularization. Jiayi Jin, S. Su. Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

204 — B0235 Effects of anti-angiogenic drugs on expression patterns of genes involved in different AMD pathogenetic pathways. Mohamed Mohamed^{1,2}, M. Moustafa^{1,2}, S. Atilano¹, A. Memon¹, M. Riaz¹, S. W. Tsao¹, C. M. Kenney¹, B. D. Kuppermann¹. ¹Gavin Herbert Eye Institute, University of California Irvine, Irvine, CA; ²Ophthalmology Department, University of Minia, Minia, Egypt *CR

205 — B0236 Ciliary neurotrophic factor in patients with age-related cataract. Alexander A. Shpak¹, A. B. Guekht², T. Druzhkova², K. Kozlova³, N. Gulyaeva³. ¹Clin & Functional Diag, S Fyodorov Eye Microsurg Federal State Institution, Moscow, Russian Federation; ²Moscow Research and Clinical Center for Neuropsychiatry, Moscow, Russian Federation; ³Institute of Higher Nervous Activity and Neurophysiology, Russian Academy of Sciences, Moscow, Russian Federation

206 — B0237 Surface analytical studies of growth factor coupling to collagen by copper-free click chemistry. Hyun Jong Lee^{1,2}, G. Fernandes-Cunha¹, W. Koh², J. L. Goldberg¹, D. Myung¹. ¹Byers Eye Institute, Stanford University, Palo Alto, CA; ²Chemical and Biomolecular Engineering, Yonsei University, Seoul, Korea (the Republic of)

207 — B0238 Elevated Levels of TGFβ2 and sFRP1 in Aqueous Humor of Glaucomatous Patients. tao guo¹, L. Guo¹, Y. Deng¹, I. Pang², X. Fan¹. ¹Ophthalmology, Shanghai Ninth People's Hospital, Shanghai JiaoTong University School of Medicine, Shanghai, China; ²North Texas Eye Research Institute, Fort Worth, TX

208 — B0239 The Effect of Interleukin 38 on Angiogenesis in a Model of Oxygen-induced Retinopathy. Jing Zhang, S. Su. Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

209 — B0240 An increased expression of IL-17 and Foxp3 is observed in contrast to other Th genes in primary pterygium. JOSE Navarro-Partida¹, C. D. Diaz-Palomer², R. Rosales Diaz², A. B. Martinez-Rizo², A. D. Rodriguez-Carrizalez³, A. Santos¹. ¹Division De Biotecnologia Y Salud. Campus Guadalajara, Tecnológico De Monterrey, Zapopan, Mexico; ²Unidad Academica de Medicina, Universidad Autonoma De Nayarit, Tepic, Mexico; ³Centro Universitario De Ciencias De La Salud, Universidad De Guadalajara, Guadalajara, Mexico

210 — B0241 Quantification of aflibercept and ranibizumab efficacy in DL-2-aminoadipic acid (DLAAA)-induced retinal neovascularization and vascular leakage in nonhuman primates. Wenzheng Hu, D. James, A. Kurian, J. Attwood, C. Phipps, A. Browne, V. Woodley, A. Matthew, A. Lewis, R. J. Goody, M. S. Lawrence. RxGen Inc, Hamden, CT *CR

211 — B0242 Comparison of pain and comfort for intravitreal administration of anti-VEGF agents using blepharostat vs non blepharostat techniques. Jose Ramon R. Mier¹, D. Magana^{2,1}, E. Romo-Garcia^{2,1}, W. Quiñónez^{2,1}, A. Meza¹, G. Gutierrez Ruiz¹. ¹Ophthalmology, ISSSTE, MERIDA, Mexico; ²Retina, CIDOCS / UAS, Culiacán, Mexico

Exhibit/Poster Hall B0243-B0293

Sunday, May 07, 2017 8:30 AM-10:15 AM

Physiology/Pharmacology

110 Retina;RPE; Mechanisms

Moderator: Francesco Giuliano

212 — B0243 Activation of Sigma-1 Receptor Protects Retinal Ganglion Cell Loss in Optic Nerve Crush Model for Glaucoma. Dorette Z. Ellis^{1,2}, L. Li¹, S. He², Y. Liu², T. Yorio². ¹UNT System College of Pharmacy, Fort Worth, TX; ²NTERI, UNTHSC, Fort Worth, TX

213 — B0244 Heteromeric MT₁/MT₂ Melatonin Receptors Signal Via PKC- ζ in Mouse Photoreceptors. Gianluca Tosini¹, I. Piano^{2,1}, G. Gargini², K. Baba¹. ¹Pharmacology, Morehouse School of Medicine, Atlanta, GA; ²Farmacia, Università di Pisa, Pisa, Italy

214 — B0245 Increased levels of nitric oxide may pathologically affect functional hyperemia in the retina: model and simulation. Riccardo Sacco¹, A. G. Mauri¹, A. Cardani¹, B. A. Siesky³, G. Guidoboni², A. Harris³. ¹Mathematics, Politecnico di Milano, Italy, Milan, Italy; ²Mathematical Sciences, Indiana University - Purdue University Indianapolis, Indianapolis, IN; ³Ophthalmology, Indiana Univ Sch of Medicine, Indianapolis, IN *CR

215 — B0246 Phase 1 safety and tolerability assessment of ANX776 in DARC (Detection of Apoptosing Retinal Cells) Technology. M Francesca Cordeiro^{1,2}, E. M. Normando^{1,2}, M. Cardoso³, S. Miodragovic^{2,4}, S. Jeylani^{2,4}, B. Davis¹, L. Guo¹, S. Ourselin³, R. A'Herne⁵, P. A. Bloom^{4,2}. ¹Glaucoma & Retinal Neurodegenrnt Res Grp, UCL Inst Ophthal & Western Eye Hsp London, London, United Kingdom; ²Imperial College London, ICORG, London, United Kingdom; ³Translational Imaging Group, Centre for Medical Image Computing, UCL, London, United Kingdom; ⁴Western Eye Hospital, London, United Kingdom; ⁵81 Hillier Road Battersea, London, United Kingdom *CR, ∇

216 — B0247 Repeated low- level blast exposure increases transient receptor potential vanilloid 1 (TRPV1) and endothelin-A (ET-A) co-expression. Elaine Por, M. Sandoval, C. Thomas-Benson, T. A. Burke, B. Lund. Ocular Trauma, USAISR, San Antonio, TX

217 — B0248 Muller-cell dependent rhodopsin regeneration monitored by rapid scanning spectrophotometry with integrating cavity to enhance sensitivity and mitigate signal loss from light scatter. Gabriel Gonzalez-Fernandez¹, R. DeSa². ¹Ophthalmology & Pathology, University of Mississippi Medical Center, Jackson, MS; ²Olis Inc., Bogart, GA *CR

218 — B0249 Synthetic LXR Agonists Enhances Vasoreparative Function and Proliferation of Bone Marrow-Derived Stem Cells in Diabetic Mouse Models. Thao Trinh^{1,2}, E. Beli², S. Hazra³, L. Shaw², Y. Duan^{1,2}, M. Levi³, J. V. Busik⁴, M. B. Grant^{2,1}. ¹Physiology, Indiana University School of Medicine, Indianapolis, IN; ²Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ³Geriatrics, University of Utah, Salt Lake, UT; ⁴Physiology, Michigan State University, East Lansing, MI; ⁵Department of Medicine, University of Colorado Denver, Denver, CO

219 — B0250 Treatment outcomes of chronic central serous retinopathy in women compared to men. Daniel Cherfan, R. P. Singh, F. Q. Silva, F. Conti. Ophthalmology, Cleveland Clinic Foundation, Cleveland, OH *CR

220 — B0251 Microelectrode penetration of the wall of porcine retinal arterioles in vitro results in recordings from at least two different cell types. Olga Kudryavtseva¹, C. Aalkjaer², T. Bek¹. ¹Ophthalmology, Aarhus University Hospital, Aarhus, Denmark; ²Biomedicine, Aarhus University, Aarhus, Denmark

221 — B0252 Intravitreal pharmacokinetic properties and systemic biodistribution characteristics of I-124 labeled bevacizumab, ranibizumab and aflibercept with PET/CT imaging on a non-human primate model. John Christoforidis^{1,2}, K. Briley^{3,2}, P. Bhatia^{3,2}, K. Kumar^{3,2}, M. V. Knopp^{3,2}. ¹Ophthalmology & Visual Science, University of Arizona Medical Center, Tucson, AZ; ²Wright Center of Innovation in Biomedical Imaging, Columbus, OH; ³Radiology, The Ohio State University College of Medicine, Columbus, OH

222 — B0253 Mouse retina is amenable to cholesterol lowering by a statin. Joseph B. Lin¹, N. Mast¹, M. Golczak², I. A. Pikuleva¹. ¹Ophthalmology and Visual Sciences, Case Western Reserve University, Cleveland, OH; ²Pharmacology, Case Western Reserve University, Cleveland, OH

223 — B0254 Impaired retinal signal transmission in simvastatin fed mice. Ian M. MacDonald¹, A. Mohamed², S. Samuelson², I. S. Dimopoulos¹, M. Sharma², Y. Sauve¹, E. Posse de Chaves². ¹Ophthalmology and Visual Sciences, University of Alberta, Edmonton, AB, Canada; ²Pharmacology, University of Alberta, Edmonton, AB, Canada

224 — B0255 One year retrospective analysis of ocriplasmin for the treatment of symptomatic vitreomacular traction. Filofteia Tacea, L. Makris, A. Kamal. Ophthalmology, Aintree University Hospital, Liverpool, United Kingdom

225 — B0256 Effect of Hydroxychloroquine Exposure and Toxicity on Dark Adaptation. Charles Affel¹, M. Pefkianaki², P. Sharma², A. Ho², J. Hsu², J. Maguire², C. D. Regillo², E. Affel¹, J. A. Haller². ¹Diagnostic Center, Wills Eye Hospital, Wyndmoor, PA; ²Wills Eye Hospital, Philadelphia, PA

226 — B0257 Effect of exogenous carotenoids on retinal pigment epithelium cells. Junhui Shen^{2,1}, J. He², F. wang². ¹Schepens Eye Research Institute, Boston, MA; ²Department of Ophthalmology, Shanghai Tenth People's Hospital, Shanghai, China

227 — B0258 Intravitreal injection of Melanocortin 1,5 agonists prevents the development of neovascularization in a VEGF165 mouse model of retinal angiogenesis. Michele D'Amico¹, S. Rossi², C. Gesualdo², M. Trotta¹, R. Maisto¹, F. Testa², N. Di Carluccio¹, C. Di Filippo¹, P. Melillo², F. Simonelli². ¹Experimental Medicine - Section of Pharmacology, Università della Campania Luigi Vanvitelli (SUN), Napoli, via Pansini 5, Italy; ²Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences, Università della Campania Luigi Vanvitelli (SUN), Napoli, Italy

228 — B0259 The Basal Membrane of Mouse RPE Contains a Unique Anion Channel with a High Permeability to Thiocyanate. Xu Cao, B. A. Hughes. Department of Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI

229 — B0260 Long-term Outcome of Bevacizumab Therapy in Sorsby Fundus Dystrophy, A Case Series. Rebecca Kaye, A. J. Lotery. Ophthalmology, Southampton General Hospital, Southampton, United Kingdom

230 — B0261 Post-hypoxic recovery of the diameter of retinal arterioles is impaired in diabetic patients without retinopathy. Line Petersen, T. Bek. Aarhus University Hospital, Aarhus, Denmark ∇

- 231 — B0262 Different activity patterns in retinal ganglion cells of TRPM1 and mGluR6 knockout mice.** *Chieko Koike^{1,2}, K. Taniguchi¹, H. Takeuchi², Y. Tsubo^{3,2}, K. Kitano^{3,2}.* ¹College of Pharmaceutical Sciences, Ritsumeikan University, Kusatsu, Japan; ²Center for Systems Vision Sciences, Ritsumeikan University, Kusatsu, Japan; ³College of Information Science and Engineering, Ritsumeikan University, Kusatsu, Japan; ⁴Graduate School of Information Science and Engineering, Ritsumeikan University, Kusatsu, Japan; ⁵Graduate School of Life Sciences, Ritsumeikan University, Kusatsu, Japan
- 232 — B0263 Ceruloplasmin gene transfer into the retina causes increased retinal iron levels and retinal degeneration in ceruloplasmin/hephaestin-deficient mice.** *Rupak Bhuyan, D. Song, J. L. Dunaief.* Sheie Eye Institute, University of Pennsylvania, Philadelphia, PA
- 233 — B0264 Semaphorin 3F expression pattern in outer retina and RPE.** *Bertan Cakir¹, J. Walz^{1,3}, A. D. Buehler¹, H. Agostini¹, G. R. Schlunck¹, A. Klettner², A. Stahl¹.* ¹Eye Center, Medical Center, University of Freiburg, Freiburg, Germany; ²Ophthalmology, University of Kiel, University Medical Center, Kiel, Germany; ³University of Regensburg, Department of Pharmacology and Toxicology, Regensburg, Germany *CR
- 234 — B0265 Regulation of Interleukin-1 β by Purinergic Receptors in Müller and Microglial Cells.** *Julie Sanderson¹, S. Habib^{1,2}, M. Felgate¹, P. Wright¹, L. Stokes¹, N. Niyadurupola², D. C. Broadway^{2,1}.* ¹School of Pharmacy, University of East Anglia, Norwich, United Kingdom; ²Department of Ophthalmology, Norfolk and Norwich University Hospital, Norwich, United Kingdom
- 235 — B0266 Interaction of Astrocytes and Retinal Ganglion Cells Following Endothelin Administration.** *Shaoqing He, H. Ma, T. Yorio.* North Texas Eye Research Institute, University of North Texas Health Science Center, Fort Worth, TX
- 236 — B0267 ABCP - An Antiapoptotic Peptide for Neuroprotection in Glaucoma.** *Dorota L. Stankowska¹, R. R. Krishnamoorthy¹, S. Sampathkumar², R. H. Nagaraj³.* ¹North Texas Eye Research Institute, UNT Health Science Center, Fort Worth, TX; ²Department of Ophthalmology and Visual Sciences, Case Western Reserve University, Cleveland, OH; ³Department of Ophthalmology, University of Colorado School of Medicine, Aurora, CO ✕
- 237 — B0268 Cost effectiveness of Intravitreal Ocriplasmin for vitreomacular adhesion and macular hole.** *Kapil G. Kapoor^{1,2}, T. Waseem¹, C. Reinhart².* ¹Research, Wagner Macula & Retina Center, Virginia Beach, VA; ²Ophthalmology, Eastern Virginia Medical School, Virginia Beach, VA
- 238 — B0269 Endothelin Mediated Changes in Gene Expression Determined by RNA-sequencing of the Translatome in Primary Retinal Ganglion Cells.** *Renuka M. Chaphalkar; D. L. Stankowska, R. R. Krishnamoorthy.* North Texas Eye Research Institute, University of North Texas Health Science Center, Fortworth, TX
- 239 — B0270 Intersectional strategies for targeting amacrine and ganglion cell types in the mouse retina.** *Yongling Zhu¹, J. Xu¹, H. Zeng², S. H. DeVries¹.* ¹Northwestern University, Chicago, IL; ²Allen Institute for Brain Science, Seattle, WA
- 240 — B0271 Lutein and Zeaxanthin isomers (L/Zi) Modulate Photo-Oxidative Retinal Damage in an Animal Model.** *Vijaya Juturu¹, F. Akdemir⁵, C. Orhan³, M. Tuzcu⁴, N. Sahin³, I. Yilmaz², K. Sahin³.* ¹Clinical and Scientific Affairs, OmniActive Health Technologies, Morristown, NJ; ²Pharmacology, Inonu University, Elazig, Turkey; ³Nutrition, Firat University, Elazig, Turkey; ⁴Biology, Firat University, Elazig, Turkey; ⁵Fisheries, Inonu University, Elazig, Turkey *CR
- 241 — B0272 Effects of Subretinal Injection of Trypan Blue in Rat Eyes.** *XiaoQian Yao.* EENT Hospital of Fudan University, Shanghai, China
- 242 — B0273 Modulation of electrical activity in the retina of the rd10 mouse model using neuroprotective drugs.** *Kim Schaffrath¹, S. Diarra¹, C. Werner¹, A. van der Meer¹, I. Schulte-Noelke¹, F. Muller², S. Johnen¹, P. Walter¹.* ¹Department of Ophthalmology, University Hospital RWTH Aachen, Aachen, Germany; ²Institute of Complex Systems, Cellular Biophysics, ICS-4, Forschungszentrum Juelich, Juelich, Germany
- 243 — B0274 Association between IOP and retinal thickness following intravitreal triamcinolone injections in DME patients.** *Mohammad Dahrouj¹, J. A. Kylstra¹, B. Wolf², Z. Ablonczy², C. E. Crosson².* ¹Mass Eye and Ear, Boston, MA; ²Ora Inc, Andover, MA
- 244 — B0275 Choroidal Thickness May Be Associated with Serum Placental Growth Factor in Women with Severe Preeclampsia.** *Victoria North¹, C. Stern-Ascher^{1,2}, A. Garg¹, W. Lee¹, C. Ananth^{3,4}, R. Wapner³, S. Bearelly^{1,3}.* ¹Ophthalmology, Columbia University College of Physicians and Surgeons, New York, NY; ²Ophthalmology, Duke University Medical Center, Durham, NC; ³Obstetrics and Gynecology, Columbia University College of Physicians and Surgeons, New York, NY; ⁴Epidemiology, Joseph L. Mailman School of Public Health at Columbia University, New York, NY
- 245 — B0276 Endothelin receptors are associated with MAPK signaling in a rat model of glaucoma.** *Nolan R. McGrady¹, D. L. Stankowska¹, H. B. Jefferies², S. He¹, R. R. Krishnamoorthy¹.* ¹North Texas Eye Research Institute, UNT Health Science Center, Fort Worth, TX; ²Texas College of Osteopathic Medicine, UNT Health Science Center, Fort Worth, TX
- 246 — B0277 The Rat Retina Exhibits High Level of mTOR Complexes.** *Mandy Losiewicz, L. Elgahzi-Cras, P. E. Fort, S. Abcouwer, T. W. Gardner.* Ophthalmology & Visual Sciences, University of Michigan, Ann Arbor, MI
- 247 — B0278 Crosstalk between Sphingolipids and HDACs in the Development of Ischemic Retinal Injury.** *Jie Fan, J. Liu, C. E. Crosson.* Ophthalmology-Storm Eye Inst, Medical Univ of South Carolina, Charleston, SC
- 248 — B0279 Role of Acid Sphingomyelinase in Ocular Hypertension Retinal Ganglion Cell Degeneration.** *Jiali Liu, J. Fan, C. E. Crosson.* Ophthalmology, Storm Eye Institute, Charleston, SC
- 249 — B0280 QR-110 Treatment for Leber's Congenital Amaurosis Type 10: Restoration of CEP290 mRNA Levels and Ciliation in LCA10 iPSC-Derived Optic Cups.** *Patricia Biasutto¹, K. Dulla¹, P. Adamson¹, I. Schulkens¹, I. Schmidt¹, A. Lane^{2,1}, M. Aguila^{2,1}, M. E. Cheetham^{2,1}.* ¹Ophthalmology, ProQR Therapeutics, Leiden, Netherlands; ²University College London, London, United Kingdom *CR
- 250 — B0281 A Pharmacodynamic Analysis of Choroidal Neovascularization in a Porcine Model.** *Jeffrey Tran¹, C. Craven¹, K. Wabner^{1,2}, J. Schmit^{1,2}, U. B. Kompella³, H. E. Grossniklaus⁴, T. W. Olsen¹.* ¹School of Medicine, Emory University School of Medicine, Atlanta, GA; ²University of Minnesota, Minneapolis, MN; ³School of Pharmacy, University of Colorado, Aurora, CO
- 251 — B0282 Ocular Toxicity Profile of Novel PI3K/MEK Dual Inhibitor.** *Andrew Smith¹, M. D. Pawar¹, C. G. Besirli¹, M. E. Van Dort², B. D. Ross^{2,3}, S. Galbán^{2,4}.* ¹Ophthalmology and Visual Sciences, University of Michigan, Fairport, NY; ²Center for Molecular Imaging, University of Michigan, Ann Arbor, MI; ³Department of Radiology, University of Michigan, Ann Arbor, MI; ⁴Department of Radiation Oncology, University of Michigan, Ann Arbor, MI
- 252 — B0283 Deactivation of CD44-mediated Endocytosis by Heavy Chain-Hyaluronic Acid/Pentrixin3 in Human Retinal Pigment Epithelium.** *Hua He², Y. Zhang², M. Mahabole², C. Su², S. C. Tseng¹.* ¹TissueTech and Ocular Surface Center, Miami, FL; ²R & D, TissueTech, Inc., Miami, FL *CR
- 253 — B0284 Identification of a novel small molecule chaperon of rhodopsin and its therapeutic potential in retinal degeneration.** *Yuanyuan Chen¹, Y. Chen², B. Jastrzebska¹, H. Tang³, X. Li¹, W. Siebel¹, J. Zhang¹, H. Jin¹, S. Gulati¹, K. Palczewski¹.* ¹Pharmacology, Case Western Reserve University, Cleveland, OH; ²Yueyang Hospital and Clinical Research Institute of Integrative Medicine, Shanghai University of Traditional Chinese Medicine, Shanghai, China; ³University of Cincinnati, Cincinnati, OH; ⁴Cincinnati Children's Hospital, Cincinnati, OH

254 — B0285 TUDCA and DMSO additively protect against light-induced retinal degeneration. *Jana T. Sellers¹, M. A. Chrenek¹, N. F. Henneman^{1,2}, J. H. Boatright^{1,2}.* ¹Ophthalmology, Emory University, Atlanta, GA; ²Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center, Decatur, GA

255 — B0286 Frequent subclinical macular changes in melanoma patients treated with combined BRAF/MEK inhibition and high dose hydroxychloroquine does not require dosing modification or discontinuation: preliminary results from a multi-institutional phase I/II clinical treatment trial for advanced metastatic BRAF mutant melanoma. *Leona Serrano¹, H. Sandhu², E. Zhou¹, D. Song¹, T. Gangadhar³, L. Schuchter³, S. Mitnick³, J. Mehnert⁴, A. Silk⁴, L. Hernandez Aya³, A. Huang³, G. Linette³, R. K. Amaravadi³, B. J. Kim¹, T. S. Aleman¹.* ¹Scheie Eye Institute, Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Department of Ophthalmology, University of Louisville, Louisville, KY; ³University of Pennsylvania, Department of Medicine and Abramson Cancer Center, Philadelphia, PA; ⁴The Rutgers Cancer Institute of New Jersey, New Brunswick, NJ; ⁵Washington University, Department of Medicine and Siteman Cancer Center, St. Louis, MO ✕

256 — B0287 Preclinical results of a new pharmacological therapy approach for Stargardt disease and dry age-related macular degeneration. *Yuan Fang¹, A. Tschulakow¹, M. Tikhonovich¹, T. Taubitz¹, B. Illing¹, S. Schultheiss¹, U. Schraermeyer^{1,2}, S. Julien-Schraermeyer¹.* ¹Division of Experimental Vitreoretinal Surgery, Center of Ophthalmology, Tuebingen, Germany; ²STZ OcuTox, Preclinical Drug Assessment, Hechingen, Germany *CR

257 — B0288 Testing a new pharmacological therapy approach for the removal of lipofuscin in vitro: results from a newly established culture of aged primary Stargardt mouse model RPE cells and aged primary human RPE cells. *Tatjana Taubitz¹, Y. Fang¹, M. Rittgarn¹, U. Schraermeyer^{1,2}, S. Julien-Schraermeyer¹.* ¹Division of Experimental Vitreoretinal Surgery, Centre for Ophthalmology, Tuebingen, Germany; ²STZ OcuTox Preclinical Drug Assessment, Hechingen, Germany *CR

258 — B0289 Dynamic Functionality Of Retinal Vessels In Eyes With Central Serous Retinopathy After Eplerenone. *Livia Tomasso, L. Benatti, A. Arrigo, L. De Vitis, M. Cavalleri, R. Sacconi, L. Querques, A. Carnevali, F. Bandello, G. Querques.* San Raffaele, Milano, Italy *CR

259 — B0290 ROCK inhibitor Ripasudil (K-115) suppresses subretinal fibrosis in laser-induced CNV model. *Iori Wada¹, S. Nakao¹, M. Yamaguchi¹, K. Ishikawa¹, S. Yoshida¹, Y. Kaizu¹, T. Isobe², Y. Kaneko³, T. Ishibashi¹, K. Sonoda¹.* ¹Kyushu university, Fukuoka, Japan; ²Tokyo New Drug Research Laboratories, Kowa Company, Tokyo, Japan *CR

260 — B0291 Kinetics of microglia depletion in retina and brain by CSF-1R inhibition in mice. *Andreas Ebnetter^{1,2}, J. Jovanovic^{1,2}, D. Kokona^{1,2}, M. Zinkernagel^{1,2}.* ¹Department of Ophthalmology, Bern University Hospital, Bern, Switzerland; ²Department of Clinical Research, University of Bern, Bern, Switzerland *CR

261 — B0292 Topical ROCK inhibitor Ripasudil (K-115) attenuates M1-like macrophages in the mouse model of oxygen-induced retinopathy. *Muneo Yamaguchi¹, S. Nakao¹, I. Wada¹, Y. Kaizu¹, S. Yoshida¹, T. Isobe², Y. Kaneko³, T. Ishibashi¹, K. Sonoda¹.* ¹Ophthalmology, Kyushu University, Fukuoka-shi, Japan; ²Tokyo New Drug Research Laboratories, Kowa Company, Ltd., Tokyo, Japan *CR

262 — B0293 Aflibercept Intravitreal Injection for Myopic Choroidal Neovascularization. *Joao J. Nassaralla¹, A. A. Nassaralla², M. H. Amaro¹, J. Nassaralla³.* ¹Retina and Vitreous, Instituto de Olhos de Goiania and UnB, Goiania, Brazil; ²Medicina, Faculdade de Medicina São Leopoldo Mandic, Campinas, Brazil; ³Faculdade de Medicina, UFG, Goiânia, Brazil; ⁴Retina e Vítreo, Instituto de Olhos e Laser de Belém, Belem, Brazil ✕

Exhibit/Poster Hall B0316-B0347

Sunday, May 07, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

111 Retinal degeneration. Models and mechanisms

Moderator: Abigail Hayes

263 — B0316 Using pathway-specific reporter and direct conversion constructs to investigate Juvenile Neuronal Ceroid Lipofuscinosis. *Lorenzo L. Lones, E. R. Burnight, D. Ochoa, J. C. Giacalone, R. A. Madumba, R. F. Mullins, E. M. Stone, B. Tucker, L. A. Wiley.* Ophthalmology & Visual Sciences, University of Iowa, Iowa City, IA

264 — B0317 The Joubert Syndrome cilia proteins *arl13b* and *ah1* differentially modify the severity of retinal degeneration due to loss of *cep290* in zebrafish. *Ping Song¹, E. M. Lessieur¹, G. C. Nivar², B. D. Perkins¹.* ¹Ophthalmic Research, Cole Eye Inst, Cleveland Clinic Fndn, Cleveland, OH; ²School of Medicine, Case Western Reserve University, Cleveland, OH

265 — B0318 Rod photoreceptor-specific ablation of dehydrodolichyldiphosphate synthase (DHDDS) causes rapid retinal degeneration: A new model for arRP. *Griganesh Ramachandra Rao^{1,2}, M. C. Butler^{3,2}, D. A. Stacks⁴, S. J. Pittler⁴, J. M. Sullivan^{3,2}, S. J. Fliesler^{5,2}.* ¹Biochemistry, SUNY- University at Buffalo, Buffalo, NY; ²Research Service, VA Western NY Healthcare System, Buffalo, NY; ³Ophthalmology, Physiology & Biophysics, Pharmacology & Toxicology, and Neuroscience Program, SUNY- University at Buffalo, Buffalo, NY; ⁴Optometry and Vision Science, University of Alabama, Birmingham, Birmingham, AL; ⁵Ophthalmology, Biochemistry, & Neuroscience Program, SUNY- University at Buffalo, Buffalo, NY

266 — B0319 Impaired photoreceptor functions in the *NgBR*^{R290H/R290H} mouse. *Rong Wen¹, E. Park², Z. Guan³, Y. Li¹, Y. Kang¹, J. Lu¹, B. L. Lam¹, W. Sessa².* ¹Bascom Palmer Eye Institute, University of Miami, Miami, FL; ²Vascular Biology & Therapeutics Program, Yale University, School of Medicine, New Haven, CT; ³Department of Biochemistry, Duke University Medical Center, Durham, NC

267 — B0320 A Search for Common Pro-apoptotic Signals/Pathways in Mouse Models of Retinal Degeneration. *Coco Ke Jiang¹, M. Brooks¹, G. Karakülah¹, L. Gieser¹, J. Kim², A. Boleda¹, A. Swaroop¹.* ¹National Eye Institute, National Institutes of Health, Bethesda, MD; ²Department of Life Science, Chung-Ang University, Seoul, Korea (the Republic of)

268 — B0321 Early photoreceptor cell impairment upon AdipoR1 genetic ablation. *William C. Gordon, N. G. Bazan.* Ophthalmology & Neuroscience Center, LSU Health Sciences Center, New Orleans, LA

269 — B0322 Variable cone dysfunction and progressive ophthalmoscopic changes in a canine model of *RPGRIP1* and *MAP9* multigenic cone-rod dystrophy. *Keiko Miyadera¹, F. P. Marinho², K. McDavid³, V. L. Dufour², S. Iwabe¹, G. Das¹, G. D. Aguirre¹.* ¹Clinical Studies - Philadelphia, University of Pennsylvania, School of Veterinary Medicine, Philadelphia, PA; ²RDSF, University of Pennsylvania, School of Veterinary Medicine, Kennett Square, PA

270 — B0323 Usher Syndrome protein, CIB2, is essential for murine retinal sensory cells maintenance and function. *Saumil Sethna^{1,2}, P. A. Scott³, A. Giese¹, M. A. Johnson², S. Riazuddin¹, S. L. Bernstein², M. A. McCall³, Z. Ahmed^{1,2}.* ¹Otorhinolaryngology - Head and Neck Surgery, UM-Baltimore, Baltimore, MD; ²Ophthalmology, UM-Baltimore, Baltimore, MD; ³Ophthalmology and Visual Sciences, University of Louisville, Louisville, KY

- 271 — B0324 Lasting effects of prenatal marijuana exposure on the retina: an experimental study in mice.** *Paulo Zantut¹, W. Takahashi¹, V. Yariwake², J. Torres², R. Pecora³, A. Safatle³, M. Veras², F. Damico¹.* ¹Ophthalmology Department, Medicine School University of Sao Paulo, São Paulo, Brazil; ²Pathology, School of Medicine, Sao Paulo, Brazil; ³Surgery, School of Veterinary Medicine, Sao Paulo, Brazil
- 272 — B0325 The Complement System is required in maintaining retinal function.** *Ryo Mukai, Y. Okunuki, G. Klokman, S. Inafuku, C. Kim, D. Park, D. Husain, K. M. Connor.* Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA *CR
- 274 — B0327 Progression of photoreceptor degeneration in a porcine model of retinitis pigmentosa.** *Wankun Xie¹, M. Zhao¹, S. Tsai¹, T. W. Hein^{1,2}, L. Kuo^{1,2}, R. H. Rosa^{2,1}.* ¹Surgery and Medical Physiology, Texas A&M University Health Science Center, Temple, TX; ²Ophthalmology, Baylor Scott & White Eye Institute, Temple, TX
- 275 — B0328 ERG Analysis of the Murine GARP2 Knockout: Abnormal Retinal Function.** *Delores A. Stacks¹, M. L. DeRamus¹, C. E. Huisin², G. McGwin³, T. W. Kraft¹, S. J. Pittler¹.* ¹Department of Optometry and Vision Science, University of Alabama at Birmingham, Birmingham, AL; ²Ophthalmology, UAB, Birmingham, AL; ³Epidemiology, University of Alabama at Birmingham, Birmingham, AL
- 276 — B0329 Functional and Morphological Characteristics of Three Mouse Models for X-Linked Juvenile Retinoschisis.** *Junzo Kinoshita², Y. Liu¹, J. Cao¹, B. A. Bell², C. Romano¹, N. S. Peachey^{2,3}.* ¹Ophthalmology, Regeneron Pharmaceuticals Inc., Tarrytown, NY; ²Cole Eye Institute, Cleveland Clinic Foundation, Cleveland, OH; ³Louis Stokes Cleveland VA Medical Center, Cleveland, OH *CR
- 277 — B0330 NK-4 dye reduces the apoptosis of photoreceptor cells.** *Shihui Liu¹, T. Matsuo¹, O. Hosoya².* ¹Ophthalmology, Okayama University Medical School and Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama, Japan; ²Medical Neurobiology, Okayama University Medical School and Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences, Okayama, Japan
- 278 — B0331 Influence of Ambient Illumination on the Course of Retinal Degeneration in a Canine model of RHO-ADRP.** *Valerie L. Dufour, S. Iwabe, G. D. Aguirre, W. A. Beltran.* Section of Ophthalmology, Department of Clinical studies, University of Pennsylvania, Philadelphia, 19104, PA
- 279 — B0332 Features of retinitis pigmentosa defined by high throughput sequencing and wide field imaging.** *Debarshi Mustafi¹, K. Palczewski², H. Ameri¹.* ¹Ophthalmology, USC Roski Eye Institute, Los Angeles, CA; ²Pharmacology, Case Western Reserve University, Cleveland, OH
- 280 — B0333 Single cell electrophysiological assessment of RS1^{-Y} mice, a model for X-linked retinoschisis.** *Botir T. Sagdullaev^{1,2}, E. Ivanova^{1,2}, Y. Liu³, C. Romano³.* ¹Ophthalmology, Weill Cornell Medicine, New York, NY; ²Burke Medical Research Institute, White Plains, NY; ³Regeneron Pharmaceuticals, Tarrytown, NY *CR
- 281 — B0334 Progressive changes in RCS rat retina during OCT/FAF-based *in vivo* imaging and their correlation with histological and visual functional analysis.** *Juan Carlos Martinez^{6,7}, L. Liu^{3,5}, J. Gutiérrez-Hernández^{1,2}, A. Gonzalez Calle⁴, B. Thomas^{6,7}, M. S. Humayun^{6,7}.* ¹Ophthalmology, Universidad de Costa Rica, San Jose, Costa Rica; ²Hospital Clinica Biblica, San Jose, Costa Rica; ³Ophthalmology, Chang Gung Memorial Hospital, Linkou Medical Center, Taoyuan, Taiwan; ⁴USC Viterbi School of Engineering, University of Southern California, Los Angeles, CA; ⁵Chang Gung University College of Medicine, Taoyuan, Taiwan; ⁶Ophthalmology, USC Roski Eye Institute/University of Southern California, Los Angeles, CA; ⁷USC Institute of Biomedical Therapeutics/University of Southern California, Los Angeles, CA
- 282 — B0335 Development of an optimized light damage paradigm to assess efficacy of gene therapy in a canine model of RHO-ADRP.** *Raghavi Sudharsan, K. M. Simone, N. P. Anderson, G. D. Aguirre, W. A. Beltran.* Clinical Studies, University of Pennsylvania, Philadelphia, PA
- 283 — B0336 Inherited retinal degeneration in the cynomolgus monkey (Macaca fascicularis).** *Yasuhiro Ikeda¹, N. Shimosawa², K. M. Nishiguchi³, J. Funatsu¹, S. Nakatake¹, K. Fujiwara¹, T. Tachibana¹, Y. Murakami¹, T. Hisatomi¹, S. Yoshida¹, T. Ishibashi¹, K. Sonoda¹.* ¹Dept of Ophthalmology, Kyushu University, Fukuoka, Japan; ²Tsukuba Primate Research Center, National Institutes of Biomedical Innovation, Health and Nutrition, Tsukuba, Japan; ³Department of Advanced Ophthalmic Medicine, Tohoku University Graduate School of Medicine, Sendai, Japan
- 284 — B0337 Degenerative effects of cobalt-chloride treatment on neurons and microglia in a porcine retina organ culture model.** *Jose Hurst¹, S. Kuehn², F. Rensinghoff², T. Tsai², Y. Satgunarajah², K. U. Bartz-Schmidt¹, B. Dick², S. C. Joachim², S. Schnichels¹.* ¹Research, Eye Hospital Tuebingen, Tuebingen, Germany; ²Ruhr-University Bochum, Experimental Eye Research Institute, Bochum, Germany
- 285 — B0338 Establishment and Characterization of a UV-induced Photoreceptor Degeneration Model in the Mouse.** *Anna-Marina van der Meer¹, F. Muller², P. Walters³.* ¹Department of Experimental Ophthalmology, RWTH Aachen University, Aachen, Germany; ²Institute of Complex Systems, Cellular Biophysics, Research Center Jülich, Jülich, Germany; ³Department of Ophthalmology, RWTH Aachen University, Aachen, Germany
- 286 — B0339 Detailed phenotypic characterization of a Beagle dog with the complete form of Schubert Bornschein congenital stationary night blindness.** *Annie Oh, M. L. Foster, M. G. Davidson, F. M. Mowat.* North Carolina State University, Raleigh, NC
- 287 — B0340 Intermittent Systemic Hypoxia as Therapy for Vision Loss in Usher Syndrome.** *Michael Ascuitto¹, N. Lanson¹, R. Amato^{1,2}, J. J. Lentz^{1,2}, J. Giddy^{1,2}.* ¹Ophthalmology, Louisiana State University School of Medicine, New Orleans, LA; ²Neuroscience Center of Excellence, Louisiana State University School of Medicine, New Orleans, LA
- 288 — B0341 Forward Genetic Approach for Causal Gene Identification for Rat Retinal Photic Injury.** *Kentarō Ohishi¹, M. Ohtsubo¹, K. Hosono², A. Obana^{3,4}, Y. Hotta², T. Hiramitsu¹, S. Minoshima¹.* ¹Photomedical Genomics, Hamamatsu Univ Sch Med, Hamamatsu-shi, Japan; ²Ophthalmology, Hamamatsu Univ Sch Med, Hamamatsu-shi, Japan; ³Ophthalmology, Seirei Hamamatsu Gen Hosp, Hamamatsu-shi, Japan; ⁴Medical Spectroscopy, Hamamatsu Univ Sch Med, Hamamatsu-shi, Japan
- 289 — B0342 Time-dependent local expression pattern of complement components in light-induced photoreceptor degeneration.** *Diana Pauly¹, N. Schäfer¹, S. Schmitt², A. Grosche³, B. Braunger².* ¹Experimental Ophthalmology, University Hospital Regensburg, Regensburg, Germany; ²Institute of Human Anatomy and Embryology, University Regensburg, Regensburg, Germany; ³Institute of Human Genetics, University Regensburg, Regensburg, Germany
- 290 — B0343 The effect of light exposure in the population of different retinal neurons under taurine depletion.** *Diego Garcia-Ayuso¹, J. Di Pierdomenico¹, W. Hadj Said², M. MARIE², M. Agudo-Barriso¹, M. Vidal-Sanz¹, S. A. Picaud¹, M. P. Villegas-Perez¹.* ¹Oftalmologia, Universidad de Murcia and Instituto Murciano de Investigación Biosanitaria- Hospital Virgen de la Arrixaca (IMIB-Arrixaca), El Palmar (Murcia), Spain; ²Sorbonne Universités, UPMC Univ Paris 06, UMR_S968, Institut de la Vision, Paris, France
- 291 — B0344 Intravitreal transduction profile of recombinant adeno-associated virus in murine and human retina.** *Kristina Ertel, C. Reid, D. M. Lipinski.* Ophthalmology, Medical College of Wisconsin, Milwaukee, WI
- 292 — B0345 CRISPR/Cas9-mediated generation and characterization of a C2orf71a^{-/-} zebrafish model.** *Julio Cesar Corral Serrano^{1,2}, M. Messchaert^{1,4}, M. Dona^{3,2}, T. Peters^{3,2}, E. van Wijk^{3,2}, R. W. Collin^{1,4}.* ¹Human Genetics, Radboud UMC, Nijmegen, Netherlands; ²Radboud Institute for Molecular Life Sciences, Nijmegen, Netherlands; ³Department of Otorhinolaryngology, Radboud UMC, Nijmegen, Netherlands; ⁴Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands

293 — B0346 Development of treatments for CEP290-LCA using three-dimensional retinal organoids. Holly Chen¹, L. Dong², A. Swaroop¹. ¹N-NRL, National Eye Institute, NIH, Bethesda, MD; ²Genetic engineering core, National Eye Institute, NIH, Bethesda, MD

294 — B0347 hiPSC-derived retinal cell model of juvenile neuronal ceroid lipofuscinosis (JNCL, CLN3). Chad A. Galloway¹, S. Dalvi¹, L. Winschel¹, L. MacDonal¹, R. Singh^{1,2}. ¹Ophthalmology and Biomedical Genetics, University of Rochester, Rochester, NY; ²Center for Visual Science, University of Rochester, Rochester, NY

Exhibit/Poster Hall B0494-B0515

Sunday, May 07, 2017 8:30 AM-10:15 AM

Multidisciplinary Ophthalmic Imaging Group

112 Adaptive optics ophthalmology: technology and application

Moderator: Toco Y. Chui

295 — B0494 Adaptive Optics Reflectance Confocal Scanning Light Ophthalmology with Sub-Airy Disk Detectors. Nripun Sredar¹, O. E. Fagbemi¹, A. Dubra². ¹Ophthalmology, Medical College of Wisconsin, Milwaukee, WI; ²Ophthalmology, Stanford University, Palo Alto, CA *CR

296 — B0495 In vivo imaging of the choriocapillaris using adaptive optics enhanced indocyanine green ophthalmology. Hae Won Jung¹, J. Liu¹, A. Dubra², J. Tam¹. ¹National Eye Institute, National Institutes of Health, Bethesda, MD; ²Department of Ophthalmology, Stanford University, Palo Alto, CA *CR

297 — B0496 Two-Photon laser scanning Ophthalmoscope for Indocyanine Green Angiography. Norris Gyi¹, G. Jayabalan^{2,1}, X. Mao³, H. Gimbel¹, M. E. Rauser¹, J. Bille², J. Fan¹. ¹Eye Institute, Loma Linda University, Redlands, CA; ²University of Heidelberg, Heidelberg, Germany; ³Department of Basic sciences, Loma Linda University, Loma Linda, CA

298 — B0497 Handheld Adaptive Optics Scanning Laser Ophthalmoscope for in vivo Imaging of Cone Photoreceptors. Francesco LaRocca¹, D. Nankivil¹, G. Waterman¹, T. DuBose¹, J. Polans¹, B. Keller¹, A. N. Kuo^{2,1}, J. A. Izatt^{1,2}, S. Farsiu^{1,2}. ¹Biomedical Engineering, Duke University, Durham, NC; ²Ophthalmology, Duke University School of Medicine, Durham, NC *CR

299 — B0498 Examining the human retina with a compact multimodal adaptive optics line scanning ophthalmoscope. Marco Lombardo¹, R. D. Ferguson², N. Iftimia², M. Mujat², D. Giannini¹, S. Serrao¹, G. Lombardo³. ¹IRCCS Fondazione GB Bietti, Rome, Italy; ²Physical Sciences Inc., Andover, MA; ³Istituto per i processi chimico-fisici, Consiglio Nazionale delle Ricerche, Messina, Italy *CR

300 — B0499 Automatic detection of cones in multi-modal adaptive optics scanning light ophthalmoscope images of achromatopsia. David Cunefare¹, C. S. Langlo², A. Dubra³, J. Carroll², S. Farsiu^{1,4}. ¹Biomedical Engineering, Duke University, Durham, NC; ²Ophthalmology, Medical College of Wisconsin, Milwaukee, WI; ³Ophthalmology, Stanford University, Stanford, CA; ⁴Ophthalmology, Duke University, Durham, NC *CR

301 — B0500 Assessment of second order statistics for evaluating the spatial distribution of the cones in adaptive optics images of the human retina. Daniela Giannini¹, M. Lombardo¹, S. Serrao¹, G. Lombardo^{2,3}. ¹IRCCS Fondazione GB BIETTI, Rome, Italy; ²Istituto per i Processi Chimico-Fisici, Consiglio Nazionale delle Ricerche, Messina, Italy; ³Vision Engineering Italy srl, Rome, Italy

302 — B0501 Adaptive Optics scanning system for high resolution imaging of retina and cornea. david merino¹, M. Biarnes², R. Mercatelli³, M. Garcia², L. Ferraro², L. Menabuoni⁴, A. Malandrini⁵, F. Pavone^{5,3}, F. Rossi⁶, F. Ratto⁶, R. Cicchi^{3,5}, J. Monés², P. Loza-Alvarez¹. ¹Superresolution Light Nanoscopy Facility, ICFO-Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology, Castelldefels, Spain; ²Institut de la Macula, Barcelona, Spain; ³National Institute of Optics, National Research Council, Sesto Fiorentino, Italy; ⁴Unita Operativa Oculistica, Nuovo Ospedale Santo Stefano, Prato, Italy; ⁵LENS - European Laboratory for Non-linear Spectroscopy, Sesto Fiorentino, Italy; ⁶Institute of Applied Physics, Nello Carrara, Sesto Fiorentino, Italy *CR

303 — B0502 Enhanced retinal vascular microstructure in flood illuminated adaptive optics ophthalmology. Elena Gofas Salas^{1,3}, P. Mécé^{1,2}, C. Petit¹, K. Grieve^{3,4}, J. A. Sahel^{3,5}, M. Paques^{3,4}, S. Meimon^{1,4}. ¹ONERA - The French Aerospace Lab, Châtillon, France; ²Quantel Medical, Clermont-Ferrand, France; ³Vision Institute, Quinze-Vingts National Ophthalmology Hospital, Paris, France; ⁴PARIS Group: Paris Adaptive-optics for Retinal Imaging & Surgery, Paris, France; ⁵Department of Ophthalmology, The University of Pittsburgh School of Medicine, Pittsburgh, PA *CR

304 — B0503 Longitudinal Adaptive Optics Imaging Reveals Changes in Photoreceptors and the Underlying Retinal Pigment Epithelium in Eyes with Reticular Pseudodrusen. Jianfei Liu, H. Jung, C. A. Cukras, J. Tam. National Eye Institute, National Institutes of Health, Bethesda, MD

305 — B0504 Do subretinal drusenoid deposits have a spectral fingerprint? Yuhua Zhang¹, X. Wang¹, B. Gu¹, M. E. Clark¹, C. Witherspoon¹, G. McGwin Jr.^{1,2}, C. Owsley¹, C. Curcio¹. ¹Ophthalmology, Univ of Alabama at Birmingham, Birmingham, AL; ²Epidemiology, Univ of Alabama at Birmingham, Birmingham, AL *CR

306 — B0505 Longitudinal Analysis of Cone Structure in Patients with Central Retinal Vein Occlusion (CRVO) and Cystoid Macular Edema (CME). Nicholas Rinella¹, J. Qin¹, A. Roorda², M. M. Chung³, H. Song³, J. Carroll⁴, L. W. Sun⁴, J. I. Morgan⁵, R. F. Cooper⁵, T. Y. Chui^{6,7}, R. B. Rosen⁶, B. A. Blodt⁸, I. U. Scott⁹, T. C. Porco^{1,10}, J. L. Duncan¹. ¹Department of Ophthalmology, University of California San Francisco, San Francisco, CA; ²School of Optometry and Vision Science Graduate Group, University of California Berkeley, Berkeley, CA; ³Flaum Eye Institute, Center for Visual Science, University of Rochester, Rochester, NY; ⁴Department of Ophthalmology, Medical College of Wisconsin, Milwaukee, WI; ⁵Scheie Eye Institute, Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA; ⁶Department of Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ⁷Icahn School of Medicine at Mount Sinai, New York, NY; ⁸Department of Ophthalmology and Visual Sciences, University of Wisconsin Madison, Madison, WI; ⁹Hershey Eye Center, Pennsylvania State University, Hershey, PA; ¹⁰Proctor Foundation, University of California, San Francisco, San Francisco, CA *CR, ✕

307 — B0506 High resolution imaging analysis of female carriers and patients of choroideremia with CHM gene mutation. Kiyoko Gocho¹, K. Akeo¹, D. Kubota¹, S. Katagiri², S. Kikuchi¹, T. Hayashi², K. Yamaki¹, H. Takahashi³, S. Kameya¹. ¹Ophthalmology, Nippon Med Univ, Chiba Hokusoh Hosp, Inzai, Japan; ²Ophthalmology, The Jikei University School of Medicine, Tokyo, Japan; ³Ophthalmology, Nippon Medical School, Tokyo, Japan *CR

308 — B0507 Possible S-cone mosaic investigated with adaptive optics optical coherence tomography. Ravi S. Jonnal¹, I. Gorczynska^{1,2}, J. V. Migacz¹, M. Azimipour¹, R. J. Zawadzki¹, J. S. Werner¹. ¹Ophthalmology, UC Davis, Sacramento, CA; ²Faculty of Physics, Astronomy, and Informatics, Nicolaus Copernicus University, Torun, Poland *CR

309 — B0508 Validation of an adaptive optics scanning laser ophthalmoscope prototype in patients with degenerative retinal diseases. The LITE study. Lucia Lee Ferraro^{1,2}, D. Merino³, M. Biarnes Perez^{1,2}, M. Garcia Planas^{1,2}, A. Borrell¹, P. Loza³, J. Monés^{1,2}. ¹Institut de la Macula, Barcelona, Spain; ²Barcelona Macula Foundation, Barcelona, Spain; ³ICFO Institute of Photonic Sciences, Barcelona, Spain *CR

310 — B0509 Correlation of cone spacing with retinal thickness and microperimetry in patients with inherited retinal degenerations and healthy subjects. Katharina G. Foote^{1,2}, I. De la Huerta², K. Gustafson², A. Baldwin², S. Zayit-Soudry², J. Qin², N. Rinella², T. C. Porco², A. Roorda¹, J. L. Duncan². ¹University of California, Berkeley, Berkeley, CA; ²Ophthalmology, University of California, San Francisco, San Francisco, CA *CR

311 — B0510 Adaptive optics optical coherence tomography angiography in healthy volunteers and patients. Matthias Salas^{1,2}, M. Augustin¹, L. Ginner^{1,2}, B. Baumann¹, R. A. Leügel^{1,2}, J. Hafner³, S. Prager³, M. Ritter³, U. Schmidt-Erfurth³, W. Drexler¹, M. Pircher¹. ¹Center f. Medical Physics & Biomedical E, Medical University of Vienna, Wien, Austria; ²Christian Doppler Laboratory for Innovative Optical Imaging and Its Translation to Medicine, Medical University of Vienna, Wien, Austria; ³Department of Ophthalmology and Optometry, Medical University of Vienna, Medical University of Vienna, Wien, Austria *CR

312 — B0511 High resolution imaging in MAK-related retinal degeneration. Young Ju Lew^{1,2}, J. Qin¹, N. Rinella¹, T. C. Porco^{3,5}, A. Roorda¹, J. L. Duncan¹. ¹Ophthalmology, University of California, San Francisco, San Francisco, CA; ²Ophthalmology, Kim's Eye Hospital, Seoul, Korea (the Republic of); ³Proctor Foundation, University of California, San Francisco, San Francisco, CA; ⁴School of Optometry and Vision Science Graduate Group, University of California, Berkeley, Berkeley, CA; ⁵Epidemiology, Biostatistics and Ophthalmology, University of California, San Francisco, San Francisco, CA *CR

313 — B0512 Imaging the porcine retina using adaptive optics scanning light ophthalmoscopy. Alison L. Hickenpähler¹, A. E. Salmon¹, B. S. Sajdak¹, A. Dubra², J. Carroll^{1,3}. ¹Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin, Milwaukee, WI; ²Byers Eye Institute, Stanford University, Palo Alto, CA; ³Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI

314 — B0513 Multimodal Imaging of Drusenoid Lesions in Rhesus Macaques. Glenn Yiu¹, C. Munevar¹, E. Tieu¹, B. M. Wong², D. Cunefare², S. Farsiu², L. Garzel^{3,1}, J. Roberts^{3,1}, S. M. Thomasy¹. ¹University of California, Davis, Davis, CA; ²Duke University, Durham, NC; ³California National Primate Research Center, Davis, CA *CR

315 — B0514 Longitudinal repeatability of imaging perfused retinal capillaries in normal human and non-human primate eyes using adaptive optics. Gwen Musial¹, L. P. Rajagopalan², N. B. Pate², A. W. Schill², H. M. Queener², S. Adhikari², J. Porter^{1,2}. ¹Biomedical Engineering, University of Houston, Houston, TX; ²College of Optometry, University of Houston, Houston, TX

316 — B0515 Time-lapse imaging of retinal microglia in vivo show dynamic process motility at rest. Jesse B. Schallek^{2,1}, A. Joseph^{3,1}. ¹Center for Visual Science, University of Rochester, Rochester, NY; ²Flaum Eye Institute, University of Rochester, Rochester, NY; ³The Institute of Optics, University of Rochester, Rochester, NY *CR

Exhibit/Poster Hall B0562-B0585

Sunday, May 07, 2017 8:30 AM-10:15 AM

Visual Psychophysics/Physiological Optics

113 Accommodation and presbyopia correction

Moderator: Philip B. Kruger

317 — B0562 Evaluation of the impact of low-addition progressive lenses on the accommodation and convergence functions in Indian population. Nisha Singh¹, C. Yeo¹, A. Rakshit², N. Baam³, M. Renjini³, V. S^{3,2}, J. Hussaindeen^{3,2}, K. Ramani³, M. Swaminathan². ¹CI&T AMERA, Essilor, SINGAPORE, Singapore; ²Eye Hospital, Sankara Nethralaya, Chennai, India; ³Visual Psychophysics, Elite School of Optometry, Chennai, India *CR

318 — B0563 The effect of wearing progressive addition lenses on the accommodative function in children. Yunyun Chen^{1,2}, X. Yu^{1,2}, W. Jin^{1,2}, B. Drobe^{3,2}, B. Zhang^{1,2}, H. Chen^{1,2}. ¹School of Ophthalmology & Optometry, Wenzhou Medical University, Wenzhou, China; ²WEIRC, Wenzhou Medical University-Essilor International Research Center, Wenzhou, China; ³R&D Optics AMERA, Essilor International, Singapore, Singapore *CR

319 — B0564 Reading and attention in relation to naturalistic accommodation responses in typical children. Siobhan M. Ludden, A. M. Horwood, P. M. Riddell. School of Psychology and Clinical Language Sciences, University of Reading, Reading, United Kingdom

320 — B0565 Effect of experimental conditions in the accommodation response in myopia. Carles Otero¹, M. Aldaba², F. A. Vera-Diaz³, J. Pujol¹. ¹Davalor Research Center (dRC). Universitat Politècnica de Catalunya, Terrassa, Spain; ²Centre for Sensors, Instruments and Systems Development (CD6). Universitat Politècnica de Catalunya, Terrassa, Spain; ³New England College of Optometry, Boston, MA *CR

321 — B0566 Does accommodation respond equally to artificially blurred as to real out-of-focus retinal images? Norberto Lopez-Gil^{1,3}, I. Marin-Franch^{2,3}, P. Bernal-Molina^{2,3}, J. Esteve-Taboada^{2,3}, R. Montés-Mico^{2,3}, P. B. Kruger^{4,1}, A. Del Aguila-Carrasco^{2,3}. ¹Physics, Universidad de Murcia, Murcia, Spain; ²Department of Optics and Optometry and Visual Sciences, University of Valencia, Valencia, Spain; ³Interuniversity Laboratory for Research in Vision and Optometry, Mixed group UVEG-UMU, Valencia-Murcia, Spain; ⁴State College of Optometry, State University of New York, New York, NY

322 — B0567 Objective Amplitude of Accommodation and Refraction Using a New Wavefront Metric Dependent on Pupil Radius. Mateusz T. Jaskulski¹, N. Lopez-Gil¹, A. Martinez-Finkelshtein², V. Fernández-Sánchez¹. ¹Physics, University of Murcia, Murcia, Spain; ²Departamento de Matemáticas, Universidad de Almería, Almería, Spain

323 — B0568 Dynamics of Accommodative Changes in the Human Crystalline Lens Thickness Measured with Optical Coherence Tomography. ethan adre^{1,2}, A. T. Pham^{1,2}, K. Liu^{1,2}, Y. Chang^{1,2}, F. Cabot^{1,3}, S. Williams^{1,2}, G. Gregori⁴, A. Ho^{6,7}, M. Ruggieri¹, J. A. Pare^{1,5}, F. Manns^{1,2}. ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL; ³Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, Miami, FL; ⁴Quantitative Imaging Center, Bascom Palmer Eye Institute, Miami, FL; ⁵Brien Holden Vision Institute and Vision Cooperative Research Centre, Sydney, NSW, Australia; ⁶Brien Holden Vision Institute, Sydney, NSW, Australia; ⁷School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia *CR

324 — B0569 Comparison of two objective techniques for measurement of accommodative amplitude. Rami Aboumourad, H. A. Anderson. College of Optometry, University of Houston, Houston, TX

325 — B0570 Analysis of the mechanical response of in vivo human accommodation from dynamic OCT recording. Arthur Ho^{1,3}, R. Zhu², P. Wai², M. Ruggieri³, S. Kanapathipillai², F. Manns^{3,4}. ¹Brien Holden Vision Institute, UNSW Sydney, NSW, Australia; ²School of Mechanical and Manufacturing Engineering, University of New South Wales, UNSW Sydney, NSW, Australia; ³Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami School of Medicine, Miami, FL; ⁴Department of Biomedical Engineering, University of Miami College of Engineering, Miami, FL *CR

326 — B0571 Finite element accommodation models using elasticity gradients from Brillouin microscopy. Andres De la Hoz¹, G. Scarcelli², S. Yun³, S. Marcos¹. ¹CSIC, Madrid, Spain; ²University of Maryland, College Park, MD; ³Harvard Medical School, Boston, MA *CR

- 327 — B0572 Optimization of the Kamra inlay for a large population of subjects.** *Pablo De Gracia¹, A. Hartwig²*. ¹Chicago College of Optometry, Midwestern University, Downers Grove, IL; ²Hartwig Research Center, Heikendorf, Germany *CR
- 328 — B0573 Objective evaluation of tolerance to induced astigmatism in presbyopes implanted with the small-aperture corneal inlay.** *Srividhya Vilupuru, S. Chen, C. Van de Pol*. Acufocus, Irvine, CA *CR
- 329 — B0574 Correlation of 1.5% EV06 Ophthalmic Eye Drop Formulation (NCT02516306) Snellen scores (logMAR) results with ex parte clinical accommodation (diopters) measurements.** *William H. Garner^{1,2}, W. Burns²*. ¹Research, Bioptics Research, Eastport, ME; ²Research, Encore Vision, Inc, Fort Worth, TX *CR, ✕
- 330 — B0575 An observational follow-up study assessing the long-term effects of bilaterally dosed topical lipoic acid choline ester eye drops for the treatment of presbyopia.** *Jerry M. Stein⁶, S. M. Robertson⁵, D. G. Evans², S. H. Rauchman⁴, K. N. Sal³, M. S. Korenfeld^{10,11}, T. Whitfill⁸, J. Gordon⁹, A. Glasser⁷, W. Burns¹*. ¹Encore Vision, Inc, Fort Worth, TX; ²Total Eye Care, PA, Memphis, TX; ³Sall Research Medical Center, Artesia, CA; ⁴North Valley Eye Medical Group, Mission Hills, CA; ⁵Arrochar Consulting LLC, Fort Worth, TX; ⁶Summer Creek Consulting, LLC, Fort Worth, TX; ⁷Adrian Glasser Consulting Services, Tampa, FL; ⁸Bios Partners, Fort Worth, TX; ⁹ClinReg Consulting Services, Laguna Beach, CA; ¹⁰Ophthalmology and Visual Sciences, Washington University, St. Louis, MO; ¹¹Ophthalmology and Visual Sciences, Comprehensive Eye Care Ltd, Washington, MO *CR
- 331 — B0576 A Phase I/II clinical study evaluating the safety and efficacy of bilaterally dosed topical lipoic acid choline ester eye drops for the treatment of presbyopia.** *Michael S. Korenfeld^{1,2}, D. G. Evans³, S. H. Rauchman⁴, K. N. Sal⁵, J. M. Stein⁶, S. M. Robertson⁷, T. Whitfill⁸, J. Gordon⁹, W. Burns¹⁰, A. Glasser¹¹*. ¹Ophthalmology and Visual Sciences, Washington University, St. Louis, MO; ²Ophthalmology and Visual Sciences, Comprehensive Eye Care, Ltd, Washington, MO; ³Total Eye Care, PA, Memphis, TN; ⁴North Valley Eye Medical Group, Mission Hills, CA; ⁵Sall Research Medical Center, Artesia, CA; ⁶Summer Creek Consulting, LLC, Fort Worth, TX; ⁷Arrochar Consulting, LLC, Fort Worth, TX; ⁸Bios Partners, Fort Worth, TX; ⁹ClinReg Consulting Services, Inc, Laguna Beach, CA; ¹⁰Encore Vision, Inc, Fort Worth, TX; ¹¹Adrian Glasser Consulting Services, Tampa, FL *CR, ✕
- 332 — B0577 PhysIol® (Fine vision) versus PanOptix® (Alcon), a comparative observational study in high grade aberration pattern after phacoemulsification cataract surgery in a sample of Mexican population.** *Daniela Alanis Cabrera, E. Chavez, D. Zamora-de la Cruz, K. Zuñiga, I. Ferreira-Rios, F. Solorio*. Instituto de Oftalmología Conde de Valenciana, Ciudad de Mexico, Mexico
- 333 — B0578 MAS: The Multifocal Acceptance Score.** *Carlos Dorronsoro¹, J. Mendez-Gonzalez², E. Gamba³, N. Alejandre¹, P. Perez-Merino¹, S. Marcos¹*. ¹Instituto de Optica, CSIC, Madrid, Spain; ²Eyes Vision, Madrid, Spain *CR
- 334 — B0579 Functional outcomes and patient subjective perception of a trifocal IOL.** *Luis C. Escaf^{1,2}, C. Quijano^{3,1}, L. J. Escaf¹*. ¹Colombian Institute for Research in Vision and Ophthalmology (CIRVO), Clinica Oftalmologica del Caribe, Barranquilla, Colombia; ²Ophthalmology, Fundacion Oftalmologica Santander Carlos Ardila Lulle, Bucaramanga, Colombia; ³Ophthalmology, Western Eye Hospital, London, United Kingdom
- 335 — B0580 Dissatisfaction after implantation of multifocal intraocular lenses.** *Clemence Bonnet, A. P. Brezin, D. Monnet*. Ophthalmology, Hopital Cochin, Paris, France
- 336 — B0581 Comparative analysis between objective and subjective results for currently available diffractive trifocal intraocular lenses.** *Karla V. Zuniga Posselt, D. Alanis Cabrera, D. Zamora-de la Cruz, I. Ferreira-Rios, D. Pulido, E. Chavez*. Instituto de Oftalmología Conde de Valenciana, Mexico City, Mexico
- 337 — B0582 In vivo measurement of longitudinal chromatic aberration with multifocal diffractive intraocular lenses.** *Maria Vinas¹, A. Gonzalez-Ramos¹, C. Dorronsoro¹, V. Akondi¹, N. Garzon², F. Poyales³, S. Marcos¹*. ¹Visual Optics & Biophotonics Lab, Instituto de Optica, CSIC, Madrid, Spain; ²Innova Ocular IOA Madrid, Madrid, Spain *CR
- 338 — B0583 Characterization of starburst and halo size for different virtually implanted intraocular lenses in comparison to subject's quality of vision.** *Rudolf F. Guthoff¹, M. Gerlach², V. Fuchs², K. Sperlich¹, J. Schubert¹, S. Bohn¹, H. Stolz³, P. Marczuk², O. Stachs¹*. ¹Department of Ophthalmology, University Medicine Rostock, Rostock, Germany; ²Carl Zeiss Meditec AG, Berlin, Germany; ³Institute of Physics, University of Rostock, Rostock, Germany *CR
- 339 — B0584 Shack-Hartmann wavefront aberrometer with ray based analysis for measuring bifocal lenses.** *Toshifumi Mihashi¹, J. Wolffsohn², T. Hiraoka¹, S. Dhallu³, Y. Hirohara⁴, M. Nakajima⁴, T. Oshika¹*. ¹Department of Ophthalmology, University of Tsukuba, Tsukuba, Japan; ²School of Life and Health Sciences, Aston University, Birmingham, United Kingdom; ³Moorfields Eye Hospital, London, United Kingdom; ⁴Eye Care Company, Topcon Corp., Tokyo, Japan *CR
- 340 — B0585 Impact of specific posture for progressive addition lenses customization.** *Valérie Jolivet, N. Lakhchaf, B. Rousseau, J. Perrin, I. Poulain, G. Escalier*. R&D, ESSILOR International, Creteil, France *CR

Room 314

Sunday, May 07, 2017 10:40 AM-11:50 AM

***114 NEI Audacious Goals Initiative
Town Hall: Advancing Cellular
Therapies to the Clinic***

Building on last year's ARVO town hall about retinal diseases amenable to regenerative therapies, the NEI Audacious Goals Initiative invites ARVO 2017 attendees to participate in a follow-up town hall meeting. This year's discussion seeks input from scientists and clinicians to identify paths for advancing potential therapies to human clinical trials. The event will comprise short introductory talks and a moderated discussion.

Moderator: Mark Blumenkranz

— 10:40 **David Gamm, MD, PhD**

— 10:57 **Jeff Goldberg, MD, PhD**

— 11:14 **Peter Coffey, PhD**

— 11:31 **Margaret Sutherland, PhD**

Sunday – All Posters

Exhibit/Poster Hall

Sunday, May 07, 2017 10:45 AM-11:45 AM

115 All Posters and Networking

All presenters will be at their posters.

Sunday All Posters
10:45 am – 11:45 am

Hall G

Sunday, May 07, 2017 12:00 PM-1:15 PM

116 ARVO/Alcon Keynote Opening Session

The ARVO 2017 Opening Keynote speaker is Mary-Claire King, PhD, professor of medical genetics at the University of Washington. King has made numerous seminal contributions to genetics. During her doctoral training she found that humans and chimpanzees share 99% of their genome. She was the first to identify and name BRCA1, an inheritable gene associated with breast cancer. In addition to its breast cancer work, King's lab is also currently pursuing de novo mutations that may cause schizophrenia and identifying the genetic causes of severe inherited disorders in Middle Eastern families. King's presentation will be the first ARVO Opening Keynote delivered by a woman.

— 12:00 **Mary Claire King, PhD, University of Washington**

Ballroom 2

Sunday, May 07, 2017 1:30 PM-3:00 PM

Genetics Group

117 GEN Group: New tools and methodologies for ocular genetics: Promises and challenges

Over the years, genomic research has relied on several technologies to uncover the genetic basis, functional aspects and genomic mysteries associated with many of the complex and Mendelian ocular diseases. Using examples of different ocular diseases, this session will detail some of the successes and challenges associated with some of the contemporary “omic” methods such as whole genome sequencing, RNAseq as well as bioinformatics/computational tools. The session will also cover systems biology approaches for integrating multiple data sets to elucidate gene regulatory or disease networks.

Moderators: Eranga N. Vithana, Zi-Bing Jin and Douglas B. Gould

— 1:30 **Introduction**

— 1:32 **Efficacy of whole genome sequencing (WGS) and targeted next-generation sequencing (NGS) for diagnosis of inherited disease.** *Carlo Rivolta.* Department of Computational Biology, Unit of Medical Genetics, University of Lausanne, Lausanne, Switzerland

— 1:49 **Targeted deep sequencing to identify rare variants in complex diseases: Successes and challenges.** *Chiea Chuen Khor.* Human Genetics, Genome Institute of Singapore, Singapore, Singapore

— 2:06 **Latest in pathway analysis tools for complex genetics.** *Stuart MacGregor.* QIMR Berghofer Medical Research Institute, Brisbane, QLD, Australia

— 2:23 **RNA Sequencing for Novel Genetic Discovery.** *Eric A. Pierce.* Ocular Genomics Institute, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Boston, MA

— 2:40 **Genetic networks underlying AMD pathology.** *Anand Swaroop.* N-NRL, Bldg 6, National Eye Institute, NIH, Bethesda, MD

— 2:55 **Discussion Q&A**

Room 309

Sunday, May 07, 2017 1:30 PM-3:00 PM

118 NIH-CSR workshop on the peer review of grant applications

Sponsored by the Center for Scientific Review (CSR) at the National Institutes of Health (NIH), this workshop is designed to inform grant applicants about the NIH peer review process and also provide information about the study sections that review visual system grant applications. Scientific Review Officers (SROs) from CSR will be present for the presentation and to answer any questions.

Moderator: Michael H. Chaitin

— 1:30 **NIH-CSR Workshop on the Peer Review of Grant Applications.** *Michael H. Chaitin.* 6701 Rockledge Drive, Center for Scientific Review, NIH, Bethesda, MD

— 2:15 **Panelist.** *Robert C. Elliott.* Center for Scientific Review, NIH, Bethesda, MD

— 2:21 **Panelist.** *Nataliya Gordiyenko.* Center for Scientific Review, NIH, Bethesda, MD

— 2:27 **Panelist.** *Kristin Kramer.* Center for Scientific Review, NIH, Bethesda, MD

— 2:33 **Panelist.** *Paek-Gyu Lee.* Emerging Tech & Training in Neuroscience, Center for Scientific Review, NIH, Bethesda, MD

— 2:39 **Panelist.** *Maqsood A. Wani.* Cell Biology, Center for Scientific Review, NIH, Bethesda, MD

— 2:45 **Question and Answer**

Room 310

Sunday, May 07, 2017 1:30 PM-3:00 PM

119 Addressing global blindness and eye diseases through research

As much as ninety percent of the global burden of eye disease is shouldered by developing countries, where many treatable diseases often go undiagnosed. About 39 million people around the world are blind and a further 246 million are not able to see properly, according to the WHO. Eighty percent of blindness is considered preventable, however a comprehensive research strategy and international research collaborations between the developed and developing world need to increase. Many of the reasons for causing blindness have been researched, but in several areas of the world a coordinated strategy for basic science and health services research is required to achieve reduction of the global burden of the eye diseases and implementation of research findings. This session will address several current challenges, strategies, and a few research collaborative studies related to eye diseases. It will also include discussion to address the current issues and challenges in global health and vision research with the opinion leaders on global health research.

Moderators: Gyan Prakash and Hugh Taylor

— 1:30 **US-INDO collaborations and genetic eye disease.** *Janey L. Wiggs.* Ophthalmology, Harvard Medical School, Mass Eye and Ear, Boston, MA

— 1:39 **Eye care for the neglected populations - impact of research.** *Gullapalli N. Rao.* LV Prasad Eye Institute, Hyderabad, India

— 1:48 **Global Experimental Medicine - the UNITE Consortium.** *Peng T. Khaw.* NIHR Centre Moorfields & UCL Institute of Ophthal, London, United Kingdom *CR

— 1:53 **Global Experimental Medicine - the UNITE Consortium.** *Richard W. Lee.* Inflammation and Immunotherapy Theme, Bristol and Moorfields (NIHR BRC), Bristol, United Kingdom

— 1:58 **Coordinated Strategy for Genetic Eye Research in Asia and the Pacific.** *Takeshi Iwata.* National Inst of Sensory Organs, Tokyo Medical Center, Natl Hospital Organization, Meguro-ku, Japan

— 2:07 **Macular Telangiectasia Type 2 Project - Global Connections.** *Emily Chew.* Epidemiology & Clinical Applications, National Eye Institute, Bethesda, MD

— 2:16 **Global Approaches to Tackling Diabetic Retinopathy.** *Tien Y. Wong.* Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore; Duke-NUS Medical School, National University of Singapore, Singapore, Singapore *CR

— 2:25 **Evidence from collaborative research in guiding human resource eye care policies and practices in sub-Saharan Africa.** *Paul Courtright.* Kilimanjaro Centre for Community Ophthalmology International RSA, San Diego, CA; University of Cape Town, Cape Town, South Africa

— 2:34 **Zika Virus related Ocular Complications and Global Health.** *Rubens Belfort.* Vision Institute Fed Univ SaoPaulo, Sao Paulo, Brazil

— 2:43 **Discussion**

Room 314

Sunday, May 07, 2017 1:30 PM-3:00 PM

120 How to write and publish a high impact vision research article: The dos and don'ts

The ongoing growth in academic publishing puts tremendous pressure on scientists to publish high quality research. This workshop will discuss the dos and don'ts of scientific publishing in the current scenario. First, the basics of writing a scientific paper will be outlined. With recent surge in 'big data' related research, statistical analysis has assumed an almost independent stature in scientific paper writing. The second presentation will discuss striking a balance between too much and too little statistics in publications. The third speaker will provide tips on presentation of data in 'easy to follow' figures and tables. The workshop will then conclude with a special topic on publication cost and selection of appropriate journals for both early-career and experienced researchers.

Moderators: Vishal Jhanji and Matthew A. Reilly

— 1:30 **Introduction**

— 1:35 **Creating a scientific paper: Transitioning from meeting abstract to manuscript.** *Jeffrey H. Boatright.* Ophthalmology, Emory University School of Med, Atlanta, GA; Center for Visual & Neurocognitive Rehabilitation, Atlanta VAMC, Decatur, GA

— 1:55 **Use of statistics: Can we simplify things?** *Anne Coleman.* Ophthalmology, UCLA Medical Center, Los Angeles, CA

— 2:15 **How to create easy-to-understand figures, figure captions and tables.** *Tailoi Chan-Ling.* Department of Anatomy & Histology, University of Sydney, Sydney, NSW, Australia

— 2:35 **Selecting the right journal for your publication: Options and considerations.** *Steven J. Fliesler.* Ophthalmology, University at Buffalo, SUNY, Buffalo, NY; Research Service, VA Western NY Healthcare System, Buffalo, NY

Room 316

Sunday, May 07, 2017 1:30 PM-3:00 PM

121 EVER/ARVO workshop: Update on mitochondrial optic neuropathies

Primary mitochondrial optic neuropathies, including those caused by mutation in mitochondrial DNA (Leber Hereditary Optic Neuropathy) and OPA1 mutations (causing Autosomal Dominant Optic Atrophy: ADOA) are a group of blinding genetic disorders in which optic atrophy secondary to loss of retinal ganglion cells is a key clinical feature. Recent trials of therapeutic interventions have, for the first time, shown hope for the treatment for this group of patients. At this exciting time, this workshop will focus on disease mechanisms and how they may reveal new potential avenues towards therapy and will summarize the completed and current ongoing trials and preliminary results.

Moderators: Aki Kawasaki and Marcela Votruba

— 1:30 **Mitochondrial homeostasis in LHON: genetics, environment and new targets for therapy.** *Valerio Carelli.* IRCCS Istituto delle Scienze Neurologiche di Bologna, Bellaria Hospital, Bologna, Italy; Neurology Unit, Department of Biomedical and NeuroMotor Sciences (DIBINEM), University of Bologna, Bologna, Italy *CR

— 1:50 **Animal trials and underpinnings of gene therapy.** *John Guy.* Bascom Palmer Eye Institute, University of Miami Bascom Palmer Eye Institute, Miami, FL *CR

— 2:10 **Metabolomic profiling in mitochondrial optic neuropathies.** *Patrick Yu-Wai-Man.* Wellcome Trust Centre for Mitochondrial Research, Institute of Genetic Medicine, Newcastle University, Newcastle upon Tyne, United Kingdom; Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, United Kingdom *CR

— 2:30 **Treatment trials: Outcome measures and early results.** *Alfredo A. Sadun.* Ophthalmology, UCLA Doheny Eye Institute, Pasadena, CA *CR, x

— 2:50 **Panel Discussion**

Room 328

Sunday, May 07, 2017 1:30 PM-3:00 PM

122 Pizza with the experts

Advance registration required. Trainees, students and junior faculty will benefit from this unique opportunity to network and gain valuable information from those who have been in your shoes! This very popular program offers informal discussions over a pizza lunch on a wide range of topics to provide personal guidance, insight and skills to help you advance your career! Topics will focus on professional development, career guidance, and best practices of interest to basic and clinical trainees and clinician-scientists. A number of the roundtable topics will be specifically tailored to the needs of clinician-scientists.

Ballroom 1

Sunday, May 07, 2017 1:30 PM-3:00 PM

Retina / Clinical/Epidemiologic Research / Immunology/Microbiology / Physiology/ Pharmacology / Visual Neuroscience

123 Managing Patients with Diabetic Macular Edema, Neovascular AMD, and Retinal Vein Occlusion: How to Best Utilize Data from Clinical Trials - SIG

The SIG will provide a forum for interpretation of significance of data and discussion on how results will be translated into clinical practice. There will be no rehash of data presented elsewhere at ARVO. Audience participation will be encouraged.

Moderators: Peter A. Campochiaro and Diana V. Do

What Is a Desired Endpoint in the Management of DME ? *Quan Dong Nguyen.* Byers Eye Institute, Stanford University, Palo Alto, CA *CR

Do Frequent Injections of Anti-VEGF Agents Cause GA? *Judy E. Kim.* Eye Institute, Medical College of Wisconsin, Milwaukee, WI *CR

Which anti-VEGF Agent Do You Use and Why? What is the Role of Corticosteroids in the Management of DME? *Robert L. Avery.* California Retina Consultants, Santa Barbara, CA *CR

What are the Roles of Wide-angle and Other Advanced Retinal Imaging Technologies in the Management of Retinal Vascular Diseases? *David Sarraf.* Jules Stein Eye Institute, UCLA, Los Angeles, CA *CR

Sunday Workshops/SIGs
1:30 pm – 3:00 pm

x Refer to the Program Number in the Clinical Trial (CT) Registration Index. *CR Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

Sunday – Workshops/SIGs

Ballroom 3

Sunday, May 07, 2017 1:30 PM-3:00 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Retina / Visual Psychophysics/ Physiological Optics / Visual Neuroscience

124 Lasker/IRRF Initiative on Amblyopia - SIG

The Lasker/IRRF Initiative examined the challenges confronting research advancement in amblyopia and outlined innovative approaches to better define the condition and more effectively diagnose, treat and even prevent this disorder.

Moderator: John E. Dowling

Classification and Diversity of Amblyopia.

Daphne Maurer. Department of Psychology, Neuroscience and Behavior, Distinguished University Professor, McMaster University, Hamilton, ON, Canada

Early Diagnosis of Amblyopia.

David G. Hunter. Richard Robb Chair of Ophthalmology, Harvard Medical School, Boston, MA *CR

Cortical Correlates.

Lynne Kiorpes. Professor of Neural Science and Psychology, New York University, New York, NY

New Molecular/Pharmacological Environmental Approaches for Treating Amblyopia.

Michael P. Stryker. UCSF Sandler Neurosciences Center, University of California, San Francisco, San Francisco, CA *CR

Ballroom 4

Sunday, May 07, 2017 1:30 PM-3:00 PM

Cornea

125 Conclusions and recommendations from the TFOS Dry Eye Workshop II - SIG

We will highlight the conclusions and recommendations from the TFOS Dry Eye Workshop II. This initiative involved more than 150 clinical and basic experts and was designed to achieve a global consensus concerning multiple aspects of dry eye disease.

Moderators: David A. Sullivan, J Daniel Nelson and Jennifer P. Craig

Introduction. *J Daniel Nelson.* Specialty Care, HealthPartners Medical Group and Clinics, St Paul, MN *CR

Definition & Classification. *Jennifer P. Craig.* University of Auckland School of Medicine, Auckland, New Zealand

Sex, Gender & Hormones. *David A. Sullivan.* Schepens Eye Res Inst/Harvard Med School, Boston, MA *CR

Epidemiology. *Fiona Stapleton.* School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia

Tear Film. *Mark D. Willcox.* School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia *CR

Pain & Sensation. *Carlos Belmonte.* Instituto de Neurociencias, Univ Miguel Hernandez-CSIC, Alicante, Spain *CR

Pathophysiology. *Anthony J. Bron.* Nuffield Laboratory of Ophthalmology, University of Oxford, Oxford, United Kingdom

Iatrogenic Dry Eye Disease. *Jose A. Gomes.* Ophthalmology, Paulista School of Medicine, Sao Paulo, Brazil

Diagnostic Methodology. *James Wolffsohn.* School of Life and Health Sciences, Aston University, Aston, United Kingdom *CR

Management & Therapy. *James Wolffsohn.* School of Life and Health Sciences, Aston University, Aston, United Kingdom *CR

Clinical Trial Design. *Gary D. Novack.* PharmaLogic Development, San Rafael, CA *CR

Room 301

Sunday, May 07, 2017 1:30 PM-3:00 PM

Retinal Cell Biology / Biochemistry/Molecular Biology

126 Role of mitochondria in retinal health and diseases - SIG

Mitochondrial dysfunction is associated with several retinal pathologies; however, the underlying mechanisms that compromise mitochondrial function are largely unknown. This SIG will discuss recent advances in retinal mitochondrial biology in ocular diseases including diabetic retinopathy and AMD.

Moderator: Sayon Roy

Organizer. *Julia V. Busik.* Physiology, Michigan State University, East Lansing, MI

Bystander effects mediated by endoplasmic reticulum-mitochondria Ca²⁺ transfer in RPE networks. *Baerbel Rohrer.* Ophthalmology, Medical University of South Carolina, Charleston, SC

Mitochondrial dysfunction through impaired mitophagy leads to retinal pigment epithelial EMT. *James T. Handa.* Wilmer Eye Institute, Johns Hopkins, Baltimore, MD

Mitochondrial biogenesis in diabetic retinopathy. *Renu A. Kowluru.* Ophthalmology, Kresge Eye Inst/ Wayne State University, Detroit, MI

Microfluidic O₂ sensing with bio-mimetic electrochemistry to for precise assessment of mitochondrial damage in diabetic retinopathy. *Denis Proshlyakov.* Chemistry, Michigan State University, East Lansing, MI

Room 307

Sunday, May 07, 2017 1:30 PM-3:00 PM

Multidisciplinary Ophthalmic Imaging Group / Anatomy and Pathology/Oncology / Clinical/Epidemiologic Research / Cornea / Retina

127 Beyond Axial Length: Modern Imaging Biomarkers for Better Understanding Myopia Development and Progression - SIG

Discuss modern ocular imaging in myopia research, transitioning from simple axial length to 3D representations. An international panel of myopia and imaging researchers will discuss technical developments and their application to myopia research.

Moderator: Terri L. Young

OCT in Myopia: The Good and The Bad.

Anthony N. Kuo. ¹Ophthalmology, Duke University, Durham, NC, ²Biomedical Engineering, Duke University, Durham, NC *CR

Myopia Changes in Eye Shape as seen with 3D MRI.

Seang-Mei Saw. ¹Neuroscience, Epidemiology, Duke-National University of Singapore, Singapore, Singapore, ²Singapore Eye Research Institute, Singapore, Singapore

Insight from Computational Models on Scleral Growth and Remodeling in Myopia.

Rafael Grytz. Ophthalmology, University of Alabama at Birmingham, Birmingham, AL

Room 308

Sunday, May 07, 2017 1:30 PM-3:00 PM

Retinal Cell Biology / Eye Movements/ Strabismus/Amblyopia/Neuro-Ophthalmology / Glaucoma / Immunology/Microbiology / Physiology/Pharmacology

128 Inflammasome activation in the pathogenesis of glaucoma - SIG

Activation of the inflammasome, a cytoplasmic macromolecular complex, is documented in the retina and optic nerve following IOP elevation. This SIG will discuss a putative role of inflammasome activation in the pathogenesis of glaucoma.

Moderator: Meredith S. Gregory-Ksander

NLRP1 inflammasome activation in the inner retina in acute and chronic models of ocular hypertension. *Valery I. Shestopalov.* Bascom Palmer Eye Institute Dept. Ophtha, Univ. of Miami Miller School of Medicine, Miami, FL

Linking mechanical strain to inflammatory cytokines. *Claire H. Mitchell.* Anatomy and Cell Biology, University of Pennsylvania, Philadelphia, PA

Neuroinflammation in glaucoma. *Louis R. Pasquale.* Massachusetts Eye and Ear Infirmary, Department of Ophthalmology, Harvard Medical School, Boston, MA

Room 321

Sunday, May 07, 2017 1:30 PM-3:00 PM

Physiology/Pharmacology / Genetics / Glaucoma

129 National Academies of Sciences of Medicine and Engineering, Making Eye Health A Population Health Imperative Report: Closing the gaps in eye care. - SIG

Speakers will address the context of the report and its implications. Program participants will have the opportunity to exchange information about their institutional response to the report.

Moderators: Mildred M. Olivier and Paul A. Sieving

Public's attitude about eye and vision health. *James Jorkasky.* NAEVR, Washington, DC

Framing the NASEM report. *Anne Coleman.* Stein Eye Institute, UCLA, Los Angeles, CA *CR

Reaching High Risk Population for Glaucoma. *Jinan Saaddine.* Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, Atlanta, GA

Future Directions and Next Steps. *Eve Higginbotham.* Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA

Exhibit/Poster Hall A0183-A0209

Sunday, May 07, 2017 1:30 PM-3:15 PM

Retinal Cell Biology

130 Determinants of PR development and repairModerator: *Miruna Ghinia*

341 — A0183 Rho-Timer, a reporter of rhodopsin biosynthesis and incorporation in to the rod outer segment in transgenic mouse rods. *Kasey Rose², R. Kumar¹, J. Chen^{2,3}.* ¹Indian Institute of Science Education And Research Kolkata, Kolkata, India; ²Zilkha Neurogenetic Institute, University of Southern California, Los Angeles, CA; ³Cell and Neurobiology, University of Southern California, Los Angeles, CA

342 — A0184 Reverse engineering of foveal cone packing and stacking in three primate species. *Alan D. Springer.* Cell Biology & Anatomy & Ophthal, New York Medical College, Valhalla, NY

343 — A0185 Genetic influences on the nuclear architecture of photoreceptors. *Hannah Fann¹, D. T. Whitaker^{1,2}, M. Brooks¹, A. Swaroop¹.* ¹Neurobiology, Neurodegeneration & Repair Laboratory, National Eye Institute, Bethesda, MD; ²Texas A&M Institute for Neuroscience, Texas A&M University, College Station, TX

344 — A0186 syntaxin binding protein 1b is essential for photoreceptor morphogenesis and survival. *Mailin Sotolongo-Lopez¹, K. E. Kyle², D. L. Vera², J. M. Fadool^{1,3}.* ¹Biological Science, Florida State University, Tallahassee, FL; ²Center for Genomics and Personalized Medicine, Florida State University, Tallahassee, FL; ³Program in Neuroscience, Florida State University, Tallahassee, FL

345 — A0187 Impaired Rod and Cone Photoreceptor Function in Mice Lacking Type II Iodothyronine Deiodinase. *Fan Yang, H. Ma, M. Butler, X. Ding.* Cell Biology, University of Oklahoma Health Sciences Center, Oklahoma City, OK

346 — A0188 Sexually Dimorphic Expression of Cone and Rod Opsins in the Zebrafish. *William Thurston, R. Mackin, D. L. Stenkamp.* Biological Sciences, University of Idaho, Moscow, ID

347 — A0189 ARL2BP, a protein linked to retinitis pigmentosa, regulates the growth of photoreceptor microtubular axonemes. *Abigail Hayes¹, R. Singh^{1,2}, V. Ramamurthy^{1,3}.* ¹Biochemistry, West Virginia University, Morgantown, WV; ²BioTime, Alameda, CA; ³Ophthalmology, West Virginia University, Morgantown, WV

348 — A0190 Glycogen Synthase Kinases 3 control photoreceptor development and homeostasis by modulating NRL stability. *Elena Braginskaja^{1,2}, J. Gumerson³, M. Perron^{1,2}, A. Swaroop³, J. Roger^{1,2}.* ¹Paris-Saclay Institute of Neuroscience, CNRS, Université Paris-Sud, Université Paris-Saclay, Orsay, France; ²Centre d'Etudes et de Recherche Thérapeutiques en Ophtalmologie, Retina France, Orsay, France; ³Neurobiology-Neurodegeneration & Repair Laboratory, National Eye Institute, NIH, Bethesda, MD

349 — A0191 Developmental Delay in Outer Segment Formation Causes Photoreceptor Degeneration in Mice with a Targeted Deletion of the Guanine-Nucleotide Exchange Factor, *Rabgef1*. *Passley J. Hargrove¹, A. Swaroop².* ¹Neurobiology-Neurodegeneration and Repair, National Eye Institute and The George Washington University, Chevy Chase, MD; ²Neurobiology-Neurodegeneration and Repair, National Eye Institute, Chevy Chase, MD

350 — A0192 Identification of chemicals and signaling pathways that impact photoreceptor regeneration in zebrafish. *Sumitra Sengupta, J. S. Mumm.* Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

351 — A0193 Cone opsins and *Crx* are gene therapy candidates for the revival of cone photoreceptors in an RP mouse model. *Mark M. Hassall¹, M. E. McClements¹, A. R. Barnard¹, S. A. Aslam^{1,2}, R. E. MacLaren^{1,2}.* ¹Nuffield Laboratory of Ophthalmology, University of Oxford, Oxford, United Kingdom; ²Oxford Eye Hospital, Oxford, United Kingdom

352 — A0194 Targeted deletion of miR-182 leads to photoreceptor dysfunction in mice. *Kun-Chao Wu, L. Xiang, X. Chen, X. Chen, G. Zhou, B. Zhang, Z. Jin.* Lab for Stem Cell & Retinal Regeneration, Institute of Stem Cell Research, The Eye Hospital, Wenzhou Medical University, WenZhou, China

353 — A0195 NDR kinases regulate retinal development, homeostasis and gene expression. *Hélène M. Léger¹, D. P. Beiting², W. A. Beltran³, G. D. Aguirre³, F. Luca¹.* ¹Department of Biomedical Sciences, University of Pennsylvania School of Veterinary Medicine, Philadelphia, PA; ²Department of Pathobiology, University of Pennsylvania School of Veterinary Medicine, Philadelphia, PA; ³Department of Clinical Studies, University of Pennsylvania School of Veterinary Medicine, Philadelphia, PA

354 — A0196 Melatonin protects 661W cells from cell death induced by H₂O₂ via inhibition of the Fas/FasL-Caspase 3 pathway. *Aida Sanchez-Bretano¹, U. Janjua¹, I. Piano³, G. Gargini², K. Baba¹, G. Tosini¹.* ¹Pharmacology, Morehouse School of Medicine, Atlanta, GA; ²Dipartimento di Farmacia, Università di Pisa, Pisa, Italy

355 — A0197 Effect of dietary Docosahexaenoic acid (DHA) on rhodopsin content and packing in rod photoreceptor cell membranes. *Subhadip Senapati.* Department of Ophthalmology and Visual Sciences, Case Western Reserve University, Cleveland, OH

356 — A0198 Utilization of Super Resolution Nanoscopy to Localize CEP290 within the Connecting Cilium of Rod Photoreceptor Cells. *Valencia Potter^{1,2}, M. Robichaux¹, T. G. Wensel¹.* ¹Biochemistry, Baylor College of Medicine, Houston, TX; ²Medical Scientist Training Program (MSTP), Baylor College of Medicine, Houston, TX

357 — A0199 Habitat and predatory behaviour are related with ratio of nuclear layers thickness and cone pedicle spinules in teleosts retinas. *Joaquin De Juan, N. Martinez-Ruiz, B. Boughlala, A. De Juan.* Dept Biotecnologia, Universidad de Alicante, San Vicente Del Raspeig, Spain

358 — A0200 CIC-2 chloride channel localizes to the apical surface and primary cilium of RPE cells and regulates ciliogenesis. *Enrique J. Rodriguez-Boulan¹, I. Benedicto¹, E. de la Fuente², D. Gravotta¹, A. Anastasia³, Z. Salfati¹, G. Lehmann-Mantarás¹.* ¹Ophthalmology-Dyson Vision Research Inst, Weill Cornell Medical College, New York, NY; ²Facultad de Medicina, Universidad Católica del Norte, Coquimbo, Chile; ³INIMEC-CONICET, Cordoba, Argentina

359 — A0201 Deciphering the molecular identity, development and dysfunction of retinal neurons using single-cell transcriptomics. *Karthik Shekhar¹, A. Regev^{1,2}, J. Sanes³, C. Cepko⁴, S. Lapan¹, I. E. Whitney³, Y. Peng³.* ¹Broad Institute, Cambridge, MA; ²Howard Hughes Medical Institute, Chevy Chase, MD; ³Harvard University, Cambridge, MA; ⁴Harvard Medical School, Boston, MA

360 — A0202 Uncovering the layers of the connecting cilium with super-resolution nanoscopy. *Michael Robichaux, T. G. Wensel.* Biochemistry, Baylor College of Medicine, Houston, TX

361 — A0203 NESPRIN1 Is A Novel Component Of Ciliary Rootlets. *Dazier M. Hodzic¹, C. Potter¹, W. Zhu¹, D. Razafsky¹, P. A. Ruzycski¹, T. Doggett¹, A. V. Kolesnikov¹, V. J. Kefalov¹, E. Betleja², M. Mahjoub².* ¹Ophthalmology, Washington Univ School of Medicine, St Louis, MO; ²Internal Medicine, Renal Division, Washington University, St Louis, MO

362 — A0204 Visual performance evaluation of zebrafish with mutations in cilia transition zone proteins. *Ellen Piccillo, E. M. Lessieur, G. C. Nivar, B. D. Perkins.* Cleveland Clinic Foundation, Hamburg, NY

363 — A0205 Nanoparticle based transfection of hard-to-transfect primary photoreceptor cells. *Bibhudatta Mishra¹, D. R. Wilson², Y. Rui², M. P. Suprenant², B. S. Hansen¹, C. Berlinicke¹, J. J. Green², D. J. Zack¹.* ¹Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, MD; ²Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD

364 — A0206 Mutations in zebrafish *cep290* result in age-related cone degeneration. *Emma M. Lessieur¹, W. Zhang², L. Li², G. C. Nivar¹, E. Piccillo¹, P. Song¹, B. D. Perkins¹, H. Khanna².* ¹Ophthalmic Research, Cleveland Clinic Foundation, Cleveland, OH; ²Ophthalmology, University of Massachusetts, Worcester, MA

365 — A0207 Comparison of zebrafish retinal proteins during experimental degeneration and regeneration using quantitative proteomics. *Karen Eastlake¹, W. Heywood², D. C. Tracey-White¹, E. Aquino¹, E. Bliss², G. Vasta³, K. Mills², P. T. Khaw¹, M. Moosajee¹, G. Limb¹.* ¹National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ²Centre for Translational Omics, UCL Great Ormond Street Institute of Child Health, London, United Kingdom; ³Department of Microbiology and Immunology, University of Maryland School of Medicine and IMET, Baltimore, MD

366 — A0208 Organelle subclasses in human retinal pigment epithelium (RPE) in younger and older eyes seen with 3-dimensional serial block face scanning electron microscopy (3D SBFSEM). *Tamara Jasmin J. Mittermueller¹, J. D. Messinger², K. R. Sloan³, A. S. Weinhandl¹, E. Benson⁴, G. J. Kidd^{4,5}, U. Schmidt-Erfurth¹, C. Curcio², A. Pollreisz¹.* ¹Ophthalmology and Optometry, Medical University Vienna, Vienna, Austria; ²Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ³Computer and Information Sciences, University of Alabama at Birmingham, Birmingham, AL; ⁴Renovo Neural Inc., Cleveland, OH; ⁵Neurosciences, Cleveland Clinic, Lerner Research Institute, Cleveland, OH *CR

367 — A0209 Study of Selected Rod Photoreceptor Expressed Transcripts in Zebrafish Retina. *CHI SUN, C. Galicia, P. G. Fuerst, D. L. Stenkamp.* Biological Sciences, University of Idaho, Moscow, ID

Exhibit/Poster Hall A0234-A0271

Sunday, May 07, 2017 1:30 PM-3:15 PM

Retina

131 AMD Imaging 2

Moderators: Bailey K. Freund and Ruikang K. Wang

368 — A0234 OCT Angiography and Cone Photoreceptor Imaging in Geographic Atrophy. *Jia Qin¹, N. Rinaldo¹, M. Deiner¹, K. McDermott², J. S. Werner², A. Roorda³, T. C. Porco^{1,4}, D. M. Schwartz¹, J. L. Duncan¹.* ¹Ophthalmology, University of California San Francisco, Walnut Creek, CA; ²Ophthalmology&Vision Science, University of California Davis, Sacramento, CA; ³School of Optometry&Vision Science Graduate Group, University of California Berkeley, Berkeley, CA; ⁴Proctor Foundation, University of California San Francisco, San Francisco, CA *CR

369 — A0235 Correlations Between the Volumes of Fibrovascular Retinal Pigment Epithelial Detachments and the Areas of Type 1 Choroidal Neovascularization in Age-related Macular Degeneration using OCT imaging. *Elie Motulsky¹, G. Stein¹, Q. Zhang², C. Chen², F. Zheng¹, G. Liu¹, J. R. Dias¹, W. J. Feuer³, R. K. Wang², G. Gregori¹, P. J. Rosenfeld¹.* ¹Bascom Palmer Eye Institute, Univ of Miami Miller Sch of Med, Miami, FL; ²Department of Bioengineering, University of Washington, Seattle, WA; ³Biostatistics, Univ of Miami-Bascom Palmer, Miami, FL *CR

370 — A0236 Fluorescein and OCT Angiographic Evaluation of Choroidal Neovascular Membrane Following Proton Beam and Intravitreal Anti-VEGF Therapy for Exudative AMD: 2-year Follow Up. *Sophia Wong¹, I. Daftari², K. Mishra², J. V. Migacz¹, I. Gorczynska¹, A. Moshiri¹, J. S. Werner¹, S. S. Park¹.* ¹Ophthalmology, University of California, Davis, Sacramento, CA; ²Radiation Oncology, University of California, San Francisco, San Francisco, CA *CR

371 — A0237 Correlation between mesopic retinal sensitivity and optical coherence tomographic metrics of the outer retina in patients with non-atrophic dry age related macular degeneration. *Gloria Blanquel¹, T. Tepelus^{1,2}, A. H. Hariri^{1,2}, M. Al-Sheikh^{1,2}, S. Balasubramanian^{1,2}, S. R. Sadda^{1,2}.* ¹Doheny Eye Institute, Hacienda Heights, CA; ²Department of Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA *CR

372 — A0238 Automated Case-Adaptive Slab Configuration for Visualization of Choroidal Neovascularization in Swept-Source OCT Angiography. *Luis De Sistiernes¹, H. Bagherinia¹, S. Kubach¹, R. W. Knighton², F. Zheng², G. Gregori², P. J. Rosenfeld², M. K. Durbin¹.* ¹R&D, Carl Zeiss Meditec, Inc., Dublin, CA; ²Bascom Palmer Eye Institute, Univ of Miami Miller Sch of Med, Miami, FL *CR

373 — A0239 Evaluation of signal reduction in choriocapillaris spectral domain OCT-Angiography caused by soft drusen due to age-related macular degeneration. *Florian Alten, J. L. Lauermann, C. R. Clemens, P. Heiduschka, N. Eter.* University Eye Hosp Muenster, Muenster, Germany *CR

374 — A0240 2mm Central Macular Volume Scan Is Sufficient to Detect Exudative Age-related Macular Degeneration Activity in Optical Coherence Tomography. *Claus C. von der Burchard, J. Tode, C. Ehlken, J. Roeder.* Department of Ophthalmology, University of Kiel, Kiel, Germany, Kiel, Germany

375 — A0241 Choroidal Vascular Density and Volume in Intermediate Age-related Macular Degeneration - the Influence of Subretinal Drusenoid Deposits. *Grayson W. Armstrong¹, I. Láíns^{1,2}, J. Wang¹, J. Providencia², P. Gil^{2,3}, J. Gil^{2,3}, S. Mach¹, D. G. Vavvas¹, I. K. Kim¹, J. W. Miller¹, R. Silva^{2,3}, D. Husain¹, J. B. Miller¹.* ¹Ophthalmology, Massachusetts Eye & Ear, Cambridge, MA; ²Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal; ³Faculty of Medicine, University of Coimbra, Coimbra, Portugal *CR

376 — A0242 Distinguishing Choroidal Neovascularization from Residual Choroidal Vessels in Geographic Atrophy on OCT Angiography. *Peter L. Nesper, A. A. Fawzi.* Ophthalmology, Feinberg School of Medicine, Northwestern University, Chicago, IL

377 — A0243 Optical coherence tomography angiography changes in early type 3 neovascularization after anti-VEGF treatment. *Alexandra Miere¹, G. Querques^{1,2}, O. Semoun¹, F. Amoroso¹, O. Zambrowski¹, T. Chapron¹, V. Capuano¹, E. Souied¹.* ¹Ophthalmology, Centre Hospitalier intercommunal de Creteil, Creteil, France; ²Ophthalmology, University Vita-Salute San Raffaele, Milan, Italy

378 — A0244 Hemorrhage area is more reliable than thickness when measuring sub-macular hemorrhages. *Sarita Sinkha¹, B. Franca^{1,2}, D. Yorston².* ¹School of Medicine, University of Glasgow, Glasgow, United Kingdom; ²Robertson Centre for Biostatistics, Glasgow University, Glasgow, United Kingdom; ³Ophthalmology, Gartnavel General Hospital, Glasgow, United Kingdom

- 379 — A0245 Optical coherence tomography angiography of type 1 neovascularization and branched vascular network and their association with the anatomical characteristics of optical coherence tomography.** Hyungwoo Lee, H. Chung, H. Kim. Konkuk University Medical Center, Seoul, Korea (the Republic of)
- 380 — A0246 Effect of Drusen Volume Index on Geographic Atrophy Progression in Subjects with Dry Age Related Macular Degeneration.** Sean Pitetta¹, M. G. Nittala¹, A. H. Hariri^{1,2}, S. Velaga¹, S. R. Sadda^{1,2}. ¹Doheny Eye Institute, Pasadena, CA; ²Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA *CR
- 381 — A0247 Optical coherence tomography angiography visualizes morphological changes in choroidal neovascularization after anti-VEGF therapy: Monthly loading-phase versus Pro-Renata regimen.** Oubraham-Mebroukine Hassiba¹, A. Miere¹, F. Amoroso¹, S. Y. Cohen¹, P. BUTORI¹, P. astroz evtouchenko¹, C. JUNG^{1,2}, E. Souied^{1,2}, O. Semoun¹. ¹Ophthalmology, Centre Hospitalier Intercommunal de Créteil, Créteil, France; ²Clinical Research Center, GRC Macula, and Biological Resources Center, Clinical Research Center, GRC Macula, and Biological Resources Center, Centre Hospitalier Intercommunal de Créteil, Créteil, France., CRETEIL, France *CR
- 382 — A0248 Visualization of Choroidal Neovascularization in Optical Coherence Tomography Angiography using Automatic Segmentation and Manual Editing Propagation Tools.** Jing Tian, Y. Wolfson, Y. Hsiao, X. Wang, S. Luh, K. A. Soules, B. K. Jang, Q. Zhou. Optovue, Inc, Fremont, CA *CR
- 383 — A0249 Improved spectral recovery and tissue localization of autofluorescence (AF) signatures in donor eyes with age-related macular degeneration (AMD) using multi excitation hyperspectral AF imaging.** Taariq Mohammed¹, Y. Tong¹, J. M. Agee¹, N. Dey², S. Hong², R. Heintzmann^{3,4}, M. Hammer^{5,6}, C. Curcio⁷, T. Ach⁸, Z. Ablonczy⁹, T. Smith¹. ¹Department of Ophthalmology, New York University School of Medicine, Clarksville, MD; ²Department of Computer Science & Engineering, New York University Tandon School of Engineering, New York, NY; ³Leibniz Institute of Photonic Technology, Jena, Germany; ⁴Institute of Physical Chemistry and Abbe Center of Photonics, Friedrich Schiller University Jena, Jena, Germany; ⁵Department of Ophthalmology, University Hospital Jena, Jena, Germany; ⁶Center for Medical Optics and Photonics, University of Jena, Jena, Germany; ⁷Department of Ophthalmology, University of Alabama at Birmingham School of Medicine, Birmingham, AL; ⁸Department of Ophthalmology, University Hospital of Würzburg, Würzburg, Germany; ⁹Ora Inc, Andover, MA *CR
- 384 — A0250 Quantitative Assessment and Comparison Of Choroidal Neovascular Membranes Of Different Etiologies Using Two Different Optical Coherence Tomography Angiography Devices.** Bish Pal, A. Tasiopoulou, D. S. Grewal. Medical Retina, Moorfields Eye Hospital, London, United Kingdom *CR
- 385 — A0251 Effect of anti-VEGF therapy on Choroidal Vasculature in subjects with Neovascular Age Related Macular Degeneration.** Chaitra Jayadev¹, S. Velaga², M. Nittala², S. Sinha¹, J. Chhablani³, S. R. Sadda². ¹Retina, Narayana Nethralaya, Bangalore, India; ²Doheny Eye Institute, Los Angeles, CA; ³L V Prasad Eye Institute, Hyderabad, India *CR
- 386 — A0252 Evaluation of choriocapillaris (CC) density and RPE morphology in geographic atrophy (GA) due to age-related macular degeneration (AMD) in a one year follow-up including optical coherence tomography angiography (OCTA) and polarization sensitive OCT (PS-OCT).** Alexander Hecht¹, A. Pollreis¹, R. Told¹, M. Baratsits¹, R. G. Sayegh¹, B. Baumann², M. Pircher², C. K. Hitzenberger², S. Sacu¹, U. Schmidt-Erfurth¹. ¹Department of Ophthalmology & Optometry, Medical University of Vienna, Vienna, Austria; ²Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria *CR
- 387 — A0253 RetiNet: Automatic AMD identification in OCT volumetric data.** Stefanos Apostolopoulos¹, C. Ciller^{2,1}, S. De Zanet³, S. Wolf¹, R. Sznitman¹. ¹University of Bern, Bern, Switzerland; ²University of Lausanne, Lausanne, Switzerland; ³Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; ⁴Bern University Hospital, Bern, Switzerland
- 388 — A0254 Choroidal Cavens And Choroidal Round Hyporeflectivities In Geographic Atrophy.** Chiara Giuffrè¹, E. Corbelli¹, G. C. Albertini¹, R. Sacconi¹, A. Carnevali^{1,2}, L. De Vitis¹, A. Rabiolo¹, L. Querques¹, G. Querques¹, F. Bandello¹. ¹Ophthalmology, San Raffaele Scientific Institute, Milano, Italy; ²Ophthalmology, Università degli studi Magna Graecia, Catanzaro, Italy *CR
- 389 — A0255 Retinal pigment epithelial features indicative of neovascular progression in age-related macular degeneration.** Stefan Sacu¹, P. K. Roberts¹, B. Baumann², F. G. Schlanitz¹, M. Bolz¹, M. Pircher², M. Haggmann³, C. K. Hitzenberger², U. Schmidt-Erfurth¹. ¹Department of Ophthalmology, Medical University of Vienna, Vienna, Austria; ²Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; ³Center for Medical Statistics, Informatics and Intelligent Systems, Medical University of Vienna, Vienna, Austria *CR, ✎
- 390 — A0256 Ultrasonographic findings in vitreous of age-related macular degeneration patients treated with intravitreal anti-vegf injections.** Tamara Mato Gondelle, M. F. Bande, L. Paniagua, M. Rodríguez Cid, M. Abroades López-Veiga, M. Fernández Rodríguez, M. Blanco, A. Piñeiro. Complejo Hospitalario Universitario Santiago de Compostela, Santiago de Compostela, Spain
- 391 — A0257 Subretinal Hyperreflective Material seen on Optical Coherence Tomography as a Quantitative Biomarker in Retinal Angiomatous Proliferation treated with Intravitreal Ranibizumab.** Han Bin Lee, R. Zakri, N. Patel. Ophthalmology, East Kent Hospitals Unversty NHS Foundation Trust, Ashford, United Kingdom *CR
- 392 — A0258 Image biomarkers as predictors of response in patients using Ranibizumab in nAMD.** Claudia P. Acosta, C. Sardi, E. Mejía, J. Sanchez. INIO Inst Nt'l de Investig Ophthal, Medellin, Colombia
- 393 — A0259 Choroidal Thickness in Age-related Macular Degeneration: the Role of Subretinal Drusenoid Deposits.** Joana Providencia Costa¹, I. Lains^{2,3}, J. Wang², P. Gil^{1,3}, G. W. Armstrong², J. Gil^{1,3}, S. Mach², D. vavvas², I. K. Kim², J. W. Miller², D. Husain², J. B. Miller², R. Silva^{3,4}. ¹Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal; ²Massachusetts Eye and Ear, Harvard Medical School, Boston, MA; ³Faculty of Medicine, University of Coimbra, Coimbra, Portugal; ⁴Association for innovation and Biomedical Research on Light and Image, Coimbra, Portugal *CR
- 394 — A0260 Optical Coherence Tomography Angiography reproductibility and agreement of lesion size measurements in Neovascular Age Related Macular Degeneration.** Oudy Semoun, F. Amoroso, A. Miere, C. JUNG, V. Capuano, E. Souied. CHI de Creteil, Creteil, France
- 395 — A0261 The regional distribution of retinal angiomatous proliferation.** Bilal Hajnajebe, G. G. Deak, S. Sacu, M. Baumgartner, U. Schmidt-Erfurth. medical university of Vienna, Vienna, Austria
- 396 — A0262 RESHAPE - A Cloud-Computing Based Cell Morphometry Analyzer for Development of a Release Criteria of Clinical Grade Retinal Pigment Epithelium.** Nathan Hotaling¹, M. Simon², M. Ouladi², N. Schaub³, T. Uddin², P. Manickam¹, D. Ortolan¹, H. Zhao¹, J. Chalfoun², P. Bajcsy², K. Bharti¹. ¹Unit on Ocular and Stem Cell Translation, National Eye Institute, Bethesda, MD; ²Information Technology Laboratory, Information Systems Group, National Institute of Standards and Technology, Gaithersburg, MD; ³Biosystems and Biomaterials Division, National Institute of Standards and Technology, Gaithersburg, MD

- 397 — A0263 Automated intra-retinal, sub-retinal and sub-RPE cyst regions segmentation in age-related macular degeneration (AMD) subjects.** *Abdolreza Rashno¹, K. K. Parhi¹, B. Nazari¹, S. Sadri⁴, H. Rabbani³, P. Drayna², D. D. Koozekanani².* ¹Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; ²Department of Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN; ³Department of Biomedical Engineering, Isfahan University of Medical Sciences, Isfahan, Iran (the Islamic Republic of); ⁴Department of Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, Iran (the Islamic Republic of)
- 398 — A0264 Subretinal hyperreflective material and flecks in actively treated nAMD with or without classic features of disease reactivation.** *Obaid Kousha, U. Kanj, S. Pagliarini.* Macular Unit, University Hospitals Coventry and Warwickshire, Rugby, United Kingdom *CR
- 399 — A0265 Consistent Automatic Spectral Signature Recovery of Human retinal pigment epithelium (RPE) Lipofuscin Components and Drusen in Donors with Age-related Macular Degeneration (AMD) using Multi-Excitation Hyperspectral Autofluorescence (AF) Imaging.** *Neel Dey¹, S. Hong¹, Y. Tong², T. Mohammed², R. Heintzmann^{3,4}, M. Hammer^{5,6}, G. Gerig¹, C. Curcio⁷, T. Ach⁸, Z. Ablonczy⁹, T. Smith².* ¹Computer Science and Engineering, New York University, Brooklyn, NY; ²Ophthalmology, New York University, New York, NY; ³Leibniz Institute of Photonic Technology, Jena, Germany; ⁴Institute of Physical Chemistry and Abbe Center of Photonics, Friedrich Schiller University, Jena, Germany; ⁵Ophthalmology, University Hospital Jena, Jena, Germany; ⁶Center for Medical Optics and Photonics, University of Jena, Jena, Germany; ⁷Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ⁸Ophthalmology, University Hospital Würzburg, Würzburg, Germany; ⁹Ora Inc, Andover, MA *CR
- 400 — A0266 OCT Angiography of Type 1 Neovascularization in AMD With Long-Term Follow Up Analysis.** *Juan Pablo Davila, D. Sarraf, M. Rahimi.* Medical Retina, Jules Stein Eye Institute, Los Angeles, CA *CR
- 401 — A0267 Ultra wide field findings in patients with AMD.** *Carolina Sardi Correa, C. P. Acosta, J. Sanchez, E. Mejia.* INIO, Medellin, Colombia
- 402 — A0268 Detection of Choroidal Neovascularization in Age-Related Macular Degeneration Using Swept Source Optical Coherence Tomography Angiography.** *Jee Taek Kim, J. Yeo.* Ophthalmology, Chung Ang University Hospital, Seoul, Korea (the Republic of)
- 403 — A0269 Changes in OCT-Angiography of type 2 CNV in neovascular AMD during anti-VEGF treatment.** *Henrik Faatz, M. Farecki, B. Heimes, R. Kai, A. Lommatzsch, D. Pauleikhoff.* Ophthalmologists at St. Franziskus-Hospital Münster, Münster, Germany *CR
- 404 — A0270 Hyperspectral Autofluorescence (AF) and Mechanisms of Retinal Pigment Epithelium (RPE) Lipofuscin Loss in Age-Related Macular Degeneration (AMD).** *Yuehong Tong¹, J. M. Agee¹, T. Mohammed¹, N. Dey², S. Hong², R. Heintzmann^{3,4}, M. Hammer^{5,6}, G. Gerig², C. A. Curcio⁷, T. Ach⁸, Z. Ablonczy⁹, T. Smith¹.* ¹Department of Ophthalmology, New York University School of Medicine, New York, NY; ²Department of Computer Science & Engineering, New York University Tandon School Engineering, Brooklyn, NY; ³Leibniz Institute of Photonic Technology, Jena, Germany; ⁴Institute of Physical Chemistry and Abbe Center of Photonics, Friedrich Schiller University Jena, Jena, Germany; ⁵Department of Ophthalmology, University Hospital Jena, Jena, Germany; ⁶Center for Medical Optics and Photonics, University of Jena, Jena, Germany; ⁷Department of Ophthalmology, University of Alabama at Birmingham School of Medicine, Birmingham, AL; ⁸Department of Ophthalmology, University Hospital Würzburg, Würzburg, Germany; ⁹Ora Inc, Andover, MA *CR
- 405 — A0271 Multimodal Evaluation Of The Fellow Eye Of Patients With RAP.** *Amélia Martins¹, C. Farinha^{1,2}, M. Raimundo¹, C. A. Neves², M. Lopes², P. Melo², P. Barreto², J. G. Cunha-Vaz², R. Silva^{1,2}.* ¹ophthalmology, Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal; ²ophthalmology, Association for Innovation and Biomedical Research on Light and Image, Coimbra, Portugal
- Exhibit/Poster Hall A0272-A0306
Sunday, May 07, 2017 1:30 PM-3:15 PM
- Retina**
132 AMD and anti-VEGF therapy 1
- Moderator: Sobha Sivaprasad**
- 406 — A0272 Pharmacokinetics of Free Aflibercept in Patients with Neovascular Age Related Macular Degeneration.** *Diana V. Do, Q. D. Nguyen.* Ophthalmology, Byers Eye Institute, Stanford University School of Medicine, Palo Alto, CA *CR
- 407 — A0273 Posterior vitreous status did not impact ranibizumab treatment outcomes in HARBOR study patients with neovascular AMD.** *Michelle V. Carle¹, L. Hill², T. Ecoiffier², S. Gune².* ¹EyeQ Vision Care, Fresno, CA; ²Genentech, South San Francisco, CA *CR
- 408 — A0274 Anatomical outcomes of ranibizumab 0.5 mg combined with verteporfin photodynamic therapy vs ranibizumab monotherapy in patients with polypoidal choroidal vasculopathy: 12-month results from the EVEREST II study.** *Timothy Y. Lai¹, C. Feller², P. Margaron², C. S. Tan^{3,4}.* ¹Ophthalmology & Visual Sciences, Chinese University of Hong Kong, Kowloon, Hong Kong; ²Novartis Pharma AG, Basel, Switzerland; ³National Healthcare Group Eye Institute, Tan Tock Seng Hospital, Singapore, Singapore; ⁴Fundus Image Reading Centre, National Healthcare Group Eye Institute, Singapore, Singapore *CR, ✕
- 409 — A0275 Extended release aflibercept with sustained vitreous concentration in non-human primates from biodegradable hydrogel implants.** *Gary Owens, M. Sandahl, J. Tully, J. Haley, K. Caesar, S. Williams, R. S. Verhoeven, A. Garcia, T. Navratil, B. R. Yerxa.* Envisia Therapeutics, Research Triangle Park, NC *CR
- 410 — A0276 Prophylactic Ranibizumab for Exudative age-related macular degeneration (AMD) in Vulnerable Eyes with Non-Exudative AMD Trial (PREVENT): A prospective controlled clinical trial.** *Maziar Lalezary^{1,2}, S. G. Lin¹, C. K. Chan¹, B. S. Alok³, R. N. Khurana³, M. Wieland³, L. K. Chang³, J. Palmer³, P. Abraham⁵, M. J. Elman⁶, B. J. Lujan³, G. Yiu¹.* ¹Southern California Desert Retina Consultants, Palm Desert, CA; ²Doctor Retina, P.C., Beverly Hills, CA; ³Northern California Retina Vitreous Associates, Mountain View, CA; ⁴Ophthalmology, UC Davis, Davis, CA; ⁵Black Hills Regional Eye Institute, Rapid City, SD; ⁶Elman Retina Group, Baltimore, MD *CR, ✕
- 411 — A0277 Aflibercept outcomes in AMD at 3 years: maintains vision but significant decline in follow up.** *Julia Vig¹, J. Talks¹, S. Sivaprasad².* ¹Eye Centre, Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, United Kingdom; ²Moorfields Eye Hospital, London, United Kingdom *CR
- 412 — A0278 Influence of OCT-examination during ranibizumab treatment of AMD patients in a real-life setting (OCEAN study).** *Frederic Gunnemann¹, J. Voegeler², S. Schmitz-Valckenberg³, G. Spital¹, S. Liakopoulos⁴, F. Ziemssen⁵.* ¹Augenärzte am St. Franziskus-Hospital Münster, Münster, Germany; ²Novartis Pharma GmbH, Novartis Pharma GmbH, Germany; ³Universitätsaugenklinik Bonn, Bonn, Germany; ⁴Universitätsaugenklinik Köln, Köln, Germany; ⁵Universitätsaugenklinik Tübingen, Tübingen, Germany *CR, ✕

- 413 — A0279 Genetic markers within the Vascular Endothelial Growth Factor (VEGF) pathway as predictors of the response to the treatment of the Age Related Macular Degeneration (ARMD).** *Irina Balikova^{1,2}, L. Postelmans², B. Pasteels², P. Coquelet², J. Catherine², A. Efendi², B. Thienpont², D. Lambrechts³.* ¹Ophthalmology, UZ Ghent, Ghent, Belgium; ²Ophthalmology, Brugmann University Hospital, Brussels, Belgium; ³Flemish Biotechnology Institute VIB, Leuven, Belgium *CR, ✗
- 414 — A0280 Five-year results of a population treated in “real life” with PRN regimen for an exudative age-related macular degeneration: ELOUAN 2 registry.** *Frederic Queguiner; M. Righini, J. Courjaret.* Ophthalmology, hopital saint joseph, Marseille, France
- 415 — A0281 Visual and anatomical outcomes in NVAMD patients with subfoveal hemorrhage (SFH) treated with anti-VEGF agents.** *Saleema Kherani, A. W. Scott, A. Wenick, I. E. Zimmer-Galler, C. Brady, A. Sodhi, C. Meyerele, R. Shaukat, O. Adeyemo, R. Channa, J. T. Handa, T. A. Mir, P. A. Campochiaro.* Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD
- 416 — A0282 Efficacy and safety of ranibizumab 0.5 mg treat and extend versus monthly regimen in patients with neovascular age-related macular degeneration: 12-month results from the TREND study.** *Rufino Silva¹, M. Larsen², C. Feller³, W. Macfadden³.* ¹Department of Ophthalmology, Faculty of Medicine, University of Coimbra (FMUC); Centro Hospitalar e Universitário de Coimbra (CHUC); Association for Innovation and Biomedical Research on Light and Image (AIBILI), Coimbra, Portugal; ²Department of Ophthalmology, Rigshospitalet and Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark; ³Department of Ophthalmology, Novartis Pharma AG, Basel, Switzerland *CR, ✗
- 417 — A0283 Anti-Vascular Endothelial Growth Factor Monotherapy for Thick Submacular Hemorrhage Associated With Retinal Pigment Epithelial Detachment in Age-Related Macular Degeneration.** *Jeffrey G. Gross¹, F. Yin¹, W. Stroman².* ¹Carolina Retina Center, Columbia, SC; ²University of South Carolina School of Medicine, Columbia, SC *CR
- 418 — A0284 Long-term real world outcomes in younger (under 60yrs) patients receiving anti-VEGF therapy for choroidal neovascular membrane (CNVM).** *Lyudmila Kishikova, Y. Babalola, M. S. Habib, D. Varma, D. Steel, J. Smith, M. T. Sandinha, A. Kotagiri.* Ophthalmology, Sunderland Eye Infirmary, Sunderland, United Kingdom *CR
- 419 — A0285 Prospective evaluation of different subtypes of exudative maculopathy under an as-needed treatment regimen with aflibercept.** *Adrian Reumüller, S. Rezar, K. Eibenberger, W. Buehl, U. Schmidt-Erfurth, S. Sacu.* Department of Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria *CR, ✗
- 420 — A0286 Incidence of New Choroidal Neovascularization in Fellow Eyes of Patients Treated with Intravitreal Aflibercept Injection or Ranibizumab in the VIEW studies.** *Robert L. Avery.* California Retina Consultants, Santa Barbara, CA *CR, ✗
- 421 — A0287 A Meta-Analysis of Baseline Characteristics and Anti-VEGF Frequency for Neovascular AMD: Visual Acuity Gains are Influenced by Injection Frequency.** *Rehan M. Hussain, T. A. Ciulla.* Ophthalmology, Indiana University School of Medicine, Indianapolis, IN *CR
- 422 — A0288 Two-Year Data Comparing The Efficacy Of Aflibercept In Wet Age-Related Macular Degeneration In Treatment Naïve And Switchover Patients.** *Michael McKenna, J. Suleman, D. S. Ting, S. Pushpoth, P. Severn.* James Cook University Hospital Ophthalmology, NHS, Middlesbrough, United Kingdom
- 423 — A0289 Real life long term outcomes of patients receiving intra-vitreous Aflibercept for Neo-vascular age related macular degeneration (nAMD): three years follow up.** *Yewande Babalola, L. Kishikova, M. S. Habib, D. Varma, J. Smith, M. T. Sandinha, D. Steel, A. Kotagiri.* Sunderland Eye Infirmary, Stockton on Tees, United Kingdom *CR
- 425 — A0291 Regularity of treatment in nAMD: 12-month results of the PERSEUS and RAINBOW studies.** *Carsten Framme¹, L. Kodjikian².* ¹Ophthalmology, Medizinische Hochschule Hannover, Hannover, Germany; ²Ophthalmology, Hopital de la Croix-Rousse, Lyon, France *CR, ✗
- 426 — A0292 Effect of intravitreal anti-vascular endothelial growth factor injection in drusenoid pigment epithelium detachment progressed to wet age-related macular degeneration.** *Kwang-Soo Kim, J. Han.* Ophthalmology, Keimyung Univ Dongsan Medical Ctr, Daegu, Korea (the Republic of)
- 427 — A0293 Italian multicenter real-life experience in anti VEGF treatments for maculopathies: what is the best clinical pathway?** *Claudio Azzolini¹, A. Pece², S. Donati¹.* ¹Morphological & Surgical Sci, Clinica Oculistica - Università Insubria, Varese, Italy; ²Ophthalmology, Melegnano Hospital, Melegnano, Italy
- 428 — A0294 Use of discrete event simulation (DEM) to evaluate the clinical practices in neovascular age-related macular degeneration.** *Patricio G. Schlottmann¹, J. D. Luna Pinto², S. Palma³, J. Real³.* ¹Ophthalmology, Organizacion Medica de Investigacion, Buenos Aires, Argentina; ²Fundacion Ver, Cordoba, Argentina; ³Farmacia, Facultad de Ciencias Quimicas UNC, Cordoba, Argentina
- 429 — A0295 Exudative AMD lesion components predicting microperimetric retinal sensitivity during anti-VEGF treatment.** *Henrik Bygglin¹, A. Hautamäki¹, A. Luoma², I. J. Immonen¹.* ¹Ophthalmology, Helsinki University Central Hospital, Helsinki, Finland; ²University of Tampere, Tampere, Finland ✗
- 430 — A0296 Correlation between visual outcomes and anti-vegf injection frequency in neovascular age-related macular degeneration (nAMD) in Observe and Plan Regimen.** *Charlotte Rohart, L. Granados, S. Navarre, S. Allieu.* ophthalmology, Clinique Beausoleil, Montpellier, France
- 431 — A0297 Twelve-Month Outcomes of Aflibercept vs. Ranibizumab for Wet Macular Degeneration.** *Hussein Almuhtaseb^{1,2}, L. Michaels², T. Vardarinos³, A. J. Lotery^{4,2}.* ¹Eye Unit, University Hospital Southampton, Southampton, United Kingdom; ²Clinical and Experimental Sciences, University of Southampton, Southampton, United Kingdom; ³Eye Unit, West Suffolk Hospital, Suffolk, United Kingdom *CR
- 432 — A0298 Real life evidence data on intravitreal usage of/treatment with intravitreal aflibercept in Germany: 12-months results of an observational study in nAMD (PERSEUS).** *Nicole Eter¹, C. Jochmann², P. M. Wiedemann², J. Wachtlin³, H. G. Sachs⁴, H. Schilling⁵, Z. Hasanbasic⁶, C. Framme⁷.* ¹Ophthalmology, University of Muenster Medical Center, Muenster, Germany; ²Universitätsklinikum Leipzig, Leipzig, Germany; ³St. Gertrauden-Krankenhaus, Berlin, Germany; ⁴Städtisches Klinikum Dresden-Friedrichstadt, Dresden, Germany; ⁵St.-Johannes-Hospital, Dortmund, Germany; ⁶Bayer Vital GmbH, Leverkusen, Germany; ⁷Medizinische Hochschule Hannover, Hannover, Germany *CR, ✗
- 433 — A0299 Twenty Four-Month Outcomes of Aflibercept for Neovascular Age-Related Macular Degeneration: Different Treatment Regimens in Year Two based on the Macular Status at the End of Year One.** *Luke Michaels², H. Almuhtaseb^{1,2}, A. Youssef¹, C. A. Rennie¹, A. J. Lotery^{2,1}.* ¹Eye Unit, University Hospital Southampton, Southampton, United Kingdom; ²Clinical and Experimental Sciences, University of Southampton, Southampton, United Kingdom *CR

434 — A0300 Silicone oil microdroplets in repackaged bevacizumab syringes: Identification, quantification, and strategies for reducing clinical impact. *John D. Pitcher^{1,2}, C. N. Roybal^{1,2}.* ¹Eye Associates of New Mexico, Albuquerque, NM; ²Ophthalmology, University of New Mexico, Albuquerque, NM *CR

435 — A0301 Morphologic parameters of the macula as a prognostic factors for visual outcome in patients with age related macular degeneration. *Ivan Georgiev, P. I. Vassileva.* Eye Hospital “Prof. Pashev”, Sofia, Bulgaria

436 — A0302 Same-day bilateral intravitreal injections of anti-VEGF. *Verena Junca¹, C. Francisconi^{2,1}, A. Berger^{2,1}, R. Muni^{2,1}, L. Giavedoni^{2,1}, F. Altomare^{2,1}, D. Chow^{2,1}, D. Wong^{2,1}.* ¹St. Michael’s Hospital, Toronto, ON, Canada; ²Department of Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada

437 — A0303 Long-Term Follow-Up of Polypoidal Choroidal Vasculopathy Treated with Intravitreal Bevacizumab. *Maxwell Wagner¹, N. Tracer², E. Tsui², J. T. McCann², I. A. Barbazetto².* ¹Eastern Virginia Medical School, Virginia Beach, VA; ²Ophthalmology, New York University School of Medicine, New York, NY

438 — A0304 Intravitreal injections lead to vitreous body contamination due to injection of cellular content of ocular tissues cut by the needle tip. *Lyubomyr Lytvynchuk.* Ophthalmology Department, University Hospital Giessen Marburg GmbH, Giessen, Germany; Karl Landsteiner Institute for Retinal Research and Imaging, Vienna, Austria

439 — A0305 Interspecies Comparison of Small Molecule Distribution Into the Anterior Chamber Following Intravitreal Administration. *Jennifer Seal, W. Orilla, E. Chow, J. A. Burke, J. Shen.* Allergan, Irvine, CA *CR

424 — A0290 Targeting SRPK1 with novel potent and selective small molecule inhibitors inhibits choroidal neovascularisation through modulating VEGF-A alternative splicing. *David O. Bates^{1,2}, H. Toop¹, J. Daubney¹, E. Stewart¹, J. Morris^{3,1}, J. Batson¹.* ¹Exonate Ltd, Nottingham, United Kingdom; ²Cancer Biology, Division of Cancer and Stem Cells, School of Medicine, University of Nottingham, Nottingham, United Kingdom; ³School of Chemistry, University of New South Wales, Sydney, United Kingdom *CR

440 — A0306 Long term visual and anatomic outcomes of switching to Aflibercept for neovascular AMD: 2 years results. *David Sayag^{1,2}, M. Srour^{1,2}, O. Semoun^{1,2}, N. Abraham³, V. Pierre-Kahn^{3,2}.* ¹Ophthalmology Eye Clinic, Creteil Eye Clinic Univ Hospital, Paris, France; ²Paris Retina Vision, Paris, France; ³Foch Hospital, Suresnes, France

Exhibit/Poster Hall A0366-A0424

Sunday, May 07, 2017 1:30 PM-3:15 PM

Cornea

133 Dry eye, non-clinical

Moderators: Piera Versura and Vatinee Y. Bunya

441 — A0366 Anti-inflammation effects of Zidovudine in human corneal epithelial cells. *Hui Liu^{1,2}, F. Gambino³, T. Keller³, Y. Zhai³, L. Qiao³, C. S. Bouchard¹, P. Bu¹, S. Zhao².* ¹Ophthalmology, Loyola University Chicago, Maywood, IL; ²Tianjin Medical University Eye Hospital, Tianjin, China; ³Microbiology & Immunology, Loyola University Chicago, Maywood, IL

442 — A0367 Eyelid Temperature and Tear Osmolarity. *Benjamin Lee¹, M. Faustina².* ¹Meharry Medical College, School of Medicine, Nashville, TN; ²Phoenix Oculoplastic Consultants, Phoenix, AZ *CR

443 — A0368 Rapamycin Prevents Endoplasmic Reticulum Stress-induced Dry Eye Syndrome in Mice. *Sang wook Choi¹, B. Cho¹, K. Jeong Won², T. Chung³, J. Hyon^{4,5}, Y. Shin¹.* ¹Ophthalmology, Hallym University Medical Center, Hallym University College of Medicine, Seoul, Korea (the Republic of); ²Pathology, Hallym University Medical Center, Hallym University College of Medicine, Seoul, Korea (the Republic of); ³Ophthalmology, Sungkyukwan University School of Medicine, Seoul, Korea (the Republic of); ⁴Ophthalmology, Seoul National University Bundang Hospital, Seongnam, Korea (the Republic of); ⁵Ophthalmology, Seoul National University College of Medicine, Seoul, Korea (the Republic of) ✗

444 — A0369 mRNA expression profile on conjunctival cells in dry eye patients using the NanoString nCounter assay system. *Karima Kessal^{1,2}, H. Liang^{1,2}, G. Rabut², P. Daull², J. Garrigue³, M. Docquier⁶, S. Melik Parsadaniantz^{1,4}, C. Baudouin^{1,2}, F. Brignole-Baudouin^{1,5}.* ¹Paris, INSERM, Paris, France; ²CIC-PSO 1423, Centre Hospitalier National d’Ophthalmologie des Quinze-Vingts, Paris, France; ³R&D, SANTEN SAS, Evry, France; ⁴CNRS, UMR_7210, Paris, France; ⁵Faculté de Pharmacie, Université Paris Descartes, Paris, France; ⁶iGE3 Genomics Platform, University of Geneva, Geneva, Switzerland *CR

445 — A0370 Effect of a low concentration of desonide disodium phosphate in a murine model of dry eye. *Cristina Zappulla¹, C. Scifo¹, G. De Pasquale¹, F. Giuliano¹, M. Mazzone².* ¹Research and Preclinical Development, S.I.F.I. S.p.A., Lavinaio-Aci S. Antonio, Italy; ²Business and Portfolio Development, S.I.F.I. S.p.A., Lavinaio-Aci S. Antonio, Italy *CR

446 — A0371 CD147 and extracellular Cytophilin A form a complex in dry eye tear film. *Meredith Stallone, S. Sathé, T. T. Nguyen.* Graduate Center for Vision Research, SUNY College of Optometry, New York, NY

447 — A0372 High-mobility box group 1 protein: An alarmin driving dry eye inflammation? *Carolina Lema, R. Y. Reins, B. Zhang, R. L. Redfern.* College of Optometry, University of Houston, Houston, TX

448 — A0373 Cathepsin S can alter the expression of pro-inflammatory cytokines, proteases, and protease activated receptor associated with inflammatory dry eye in human corneal epithelial cells. *Wannita Klinngam¹, M. Edman², Z. Meng¹, S. Hamm-Alvarez².* ¹Department of Pharmacology and Pharmaceutical Sciences, School of Pharmacy, University of Southern California, Los Angeles, CA; ²Department of Ophthalmology, Roski Eye Institute and Keck School of Medicine, University of Southern California, Los Angeles, CA

449 — A0374 Ocular distribution and pharmacokinetics of lifitegrast following repeat topical ocular dose administration to pigmented rabbits. *Jou-Ku Chung¹, E. Spencer², M. Hunt², D. Welty¹, T. McCauley³.* ¹Drug Metabolism and Pharmacokinetics, Shire, Lexington, MA; ²Drug Metabolism, Covance Laboratories Inc., Madison, WI; ³Research and Development, Shire, Lexington, MA *CR

450 — A0375 Studies on Transient Receptor Potential Vanilloid (TRPV) in human conjunctival epithelium. *Dhruva Bhattacharya¹, M. Wang^{1,2}, M. Shahidullah^{1,3}.* ¹Ophthalmology and Vision Science, University of Arizona, Tucson, AZ; ²Cornea Associates, Tucson, AZ; ³Department of Physiology, University of Arizona College of Medicine, Tucson, AZ

451 — A0376 The protective effect of a topical mucin secretagogue on the ocular surface damage induced by airborne black carbon exposure. *Jong Suk Song, B. Kang, X. Lee, Y. Eom, H. Kim.* Ophthalmology, Korea University College of Medicine, Seoul, Korea (the Republic of)

452 — A0377 Changes in Growth Factor Content of Human Serum for Use as Eye Drops during Frozen Storage for 1 Year. *Dirk de Korte¹, J. Lorinser¹, P. van der Meer¹, H. Van Der Heiden².* ¹R&D, Sanquin Blood Bank, Amsterdam, Netherlands; ²MuDrop, Apeldoorn, Netherlands *CR

453 — A0378 Simultaneous wavefront and corneal topography measurement for tear film diagnostics. *Daniel R. Neal¹, J. Hoy¹, K. P. Dhamdhere², S. Kasthurirangan², W. Xiong¹, T. D. Raymond¹.* ¹Research and Development, AMO WaveFront Sciences, LLC, Albuquerque, NM; ²Clinical Research, Abbott Medical Optics, Milpitas, CA *CR

454 — A0379 Polymer size and other physical properties vary among hyaluronic acid-based lubricant eye drops. Peter A. Simmons³, P. Aragona², H. Wang¹, T. Wang¹.
¹Pharmaceutical Research, Allergan plc, Irvine, CA; ²Ophthalmology, University of Messina, Messina, Italy; ³Clinical Development, Allergan plc, Irvine, CA *CR

455 — A0380 Modulation of corneal and conjunctival epithelial cell mucins by glucocorticoid receptor activation: A novel mechanism for the ameliorative effect of corticosteroids. Jonathan Taniguchi¹, M. Farid², S. Garg², A. Sharma¹.
¹Chapman University School of Pharmacy, Irvine, CA; ²Gavin Herbert Eye Institute, University of California, Irvine, CA

456 — A0381 Therapeutic efficacy of nanocomplex of poly(ethylene glycol) and catechin in a mouse model of experimental dry eye. Hyesook Lee¹, W. Shim², C. Kim³, S. Choi¹, H. Lee², J. Yang^{3,1}.
¹T2B center for ocular diseases, Inje university Busan Paik hospital, Busan, Korea (the Republic of); ²Department of Chemistry, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea (the Republic of); ³Department of Ophthalmology, Inje University College of Medicine, Busan, Korea (the Republic of)

457 — A0382 Calcitriol Inhibits Dry Eye Related Ocular Surface Inflammation *in vivo* and *in vitro*. Jing Zhang^{1,2}, Y. Dai^{1,2}, D. Wu¹, J. Xu¹.
¹Ophthalmology, Eye & ENT Hospital of Fudan University, Shanghai, China; ²Research Center, Eye & ENT Hospital of Fudan University, Shanghai, China

458 — A0383 Efficacy of SYL1001 in different animal models of Dry Eye Disease. Ana Isabel Jimenez¹, C. Pañeda¹, T. Martinez¹, A. Guerra¹, N. Fonseca¹, S. Monteiro¹, C. Salvador¹, J. Merayo-Llposes², I. Alcalde², V. Ruz², V. Gonzalez².
¹R & D, Sylentis, Tres Cantos, Madrid, Spain; ²Instituto Universitario Fernández-Vega, Oviedo, Spain; ³Sylentis, Madrid, Spain *CR

459 — A0384 Caspase-8 promotes the activation of NLRP3 inflammasome and inhibits the production of NLRP6 in dry eye disease. Yonghao Li, W. Chi. Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

460 — A0385 Rabbit Safety of Topical PPL-003: A Cell-Penetrating Peptide Inhibitor of NFkB for Dry Eye Disease. Bruce H. Littman^{1,2}, J. A. Jamison³, R. Ochoa⁴.
¹Portage Pharmaceuticals Ltd., Stonington, CT; ²Translational Medicine Associates, LLC, Savannah, GA; ³Ophtho-DS, Inc., Portage, MI; ⁴Pre-Clinical Safety, Inc., Niantic, CT *CR

461 — A0386 Conjunctival goblet cells produce bioactive retinoic acid that modulates dendritic cell cytokine signaling. Yangyan Xiao^{1,2}, C. S. De Paiva¹, T. G. Coursey¹, F. Bian¹, D. Li¹, S. C. Pflugfelder¹.
¹Ophthalmology, Baylor College Of Medicine, Houston, TX; ²Ophthalmology, Second Xiangya Hospital, Changsha, China

462 — A0387 Intravenously Injected Autologous, Ex Vivo-Activated Lymphocytes Affectively Transfer Dry Eye Disease to Rabbits. Austin K. Mircheff¹, Y. Wang¹, H. Hemmati², L. Rodriguez-Borlado².
¹Dept of Physiology & Biophysics, Univ of Southern California, Los Angeles, CA; ²Capricor Therapeutics, Inc, Beverly Hills, CA *CR

463 — A0388 Lack of Goblet Cells in SPDEF KO Mice Increases Retention of IL-12 Producing Dendritic Cells in Conjunctiva. Byung Yi Ko^{2,1}, Y. Xiao^{2,3}, F. Bian², J. Whitsett⁴, H. Clever⁵, F. L. Barbosa², C. S. De Paiva², S. C. Pflugfelder².
¹Ophthalmology, Konyang University Hospital and College of Medicine, Daejeon, Korea (the Republic of); ²Department of Ophthalmology, Baylor College of Medicine, Houston, TX; ³Second Xiangya Hospital, Central South University, Changsha, China; ⁴Cincinnati Children's Hospital, Cincinnati, OH; ⁵Hubrecht Institute, UTRECHT, Netherlands

464 — A0389 Narrow Spectrum Kinase Inhibitor (NSKI) Targets Are Up-regulated in Conjunctival Cells from Dry Eye Patients Compared to Healthy Controls. Suzanne Hagan¹, B. Omotayo¹, M. R. Foster², Y. Solanke², S. Sirohi², K. Oliver¹, M. J. Doughty¹, S. Webber², C. A. Walsh².
¹Life Sciences, Glasgow caledonian University, Glasgow, United Kingdom; ²Topivert Pharma Ltd, London, United Kingdom *CR

465 — A0390 Infrared Thermography Of The Ocular Surface Of Tear-Deficient Eyes Treated With Perfluorohexyloctane. M Carmen Acosta, C. Luna, S. Quirce, J. Gallar. Instituto de Neurociencias, Universidad Miguel Hernandez-CSIC, San Juan, Spain

466 — A0391 Substance P Mediates Dysfunction of NK1R+ Tregs in Dry Eye Disease. Anna Marmalidou², Y. Chen², C. Shao², T. Nakao³, S. Chauhan², R. Dana¹.
¹Ophthalmology, Schepens Research Institute/Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA; ²Ophthalmology, Schepens Eye Research Institute/ Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA

467 — A0392 Mechanism in suppression of CCK pathway by rebamipide in trigeminal neurons. Yoshiaki Tagawa¹, K. Noda¹, K. Otsuguro², E. T. Ishizuka¹, A. Kanda¹, S. Ishida¹.
¹Ophthalmology, Hokkaido University, Sapporo, Japan; ²Veterinary medicine, Hokkaido University, Sapporo, Japan

468 — A0393 Topical instillations of Benzalkonium Chloride alter the extracellular activity of the ciliary nerve. Fanny Joubert¹, L. Bodineau⁵, M. Acosta², J. Gallar², J. A. Sahel^{3,4}, C. Baudouin^{1,4}, S. Melik Parsadaniantz¹, A. Reaux-le Goazigo¹.
¹Therapeutic, UMR S 968 Inserm/UPMC/ CNRS 7210, Institut de la Vision, PARIS, France; ²Instituto de Neurociencias UMH-CSIC, Alicante, Spain; ³UMR S 968 Inserm/UPMC/ CNRS 7210 - Institut de la vision, PARIS, France; ⁴Centre Hospitalier National d'Ophthalmologie des Quinze-Vingts, PARIS, France; ⁵Neurophysiologie respiratoire expérimentale et clinique, Sorbonne Universités, UPMC Univ Paris 06, INSERM, UMR_S1158, PARIS, France

469 — A0394 Dynamic Sensitivity of Corneal TRPM8 Receptors to Menthol Instillation in Dry Eye vs Normal Subjects. Peter Corcoran², M. Watson¹, G. W. Ousler¹, E. Angjeli², K. J. Lane², M. B. Abelson³, D. A. Hollander².
¹Dry Eye, Ora, Inc, Andover, MA; ²R&D, Ora, Inc, Andover, MA; ³Ora, Inc, Andover, MA *CR, ✗

470 — A0395 Enhanced natural tearing by electrical stimulation of the anterior ethmoid nerve. Mark Brinton¹, A. Kossler², Z. Patel³, J. Loudin⁴, M. Franke⁵, C. Ta², D. V. Palanker^{2,4}.
¹Electrical Engineering, Stanford University, Stanford, CA; ²Ophthalmology, Stanford University, Stanford, CA; ³Otolaryngology, Stanford University, Stanford, CA; ⁴Hansen Experimental Physics Laboratory, Stanford University, Stanford, CA; ⁵Independent Consultant, Los Angeles, CA *CR

471 — A0396 Tear film breakup time measurement based on corneal reflectance interferences produced by dry spots. Mikel Aldaba¹, A. Mira Agudelo², C. E. Garcia-Guerra¹, J. F. Barrera², J. Pujol¹.
¹Centre for Sensors, Instruments and Systems Development (CD6), Universitat Politècnica de Catalunya, Barcelona, Spain; ²GOF, Instituto de Física, Universidad de Antioquia, Medellín, Colombia

472 — A0397 Tear Film Break-Up: a molecular level view by employing in silico approach. Lukasz Cwiklik¹, A. Melcrová¹, P. Daulf², J. Garrigue².
¹Institute of Physical Chemistry, Czech Academy of Sciences, Prague, Czech Republic; ²Novagali Innovation Center, Santen SAS, Evry, France *CR

473 — A0398 Anti-inflammatory and Antioxidative Effects of *Camellia japonica* on Human Corneal Epithelial Cells and Experimental Dry Eye. Lian Cui^{1,2}, Y. Li¹, J. Choi¹, Y. Kim¹, H. Lee¹, I. You³, K. Yoon^{1,2}.
¹Department of Ophthalmology, Chonnam National University School and Hospital, Gwangju, Korea (the Republic of); ²Department of Biomedical Sciences and Center for Creative Biomedical Scientists at Chonnam National University, Gwangju, Korea (the Republic of); ³Department of Ophthalmology, Chonbuk National University Medical School and Hospital, Jeonju, Korea (the Republic of)

- 474 — A0399 Therapeutic Efficacy of Topical Adiponectin-Derived Short Peptides and Globular Adiponectin for Experimental Dry Eye.** Ying Li¹, L. Cui¹, H. Lee¹, H. H. Hsu⁴, L. Orvos³, E. Surmacz², K. Yoon¹. ¹Department of ophthalmology, Chonnam National University Medical School & Hosp., Gwangju, Korea (the Republic of); ²Olpe LLC, Audubon, PA; ³Temple University, Philadelphia, PA; ⁴Allysta Pharmaceuticals, Belmont, CA
- 475 — A0400 Sleep Deprivation Compromises Lacrimal System and Homeostasis of the Ocular Surface.** Wei Li¹, S. Li¹, K. Ning¹, J. Zhou¹, Y. Guo¹, H. Zhang¹, Y. Zhu¹, L. Zhang¹, C. Jia¹, Y. Chen¹, P. S. Reinach², Z. LIU¹. ¹Eye Inst & Xiamen Eye Ctr, Xiamen Univ Sch of Medicine, Xiamen, China; ²Wenzhou Medical University, Wenzhou, China
- 476 — A0401 Stability study of SYL1001 eye drops (a siRNA compound) for Dry Eye Disease in different containers.** Veronica Ruz, Y. Ruiz, C. Astrain, C. Segura, N. Miguel, C. millan, V. Gonzalez, M. D. Company. Sylentis, Madrid, Spain *CR
- 477 — A0402 Treatment adherence and tear composition in diabetic and non-diabetic patients with dry eye syndrome.** Rosa López-Pedrajas¹, L. Armadans¹, T. Olivar¹, J. Beltrán², F. Llovet², M. Miranda¹. ¹Ciencias Biomédicas, Universidad CEU Cardenal Herrera, Valencia, Spain; ²Clínica Baviera, Valencia, Spain
- 478 — A0403 Schirmer Strips Provide Reliable Tear-Production Rates.** Clayton J. Radke^{1,3}, Y. Kim², W. Li², M. C. Lin^{2,3}. ¹Chemical Engineering, University of California, Berkeley, Berkeley, CA; ²Clinical Research Center, School of Optometry, University of California, Berkeley, Berkeley, CA; ³Vision Science Group, University of California, Berkeley, Berkeley, CA
- 479 — A0404 Acute corneal epithelial debridement in rats unmasks the corneal stromal nerve responses to ocular stimulation: Implications for abnormal sensations in recurrent corneal erosion and dry eye disease.** Harumitsu Hirata¹, K. Mizerska¹, V. Dallacasagrande¹, V. H. Guaiquil², M. Rosenblatt². ¹Ophthalmology, Weill Cornell Medical College, New York, NY; ²Department of Ophthalmology and Visual Sciences, University of Illinois-Chicago, Chicago, IL
- 480 — A0405 Correlations of mRNA expression profiles with clinical symptoms and signs in conjunctival imprints from Sjögren's syndrome patients.** Hong Liang^{2,1}, K. Kessal^{2,1}, G. Rabut¹, P. Daulh³, J. Garrigue³, M. Docquier⁴, S. Melik Parsadaniantz^{2,5}, F. Brignole-Baudouin^{2,6}, C. Baudouin². ¹Centre Hospitalier National d'Ophthalmologie des Quinze-Vingts, Paris, France; ²Institut de la vision, UPMC Univ Paris 06, Paris, France; ³R&D, SANTEN SAS, Evry, France; ⁴iGE3 Genomics Platform, University of Geneva, Geneva, Switzerland; ⁵CNRS, UMR_7210, Paris, France; ⁶Faculté de Pharmacie, Université Paris Descartes, Paris, France *CR
- 481 — A0406 In Vitro and In Vivo correlation between diadenosine tetraphosphate and osmolarity in Sjögren Syndrome patients.** Basilio Colligris^{1,2}, G. Carracedo¹, R. Candela¹, M. J. Perez de Lara², A. Guzman-Arangué², J. J. Pintor². ¹University Complutense of Madrid, Madrid, Spain; ²Biochemistry and Molecular Biology IV, University Complutense of Madrid, Madrid, Spain
- 482 — A0407 Interdisciplinary Evaluation Of Patients With Primary Sjögren's Syndrome.** Behzod Tashbayev¹, S. Rusthen², X. Chen¹, Ø. Utheim¹, A. Young², B. Herlofson², T. Utheim^{3,1}, J. Liaaen Jensen². ¹The Norwegian Dry Eye Clinic, Oslo, Norway; ²Institute of Clinical Dentistry, Faculty of Dentistry, University of Oslo, Oslo, Norway; ³Institute of Oral Biology, Faculty of Dentistry, University of Oslo, Oslo, Norway
- 483 — A0408 SNP Variation in IL10, TNF-α and TNFAIP3 Genes in Patients with Dry Eye Syndrome and Sjogren's Syndrome.** Abraham Solomon, H. Ben Eli, N. Gomel, R. Abu Seir, R. Perlman, E. Ben Chetrit, D. Mevorach, G. Kleinstern, D. Aframian, O. Paltiel. Hadassah-Hebrew University, Jerusalem, Israel
- 484 — A0409 Ocular tolerability of a ciclosporin eye drop based on PAD™ technology.** Frederic Gomez, M. Praestegaard, F. Steele. MC2 Therapeutics, Hoersholm, Denmark *CR
- 485 — A0410 The Influence Of Tear Supply On Tear Film Formation During The Upstroke.** Kara Maki¹, W. Henshaw², A. McManus¹, R. J. Braun³, T. Driscoll³. ¹School of Mathematical Sciences, Rochester Institute of Technology, Rochester, NY; ²Department of Mathematical Sciences, Rensselaer Polytechnic Institute, Troy, NY; ³Department of Mathematical Sciences, University of Delaware, Newark, DE
- 486 — A0411 Detection of sex steroids and their metabolites in human tears using LC-MS/MS.** Emma Gibson¹, M. Bucknall^{1,3}, B. Golebiowski¹, J. Wolffsohn², F. Stapleton¹. ¹School of Optometry and Vision Science, UNSW, Sydney, NSW, Australia; ²School of Life and Health Sciences, Aston University, Birmingham, United Kingdom; ³Bioanalytical Mass Spectrometry Facility, UNSW, Sydney, NSW, Australia
- 487 — A0412 Hyaluronic Acid Preparation with Improved Corneal Wettability Property.** Danilo Aleo¹, B. Melilli¹, M. G. Saita¹, A. Borzacchiello², S. Mangiafico¹, M. Cro¹, S. Mangiafico¹. ¹R&D, Medivis, Catania, Italy; ²IPC, National Research Council, Napoli, Italy *CR
- 488 — A0413 Secretory phospholipase A2-IIA (sPLA2-IIA) activity and concentration in human tears and correlation with the ocular surface disease index (OSDI) scores.** Shyam Panthi, J. J. Nichols. Vision Science, University of Alabama at Birmingham, Birmingham, AL
- 489 — A0414 Nitration reduces lactoferrin antibacterial activity.** Amani Alhalwani^{1,2}, J. E. Repine², J. A. Huffman¹. ¹Chemistry and biochemistry, University of Denver, Englewood, CO; ²Webb-Waring Center, University of Colorado Denver-School of Medicine, Aurora, CO
- 490 — A0415 Recovery of the inflammatory response and ocular surface change after termination of short-term exposure keratopathy: A rabbit eye model.** Wei-Li Chen, L. Chen, W. Tu, F. Hu. Ophthalmology, National Taiwan University Hospital, Taipei, Taiwan
- 491 — A0416 Variation of the leukocyte composition in the open eye of normal and dry eye subjects.** Cameron K. Postnikoff, C. E. Huisingh¹, G. McGwin¹, K. K. Nichols². ¹Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ²School of Optometry, University of Alabama at Birmingham, Birmingham, AL
- 492 — A0417 Osmolarity-dependently Protective Effects of Trehalose on Inflammatory Markers in Primary Human Corneal Epithelial Cells Exposed to Hyperosmotic Stress.** Zhao Liu^{1,2}, X. Chen^{1,3}, D. Chen^{1,3}, S. C. Pflugfelder¹, D. Li¹. ¹Ocular Surface Center, Cullen Eye Institute, Department of Ophthalmology, Baylor College of Medicine, Houston, TX; ²Department of Ophthalmology, The First Affiliated Hospital of Xi'an Jiaotong University, Xi'an, China; ³School of Ophthalmology & Optometry, Wenzhou Medical University, Wenzhou, China *CR
- 493 — A0418 Scientific Considerations for In Vitro Bioequivalence Studies of Generic Cyclosporine Ophthalmic Emulsions.** Darby Kozak¹, M. Absar¹, P. Petrochenko¹, X. Xu³, J. Zheng², Y. Wu². ¹Office of Generic Drugs, US Food and Drug Administration, Silver Spring, MD; ²Office of Science and Engineering Laboratories, US Food and Drug Administration, Silver Spring, MD; ³Office of Pharmaceutical Quality, US Food and Drug Administration, Silver Spring, MD
- 494 — A0419 A Galectin-3-Based Slot Blot Affinity Assay for MUC16.** Anna F. Ablamowicz¹, A. Woodward², J. J. Nichols¹, P. Argueso². ¹School of Optometry, University of Alabama at Birmingham, Birmingham, AL; ²Harvard Medical School, Boston, MA
- 495 — A0420 An Evaluation of Cosmetic Wear Habits Correlated to Ocular Surface Disease Symptoms.** Leslie E. O'Dell¹, L. M. Periman², A. G. Sullivan³, C. Halleran⁴, J. S. Harthan³, M. M. Hom¹. ¹Dry Eye Center of PA, Manchester, PA; ²Redmond Eye Clinic, Redmond, WA; ³Illinois College of Optometry, Chicago, IL; ⁴Private Practice, Clarendville, NF, Canada; ⁵Tear Film and Ocular Surface Society, Boston, MA

496 — A0421 Dry Eye Disease Prevalence In Employers Of Two Health Service Institutions In Bogota Colombia. Sergio A. Arrasque¹, A. F. Polit¹, J. Carvajal¹, S. Talero², C. Lopez¹. ¹Escuela Superior de Oftalmología, Bogota, Colombia; ²Ophthalmology, Hospital Universitario de La Samaritana, Bogota, Colombia

497 — A0422 Effect of proinflammatory cytokines on expression of corneal and conjunctival epithelial mucins: Possible implications for GVHD associated dry eye. Ajay Sharma², S. Sun¹, J. Taniguchi¹, S. Garg², M. Farid². ¹Chapman University School of Pharmacy, Irvine, CA; ²Gavin Herbert Eye Institute, University of California, Irvine, CA

498 — A0423 Reduction in inflammatory marker matrix metalloproteinase-9 following lid debridement with BlephEx. Charles G. Connor, S. Narayanan, W. Miller. Rosenberg School of Optometry, University of the Incarnate Word, San Antonio, TX

499 — A0424 Trehalose/Hyaluronate eyedrops effects on ocular surface parameters, inflammatory markers and mucin expression in evaporative Dry Eye patients. Emilio C. Campos, P. Versura, G. Giannaccare, M. Fresina, C. Fariselli. DIMES, Ophthalmology Unit, Alma Mater Studiorum University of Bologna, Bologna, Italy

Exhibit/Poster Hall B0055-B0082

Sunday, May 07, 2017 1:30 PM-3:15 PM

Immunology/Microbiology

134 Uveitis therapeutics: Remedy and Relief

500 — B0055 Optical Coherence Tomography Angiography Assessment Of Choriocapillaris Ischemia In Ampiginous And Serpigenous Choroiditis And Its Response To Treatment. Dilraj S. Grewal^{1,2}, S. L. Zagora², S. Lightman², O. Tomkins-Netzer². ¹Ophthalmology, Duke University, Durham, NC; ²Moorfields Eye Hospital, London, United Kingdom *CR

501 — B0056 The effect of early systemic treatment on the decrease of choroidal thickness in birdshot retinochoroiditis. Natalia A. Skvortsova¹, B. Jeannin², A. Gasc², C. P. Herbort². ¹Posterior Eye Segment Diagnostics and Surgery Center, Moscow, Russian Federation; ²Retinal and Inflammatory Diseases, Centre for Ophthalmic Care, Lausanne, Switzerland

502 — B0057 OCT- Predictive Visual Threshold Sensitivity Predicts Visual Field Loss in Patients with Ocular Inflammatory Disease. James J. Peairs¹, M. D. Abramoff^{2,1}, K. Lee³, Z. Guo³, D. B. Criter¹, J. C. Folk¹. ¹Ophthalmology and Visual Sciences, University of Iowa Hospital and Clinics, Iowa City, IA; ²Stephen A. Wynn Institute for Vision Research at the University of Iowa, Iowa City, IA; ³Electrical and Computer Engineering, University of Iowa, Iowa City, IA *CR

503 — B0058 Ocular toxicity and ocular tissue distribution of topically applied PP-001 in vivo. Nadine Schuerer¹, R. Seda-Zehetner², A. Inic-Kanada¹, E. Stein¹, E. Ghasemian¹, F. Obermayr², T. Barisani-Asenbauer¹. ¹Center for Pathophysiology, Infectiology and Immunology, Medical University of Vienna, Vienna, Austria; ²Panoptes Pharma, Vienna, Austria *CR

504 — B0059 Association between ocular findings and preventive therapy with onset of central nervous system involvement in patients with primary vitreoretinal lymphoma. Noriyasu Hashida, K. Nakai, N. Saito, K. Nishida. Dept of Ophthalmology, Osaka University Graduate School of Medicine, Suita, Japan

505 — B0060 Evaluation of the glucocorticoid receptor as a biomarker of treatment response in Vogt-Koyanagi-Harada disease. Cristhian A. Urzua¹, J. Guerrero², H. Gatica², V. Velasquez¹, A. Goetze². ¹Ophthalmology, Universidad de Chile, Santiago, Chile; ²Universidad de Chile, Santiago, Chile *CR

506 — B0061 Hypermethylation of Interferon Regulatory Factor 8 (IRF8) confers risk to Vogt-Koyanagi-Harada Disease. Yiguo Qiu¹, H. Yu¹, Y. Zhu¹, Z. Ye¹, J. Deng¹, W. Su¹, Q. Cao¹, G. Yuan¹, A. Kijlstra², P. Yang¹. ¹Department of Ophthalmology, the First Affiliated Hospital of Chongqing Medical University, Chongqing Key Laboratory of Ophthalmology, Chongqing Eye Institute, Chongqing, China; ²University Eye Clinic Maastricht, Maastricht, Netherlands

507 — B0062 Visual outcome with immunomodulatory intervention in Chronic Vogt-Koyanagi-Harada Disease. On-Tat Lee, P. Storey, J. Tan, H. A. Aziz, J. Do, B. J. Wong, A. Ter-Zakarian, D. C. Rodger, N. A. Rao. Ophthalmology, USC Eye Institute, Los Angeles, CA

508 — B0063 Efficacy of low-dose methotrexate for non-infectious uveitis and scleritis in the Japanese population. Yosuke Harada, Y. Kiuchi. Department of ophthalmology, Hiroshima University, Hiroshima, Japan

509 — B0064 Comparing Prednisone and Methotrexate to Off-label Infliximab for the Management of Posterior Uveitis and Panuveitis: A Cost-Effectiveness Analysis. William V. Padula¹, T. Yilmaz², M. Cordero-Coma^{3,4}, M. J. Gallagher⁵, M. E. Migliori². ¹Health Policy & Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ²Department of Ophthalmology, Brown University, Providence, RI; ³Uveitis Unit, University Hospital of León, León, Spain; ⁴Instituto de Biomedicina (IBIOMED), University of Leon, León, Spain; ⁵Department of Ophthalmology, Hermitage Medical Clinic, Dublin, Ireland

510 — B0065 The suppressive effect of the epigenetic drug, Givinostat (ITF2357), on peripheral blood leukocytes from uveitis patients. Lauren P. Schewitz-Bowers^{1,2}, P. J. Lait^{1,2}, W. Chen³, E. Carreno⁴, X. Hu³, Z. Li³, J. Chen³, K. M. Ponsford⁶, A. D. Dick^{1,2}, L. Wei³, R. R. Caspi³, R. W. Lee^{1,2}, B. Chaigne-Delalande³. ¹School of Clinical Sciences, Ophthalmology, University of Bristol, Bristol, United Kingdom; ²NIHR Biomedical Research Centre for Ophthalmology, University College London Institute of Ophthalmology & Moorfields Eye Hospital, London, United Kingdom; ³Laboratory of Immunology, National Eye Institute, National Institute of Health, Bethesda, MD; ⁴Bristol Eye Hospital, Bristol, United Kingdom; ⁵State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Centre, Sun Yat-sen University, Guangzhou, China; ⁶School of Cellular Molecular Medicine, University of Bristol, Bristol, United Kingdom

511 — B0066 INFLIXIMAB versus ADALIMUMAB for uveitis-related refractory macular edema. Raphael Lejoyeux, C. Fardeau, D. saadoun, S. Tezenas Du Montcel, E. Diwo, B. Bodaghi, P. Lehoang. ophthalmology, Pitie-salpetriere hospital, Paris, France

512 — B0067 The Efficacies of Anti TNF-alpha and Interferon alpha-2a Therapies for Patients Diagnosed with Posterior or Panuveitis Associated with Behcet Disease. Ozlem Gurses¹, E. Karaismailoglu². ¹Ophthalmology, DunyaGoz Eye Hospital, Oran Ankara, Turkey; ²Biostatistics, Kastamonu University, Kastamonu, Turkey x

513 — B0068 Treatment of scleritis and uveitis in granulomatosis with polyangiitis using cyclophosphamide or rituximab. Aseef Ahmed^{1,2}, C. Foster^{1,3}. ¹Massachusetts Eye and Research Surgery Institution, Wakefield, RI; ²University of New England College of Osteopathic Medicine, Biddeford, ME; ³Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA

514 — B0069 Comparison of visual acuity improvement by vitrectomy for vitreous opacity between infections and non-infectious uveitis. Yuka Hasegawa, T. Sato, R. Kinoshita, Y. Sakurai, K. Harimoto, M. Takeuchi. ophthalmology, National Defense Medical College, Tokorozawa, Japan

515 — B0070 Ocular Inflammation in Patients with Herpes Simplex Virus IgM Positivity: A Case Series. *Heather Tamez, S. Kim.* Vanderbilt Eye Institute, Nashville, TN

516 — B0071 Vitreous density estimation by Spectral Domain-OCT as a sensitive measure of uveitis activity: defining the technical limits of reliability. *Christopher M. Way¹, H. Ibrahim¹, W. Bi², R. Carmichael⁴, D. P. Crabb⁵, P. A. Keane³, A. K. Denniston^{2,4}.* ¹University of Birmingham, Woking, United Kingdom; ²Academic Unit of Ophthalmology, Institute of Inflammation and Ageing, University of Birmingham, Birmingham, United Kingdom; ³NIHR Biomedical Research Centre for Ophthalmology, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ⁴Department of Ophthalmology, Queen Elizabeth Hospital Birmingham, University Hospitals Birmingham NHS Foundation Trust, Birmingham, United Kingdom; ⁵Optometry and Visual Science, School of Health Science, City, University of London, London, United Kingdom *CR

517 — B0072 Efficacy and Safety Results From the SAKURA Program: Two Phase III Studies of Intravitreal Sirolimus Every Other Month for Non-infectious Uveitis of the Posterior Segment. *Quan Dong Nguyen¹, P. Merrill², W. Clark³.* ¹Byers Eye Institute, Stanford University, Palo Alto, CA; ²Ophthalmology, Rush University Medical Center, Chicago, IL; ³Palmetto Retina Center, West Columbia, SC *CR, ✗

518 — B0073 Adalimumab in non-infectious uveitis - efficacy across different etiologies in the VISUAL I and VISUAL II trials. *Pauline Merrill¹, A. T. Vitale², M. Zierhut³, E. Fortin⁴, H. Goto⁵, M. Kron⁶, S. R. Tari⁷, S. Pathari⁸.* ¹Rush University Medical Center, Oak Park, IL; ²University of Utah, Utah, UT; ³University of Tuebingen, Tuebingen, Germany; ⁴University of Montreal, Montreal, QC, Canada; ⁵Tokyo Medical University, Tokyo, Japan; ⁶AbbVie Deutschland GmbH & Co KG, Ludwigshafen, Germany; ⁷AbbVie Inc, North Chicago, IL; ⁸AbbVie Ltd, Maidenhead, United Kingdom *CR, ✗

519 — B0074 Uveitis Clinical Trials Analysis 2000-2015. *Theodora Gkika, S. Giny, A. Kiddess, H. Palmer, A. K. Denniston.* University Hospital Birmingham NHS Foundation Trust, Birmingham, United Kingdom

520 — B0075 Corticosteroid Tapering Success With Every-Other-Month Intravitreal Sirolimus for Non-infectious Uveitis of the Posterior Segment: Results of the SAKURA Program. *Raj Maturi.* Midwest Eye Institute, Indianapolis, IN *CR, ✗

521 — B0076 High-dose chemotherapy with autologous hematopoietic stem cell transplantation in relapsing Vitreoretinal Lymphoma. A LOC network study. *Amin Bennedjai¹, C. Houillier¹, S. Choquet¹, N. Cassoux¹, H.guesquière², J. marroleau³, B. Bodaghi¹, P. LeHoang¹, I. Jdid⁴, C. Chabrot⁵, C. Soussain¹, K. Hoang Xuan¹, V. Toutou¹.* ¹Pitié Salpêtrière, Paris, France; ²CHU Lyon, Paris, France; ³CHU Amiens, Amiens, France; ⁴CH Orléans, Orléans, France; ⁵CHU Clermont-ferrand, Paris, France

522 — B0077 Posterior Sub-Tenon Triamcinolone Acetonide Injection For Treatment of Intraocular Inflammation and Macular Edema Associated with Uveitis. *Maria S. Ormaechea^{1,2}, M. Ingolotti¹, C. A. Couto², M. J. Saravia¹, A. Shlaen^{1,2}.* ¹Hospital Universitario Austral, Buenos Aires, Argentina; ²Hospital de Clinicas Jose de San Martin, Buenos Aires, Argentina

523 — B0078 The role of calprotectin in uveitis. *Zai-Long Chi, F. Lu, J. Qu.* Laboratory of Neurovascular Biology, The Eye Hospital of Wenzhou Medical University, Wenzhou, China

524 — B0079 Delayed Acceleration of Severity in Recurrent Acute HLA-B27 Associated Anterior Uveitis. *Karen Small^{1,2}, J. Hua^{1,2}, A. Cohn^{1,2}, S. D. Anesi^{1,2}, C. Foster^{1,2}.* ¹Ophthalmology, Massachusetts Eye Research & Surgery Institution, Waltham, MA; ²Ocular Immunology & Uveitis Foundation, Waltham, MA

525 — B0080 Long-term outcomes in Juvenile idiopathic arthritis-associated uveitis. *Sarah Syeda^{1,3}, N. Nakhoul^{1,3}, B. Kubaishi^{1,3}, C. Foster^{1,2}.* ¹Massachusetts Eye Research and Surgery Institute, Waltham, MA; ²Department of Ophthalmology, Harvard Medical School, Cambridge, MA; ³Ocular Immunology & Uveitis Foundation, Waltham, MA

526 — B0081 Optical coherence tomography based-microangiography of macular edema in uveitis. *Kosar Khaksari¹, K. Pakzad-Vaezi², K. L. Pepple², R. K. Wang¹.* ¹Bioengineering, University of Washington, Seattle, WA; ²Ophthalmology, University of Washington, Seattle, WA

527 — B0082 Development and clinical experience with suprachoroidal injection of triamcinolone acetonide (CLS-TA) as a local treatment for noninfectious uveitis. *Milan Shah.* Ophthalmology, Midwest Eye Institute, Carmel, IN *CR, ✗

Exhibit/Poster Hall B0083-B0119

Sunday, May 07, 2017 1:30 PM-3:15 PM

Immunology/Microbiology

135 Autoimmune Ocular Disease: Selfies Gone Wrong

Moderators: Gerhild Wildner and Karsten Gronert

528 — B0083 Immune mechanisms underlying relapsing-remitting or monophasic experimental autoimmune uveitis (EAU) with neovascularization. *Gerhild Wildner¹, M. Diedrichs-Möhring¹, U. Kaufmann³, C. von Toerne², S. R. Thurau¹.* ¹Ophthalmology, Clinic of the University of Munich LMU, Munich, Germany; ²Research Unit Protein Science, Helmholtz-Zentrum München, Neuherberg, Germany; ³NYU Langone Medical Center, New York, NY *CR

529 — B0084 Preparation of tolerogenic GM-CSF murine bone marrow cells for potential use in autoimmune experimental uveoretinitis model. *Maria Christofi¹, L. Kuffova^{1,2}, J. V. Forrester^{1,3}.* ¹Immunity, Infection and Inflammation, School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, Aberdeen, United Kingdom; ²Department of Ophthalmology, NHS Grampian, Aberdeen, United Kingdom; ³Immunology and Virology Program, Centre for Ophthalmology and Visual Science, The University of Western Australia, Crawley, WA, Australia

530 — B0085 Comparison of Inflammatory Aqueous Cell Populations from Experimental Autoimmune Uveitis (EAU) and Primed Mycobacterial Uveitis (PMU) in Lewis Rats. *Kathryn L. Pepple, R. N. Van Gelder.* Ophthalmology, University of Washington, Seattle, WA

531 — B0086 Treatment with repository corticotropin injection reduces the progression of experimental autoimmune uveitis in rats. *Dale Wright, B. Zweifel, R. Fitch.* Biological Sciences, Mallinckrodt Pharmaceuticals, Hazelwood, MO *CR

532 — B0087 Preventing relapses and chorioretinal neovascularization in EAU with a novel small molecule suppressing rat and human T cells, but not retinal pigment epithelial cells. *Stephan R. Thurau¹, M. Diedrichs-Möhring¹, C. Priglinger¹, F. Obermayr², G. Wildner¹.* ¹Clinic of the University of Munich, Munich, Germany; ²Panoptes Pharma, Wien, Austria *CR

533 — B0088 The Lipoxin A₄ Circuit is Essential to Prevent Development of Experimental Autoimmune Uveitis. *Jessica Wei, V. Ly, A. Chan, J. Yoo, K. Gronert.* Vision Science, UC Berkeley, Berkeley, CA

- 534 — B0089 PD-1 Receptor Blockade Decreases IRBP-induced Uveitis in Mice.** *Negin Ashki¹, A. M. Chan¹, R. D. Levinson¹, Y. Chang², L. K. Gordon¹.* ¹Ophthalmology, University of California Los Angeles, LOS ANGELES, CA; ²Pathology, University of California Los Angeles, Los Angeles, CA
- 535 — B0090 Anti-Uveitic Treg Cells Function Through PD-1 and a Subset of Uveitis Patients Express PD-1 with A2Ar Stimulation.** *Darren J. Lee, D. Wang, F. Muhammad.* Ophthalmology/Dean McGee Eye Institute, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 536 — B0091 C5 Contributes to Ocular Inflammation in Experimental Autoimmune Uveitis.** *Aixu Sun, M. Yuan, H. Yang, T. C. MacPherson, A. Latuszek, H. Chen, Y. Hu, J. Cao, C. Romano.* Ophthalmology, Regeneron Pharmaceutical Inc., Tarrytown, NY *CR
- 537 — B0092 Systemic administration of an anti-IL-6R antibody mitigated visual decline in a murine model of Experimental Autoimmune Uveitis (EAU).** *Nazia M. Alam¹, G. T. Prusky^{1,2}, T. C. MacPherson³, J. Cao³, S. J. Wiegand³, G. Yancopoulos³, C. Romano³.* ¹Burke Medical Research Institute, White Plains, NY; ²Physiology and Biophysics, Weill Cornell Medical College, New York, NY; ³Regeneron Pharmaceuticals, Inc, Tarrytown, NY *CR
- 538 — B0093 Green tea extract alleviates ocular autoimmune inflammation in mice.** *Jian Li¹, W. CHU¹, J. REN², W. YIP¹, S. Chan², C. Pang¹.* ¹Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong; ²School of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong
- 539 — B0094 Deficiency in Nod2 is associated with dysregulation of Th17-related responses in the eye.** *Ellen J. Lee^{1,2}, P. Snow¹, J. M. Furtado³, R. Napier^{2,1}, E. E. Vance^{2,1}, P. Silver⁴, J. Smith⁵, R. R. Caspi⁴, H. L. Rosenzweig^{1,2}.* ¹Mail code: R&D 14, VA Portland Health Care System, Portland, OR; ²Molecular Microbiology & Immunology, Oregon Health & Science University, Portland, OR; ³Ribeirao Preto Medical School, University of Sao Paulo, Ribeirao Preto, Brazil; ⁴Laboratory of Immunology, National Eye Institute, Bethesda, MD; ⁵School of Medicine, Flinders University, Adelaide, SA, Australia
- 540 — B0095 Contribution of Th1 and Th17 Cell Responses toward Recoverin Retinal Autoantigen to the Pathogenesis of Autoimmune Retinopathy.** *Enayat Nikoopour^{1,3}, C. Lin¹, R. Ohara², J. R. Heckenlively¹, S. K. Lundy^{2,3}.* ¹Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ²Internal Medicine-Rheumatology, University of Michigan Medical School, Ann Arbor, MI; ³Graduate Program in Immunology, University of Michigan, Ann Arbor, MI *CR
- 541 — B0096 Topical Ciclosporin A 1 mg/mL Cationic Emulsion in the Treatment of Active Severe Vernal Keratoconjunctivitis (VKC) in Pediatric Patients: Results of the Phase III VEKTIS Study.** *Andrea Leonardi^{1,2}, S. Doan³, M. Amrane⁴, D. Ismail⁴, J. Montero⁵, V. Rao⁶, J. Nemeth⁷, D. Bremond-Gignac⁸.* ¹Department of Neuroscience, University of Padua, Padua, Italy; ²Department of Ophthalmology, University of Padua, Padua, Italy; ³Bichat Hospital and Foundation A. de Rothschild, Paris, France; ⁴Santen SAS, Evry, France; ⁵Universidad de Sevilla, Sevilla, Spain; ⁶Department of Ophthalmology, Resapuvanipalem, Andhra Medical College/ King George Hospital, Visakhapatnam, Andhra Pradesh, India; ⁷Department of Ophthalmology, Semmelweis University, Budapest, Hungary; ⁸Hopital Universitaire Necker-Enfants Malades, Paris, France *CR, ♂
- 542 — B0097 Phagocytosis is active in retinal microglia during Experimental Autoimmune Uveitis (EAU).** *Tat Fong Ng, A. W. Taylor.* Ophthalmology, Boston University School of Medicine, Boston, MA
- 543 — B0098 IL-12p35 induces expansion of IL-10- and IL-35-expressing regulatory B cells (Bregs) and ameliorates autoimmune disease.** *Jin Kyeong Choi, V. Mohanram, C. Yu, A. Uche, D. Gebreselassie, H. lee, C. Egwuagu.* Laboratory of Immunology, NEI, National Institutes of Health, Bethesda, MD
- 544 — B0099 MHC class II Expression In The Retina During Experimental Autoimmune Uveitis.** *Deborah A. Lipski^{1,2}, R. Dewispelaere^{3,1}, V. Foucart^{3,4}, L. E. Caspers³, M. Defrance⁵, C. A. Bruyins¹, F. Willermain^{3,1}.* ¹Ophthalmology, IRIBHM, Brussels, Belgium; ²Ophthalmology, Hôpital Erasme, Brussels, Belgium; ³Ophthalmology, CHU Saint-Pierre, Brussels, Belgium; ⁴Ophthalmology, CHU Brugmann, Brussels, Belgium; ⁵Laboratory of Cancer Epigenetics, ULB, Brussels, Belgium
- 545 — B0100 Contribution of Th1 and Th17 lineage cytokines to pathogenesis of ocular autoimmunity.** *So Jin Bing, R. Horai, P. Silver, Y. Jittayasothorn, J. Chen, C. Chan, R. R. Caspi.* Immunoregulation section, National Eye Institute, Bethesda, MD
- 546 — B0101 Alteration of gut microbiota by antibiotics impacts spontaneous ocular autoimmunity.** *Ryan S. Salvador, R. Horai, C. Zárate-Bladés, Y. Jittayasothorn, R. R. Caspi.* Laboratory of Immunology, NEI, National Institutes of Health, Bethesda, MD
- 547 — B0102 Interferon beta modulates immune-mediated retinal inflammation by impairing T-cell trafficking.** *Jun Chen¹, W. Wang¹, Z. Chen¹, H. Zhou¹, E. F. Wawrousek², I. Gery², R. R. Caspi².* ¹Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ²National Eye Institute, Bethesda, MD
- 548 — B0103 IL-17A inhibits expression of IL-17-ineage cytokines through a negative feedback loop involving IL-24 and controls autoimmune uveitis.** *Kumarkrishna Raychaudhuri¹, W. Chong², R. Horai¹, P. Silver¹, Y. Jittayasothorn¹, C. Chan¹, J. Chen², R. R. Caspi¹.* ¹Laboratory of Immunology, NEI, NIH, Bethesda, MD; ²State Key Lab. Ophthalmol, Zhongshan Ophthalmic Center, Guangzhou, China
- 549 — B0104 Antenatal inflammation induced by interleukin-1β causes retinal and sub-retinal vasculopathy in progeny.** *Alexandra Beaudry-Richard^{1,2}, M. Nadeau-Vallée², J. C. Rivera⁴, A. Madaani², E. Hecke², A. Boudreau², X. Hou², C. Quiniou², D. Olson³, J. Joyal², S. Chemtob².* ¹University of Montreal, Montreal, QC, Canada; ²CHU Sainte-Justine, Montreal, QC, Canada; ³University of Alberta, Edmonton, AB, Canada; ⁴Maisonneuve-Rosemont Hospital, Montreal, QC, Canada
- 550 — B0105 Orbital adipogenesis in a mouse model of autoimmune arthritis, Zymosan-induced SKG mice.** *Boram Lee¹, D. Park¹, C. Yang¹, K. Woo¹, Y. Kim¹, J. Han², T. Chung¹, D. Lim¹.* ¹Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea (the Republic of); ²Ophthalmology, Myongji Hospital, Seonam University School of Medicine, Goyang, Korea (the Republic of)
- 551 — B0106 Interleukin-7 and -15 Maintain Memory T Helper 17 Cells in Dry Eye Disease.** *Yihe Chen, S. Chauhan, X. tan, R. Dana.* Schepens Eye Research Ins /MEEI, Boston, MA *CR
- 552 — B0107 Clinical statistics for secondary glaucoma in patients with scleritis.** *Tomoyuki Kunishige, K. Miyata, S. Yui, K. Nakamoto, J. Hori.* Nippon Medical School, Bunkyo-ku, Japan
- 553 — B0108 Immunohistochemical examination of the B lymphocyte infiltrate in human uveitis.** *Simon Epps¹, N. Coptin², P. J. Luthert⁴, A. D. Dick¹, S. E. Coupland³, L. B. Nicholson¹.* ¹Ophthalmology, University of Bristol, Bristol, United Kingdom; ²Institute of Translational Medicine, University of Liverpool, Liverpool, United Kingdom; ³Clinical and Cancer Medicine, University of Liverpool, Liverpool, United Kingdom; ⁴Institute of Ophthalmology, UCL, London, United Kingdom
- 554 — B0109 Cystoid Macular Edema as a Marker in the Progression of Autoimmune Retinopathy.** *Avni P. Finn, A. Thomas, D. S. Grewal, G. J. Jaffe.* Ophthalmology, Duke Eye Center, Durham, NC
- 555 — B0110 Age-related variations in systemic and ocular features of sarcoidosis patients.** *Kouzo Harimoto, T. Kuraishi, M. Taguchi, T. Kanda, M. Takeuchi.* Ophthalmology, National Defense Medical Collage, Tokorozawa, Japan

556 — B0111 Importance of Checking for Active Autoimmunity in Genetically-Confirmed Retinal Dystrophy Patients. Steven K. Lundy^{1,2}, A. J. Karoukis³, R. Ohara¹, E. Nikoopour^{2,3}, M. I. Othman³, M. Abalem³, T. Jayasundera³, K. E. Branham³, J. R. Heckenlively³. ¹Internal Medicine-Rheumatology, University of Michigan Medical School, Ann Arbor, MI; ²Graduate Program in Immunology, University of Michigan Medical School, Ann Arbor, MI; ³Ophthalmology and Visual Sciences, University of Michigan Medical School, Ann Arbor, MI *CR

557 — B0112 Characterization of corneal endothelial pseudogutta in the setting of anterior uveitis. Doran Spencer¹, S. D. Anesi¹, C. Foster^{1,2}. ¹Massachusetts Eye Research and Surgery Institution, Waltham, MA; ²Harvard Medical School, Boston, MA

558 — B0113 High Output Flow Cytometry Array Protein Expression Profiling Facilitates Discriminant Phenotyping of Behcet's and Sarcoidosis Patient-derived Peripheral Whole Blood Cells Revealing Distinct Immunophenotypes of Autoimmune Uveitides in the Context of Systemic Autoimmunity. Johannes Nowatzky¹, J. Manasson¹, E. Resnick², C. Stagnar¹, O. Manches³. ¹Medicine-Rheumatology, NYU School of Medicine, New York, NY; ²Google Inc., New York, NY; ³L'EFS en Rhône-Alpes-Auvergne Recherche et Développement "Immunobiology and Immunotherapy in Chronic Diseases", French National Institute of Health and Medical Research, Beynost, France

559 — B0114 Human IL35-producing B cells (I35Bregs) are induced by CpG DNA. Chengrong Yu, C. Egwuagu. Laboratory Immunology, National Eye Inst/NIH, Bethesda, MD

560 — B0115 Mucous Membrane Grafts In Ocular Cicatricial Pemphigoid: Schirmer's Test And Long Term Fornix Depth Outcomes. Arturo E. Grau¹, V. P. Saw², G. Julley³, D. Verity³, J. K. Dart², R. Collin³. ¹Ophthalmology, Pontificia Universidad Católica de Chile, Santiago, Chile; ²Cornea & External disease, Moorfields Eye Hospital, London, United Kingdom; ³Adnexal, Moorfields Eye Hospital, London, United Kingdom

561 — B0116 Ocular Involvement in Mucous Membrane Pemphigoid. Gloria H. Hong, I. Khan, A. Shifera, C. Okeagu, J. E. Thorne. Johns Hopkins University School of Medicine, Baltimore, MD

562 — B0117 Measurements of aqueous flare objectively using an ocular fluorometer. Pavani Murthy Penugondla¹, R. Sudhir¹, S. Tadepalli², D. Talele¹, A. GOYAL¹, S. Mahadik¹, P. Padmanabhan¹, K. Rangaswamy², S. P. Srinivas³. ¹Sankara Nethralaya, Chennai, India; ²Electronics, Amrita School of Engineering, Bengaluru, India; ³Optometry, Indiana University, Bloomington, IN

563 — B0118 Inhibition of recurrent experimental autoimmune uveitis by blockade of the receptor for advanced glycation end products (RAGE). Hui Shao¹, J. Yun¹, T. Xiao¹, Y. Zhao³, D. Sun², H. J. Kaplan¹. ¹Ophthalmology, University of Louisville, Louisville, KY; ²Doheny Eye Institute, Los Angeles, CA; ³Sullivan University College of Pharmacy, Louisville, KY

564 — B0119 Characterization of progressive cicatricial conjunctival disease with negative immunofluorescence. Jae Young You, E. Akpek. Cornea, Wilmer Eye Institute, Baltimore, MD

Exhibit/Poster Hall B0133-B0153

Sunday, May 07, 2017 1:30 PM-3:15 PM

Biochemistry/Molecular Biology

136 Structural/functional genomics and gene variants

Moderator: Margaret M. DeAngelis

565 — B0133 RNA-seq analysis of the human retina. Ray Enke^{1,2}, A. Gargiulo¹, M. Rahmani-Mofrad¹, A. Holub¹. ¹Biology, James Madison University, Harrisonburg, VA; ²Center for Genome & Metagenome Studies, James Madison University, Harrisonburg, VA

566 — B0134 The response of uveal melanoma (UM) cells to Bromodomain and Extra Terminal (BET) inhibitors. Fiona P. Bailey¹, H. Kalirai², H. Shahidipour², K. Clarke³, S. E. Coupland², P. A. Eyers¹. ¹Department of Biochemistry, Institute of Integrative Biology, University of Liverpool, Liverpool, United Kingdom; ²Liverpool Ocular Oncology Research Group, Department of Molecular and Clinical Cancer Medicine, University of Liverpool, Liverpool, United Kingdom; ³Computational Biology Facility, Institute of Integrative Biology, University of Liverpool, Liverpool, United Kingdom

567 — B0135 Reference Transcriptome Landscape of Adult Human Retina. Margaret R. Starostik¹, R. Ratnapriya¹, R. Kappahn², A. Walton¹, A. Pietraszkiewicz¹, M. Brooks¹, S. R. Montezuma², L. Fritsche³, G. Abecasis³, D. A. Ferrington², A. Swaroop¹. ¹Neurobiology Neurodegeneration & Repair Laboratory, National Eye Institute, National Institutes of Health, Washington, DC; ²Department of Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN; ³Center for Statistical Genetics, Department of Biostatistics, University of Michigan, Ann Arbor, MI

568 — B0136 Transcriptomic and epigenomic analysis of retinal ganglion cell development. Xiuqian Mu¹, F. Wu¹, D. Sapkota¹, T. Liu², Z. Hu^{3,1}. ¹Ophthalmology, University at Buffalo, Buffalo, NY; ²Biochemistry, University at Buffalo, Buffalo, NY; ³CCR, University at Buffalo, Buffalo, NY

569 — B0137 Characterizing lincRNA expression during RPE development. Michael H. Farkas^{2,3}, E. D. Au², R. Fernandez-Godino¹, T. J. Kaczynski^{2,3}, M. E. Sousa^{2,3}. ¹Ocular Genomics Institute, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ophthalmology, State University of New York at Buffalo, Buffalo, NY; ³Research Service, VA Medical Center, Buffalo, NY

570 — B0138 Nonsyndromic Retinitis Pigmentosa in the Ashkenazi Jewish Population: Genetic and Clinical Aspects. Adva Kimchi¹, S. Khateb¹, R. Wen², Z. Guan³, E. Pras^{4,5}, S. Kurtzman¹, S. G. Jacobson⁶, H. Newman^{7,5}, T. Ben-Yosef⁸, E. Banin¹, D. Sharon¹. ¹Department of Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel; ²Bascom Palmer Eye Institute, University of Miami, Miami, FL; ³Duke University Medical Center, Durham, NC; ⁴Department of Ophthalmology, Assaf Harofeh Medical Center, Zerifin, Israel; ⁵Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel; ⁶Department of Ophthalmology, Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ⁷Department of Ophthalmology, Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel; ⁸The Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

571 — B0139 Clinical features of family members with Stickler syndrome from a mutation of COL11A1 gene. Miin Roh, S. Mukai. Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA

572 — B0140 Mutation survey of candidate genes in 22 Chinese patients with Axenfeld-Rieger syndrome. Xun Wang, X. Liu, X. Jia, X. Xiao, S. Li, X. Guo. State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Guangzhou, China

573 — B0141 CC2D2A mutations lead to variable phenotypes in a family with retinal dystrophy. Cécile Méjècase¹, S. Mohand-Said^{1,2}, C. Andrieux², A. Hummel³, S. El Shamieh¹, A. Antonio^{1,2}, F. Boyard¹, C. Condroyer¹, C. Michiels¹, S. Blanchard⁴, M. Letexier⁴, J. Saraiva⁴, J. A. Sahel^{1,2}, C. Zeitz¹, I. S. Audo^{1,2}. ¹Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ²CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DHOS CIC1423, Paris, France; ³Department of Nephrology, Necker-Enfants Malades Hospital, Paris, France; ⁴IntegraGen SA, Genopole, CAMPUS, Evry, France

574 — B0142 Changes in macular structure and retinal function in patients with Leber congenital amaurosis with RPGRIP1 mutations. Daisuke Miyamichi¹, S. Nishina², K. Hosono¹, T. Yokoi², K. Kurata¹, M. Sato¹, S. Minoshima³, M. Fukami², Y. Hotta¹, N. Azuma². ¹Ophthalmology, Hamamatsu university school of medicine, Hamamatsu, Japan; ²National Center for Child Health and Development, Setagaya, Japan; ³Hamamatsu University School of Medicine, Hamamatsu, Japan

575 — B0143 Identification of mutations in CACNA1F in patients with incomplete CSNB applying next generation sequencing approaches. Christina Zeitz¹, C. Michiels¹, M. Neuville¹, C. Friedburg², C. Condroyer¹, F. Boyard¹, A. Antonio¹, M. N. Preisung³, V. Meyer³, A. Boland³, J. Deleuze³, L. Mesrob³, B. Jurklics⁴, B. Lorenz², J. A. Sahel¹, I. S. Audo¹. ¹Institut de la Vision, Univ Pierre et Marie Curie Paris 6, Paris, France; ²Justus-Liebig University Gießen, Gießen, Germany; ³Centre National de Génotypage, Institut de Génétique, CEA, Evry, France; ⁴Department of Ophthalmology, University of Essen, Essen, Germany

576 — B0144 An Alu-mediated copy number variation mediates progressive optic nerve cupping in autosomal dominant optic pit. Eileen Hwang¹, D. Morgan¹, J. L. Zimmerman¹, C. F. Burgoyne², P. S. Bernstein¹, M. M. DeAngelis¹. ¹Moran Eye Center, University of Utah, Salt Lake City, UT; ²Devers Eye Institute, Legacy Health, Portland, OR

577 — B0145 Phenotype and Genotype Features of PAX6-related Ocular Dysgenesis. Lizhu Yang^{1,3}, Q. Zhou¹, Z. Sun¹, K. Fujinami^{2,3}, H. Li¹, Z. Yuan¹, K. Tsubota³, R. Sui¹. ¹Department of Ophthalmology, Peking Union Medical College Hospital, Beijing, China; ²Laboratory of Visual Physiology, Division of Vision Research, National Institute of Sensory Organs, National Hospital Organization, Tokyo Medical Center, Tokyo, Japan; ³Department of Ophthalmology, Keio University School of Medicine, Tokyo, Japan

578 — B0146 A functional genomics approach for characterizing variants of unknown significance: assaying known and novel rhodopsin variants. Jason Comander, A. Wan. Ocular Genomics Institute, Massachusetts Eye & Ear Infirmary, Boston, MA

579 — B0147 The Oculome: a genetic test to diagnose a diverse range of ocular birth anomalies. Vijay K. Taylor^{2,1}, J. Hayward³, A. Patel³, C. Gabriel³, A. H. Dahlmann-Noor², J. Sowden³. ¹Experimental Psychology, University College London, London, United Kingdom; ²NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Trust, London, UK, Moorfields Eye Hospital, London, United Kingdom; ³Birth Defects Research Centre, UCL Great Ormond Street Institute of Child Health, and NIHR Biomedical Research Centre at Great Ormond Street Hospital NHS Trust and University College London, London, UK, London, United Kingdom

580 — B0148 Hidden genetic variation in Stargardt disease: novel copy number variations, cis-regulatory and deep-intronic splice variants within the ABCA4 locus. Miriam Bauwens¹, R. Sangermano², T. Cherry^{4,3}, V. Caroline¹, J. Gómez-Skarmeta³, N. Weisschuh⁷, S. Kohl⁷, B. P. Leroy^{1,6}, F. P. Cremers², E. De Baere¹. ¹Center for Medical Genetics, University of Ghent, Ghent, Belgium; ²Department of Human Genetics, RadboudUMC, Nijmegen, Netherlands; ³Center for Developmental Biology and Regenerative Medicine, Seattle Children's Research Institute, Seattle, WA; ⁴Dept. of Pediatrics, University of Washington School of Medicine, Seattle, WA; ⁵Centro Andaluz de Biología del Desarrollo, CSIC/ Universidad Pablo de Olavide, Sevilla, Spain; ⁶Dept of Ophthalmology, Ghent University Hospital & Ghent University, Ghent, Belgium; ⁷Institute for Ophthalmic Research, Centre for Ophthalmology, University of Tuebingen, Tuebingen, Germany

581 — B0149 Phenotype and Genotype Characterization of a small cohort of Chinese patients with Occult Macular Dystrophy. Ruifang Sui, L. Yang, X. Zou, H. Li, F. Dong. Ophthalmology, Peking Union Med College Hosp, Beijing, China

582 — B0150 Identification of novel BEST1 mutations in Bestrophinopathy families. Anshuman Verma¹, T. Nguyen², P. B³, S. Seshagiri², A. Peterson², S. Phalke⁴, A. Ghosh¹, A. Ghosh¹. ¹GROW Research Laboratory, Narayana Nethralaya Foundation, Bangalore, India; ²Dept of molecular biology, Genentech, San Francisco, CA; ³Narayana Nethralaya 1, Bangalore, India; ⁴MedGenome pvt, Bangalore, India

583 — B0151 First missense mutation in CEP78 in a family with cone-rod dystrophy, sensorineural hearing loss, obesity and subfertility. Frauke Coppieters¹, G. Ascarì¹, S. Van De Sompele¹, L. Derycke², H. Gabriële², O. Krysko², J. Van Dorpe³, D. Creytens³, I. Balikova⁴, J. Gerris⁶, C. Bachert², B. P. Leroy^{1,4}. ¹Center for Medical Genetics Ghent, Ghent University, Ghent, Belgium; ²Upper Airways Research Laboratory, Ghent University Hospital, Ghent, Belgium; ³Department of Pathology, Ghent University Hospital, Ghent, Belgium; ⁴Dept of Ophthalmology, Ghent University Hospital, Ghent, Belgium; ⁵Free University of Brussels, Brussels, Belgium; ⁶Gynaecology Dept, Ghent University Hospital, Ghent, Belgium

584 — B0152 Identification of rhodopsin exon mutations underlying retinitis pigmentosa that alter splicing. Maureen Neitz, J. Neitz. Ophthalmology, University of Washington, Seattle, WA

585 — B0153 NEI eyeGENE® clinical research data accessibility through a Biomedical Research Informatics Computing System. Santa J. Tumminia¹, Y. O. Akporji², C. Bender², J. Iano-Fletcher², A. Hughes², M. McAuliffe³, L. Misquitta³, R. S. Parrish², M. J. Reeves², K. E. Goetz². ¹Office of the Director, National Eye Inst/NIH, Bethesda, MD; ²Ophthalmic Genetics Visual Function Branch, National Eye Institute/NIH, Bethesda, MD; ³Dept. of Computational Biology, Center for Information Technology/NIH, Bethesda, MD

Exhibit/Poster Hall B0154-B0204

Sunday, May 07, 2017 1:30 PM-3:15 PM

Biochemistry/Molecular Biology

137 Biochemistry and molecular biology of the retina

Moderator: Michael H. Elliott

586 — B0154 Dysregulation of degradation pathways in the retinal pigment epithelium of a Stargardt-like maculopathy mouse model. Camille Dejos, H. Capel, S. Kuny, Y. Sauve. Ophthalmology, University of Alberta, Edmonton, AB, Canada

587 — B0155 Retinal proteome changes following experimental branch retinal vein occlusion and intervention with intravitreal dexamethasone implants. Lasse J. Cehofski^{1,2}, A. Alsing^{2,1}, A. Kruse¹, S. Magnusdottir⁴, B. Honoré³, H. Vorum^{2,1}. ¹Department of Ophthalmology, Aalborg University Hospital, Aalborg, Denmark; ²Department of Clinical Medicine, Aalborg University, Aalborg, Denmark; ³Department of Biomedicine, Aarhus University, Aarhus, Denmark; ⁴Biomedical Research Laboratory, Aalborg University Hospital, Aalborg, Denmark

588 — B0156 Significance of VLC-PUFAs in Diabetic Retinas Shown in Mouse and Human Donor Eyes. Aruna Gorusupudi, F. Chang, S. Muddana, G. S. Hageman, P. S. Bernstein. Dept of Ophthalmology and Visual Sci, Moran Eye Center, Salt Lake City, UT

589 — B0157 Tbx5 is a novel transcriptional regulator of the EphA5 promoter. Deborah C. Otteson, S. Huynh, J. Wang. Optometry, University of Houston, Houston, TX

590 — B0158 D477G dominant mutation in RPE65 leads to decreased 11-cis-retinal generation and delayed dark-adaptation in knock-in mouse model of retinitis pigmentosa. Gennadiy P. Moiseyev, Y. Shin, D. Charkraborty, J. Ma. Physiology, Univ of Oklahoma Hlth Sci Ctr, Oklahoma City, OK

591 — B0159 Functional Analysis of MIF in Human retinal pigment epithelium by Oxidative stress. Ji-Ae Ko, Y. Sotani, Y. Kiuchi. Department of Ophthalmology, Hiroshima Univ Grad Sch of Biomed Sci, Hiroshima, Japan

- 592 — B0160 Interferon- γ increases expression of the long non-Coding RNA BANCR in retinal pigment epithelial cells by activating JAK/STAT signaling pathway.** R K. Kutty¹, W. Samuel¹, C. Jaworski¹, O. Postnikova¹, T. Duncan¹, C. N. Nagineni², T. Redmond¹. ¹Laboratory of Retinal Cell and Molecular Biology, National Eye Institute, National Institutes of Health, Bethesda, MD; ²Radiation Biology Branch, National Cancer Institute, National Institutes of Health, Bethesda, MD
- 593 — B0161 Loss of mitochondrial pyruvate carrier 1 in rod photoreceptors impairs mitochondrial intermediary metabolism.** Jianhai Du^{1,2}, J. Linton³, J. Hurley^{3,4}. ¹Ophthalmology, West Virginia University, Morgantown, WV; ²Biochemistry, West Virginia University, Morgantown, WV; ³Biochemistry, University of Washington, Seattle, WA; ⁴Ophthalmology, University of Washington, Seattle, WA
- 594 — B0162 mTOR and Rho family of GTPases regulate epithelial phenotype in injured retinal pigment epithelium.** Justin R. Chang¹, K. Y. Barbosa¹, M. LaP, M. Ferret², K. Bharti¹. ¹National Eye Institute, Bethesda, MD; ²National Center for Advancing Translational Sciences, Rockville, MD
- 595 — B0163 Regression of hypoxia-induced vessels in zebrafish retina after return to normoxia environment.** Mira Schaepper¹, A. Mukwaya¹, A. Lennikov¹, Z. Ali², L. Jensen², N. S. Lagali¹. ¹Department of Ophthalmology, Institute for Clinical and Experimental Medicine, Linköping, Sweden; ²Department of Medical and Health Sciences, Division of Cardiovascular Medicine, Linköping, Sweden
- 596 — B0164 CERKL isoforms are differentially expressed in retinal cells.** Roser Gonzalez-Duarte^{1,2}, R. Andrés^{1,2}, E. B. Domenech^{1,2}, A. Garanto³, M. Esquerdo^{1,2}, F. Sava¹, M. I. Naash⁴, G. Marfany^{1,2}. ¹Dept. de Genètica, Microbiologia i Estadística, Universitat de Barcelona, IBUB, Barcelona, Spain; ²CIBERER, ISCIII, Barcelona, Spain; ³Dept. Human Genetics, Radboud University Medical Center, Nijmegen, Netherlands; ⁴Dept. of Biomedical Engineering, University of Houston, Houston, TX
- 597 — B0165 Inhibition of the *Nxn11* gene's splicing result in its gain of function by production RdCVF or precede that event, a case of molecular exaptation?** Najate M. Maamri¹, F. Blond¹, F. Delalande², A. Van Dorselaer², T. D. Leveillard¹. ¹Genetic, Institut de la Vision, Paris, France; ²Laboratoire de Spectrométrie de Masse Bio-Organique, Strasbourg, France
- 598 — B0166 MCP-1 disrupts morphologic and functional barrier properties of polarized retinal pigment epithelium.** Hidetaka Noma^{1,2}, K. McDonald², M. Shimura¹, S. Tamiya². ¹Department of Ophthalmology, Tokyo Medical University Hachioji Medical Center, Tokyo, Japan; ²Department of Ophthalmology and Visual Sciences, University of Louisville, Louisville, KY
- 599 — B0167 The deubiquitinating enzyme Ataxin-3 is relevant for retina formation and differentiation in mouse and zebrafish.** Gemma Marfany^{1,2}, V. Toulis^{1,2}, M. Costa³. ¹Dept. de Genètica, Microbiologia i Estadística, Universitat de Barcelona, IBUB, Barcelona, Spain; ²CIBERER, ISCIII, Barcelona, Spain; ³Dept. of Neurology, Medical School, University of Michigan, Ann Arbor, MI
- 600 — B0168 Retinoic acid signaling regulates tight junction protein expression in blood-retinal barrier maintenance.** Lana M. Pollock¹, J. Xie¹, B. A. Bell¹, M. Ali¹, A. Cutler¹, B. Anand-Apte^{1,2}. ¹Ophthalmic Research, Cleveland Clinic, Cleveland, OH; ²Cell Biology, Cleveland Clinic Lerner College of Medicine at CWRU, Cleveland, OH
- 601 — B0169 Absent in Melanoma 2 (AIM2) Recognizes Cytosolic DNA and Mediates Inflammation in RPE Cells.** Ahmad Al Moujahed^{1,2}, B. Tian¹, J. W. Miller¹, H. Lin³, D. G. Vavvas¹. ¹Retina, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Pathology, Boston University School of Medicine, Boston, MA; ³Department of Ophthalmology & Visual Sciences, University of Massachusetts Medical School, Boston, MA *CR
- 602 — B0170 The lack of a direct effect of bicarbonate on photoreceptor guanylyl cyclase.** Igor V. Peshenko, E. V. Olshevskaya, A. M. Dizhoor. Pennsylvania College of Optometry, Salus University, Elkins Park, PA
- 603 — B0171 Characterize growth factor expression in the developing and aging mouse retina in vivo and in vitro.** Maryam Alavi, P. Baranov. Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear, Boston, MA
- 604 — B0172 Quantitative analysis and correlation of VEGF-A and VEGF-B in serum and vitreous humor of patients with proliferative vs non-proliferative ocular disease.** Joana Mesquita¹, J. Castro e Sousa², S. Vaz-Pereira^{3,4}, A. Neves², L. Passarinha¹, C. Tomaz¹. ¹Biochemistry/ CICS-UBI Health Sciences Research Centre, University of Beira Interior, Covilhã, Portugal; ²Ophthalmology, Centro Hospitalar Leiria, Leiria, Portugal; ³Ophthalmology, Hospital de Santa Maria, Lisbon, Portugal; ⁴Faculty of Medicine, University of Lisbon, Lisbon, Portugal *CR
- 605 — B0173 Ultraviolet irradiation induces the secretion of IL-1 β via activation of NLRP3 inflammasomes in human retinal pigment epithelial cells.** Eveliina Korhonen¹, N. Piipponen¹, M. Hytti¹, K. Kaarniranta^{1,2}, A. Kauppinen¹. ¹University of Eastern Finland, Kuopio, Finland; ²Kuopio University Hospital, Kuopio, Finland
- 606 — B0174 Functional characterization of EYS using zebrafish as a model organism.** Muriël Messchaert^{1,2}, R. Slijkerman^{3,4}, E. van Wijk^{3,4}, R. W. Collin^{1,2}. ¹Human Genetics, Radboudumc, Nijmegen, Netherlands; ²Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands; ³Otorhinolaryngology, Radboudumc, Nijmegen, Netherlands; ⁴Radboud Institute for Molecular Life Sciences, Nijmegen, Netherlands
- 607 — B0175 Expression of ABCA4 in Retinal Pigment Epithelium cells and its implications for Stargardt disease.** Tamara L. Lenis¹, S. Sarfare², J. Hu¹, Z. Jiang¹, M. Lloyd¹, D. Bok¹, G. H. Travis¹, R. A. Radu¹. ¹Stein Eye Institute, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²New England College of Optometry, Boston, MA
- 608 — B0176 NOGO-A Gene Expression in Amniotic Fluid Treated Human RPE Cells.** Hamid Ahmadi^{1,2}, B. Safdari¹, F. Souri¹, Z. Soheili³, I. Salahshourifar¹, M. Rezaeikanavi¹. ¹Ocular Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (the Islamic Republic of); ²Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (the Islamic Republic of); ³National Institute of Genetic Engineering and Biotechnology, Tehran, Iran (the Islamic Republic of); ⁴Department of Biology, Science and Research Branch, Islamic Azad University, Tehran, Iran (the Islamic Republic of)
- 609 — B0177 Does S cone vulnerability reside in their mitochondria?** Tobias Weinrich Weinrich, M. B. Powner, G. Jeffery. Visual Neuroscience, Institute of Ophthalmology, University College London, London, United Kingdom
- 610 — B0178 Sostdc1, a secreted dual BMP and WNT antagonist, is differentially expressed in RCS rdy⁺ and rdy⁻ rat retinal pigment epithelial cells.** Marc M. Abitbol^{1,2}, O. Xerri³, M. Valensi³, V. Dinet¹, F. Mascarelli¹, M. Robert², C. Botteri¹, M. Berdugo¹, P. Lassi², A. Meziane¹, D. Bremond-Gignac², F. F. Behar-Cohen¹. ¹Ophthalmology UMR, S INSERM 1138 Team 17, Université Paris Descartes, Paris, France; ²Ophthalmology, Hôpital Universitaire Necker-Enfants Malades, Paris, France; ³Pharmaceutical Sciences, Université Paris Descartes, Paris, France
- 611 — B0179 Characterization of canonical Wnt signalling changes after induced Müller cell disruption in murine retina.** Ling Zhu¹, W. Shen¹, Y. Wang¹, T. Zhang¹, B. Bahrami¹, F. Zhou², M. C. Gillies¹. ¹Save Sight Institute, The University of Sydney, Hurstville, NSW, Australia; ²Pharmacy, The University of Sydney, Sydney, NSW, Australia

- 612 — B0180 Age-related macular degeneration (AMD) mitochondria modulate epigenetic machinery in transmitochondrial ARPE-19 cybrid cells.** Sonali R. Nashine^{1,2}, S. Y. Lu^{1,3}, A. B. Nesburn^{1,4}, B. D. Kuppermann¹, C. M. Kenney^{1,5}. ¹Gavin Herbert Eye Institute, University of California Irvine, Irvine, CA; ²Ophthalmology, University of California Irvine, Irvine, CA; ³VA Medical Center Long Beach Hospital, Long Beach, CA; ⁴Cedars-Sinai Medical Center, Los Angeles, CA; ⁵Pathology and Laboratory Medicine, University of California Irvine, Irvine, CA *CR
- 613 — B0181 Novel BEST1 mutations in Chinese patients with bestrophinopathy.** Jingyi Luo, X. Liu, X. Huang, X. XU. Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China
- 614 — B0182 Carbonic anhydrase inhibitors for the management of cystic macular lesions in X-linked retinoschisis.** Ismaël Chehaibou¹, R. Ores¹, C. Dhaenens², C. Andrieux¹, M. Paques¹, S. Mohand-Said¹, J. Sahel¹, I. S. Audo¹. ¹Quinze-Vingts National Eye Hospital, Paris, France; ²Centre Hospitalier Régional Universitaire de Lille, Lille, France
- 615 — B0183 Comparison of the RHO-tvrm4 and light damage models of retinal degeneration.** Micah A. Chrenek¹, S. W. Gooding¹, J. T. Sellers¹, R. H. Schmidt¹, N. F. Henneman², P. E. Girardot¹, J. H. Boatright^{1,2}. ¹Ophthalmology, Emory University, Atlanta, GA; ²Atlanta VAMC, Atlanta, GA
- 616 — B0184 Peptidylarginine deiminase 4 (PAD4) is the primary mediator of retinal citrullination in mice.** TJ Hollingsworth¹, M. Z. Radic⁵, F. Giorgianni³, S. Beranova-Giorgianni³, D. Koirala², Y. Wang⁴, A. Iannaccone². ¹Neuroscience Institute, University of Tennessee Health Science Center, Memphis, TN; ²Duke Eye Center, Duke University, Durham, NC; ³Pharmaceutical Sciences, University of Tennessee Health Science Center, Memphis, TN; ⁴Center for Eukaryotic Gene Regulation, Biochemistry and Molecular Biology, Pennsylvania State University, University Park, PA; ⁵Microbiology, Immunology and Biochemistry, University of Tennessee Health Science Center, Memphis, TN
- 617 — B0185 Retinal Degeneration is Time- and Intensity-Dependent in Heterozygous Carriers of the Tvrm4 Rhodopsin Mutation.** Preston E. Girardot¹, R. H. Schmidt¹, J. T. Sellers¹, J. H. Boatright^{1,2}. ¹Emory University, Atlanta, GA; ²Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center, Atlanta, GA
- 618 — B0186 Prom1-dependent Autophagy Prevents Mitochondrial Damage and Apoptosis in Human Retinal Pigment Epithelial Cells.** Sujoy Bhattacharya, J. Yin, W. Huo, E. Chaum. Ophthalmology, Univ of Tennessee Health Science Ctr, Memphis, TN
- 619 — B0187 The human RPE-choroid in short term organ culture: evaluation of gene expression changes.** Robert F. Mullins^{1,2}, S. Whitmore^{1,2}, K. R. Chirco^{1,2}, G. Workalemahu^{1,2}, S. Zeng^{1,2}, A. P. DeLuca^{1,2}, X. Liu^{1,2}, J. A. Penticoff^{1,2}, L. A. Wiley^{1,2}, E. M. Stone^{1,2}, B. Tucker^{1,2}. ¹Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ²Wynn Institute for Vision Research, Iowa City, IA
- 620 — B0188 Isolation of MERTK Enriched Phagosomes from RPE-J Cells Challenged with Bovine Outer Segments.** Shameka Shelby, R. Dorvilier. Chemistry, Biochemistry, & Physics, Florida Southern College, Lakeland, FL
- 621 — B0189 Assessment of efficacy of Magnetofection transfection system in delivering genes to RPE cells, a novel transfection method for gene therapy in mouse model.** Priyanka Priyadarshani, S. Markand, J. T. Sellers, J. H. Boatright, J. M. Nickerson. Ophthalmology, Emory University, Atlanta, GA
- 622 — B0190 Comprehensive Analysis Of PTC-124 Therapy For Choroideremia.** Simona Torriano¹, N. Erkilic¹, D. Baux², V. de Luca¹, N. Cereso¹, M. Moosajee³, C. P. Hamel¹, A. Roux², V. Kalatzis¹. ¹NM, Inserm U1051, Montpellier, France; ²IURC, Montpellier, France; ³UCL Institute of Ophthalmology, London, United Kingdom
- 623 — B0191 Copy number variation in the inherited retinal degenerations.** Kinga M. Bujakowska, E. Place, D. Navarro-Gomez, A. Mazzone, M. Maher, E. A. Pierce. Ocular Genomics Institute, Massachusetts Eye and Ear Infirmary, Boston, MA
- 624 — B0192 Alpha-catenin is a novel marker for identifying abnormal morphology following surgical damage of the RPE.** Kevin J. Donaldson¹, J. T. Sellers¹, J. H. Boatright^{1,2}, J. M. Nickerson¹. ¹Ophthalmology, Emory University, Atlanta, GA; ²Atlanta VA Center of Excellence in Vision and Neurocognitive Rehabilitation, Atlanta, GA
- 625 — B0193 A human iPSc-derived RPE model of Retinitis Punctata Albescens.** Krishna Damodar, N. Erkilic, L. Guillou, D. Mamaeva, M. Pequignot, A. Conscience, L. Robert, P. Brabet, C. P. Hamel, V. Kalatzis. Inserm U1051, Montpellier, France
- 626 — B0194 Purification and Characterization of Recombinant Human Tyrosinase Related Protein 1.** Kenneth L. Young II¹, M. Dolinka¹, P. Wingfield², E. Poliakov¹, Y. V. Sergeev¹. ¹National Eye Institute, National Institutes of Health, Bethesda, MD; ²National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD
- 627 — B0195 The transcriptional activity of the retinal homeobox (Rax) gene product is dependent on conserved N- and C-terminal domains.** Heithem M. El-Hodiri^{1,2}, J. L. Buescher¹. ¹Molecular & Human Genetics, Nationwide Children's Research Institute, Columbus, OH; ²Department of Pediatrics, The Ohio State University College of Medicine, Columbus, OH
- 628 — B0196 Microarray transcriptome analysis of the inflammatory response of retinal pigment epithelial cells.** William Samuel¹, R. K. Kutty¹, C. Jaworski¹, T. Duncan¹, T. Redmond¹, P. Wong². ¹Laboratory of Retinal Cell and Molecular Biology, National Eye Institute / National Institutes of Health, Bethesda, MD; ²Dept of Ophthalmology, Emory University, Atlanta, GA
- 629 — B0197 Evaluation of the efficiency and specificity of short variants of the human PDE6B promoter in photoreceptor-like cells in vitro and ex vivo.** Caroline F. Peddle¹, H. O. Orlans^{1,2}, M. E. McClements¹, R. E. MacLaren^{1,2}. ¹NDCN, University of Oxford, Oxford, United Kingdom; ²Oxford Eye Hospital, Oxford, United Kingdom
- 630 — B0198 Endogenous Components of RPE Cell Attachment to Extracellular Matrix Proteins.** Sally Yacout¹, E. R. Gaillard^{1,2}. ¹Chemistry and Biochemistry, Northern Illinois University, DeKalb, IL; ²Biological Sciences, Northern Illinois University, DeKalb, IL
- 631 — B0199 Re-patterning of histone modifications and DNA methylation during RPE to retina reprogramming.** Agustin Luz-Madrigal¹, E. Grajales-Esquivel¹, A. McCorkle¹, L. Stetzel¹, S. Kossel¹, P. A. Tsonis², K. Del Rio-Tsonis¹. ¹Biology, Miami University, Oxford, OH; ²Biology, University of Dayton, Dayton, OH
- 632 — B0200 Retina-specific molecular species (PC and PE) alterations by ablation of AdipoR1 or MFRLP.** Bokkyoo Jun, M. I. Kautzmann, H. E. Hill, U. B. Patel, W. C. Gordon, N. G. Bazan. Neuroscience Center, LSU Health Sciences Center, New Orleans, LA
- 633 — B0201 Intercompartmental transport of peripheral membrane proteins in rod photoreceptors.** Nycole A. Maza, P. D. Calvert. Ophthalmology, SUNY Upstate Medical University, Syracuse, NY
- 634 — B0202 Fine-mapping of the interaction between R-SNARE VAMP7 and ciliary targeting complex in rod photoreceptors.** Vasundhara Kandachar¹, B. M. Tam², O. L. Moritz², D. Deretic¹. ¹Dept of Surgery, Division of Ophthalmology, University of New Mexico School of Medicine, Albuquerque, NM; ²Department of Ophthalmology and Visual Sciences, University of British Columbia, Vancouver, BC, Canada
- 635 — B0203 Gene signatures of single photoreceptor cells (PRCs) using microfluidic technology.** Jessica Heap, M. I. Kautzmann, N. G. Bazan. Neuroscience Center of Excellence, Louisiana State University School of Medicine, New Orleans, LA

636 — B0204 An increase in proteolytic capacity delays photoreceptor loss in retinal degeneration. Ekaterina Lobanova, S. Finkelstein, N. Skiba, V. Y. Arshavsky. Duke Medical Center, Durham, NC

Exhibit/Poster Hall B0439-B0493

Sunday, May 07, 2017 1:30 PM-3:15 PM

Glaucoma

139 Imaging: Macula Retina, Blood Flow, OCT Angiography

Moderators: Lucy Q. Shen and Louis R. Pasquale

692 — B0439 Prevalence and risk factors for epiretinal membrane (ERM) in glaucomatous eyes with and without exfoliation syndrome. Ravivarn Jarukasetphon^{1,3}, L. Shi^{2,3}, R. Fargione¹, Z. Zemborain³, L. Silva¹, C. De Moraes⁴, R. Ritch¹, D. Hood^{3,5}. ¹Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ²Ophthalmology, Columbia University College of Physicians and Surgeons, New York, NY; ³Psychology, Columbia University, New York, NY; ⁴Edward S. Harkness Eye Institute, Columbia University Medical Center, New York, NY; ⁵Ophthalmology, Columbia University Medical Center, New York, NY *CR

693 — B0440 Retinal vessel shift and its association with axial length elongation in junior high school students. Pingcheng Shen, T. Yamashita, N. Yoshihara, N. Kakiuchi, T. Sakamoto. Ophthalmology, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima, Japan ✂

694 — B0441 The Fovea-Disc Axis Angle and Macular Thickness Vertical Asymmetry across The Temporal Raphe. Andrew Hong Nguyen, S. Henry, J. Caprioli, K. Nouri-Mahdavi. Glaucoma Division, Jules Stein Eye Institute, Los Angeles, CA *CR

695 — B0442 The Temporal Raphe of the Retinal Nerve Fibre Layer and Ganglion Cell Layer in Glaucoma Patients with a Horizontal Hemi-field Visual Field Defect. Ziad Butty, J. R. Vianna, L. A. Torres, G. Sharpe, D. Hutchison, L. M. Shuba, P. E. Rafuse, M. Nicoleta, B. C. Chauhan. Ophthalmology and Visual Sciences, Dalhousie University, Halifax, NS, Canada

696 — B0443 Ganglion cell thickness measurements obtained using Optical coherence tomography (OCT): Effect of retinal location, foveal cutout diameter and image segmentation. Pinakin G. Davey¹, Y. Dong², Q. Yang², W. Huang², D. Leung², E. Ng³, C. A. Reisman². ¹College of Optometry, Western University of Health Sciences, Pomona, CA; ²Topcon Advanced Biomedical Imaging Laboratory, Oakland, NJ; ³Edmund Ng Consulting, Seattle, WA *CR

697 — B0444 Can Macula and Optic Nerve Head Parameters Detect Glaucoma Progression in Eyes with Advanced Circumpapillary Retinal Nerve Fiber Layer Damage? Fabio Lavinsky¹, J. S. Schuman¹, K. A. Lucy¹, M. Liu², Y. Song¹, H. Ishikawa¹, G. Wollstein¹. ¹NYU Langone Eye Center, NYU School of Medicine, New York, NY; ²Division of Biostatistics, Departments of Population Health and Environmental Medicine, NYU School of Medicine, New York, NY *CR

698 — B0445 Comparison of Macular Ganglion Cell Complex and Retinal Nerve Fiber Layer Measurements in Glaucomatous Eyes with Peripapillary Atrophy. Jessica J. Moon, C. Mattox. Ophthalmology, New England Eye Center/Tufts Medical Center, Boston, MA

699 — B0446 Diagnostic accuracy of optic disc, macular and retinal nerve fiber layer analysis by means of SD-OCT at different stages of the glaucoma disease: Multicentric Italian Glaucoma Imaging Study (MIGIS). Manuele Michelessi¹, I. Riva², S. Miglior³, L. Quaranta², E. Martini⁴, P. Frezzotti⁵, M. Figus⁶, G. Manni⁷, L. Agnifili⁸, C. Posarelli⁶, L. Calandriello¹, F. Oddone¹. ¹IRCCS - Fondazione GB Bietti, Rome, Italy; ²Glaucoma Unit, University of Brescia, Brescia, Italy; ³Department of Ophthalmology, University Bicocca of Milan, Milan, Italy; ⁴Ophthalmology unit, Sassuolo Hospital, Sassuolo, Italy; ⁵Department of medicine, surgery and neuroscience, University of Siena, Siena, Italy; ⁶Ophthalmology unit, University of Pisa, Pisa, Italy; ⁷Glaucoma Unit, DSCMT, University of Tor Vergata, Rome, Italy; ⁸Department of Ophthalmology, University of Chieti-Pescara, Chieti, Italy

700 — B0447 A comparison of circumpapillary retinal nerve fiber and macular ganglion cell measures in detecting early glaucoma. Kevin K. Ma¹, C. De Moraes², A. Thenappan¹, D. Xin³, R. Jarukasetphon⁴, D. Blumberg², J. M. Liebmann², R. Ritch¹, D. Hood^{3,2}. ¹College of Physicians and Surgeons, Columbia University, New York, NY; ²Ophthalmology, Columbia University, New York, NY; ³Psychology, Columbia University, New York, NY; ⁴New York Eye and Ear Infirmary of Mount Sinai, New York, NY *CR

701 — B0448 A comparison of spectral domain optical coherence tomography (sdOCT) circumpapillary and macular measures of progression in patients with severe glaucoma. Abinaya Thenappan, K. K. Ma, A. Sun, R. Jarukasetphon, C. De Moraes, R. Ritch, D. Hood. Columbia University College of Physicians and Surgeons, Cerritos, CA *CR

702 — B0449 Test of a hypothesis about the sites of early glaucomatous damage. Jason Nunez¹, C. De Moraes³, C. S. Shaw¹, R. Jarukasetphon^{1,2}, R. Ritch², D. Hood^{1,3}. ¹Psychology, Columbia University, New York, NY; ²Ophthalmology, New York Eye & Ear Infirmary, New York, NY; ³Ophthalmology, Columbia University, New York, NY *CR

703 — B0450 Progression of Ganglion Cell- Inner Plexiform Layer Thinning Assessed by Optical Coherence Tomography Guided Progression Analysis. Gary C. Lee¹, D. Cheng¹, M. K. Durbin¹, K. Sung², J. SHIN². ¹R&D, Carl Zeiss Meditec, Inc, Dublin, CA; ²Ophthalmology, College of Medicine, University of Ulsan, Asan Medical Center, Seoul, Korea (the Republic of) *CR

704 — B0451 Comparing RNFL defects to depth of defect across perimetric stimuli. Brett J. King, W. H. Swanson, B. S. Ashimatey. School of Optometry, Indiana University, Bloomington, IN *CR

705 — B0452 Validation of the Performance of the UNC Optical Coherence Tomography Index for Early Glaucoma Diagnosis. Jean-Claude Mwanza¹, G. C. Lee², J. L. Warren³, J. G. Flanagan⁴, P. H. Artes⁵, M. Wall⁶, T. Callan², D. L. Budenz¹. ¹Ophthalmology, Univ of North Carolina at Chapel Hill, Chapel Hill, NC; ²Clinical and Applications Development, Carl Zeiss Meditec, Dublin, CA; ³Biostatistics, Yale University, New Haven, CT; ⁴School of Optometry, University of California Berkeley, Berkeley, CA; ⁵Peninsula Allied Health Centre, Plymouth, United Kingdom; ⁶Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA *CR

706 — B0453 Automated Analysis of Retinal Images for detection of Glaucoma based on Convolutional Neural Networks. Juan Jose J. Gomez^{1,2}, C. I. Sanchez³, B. Liefers³, F. G. Venhuizen³, G. Fatti⁴, A. Morilla-Grasa⁶, Y. Cartagena⁴, A. Herranz Cabarcos⁴, A. Santos^{1,2}, M. J. Ledesma-Carbayo^{1,2}, A. Anton-Lopez^{5,4}. ¹Biomedical Image Technologies (BIT), Universidad Politécnica de Madrid, Madrid, Spain; ²Centro de Investigación Biomédica en Red en Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN), Madrid, Spain; ³Department of Radiology and Nuclear Medicine, Radboud University Medical Center, Nijmegen, Netherlands; ⁴Parc de Salut Mar, Barcelona, Spain; ⁵Universitat Internacional de Catalunya, Barcelona, Spain; ⁶Institut Catala de Retina, Barcelona, Spain *CR

707 — B0454 Profile of macular ganglion cell-inner plexiform layer (GCIPL) thickness and its glaucoma diagnostic ability in eyes with high myopia. XIAOYU XU, H. Xiao, X. Liu. Glaucoma, Zhongshan Ophthalmic Center, Guangzhou, China

708 — B0455 Agreement Between Macula and Retinal Nerve Fiber Layer Guided Progression Analysis. Maria de los Angeles Ramos Cadena¹, G. Wollstein¹, K. A. Lucy¹, M. Liu², H. Ishikawa¹, J. S. Schuman¹. ¹NYU Langone Eye Center, NYU School of Medicine, New York, NY; ²Division of Biostatistics, Departments of Population Health and Environmental Medicine, New York University School of Medicine, New York, NY *CR

709 — B0456 Ganglion Cell Complex Optical Coherence Tomography Analysis in Glaucoma Patients: Spectralis vs. RTVue. *Vladimir Yevseyenkov, E. Murray, L. Holtman, J. Merrell.* Arizona College of Optometry, Midwestern University, Glendale, AZ

710 — B0457 Detection of Open Angle Glaucoma with Patient-Specific Macular Structural Measurements. *Sami Kabbara^{2,1}, L. M. Zangwill², C. Bowd², F. Medeiros², R. N. Weinreb², A. Belghith².* ¹Medicine, University of Arizona College of Medicine, Phoenix, Phoenix, AZ; ²Department of Ophthalmology, University of California, San Diego, San Diego, CA *CR, ✕

711 — B0458 First peak fractal analysis of optical coherence tomography angiography in glaucomatous eyes. *Bing Q. Chiu¹, E. Tsui¹, S. Zahid¹, N. K. Sripesema², E. Young¹, P. M. Garcia², J. Panarelli², P. A. Sidoti², R. B. Rosen², J. A. Young¹.* ¹Ophthalmology, New York University School of Medicine, New York, NY; ²Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY *CR

712 — B0459 Retinal Ganglion Cell layer by Fourier-domain Optical Coherence Tomography and microvasculature density by Optical Coherence Tomography Angiography at the macular region in glaucoma. *Luis Silva¹, Y. Suwan^{1,2}, R. Jarukasetphon¹, R. Rajshekhara³, C. De Moraes⁴, D. Hood^{3,4}, R. Ritch¹.* ¹Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ²Ophthalmology, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand; ³Psychology, Columbia University, New York, NY; ⁴Ophthalmology, Columbia University, New York, NY *CR

713 — B0460 Optical Coherence Tomography Angiography of Optic Disc in patients with Obstructive Sleep Apnea Syndrome. *Sara Bochicchio, M. Pellegrini, C. Carsana, A. Dipinto, E. Weiszberger, C. Bianchi, R. Meli, M. V. Cigada, M. Pecis, P. Santus, A. Giani, G. Staurengi.* Department of Pneumology, Ospedale Luigi Sacco Eye Clinic, Milan, Italy *CR

714 — B0461 Microvascular Compromise Develops Following Nerve Fiber Layer Damage in Normal-Tension Glaucoma Without Choroidal Vasculature Involvement. *Eun Jung Lee, J. Han, C. Kee.* Ophthalmology, Samsung Medical Center, Seoul, Korea (the Republic of)

715 — B0462 Assessment Of Peripapillary And Macular Vessel Density Estimated With Oct-Angiography In Glaucoma Suspects And Glaucoma Patients. *Giacinto Triolo¹, A. Rabiolo¹, M. Galasso¹, L. De Vitis¹, R. Sacconi¹, F. Di Matteo¹, P. Bettin¹, P. Barboni¹, G. Querques¹, F. Bandello¹, L. E. Vazquez².* ¹Ophthalmology, University Scientific Institute San Raffaele, Milano, Italy; ²Ophthalmology, University of Miami, Bascom Palmer Eye Institute, Miami, FL

716 — B0463 Optical Coherence Tomography Angiography in Patients with Focal, Diffuse, and Sclerotic Glaucomatous Optic Discs. *Amir Marvasti^{1,2}, A. Camp^{1,2}, A. Yarmohammadi^{1,2}, A. Belghith^{1,2}, L. M. Zangwill^{1,2}, F. Medeiros^{1,2}, R. N. Weinreb^{1,2}.* ¹Ophthalmology, University of California, San Diego, San Diego, CA; ²Shiley Eye Institute, Department of Ophthalmology, University of California, San Diego, Hamilton Glaucoma Center, La Jolla, CA *CR, ✕

717 — B0464 Optical coherence tomography angiography of low radial peripapillary capillary density area in glaucoma. *Yali Jia, J. Wang, L. Liu, J. C. Morrison, D. Huang.* Casey Eye Institute, Oregon Health & Science Univ., Portland, OR *CR

718 — B0465 Peripapillary Perfused Capillary Density in Exfoliation Syndrome and Exfoliation Glaucoma versus Primary Open-Angle Glaucoma and Healthy Controls: an Optical Coherence Tomography Angiography Study. *Yanin Suwan^{1,2}, L. Geyman³, M. A. Fard⁴, A. Tantraworasin⁵, T. Y. Chui¹, R. B. Rosen¹, R. Ritch¹.* ¹Einhorn Clinical Research Center, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ²Department of Ophthalmology, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand; ³Icahn School of Medicine at Mount Sinai, New York, NY; ⁴Farabi Eye Hospital, Tehran, Iran (the Islamic Republic of); ⁵Department of Surgery, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand *CR

719 — B0466 Quantification of Peripapillary Microvasculature Defects in the Retinal Nerve Fiber Layer Using Optical Coherence Tomography Angiography and Correlation with Visual Field Defects in Primary Open Angle Glaucoma. *Arman S. Zaman¹, B. Sylvester¹, I. Madi¹, Z. Chu², A. H. Kashani¹, R. K. Wang², G. M. Richter¹.* ¹Ophthalmology, University of Southern California, Los Angeles, CA; ²Bioengineering, University of Washington, Seattle, WA *CR

720 — B0467 Peripapillary Retinal Nerve Fiber Layer (RNFL) Vascular Microcirculation Using Optical Coherence Tomography Based Microangiography To Discriminate Glaucoma Or Glaucoma Suspect And Healthy Control Patients. *Cedric Schweitzer^{1,2}, C. Duthheil¹, Q. De Bosredon¹, S. Roseng¹, A. Fard³, H. Bagherinia³, G. C. Lee³, M. K. Durbin³, C. Chen⁴, R. K. Wang⁴.* ¹Ophthalmology, University Hospital Pellegrin, Bordeaux, France; ²Univ. Bordeaux, ISPED, INSERM U1219, Bordeaux, France, Bordeaux, France; ³Carl Zeiss Meditec, Dublin, CA; ⁴University Of Washington, Seattle, WA *CR

721 — B0468 Projection-Resolved Optical Coherence Tomography Angiography of the Peripapillary Retina in Glaucoma. *Beth Edmunds^{2,1}, L. Liu^{2,1}, Y. Jia^{2,1}, M. Zhang^{2,1}, S. S. Gao^{2,1}, H. L. Takusagawa^{2,1}, J. C. Morrison^{2,1}, D. Huang^{2,1}.* ¹Glaucoma, Casey Eye Institute, Portland, OR; ²Ophthalmology, Oregon Health and Science University, Portland, OR *CR

722 — B0469 A comparison of the diagnostic ability of vessel density and structural measurements of optical coherence tomography in primary angle closure disease. *Harsha L. Rao¹, Z. S. Pradhan¹, R. N. Weinreb², M. Riyazuddin¹, S. Dasari¹, J. Venugopal¹, N. Puttaiah¹, D. Rao¹, S. Devi¹, K. Mansouri^{3,5}, C. Webers⁴.* ¹Glaucoma, Narayana Nethralaya, Bangalore, India; ²Shiley Eye Institute, Hamilton Glaucoma Center and Department of Ophthalmology, University of California, San Diego, CA; ³Glaucoma Center, Montchoisi Clinic, Swiss Vision Network, Lausanne, Switzerland; ⁴University Eye Clinic Maastricht, University Medical Center, Maastricht, Netherlands; ⁵Department of Ophthalmology, University of Colorado, Denver, CO *CR

723 — B0470 The effect of intraocular pressure reduction on peripapillary and optic nerve head vessel densities: An OCT Angiography Study. *Zia S. Pradhan¹, H. Rao¹, A. Sinha Roy².* ¹Glaucoma, Narayana Nethralaya, Bangalore, India; ²Narayana Nethralaya, Bangalore, India

724 — B0471 Effect of “I-stent Inject” implantation on macular and optic nerve vessel density in OCT-angiography. *Viktoria Müller, M. Alnawaiseh, N. Eter.* Department of Ophthalmology, University of Muenster Medical Center, Muenster, Germany *CR

725 — B0472 Response of Retinal Capillary Filling to Changes in Intraocular Pressure in Elderly Rats Measured by Optical Coherence Tomography (OCT) Angiography. *Xiaoyun Jiang¹, E. C. Johnson², C. Chen¹, S. Men¹, D. C. Lozano², W. O. Cepurna², J. C. Morrison², R. K. Wang¹.* ¹Bioengineering, University of Washington, Seattle, WA; ²Ophthalmology, Casey Eye Institute-OHSU, Portland, OR

726 — B0473 Quantification of Retinal Blood Flow Using Doppler OCT with a PLEX TM Elite 9000. *Johannes M. Blaesi, N. D. Shemonski, J. Straub.* R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR

727 — B0474 Patient-Specific Virtual Simulator Of Tissue Perfusion In The Lamina Cribrosa. *Lorenzo Sala¹, C. Prud'homme¹⁰, D. Prada³, F. Salerni², C. Trophime⁵, V. Chabannes¹, M. Szopos¹⁰, R. Repetto⁴, S. Bertoluzza⁶, R. Sacco⁸, A. Harris⁷, G. Guidoboni⁶.* ¹IRMA, Université de Strasbourg, Strasbourg, France; ²Department of Physics and Earth Science, University of Parma, Parma, Italy; ³Department of Mathematical Sciences, IUPUI, Indianapolis, IN; ⁴DICCA, University of Genova, Genova, Italy; ⁵LNCFM, Université Grenoble Alpes, Grenoble, France; ⁶LabEx IRMA, Strasbourg, France; ⁷Eugene and Marilyn Glick Eye Institute and Department of Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ⁸Politecnico di Milano, Milano, Italy; ⁹CNR - IMATI, Pavia, Italy; ¹⁰Université de Strasbourg, CNRS, IRMA UMR 7501, Strasbourg, France *CR

- 728 — B0475 Changes in choroidal blood flow and morphology in response to increase of intraocular pressure.** Tomohiko Akahori, T. Iwase, K. Yamamoto, E. Ra, H. Terasaki. Nagoya University, Nagoya, Japan
- 729 — B0476 Choroidal blood flow compensates for decreases in ocular perfusion pressure in glaucoma.** Wulff-Dieter Ulrich¹, K. Wernecke², A. Moeller¹, C. Ulrich¹, C. Erb³. ¹Private Practice of Ophthalmology, Leipzig, Germany; ²Sostana GmbH, Berlin, Germany; ³Augenlinik am Wittenbergplatz, Berlin, Germany *CR
- 730 — B0477 Systemic Antihypertensive Use Increases the Incidence of Glaucoma Progression.** Daniel S. Kermany¹, C. Krambeer², M. Jansen³, J. Waters³, S. Bahadorani³, W. Tie², M. Singer⁴. ¹University of Texas at Austin, Katy, TX; ²Texas Tech University Health Science Center Paul L. Foster School of Medicine, El Paso, TX; ³University of Texas HSC San Antonio, San Antonio, TX; ⁴Medical Center Ophthalmology Associates, San Antonio, TX *CR
- 731 — B0478 Effect of orally administered nitrates on central retinal venous pressure in primary open angle glaucoma patients.** Lutz E. Pillunat, E. Spoerl, E. Voigt, K. R. Pillunat. Dept of Ophthalmology, Medical Faculty Carl Gustav Carus, University of Dresden, Dresden, Germany ✕
- 732 — B0479 Central retinal venous pressure in patients with large discs.** Karin R. Pillunat, S. Georgii, E. Spoerl, R. P. Stodtmeister, L. E. Pillunat. Dept of Ophthalmology, Univ Clinic Carl Gustav Carus Dresden, Dresden, Germany ✕
- 733 — B0480 The distribution of the central retinal vein pressure and of the intraocular pressure significantly differs in patients with primary open angle glaucoma.** Richard P. Stodtmeister, W. Koch, S. Georgii, K. R. Pillunat, E. Spoerl, L. E. Pillunat. Ophthalmology, Univ. Hospital Carl Gustav Carus, TU Dresden, Dresden, Germany
- 734 — B0481 Visual field sensitivity is decreased with reduced spontaneous venous pulsation in glaucoma eyes.** Mojtaba Golzan^{1,2}, D. Georgevsky², C. Bowd³, R. N. Weinreb³, S. L. Graham¹. ¹Graduate School of Health (Vision Science Group, Orthoptics Discipline), University of Technology, Sydney, Ultimo, NSW, Australia; ²Department of Clinical Medicine, Macquarie University, Sydney, NSW, Australia; ³Hamilton Glaucoma Center, Shiley Eye Institute, Department of Ophthalmology, University of California, San Diego, La Jolla, CA *CR
- 735 — B0482 Oxygen saturation of the retinal vessels may differ between primary open-angle glaucoma and normal-tension glaucoma.** Kazuyuki Hirooka, T. Shimazaki, Y. Nakano, E. Nitta, K. Ukegawa, A. Tsujikawa. Ophthalmology, Kagawa Univ Faculty of Medicine, Kita-gun, Japan
- 736 — B0483 Viscosity in POAG: effects of shear rate and cross-linking.** Paul A. Knepper^{1,2}, K. Polikaitis¹, M. Giovingo³, K. Carey¹, I. Bielskus¹, M. D. Miazga¹, N. M. Pfahler¹, J. Ma², N. J. Volpe². ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Ophthalmology, Northwestern University, Chicago, IL; ³Ophthalmology, John H. Stroger, Jr. Hospital of Cook County, Chicago, IL *CR
- 737 — B0484 Association between radiation, glaucoma subtype, and retinal vessel diameter in atomic bomb survivors.** Yoshiaki Kiuchi¹, M. Yanagi¹, K. Itakura¹, I. Takahashi², W. Ohishi². ¹Ophthalmology & Visual Science, Hiroshima University, Minami-ku, Japan; ²Radiation Effects Research Foundation, Hiroshima, Japan
- 738 — B0485 Detection of dynamic changes in retinal vessel caliber *in vivo* using steady-state fluorescein angiography.** Blake H. Fortes¹, J. Nahmias¹, M. Tapia², T. Chou², G. L. Romano², V. Porciatti², L. E. Vazquez². ¹Florida International University College of Med, Miami, FL; ²Ophthalmology, Bascom Palmer Eye Institute-University of Miami, Miami, FL
- 739 — B0486 Effect of intravitreal injections of calcium channel blockers on retinal blood vessel caliber.** Javier A. Nahmias¹, B. H. Fortes¹, M. Tapia², T. Chou², G. L. Romano², V. Porciatti², L. E. Vazquez². ¹Florida International University Herbert Wertheim College of Medicine, Miami, FL; ²Ophthalmology, Bascom Palmer Eye Institute-University of Miami, Miami, FL
- 740 — B0487 The Association of Retinal Vessel Diameter and Intraocular Pressure with Maximum Cup Depth: the Handan Eye Study.** Qing Zhang¹, Z. Zhang¹, Y. Liang², F. Wang¹, R. Thomas³, N. Wang¹. ¹Beijing Tongren Hospital, Capital Medical University, Beijing, China; ²School of Ophthalmology & Optometry, Wenzhou Medical College, WENZHOU, China; ³Queensland Eye Institute □ University of Queensland, Brisbane, QLD, Australia
- 741 — B0488 Baseline macular thickness correlates more strongly with changes in retinal capillary blood flow in open angle glaucoma patients with diabetes mellitus after 4 years.** Alice Chandra Verticchio Vercellin¹, A. Harris², B. A. Siesky², N. Kim², T. Knight², A. Ng², G. Eckert³, Y. Catoira-Boyle², J. C. Gross². ¹University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy; ²Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ³Biostatistics, Indiana University, Indianapolis, IN *CR
- 742 — B0489 Changes in blood pressure and ocular perfusion pressure are associated with functional progression in open-angle glaucoma patients with diabetes mellitus after 5 years.** Colin Ridenour¹, A. Harris¹, B. A. Siesky¹, A. Verticchio Vercellin², T. Knight¹, A. Shah¹, C. P. Jones-Cuypers³, J. C. Gross¹. ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy; ³Neurosciences Cliniques, Ophthalmology, Hôpitaux Universitaires de Genève, Genève, Switzerland *CR
- 743 — B0490 Retinal capillary blood flow is more strongly correlated with blood pressure parameters and intraocular pressure in male glaucoma patients.** Tyler Knight¹, A. Harris¹, A. Verticchio Vercellin², J. C. Gross¹, C. Ridenour¹, A. Shah¹, D. WuDunn¹, B. A. Siesky¹. ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy *CR
- 744 — B0491 Retinal capillary blood flow in open-angle glaucoma patients of African descent decreases more over time compared to patients of European descent.** Brent A. Siesky¹, A. Harris¹, A. Verticchio Vercellin², N. Kim¹, I. Januleviciene³, A. Huang¹, J. Geng¹, Y. Catoira-Boyle¹, J. C. Gross¹. ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy; ³Ophthalmology, Lithuanian University of Health Sciences, Kaunas, Lithuania *CR
- 745 — B0492 Association between nocturnal hypotension and optic disc hemorrhage in glaucomatous eyes.** Amitabha S. Bhakta, A. Maharaj, D. S. Greenfield. Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Palm Beach Gardens, FL
- 746 — B0493 High myopia in POAG and nailfold hemorrhages.** Michael D. Miazga¹, I. Bielskus¹, N. M. Pfahler¹, A. P. Tanna², N. J. Volpe², M. Giovingo³, Z. Zapparackas², P. A. Knepper^{1,2}. ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Ophthalmology, Northwestern University, Chicago, IL; ³Ophthalmology, John H. Stroger, Jr. Hospital, Chicago, IL *CR

Exhibit/Poster Hall B0586-B0601

Sunday, May 07, 2017 1:30 PM-3:15 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

140 Eye movements

Moderator: Paul C. Knox

747 — B0586 Normal Range of Eye Movement and Its Relationship to Age. Han Woong Lim, Y. Song, J. Kim, Y. Shin, S. Hwang, S. Hong. Ophthalmology, Hanyang University Hospital, Seoul, Korea (the Republic of)

748 — B0587 Model to simulate impact of eye oculomotor behavior under imaging condition. Alexander Dietzel¹, D. Baumgarten^{1,2}. ¹Institute of Biomedical Engineering and Informatics, Technische Universitaet Ilmenau, Ilmenau, Germany; ²Institute of Electrical and Biomedical Engineering, UMIT-University of Health Sciences, Medical Informatics and Technology, Hall in Tirol, Austria

749 — B0588 Influence of optical blur on eye movements in a free viewing task. Marta Salvador-Bernad¹, J. Gautier¹, C. E. Garcia-Guerra^{1,2}, C. Otero¹, J. Pujol¹. ¹Davalor Research Center (dRC), Universitat Politècnica de Catalunya, Terrassa, Spain; ²Centre for Sensors, Instruments and Systems Development (CD6), Universitat Politècnica de Catalunya, Terrassa, Spain *CR

750 — B0589 Binocular fixation reduces fixational eye movements in the most affected eye of patients with center involving diabetic macular oedema. Nanna S. Jakobsen, D. A. Larsen, T. Bek. Department of Ophthalmology, Aarhus University Hospital, Aarhus C, Denmark

751 — B0590 Effect of target parameters on fixational saccades in normal monkeys. Mythri Pulella, S. Upadhyaya, S. Ramachandran, A. C. Joshi, S. Adade, V. E. Das. College of Optometry, University of Houston, Houston, TX

752 — B0591 Microsaccades as recorded by the tracking scanning laser ophthalmoscope are associated with disability in MS. Christy K. Sheehy⁴, E. Bensinger^{1,2}, M. P. Devereux⁴, N. S. Baker⁴, A. E. Boehm^{1,2}, S. Stevenson³, A. J. Green⁴. ¹Vision Science, University of California, Berkeley, Berkeley, CA; ²Optometry, University of California, Berkeley, Berkeley, CA; ³Optometry, University of Houston, Houston, CA; ⁴Neurology, University of California, San Francisco, San Francisco, CA *CR

753 — B0592 Timing of concurrent visual stimuli determines modulation of saccadic amplitude. Moritz Feil, M. Abegg. Department of Ophthalmology, Inselspital, Bern University Hospital, and University of Bern, Bern, Switzerland

754 — B0593 Does Saccade Response Amplitude Gain Vary with the Amplitude of Target Demand? Lynn D. Greenspan. Graduate Program in Biomedicine, Department of Optometry, Salus University, Elkins Park, PA

755 — B0594 Evaluation of saccades show ocular-motor fatigue in internuclear ophthalmoparesis due to multiple sclerosis. Jonathan B. Jacobs^{1,2}, A. Serra^{1,3}, C. Chisari⁴, M. Skelly⁴, M. Matta⁵, M. Walker^{1,3}, J. Cohen⁶. ¹Daroff-Dell'Osso Ocular Motility Lab, Cleveland VA Med Ctr, Cleveland, OH; ²Neurology (SOM) and Biomedical Engineering, Case Western Reserve University, Cleveland, OH; ³Neurology, Case Western Reserve University, Cleveland, OH; ⁴University of Catania, Catania, Italy; ⁵Ospedale San Luigi Gonzaga, Orbassano, Italy; ⁶Cleveland Clinic Mellen Center, Cleveland, OH *CR

756 — B0595 Gaze patterns are largely normal but performance is impaired during visual search in frontotemporal dementia. Amanda Douglass¹, M. Walterfang^{2,1}, L. A. Abel¹. ¹The University of Melbourne, Melbourne, VIC, Australia; ²The Royal Melbourne Hospital, Melbourne, VIC, Australia

757 — B0596 Repeatability of Visual Acuity Measured in Eccentric Gaze in Patients with Infantile Nystagmus Syndrome. Kristi Kester, T. L. Roberts, R. W. Hertle. Department of Ophthalmology, Akron Children's Hospital, Akron, OH

758 — B0597 Quantifying The Improvement In Optotype Visual Acuity In Patients With Infantile Nystagmus Syndrome As A Function of Gaze Dependent Visual Acuity Pre- And Post-Treatment. Tawna L. Roberts, R. W. Hertle. Ophthalmology, Akron Children's Hospital, Akron, OH

759 — B0598 A Normative Study of Objective Measures of Disparity Vergence in Children 9 to 17 years old. Mashaal Namaeh¹, M. Scheiman¹, G. Mitchell¹, T. L. Alvarez². ¹Biomedicine Department, Salus University, Elkins Park, PA; ²New Jersey Institute of Technology, Newark, NJ; ³The Ohio State University, Columbus, OH

760 — B0599 Vergence and accommodation in non-strabismic hyperopic children. Vidhyapriya Sreenivasan, Y. Wu, S. Neupane, D. Lyon, K. S. Connolly, T. Candy. Optometry, Indiana University, Bloomington, IN

761 — B0600 Does cover test overestimate systematically the phoria values? Clara Mestre, C. Otero, J. Gautier, J. Pujol. Davalor Research Center (dRC). Universitat Politècnica de Catalunya, Terrassa, Spain *CR

762 — B0601 Stepping into the virtual unknown: feasibility study of a virtual reality-based test of ocular misalignment. Nisha Nesaratnam, P. Thomas, A. Vivian. Department of Ophthalmology, Addenbrooke's Hospital, Milton Keynes, United Kingdom

Exhibit/Poster Hall B0602-B0633

Sunday, May 07, 2017 1:30 PM-3:15 PM

Lens

141 Cataract Surgery Outcomes and Epidemiology

763 — B0602 Cataract surgery practices in the United States Veterans Health Administration. Annika G. Havnaer^{1,2}, P. B. Greenberg^{1,2}, G. C. Cockerham^{3,4}, M. A. Clark⁵, A. Chomsky^{6,7}. ¹Division of Ophthalmology, The Warren Alpert Medical School of Brown University, Providence, RI; ²Section of Ophthalmology, Providence VA Medical Center, Providence, RI; ³Section of Ophthalmology, Palo Alto VA Medical Center, Palo Alto, CA; ⁴Departments of Ophthalmology and Pathology, Stanford University School of Medicine, Palo Alto, CA; ⁵Department of Quantitative Health Sciences, University of Massachusetts Medical School, Worcester, MA; ⁶Section of Ophthalmology, VA Tennessee Valley Healthcare System, Nashville, TN; ⁷Vanderbilt Eye Institute, Nashville, TN

764 — B0603 Cataract Surgery, Fractures, and Fracture-Related Mortality in the Veterans Health Administration. Victoria Tseng¹, J. Giacon^{1,2}, F. Yu^{1,3}, A. Coleman^{1,4}. ¹Ophthalmology, UCLA/Stein Eye Institute, Los Angeles, CA; ²Ophthalmology, Veterans Affairs Medical Center of Greater Los Angeles, Los Angeles, CA; ³Biostatistics, UCLA Fielding School of Public Health, Los Angeles, CA; ⁴Epidemiology, UCLA Fielding School of Public Health, Los Angeles, CA *CR

765 — B0604 Cataract surgery in the National Health and Aging Trends Study. Brian C. Stagg^{1,2}, C. Ankuda², B. Otte³, M. A. Woodward^{1,2}. ¹Kellogg Eye Center, Salt Lake City, MI; ²Institute for Healthcare Policy and Innovation, University of Michigan, Ann Arbor, MI; ³School of Medicine, University of Michigan, Ann Arbor, MI

766 — B0605 Effect of a structured surgical curriculum on complication rates in resident cataract surgery. Thomas McCurry, T. Martz, S. M. Johnson. Ophthalmology, University of Virginia, Charlottesville, VA

767 — B0606 Variations in intraoperative complication rates for resident performed cataract surgery during an academic year. Nataliya Pokeza¹, A. Joseph¹, N. Dehan², K. Asoma¹. ¹Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY; ²SUNY Downstate Medical Center, Brooklyn, NY

768 — B0607 Capturing Resident Cataract Surgical Skills through an Electronic Medical Record. Mira Shiloach, M. Macsai, P. Shah. Ophthalmology, NorthShore University HealthSystem, Glenview, IL

- 769 — B0608 A preliminary study on crowdsourcing for intraoperative surgical skill assessment in capsulorhexis.** *Shameema Sikder¹, L. Fang², A. Sinha³, A. Shekhar², A. Reiter², G. Hager², S. Vedula².* ¹Ophthalmology, Wilmer Eye Institute, Bethesda, MD; ²Computer Science, Johns Hopkins University, Baltimore, MD
- 770 — B0609 Learning curve of resident-performed phacoemulsification surgeries: Complications and outcomes.** *Bruna G. Ferreira, H. G. Filho, I. C. Silva, A. A. Martini, M. I. Vieira, M. V. Mélega, M. Alves, R. P. Lira, C. L. Arieta.* Discipline of Ophthalmology, University of Campinas (UNICAMP), CAMPINAS, Brazil
- 771 — B0610 Risk Factors for Complications in Cataract Surgeries Performed by Residents.** *Rebecca B. Bausell¹, B. J. Winn².* ¹Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, Columbia University, New York, NY
- 772 — B0611 Specular Microscopy Changes After Phacoemulsification Surgery Performed by Ophthalmology Residents.** *Ricardo Moreno¹, A. Zerneno¹, F. D. Guzman¹, M. Garzon¹, M. Barba².* ¹Instituto de Oftalmología Conde de Valenciana, México, Mexico; ²Universidad Autonoma de Guadalajara, Mexico, Mexico
- 773 — B0612 Trends in surgical experience in cornea, glaucoma and retina subspecialty fellowship training from 2009 to 2016.** *Andrew Pouw, A. Nguyen, J. Liu.* Ophthalmology, Yale, NEW HAVEN, CT
- 774 — B0613 Development of a Concise Patient-Reported Outcome Measure for Cataract Surgery in South India.** *Charles Frank¹, J. Smiley¹, H. Le¹, S. Joseph², S. Schilling^{3,4}, B. Stagg^{1,5}, R. Ravindran⁶, J. Trobe¹, J. D. Stein^{1,5}, H. Aravind⁶, J. R. Ehrlich^{1,5}.* ¹Department of Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ²Lions Aravind Institute of Community Ophthalmology, Aravind Eye Care System, Madurai, India; ³Institute for Social Research, University of Michigan, Ann Arbor, MI; ⁴Department of Physical Medicine and Rehabilitation, University of Michigan, Ann Arbor, MI; ⁵Center for Eye Policy and Innovation, University of Michigan, Ann Arbor, MI; ⁶Aravind Eye Care System, Madurai, India
- 775 — B0614 Distribution of Posterior Corneal Astigmatism and Aberration before Cataract Surgery in Chinese Patients.** *Yating Tang, Y. Jiang, Q. Jing, D. Qian, Y. Lu.* Ophthalmology, Eye and ENT Hospital of Fudan University, Shanghai, China
- 776 — B0615 Post Cataract Surgery Complications and its Contribution to Visual Impairment/Blindness: The Brazilian Amazon Region Eye Survey (BARES).** *Sung E. Watanabe¹, M. Higashi¹, M. Cypel¹, A. G. Fernandes¹, A. Berezovsky¹, M. Cohen^{2,1}, J. M. Furtado^{3,1}, P. Morales¹, C. C. Cunha^{4,1}, J. Cohen^{2,3}, N. Nunes Cavascan¹, P. Sacai¹, G. Carvalho Vasconcelos^{6,1}, S. Munoz⁷, R. Belfort¹, S. R. Salomao¹.* ¹Departamento de Oftalmologia e Ciências Visuais, Universidade Federal de São Paulo, Sao Paulo, Brazil; ²Divisão de Oftalmologia do Departamento de Cirurgia, Faculdade de Medicina da Universidade Federal do Amazonas, Manaus, Brazil; ³Depto de Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoco, Faculdade de Medicina de Ribeirao Preto, Ribeirao Preto, Brazil; ⁴Residência Médica em Oftalmologia, Faculdade de Medicina da Universidade Federal do Pará, Belem, Brazil; ⁵Instituto de Olhos de Manaus, Manaus, Brazil; ⁶Departamento de Oftalmologia, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; ⁷Salud Publica, Universidad de La Frontera, Temuco, Chile
- 777 — B0616 Impact of cataract surgery on pre-frailty and frailty among older patients from a specialized hospital in Mexico City.** *Enrique O. Graue-Hernandez¹, J. Arrieta-Camacho⁴, R. Castrejon-Perez⁵, A. Jimenez-Corona^{2,3}.* ¹Corneal/Enfermedades Externas, Instituto de Oftalmologia Conde de Valenciana, Mexico City, Mexico; ²Epidemiologia Ocular y Salud Visual, Instituto de Oftalmologia Conde de Valenciana, Mexico City, Mexico; ³Direccion general de Epidemiologia, Secretaria de Salud, Mexico City, Mexico; ⁴Segmento Anterior, Instituto de Oftalmologia Conde de Valenciana, Mexico City, Mexico; ⁵Epidemiologia, Instituto Nacional de Geriatria, Mexico City, Mexico
- 778 — B0617 Barriers to cataract surgery in Hungary: a population based survey.** *Gabor Laszlo Sandor¹, D. Szabo¹, G. Toth¹, I. Szalai¹, R. Lukacs^{1,2}, A. Pek^{1,3}, G. Toth¹, A. Papp¹, Z. Nagy¹, H. Limburg⁴, J. Nemeth¹.* ¹Department of Ophthalmology, Semmelweis University, Budapest, Hungary; ²Flor Ferenc Hospital, Kistarcsa, Hungary; ³Petz Aladar Hospital, Győr, Hungary; ⁴International Centre for Eye health, London, United Kingdom
- 779 — B0618 Outcome of cataract surgery in children after bone marrow transplantation.** *Ariel Chen¹, K. G. Yen^{1,2}.* ¹Baylor College of Medicine, Houston, TX; ²Texas Children's Hospital, Houston, TX
- 781 — B0620 Epidemiology of pseudoexfoliation syndrome in a Guatemalan population - 2-year follow-up.** *Jennifer L. Barger, E. Tsui, K. C. Chen, I. Haberman, J. Lee, L. Park.* Ophthalmology, New York University School of Medicine, New York, NY
- 782 — B0621 Factors influencing anterior chamber depth in pseudophakic eyes.** *youngju An, E. Kang, C. Joo.* Department of Ophthalmology and Visual Science, The Catholic University of Korea School of Medicine, Seoul, Korea (the Republic of)
- 783 — B0622 Changes in refractive error between one week and one month after cataract surgery.** *Theresa M. Long¹, M. McFadden², C. Checketts², M. Mifflin², A. Lin².* ¹Ophthalmology, University of Missouri School of Medicine, Columbia, MO; ²Ophthalmology, University of Utah - John A. Moran Eye Center, Salt Lake City, UT; ³Department of Internal Medicine, Division of Epidemiology, University of Utah, Salt Lake City, UT *CR
- 784 — B0623 Visual outcomes of femtosecond laser-assisted cataract surgery (FLACS) treating high myopia cataract.** *kaikai qiu.* Ophthalmology, Tianming Ophthalmology and Optometry clinic, Kunming, China; Ophthalmology Department, Hospital of University of Science and Technology of China, Hefei, China
- 785 — B0624 Refractive changes after capsulotomy with YAG laser.** *Mayra Neves De Melo Carneiro¹, G. G. Pacheco¹, P. D. Abreu¹, J. J. Nassaralla².* ¹Residencia, Instituto De Olhos De Goiania, Goiania, Brazil; ²Retina and Vitreous, Instituto de Olhos de Goiania, Goiania, Brazil ✗
- 786 — B0625 Toxic Anterior Segment Syndrome in a tertiary Australian Healthcare Institution.** *Chris H. Lim¹, N. Wong^{1,2}, C. H. Ng^{1,2}, A. Symons¹.* ¹Ophthalmology, Royal Melbourne Hospital, Melbourne, VIC, Australia; ²Royal Victorian Eye and Ear Hospital, Melbourne, TAS, Australia
- 787 — B0626 PEDIG Lensectomy Registry: Rates of Amblyopia Treatment, Glaucoma and Other Complications One Year after Surgery.** *Michael X. Repka¹, T. W. Dean¹, R. Kraker¹, D. K. Wallace², E. D. Bothun², E. D. Stahl⁴, S. R. Lambert⁵, D. G. Morrison⁶.* ¹Jaeb Center for Health Research, Tampa, FL; ²Mayo Clinic, Rochester, MN; ³Duke Eye Center, Durham, NC; ⁴Children's Mercy Hospitals and Clinics, Kansas City, MO; ⁵Stanford University, Palo Alto, CA; ⁶Vanderbilt Eye Center, Nashville, TN
- 788 — B0627 Assessment of intra and postoperative complications of cataract surgery in glaucoma suspects.** *Emily A. Gross^{1,2}, D. S. Borkar^{1,2}, N. Koullisis², T. van Zyl^{1,2}, S. Chen^{1,2}, M. Gardiner^{1,2}, S. Borboli-Gerogiannis^{1,2}, S. Brauner^{1,2}, A. Lobo^{1,2}, Z. Luo^{1,2}, C. Kloek^{1,2}.* ¹Ophthalmology, Harvard Medical School, Brookline, MA; ²Massachusetts Eye and Ear Infirmary, Boston, MA

789 — B0628 Glycated hemoglobin levels and risk of clinically significant macular edema after cataract surgery in veterans: results from the Veterans Affairs (VA) Ophthalmic Surgery Outcomes Data (OSOD) Project. *Michael*

M. Lin^{1,3}, A. R. Payal^{1,3}, D. Siracuse-Lee^{1,2}, T. Cakiner-Egilmez¹, A. Chomsky^{4,5}, D. Vollman^{6,7}, E. Baze^{8,9}, M. G. Lawrence¹⁰, M. K. Daly^{1,2}.

¹Ophthalmology Department, Veterans Affairs Boston Healthcare System, Jamaica Plain, MA; ²Department of Ophthalmology, Boston University School of Medicine, Boston, MA; ³Department of Ophthalmology, Harvard Medical School, Boston, MA; ⁴Veterans Affairs Tennessee Valley Healthcare System Center, Nashville, TN; ⁵Vanderbilt Eye Institute, Vanderbilt University Medical School, Nashville, TN; ⁶Ophthalmology Department, St. Louis Veterans Affairs Medical Center, St. Louis, MO; ⁷Department of Ophthalmology and Visual Sciences, Washington University School of Medicine, St. Louis, MO; ⁸Michael E. DeBakey Veterans Affairs Medical Center, Houston, TX; ⁹Cullen Eye Institute, Baylor College of Medicine, Houston, TX; ¹⁰Department of Defense/Veterans Affairs Vision Center of Excellence, Bethesda, MD

790 — B0629 Characterizing posterior capsule rupture during cataract surgery in eyes with prior intravitreal injection. *Zaid Shalchi, R. Hamilton.* Medical Retina Service, Moorfields Eye Hospital, London, United Kingdom *CR

791 — B0630 Assessing The Prevalence Of Abnormal Tear Testing In Cataract Surgery Patients Using Two Point-Of-Care Diagnostic Tests. *Owen J. Drinkwater, A. R. Brissette, C. E. Starr.* Weill Cornell Medicine, New York, NY *CR

792 — B0631 Long-term outcome of cataract surgery for highly myopic patients with traction maculopathy. *Lei Cai, J. Yang, Y. Lu.* Department of Ophthalmology, Eye & ENT Hospital of Fudan University, Shanghai, China

793 — B0632 Three-month outcomes of intraocular surgery in survivors of Ebola virus disease. *Rachel Bishop¹, K. Tawse¹, R. Dolo², A. O. Eghrari³.* ¹Consult service NEI NIH, Bethesda, MD; ²New Sight Eye Center, Monrovia, Liberia; ³Wilmer Eye Institute, Baltimore, MD; ⁴Front Range Eye Physicians, Longmont, CO

794 — B0633 Assessing the impact of adjuvant methods in cataract surgery based on 3x3 crossover experiment. *Suvin Choi¹, S. Chung², S. Park³, H. Lee¹, L. Bellan⁴.* ¹Chung-Ang University, Seoul, Korea (the Republic of); ²Ophthalmology, College of Medicine, The Catholic University of Korea, Seoul, Korea (the Republic of); ³Applied Statistics, Chung-Ang University, Seoul, Korea (the Republic of); ⁴Ophthalmology, Misericordia Health Centre, Winnipeg, MB, Canada x⁷

Ballroom 2

Sunday, May 07, 2017 3:15 PM-5:00 PM

Cornea

142 Dry Eye I*Moderator: Cintia S. De Paiva*

795 — 3:15 Commensal Bacteria Reconstitution Delays Autoimmunity in the Germ-Free CD25KO Model of Sjögren Syndrome. *Cintia S. De Paiva³, M. Zaheer³, C. Wang³, F. Bian³, A. Swennes¹, R. A. Britton², S. C. Pflugfelder³.* ¹Center for Comparative Medicine, Department of Molecular Virology and Microbiology, Baylor College of Medicine, Houston, TX; ²Center for Metagenomics and Microbiome Research, Department of Molecular Virology and Microbiology, Baylor College of Medicine, Houston, TX; ³Ophthalmology, Baylor College of Medicine, Houston, TX

796 — 3:30 Application of Targeted Proteomics in Identification of Specific Signature Peptides in Dry Eye Disease: One Step Closer to Personalized Diagnosis? *Natarajan Perumal, C. Manicam, M. Steinicke, A. Tschäbunin, M. Scieranski, N. Pfeiffer, F. H. Grus.* Department of Ophthalmology, University Medical Center of the Johannes Gutenberg University Mainz, Mainz, Germany

797 — 3:45 Corneal transcriptome changes in a mouse model of dry eye. *Philippe Daull¹, L. Feraille², K. Kessa³, P. Elena², S. Barabino⁴, C. Baudouin³, J. Garrigue¹.* ¹Novagali Innovation Center, Santen SAS, Evry, France; ²IRIS Pharma, La Gaude, France; ³Vision Institute, Paris, France; ⁴Clinica Oculistica, University of Genoa, Genoa, Italy *CR

798 — 4:00 A Novel Innate Immunity Pathway in Dry Eye: ROS Dysregulates Activity of NLRP3/NLRP6 Inflammasomes via BRCC36 and Caspase-8 Signaling. *De-Quan Li¹, W. Chi^{1,2}, X. CHEN^{1,3}, X. Hua¹, F. Bian¹, C. S. De Paiva¹, S. C. Pflugfelder¹.* ¹Ophthalmology, Baylor College of Medicine, Houston, TX; ²Zhongshan Ophthalmic Center, Sun Yan-Sen University, Guangzhou, China; ³School of Optometry and Ophthalmology, Wenzhou Medical University, Wenzhou, China

799 — 4:15 Mechanisms of corneal intraepithelial nerve damage after exposure to hyperosmolar solutions in rat. *Kamila Mizerska¹, V. Dallacagrande¹, H. Hirata¹, C. F. Marfurt², M. Rosenblatt³.* ¹Department of Ophthalmology, Weill Cornell Medicine, New York, NY; ²Indiana University School of Medicine, Gary, IN; ³Department of Ophthalmology and Visual Sciences, University of Illinois, Chicago, IL

800 — 4:30 Comparative efficacy of preservative-free anti-inflammatory eye drops in a mouse model of dry eye. *Jean-Sebastien Garrigue¹, C. Nicolas², K. Kessa³, E. Gros², V. Mauro², S. Barabino⁴, C. Baudouin³, P. Daull¹.* ¹Novagali Innovation Center, Santen SAS, Evry, France; ²IRIS Pharma, La Gaude, France; ³Vision Institute, Paris, France; ⁴Clinica Oculistica, University of Genoa, Genoa, Italy *CR

801 — 4:45 AQP5 Promotes Inflammation and Apoptosis via JNK Activation in Hyperosmolarity Stressed Human Corneal Epithelial Cells. *Qinxiang Zheng, H. Lu, W. Chen.* Wenzhou Medical University, Wenzhou, China

Ballroom 1

Sunday, May 07, 2017 3:15 PM-5:00 PM

Retinal Cell Biology

143 Retinal glia*Moderators: Stefanie G. Wohl and Nefeli Slavi*

802 — 3:15 Retinoic acid signaling promotes proliferation and neuronal differentiation from Müller glia-derived progenitor cells in the avian retina. *Levi Todd, L. Suarez, C. Quinn, A. J. Fischer.* Neuroscience, Ohio State University, Columbus, OH

803 — 3:30 The effect of Serine/Glycine metabolism on Müller cells mitochondrial function, redox homeostasis and cells' survival under oxidative stress. *Ting Zhang^{1,2}, L. Zhu¹, W. Shen¹, M. C. Gillies¹.* ¹Save Sight Institute, Sydney, NSW, Australia; ²State Key Laboratory of Biotherapy/Collaborative Innovation Center for Biotherapy, West China Hospital, Sichuan University, Chengdu, China

804 — 3:45 The insulin receptor substrate-1 (IRS-1) regulates Kir4.1 expression in retinal Müller cells. *Qianyi Luo, K. Thompson, A. D. Bhatwadekar.* Ophthalmology, Eugene and Marilyn Glick Eye Institute, Indiana University, Indianapolis, IN

805 — 4:00 microRNAs are required for maintenance of Müller glia homeostasis and retinal architecture: The role of Brevican. *Stefanie G. Wohl, T. A. Reh.* Biological Structure, University of Washington, Seattle, WA

806 — 4:15 Microglia homeostasis in the adult mouse retina: restoration of microglial distribution, morphology, and function following acute depletion. *Yikui Zhang, L. Zhao, X. Wang, W. Ma, A. Lazere, H. Qian, R. N. Fariss, J. Zhang, M. S. Abu-Asab, W. T. Wong.* National Eye Institute, Bethesda, MD

807 — 4:30 Effect of Surfactant Protein A on Retinal Cytokines and Microglia in Systemic Inflammation. *Faizah Bhatti^{1,2}, N. Kassa¹, J. Kung¹, P. S. Coburn².* ¹Pediatrics, OUHSC, Oklahoma City, OK; ²Ophthalmology, OUHSC, Oklahoma City, OK

808 — 4:45 Hypoxia-induced phosphorylation of astrocytic Cx43 is associated with misdirected angiogenesis in oxygen induced retinopathy. *NEFELI SLAVI¹, P. D. Lampe², M. Srinivas¹.* ¹Biological and Vision Sciences, SUNY College of Optometry, New York, NY; ²Translational Research Program, Fred Hutchinson Cancer Research Center, Seattle, WA

Ballroom 4

Sunday, May 07, 2017 3:15 PM-5:00 PM

Biochemistry/Molecular Biology

144 Biochemistry and Molecular Biology of AMD I*Moderators: Luminita I. Paraoan and Anneke I. Den Hollander*

809 — 3:15 Towards precision medicine in AMD: Genome-wide association study reveals genetic variants in CFH and CFHR4 that are strongly associated with complement activation levels. *Laura Lorés de Motta¹, C. Paun¹, J. Corominas^{1,2}, M. Geerlings¹, L. Altay³, T. Schick³, B. Bakker¹, J. Groenewoud¹, M. Daha³, S. Fauser^{4,3}, A. I. Den Hollander^{1,2}, E. de Jong¹.* ¹Department of Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center, Nijmegen, Netherlands; ²Department of Human Genetics, Radboud university medical center, Nijmegen, Netherlands; ³Department of Ophthalmology, University Hospital of Cologne, Cologne, Germany; ⁴Department for Health and Evidence, Radboud university medical center, Nijmegen, Netherlands; ⁵Department of Nephrology, Leiden University Medical Center, Leiden, Netherlands; ⁶Ophthalmology, Roche, Basel, Switzerland *CR

810 — 3:30 Ablation of endothelial TGF- β signaling causes choroidal neovascularization. *Barbara M. Braunger¹, A. Schlecht¹, S. Leimbeck¹, H. Jaegle², A. Feuchtinger³, E. R. Tamm¹.* ¹Anatomy, University of Regensburg, Regensburg, Germany; ²Department of Ophthalmology, University Clinic Regensburg, Regensburg, Germany; ³German Research Center for Environmental Health, Helmholtz Zentrum München, Institute of Pathology, München, Germany

811 — 3:45 Elevated Angiogenin levels associated with both forms of age-related macular degeneration is regulated by hypoxia and telomerase. *Arkasubhra Ghosh², P. Chevoir², S. Gopi Krishna¹, S. Sinha¹, D. Sinha³, S. Sethu².*
¹Vitreo Retina, Narayana Nethralaya, Bangalore, India; ²Molecular Signaling and Gene Therapy, Narayana Nethralaya Foundation, Bangalore, India; ³Johns Hopkins University, Baltimore, MD

812 — 4:00 Reduced autophagy dynamics and flux, dilated LAMP-1 vesicles and dysfunctional mitochondria in RPE of AMD donor eyes. *Nady Golestaneh^{2,3}, Y. Chu², Y. Xiao², G. Storelu², A. C. Theos¹.*
¹Human Science, Georgetown University, Washington, DC; ²Ophthalmology, Georgetown University Medical Center, Washington, DC; ³Neurology, Georgetown University Medical Center, Washington, DC

813 — 4:15 Improving autophagy rescues pathologic angiogenesis and vision in a murine model of AMD. *Emilie Hecker², S. Pundir³, J. sung-kim³, J. Joyal^{3,1}.*
¹Pharmacology, CHU Sainte-Justine, Montreal, QC, Canada; ²Pharmacology, Montreal University, Montreal, QC, Canada; ³Pharmacology, McGill University, Montreal, QC, Canada

814 — 4:30 Protein sumoylation decreases in aging retina and premature senescent retinal pigment epithelial cells. *Qian Sun¹, L. Gong¹, R. Qi^{1,2}, F. Liu¹, Z. Luo¹, Q. Nie^{1,2}, X. Gong¹, Y. Liu¹, L. Zhang¹, X. Tang¹, Y. Liu¹, D. W. Li^{1,2}.*
¹Zhongshan Ophthalmic Center, Sun Yat-sen University, GUANGZHOU, China; ²College of Life Sciences, Hunan Normal University, Changsha, China

815 — 4:45 Adiponectin mediates dietary omega-3 long-chain polyunsaturated fatty acid protection against choroidal neovascularization. *Raffael Lieg^{2,1}, Z. Fu², Z. Wang², Y. Gong², Y. Sun², S. Meng², S. Burnim², J. SanGiovanni⁴, C. Lofqvist³, A. Hellstrom³, L. E. Smith².*
¹Dpt. of Ophthalmology, Ludwig-Maximilians-University, Munich, Germany; ²Dpt. of Ophthalmology, Harvard Medical School, BCH, Boston, MA; ³Ophthalmology/Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; ⁴National Eye Institute, National Institute of Health, Bethesda, MD

Hall G

Sunday, May 07, 2017 3:15 PM-5:00 PM

Retina

145 OCT Angiography in AMD

Moderators: Amani A. Fawzi, Eric Souied and Nadia Waheed

816 — 3:15 Choriocapillaris changes in intermediate age-related macular degeneration with and without fellow neovascular eyes. *Enrico Borrelli^{1,3}, A. Uji¹, D. Sarraf², S. R. Sadda¹.*
¹Ophthalmology, Doheny Eye Institute UCLA, Los Angeles, CA; ²Ophthalmology, Stein Eye Institute UCLA, Los Angeles, CA; ³University G. D'Annunzio Chieti-Pescara, Chieti, Italy *CR

817 — 3:30 Flow Void Analysis: Multiscale Quantitation and Visualization of Choriocapillaris Alterations in Age-Related Macular Degeneration Using OCT Angiography. *A. Yasin Alibhai¹, E. M. Moul², C. B. Rebhun¹, C. A. Moreira Neto¹, E. A. Novais^{3,1}, B. Lee², J. Schottenhamml⁴, L. Husvogt⁴, A. K. Maier⁴, P. J. Rosenfeld⁵, J. S. Duker¹, N. Waheed¹, J. G. Fujimoto².*
¹New England Eye Center at Tufts Medical Center, Boston, Massachusetts, Boston, MA; ²Department of Electrical Engineering and Computer Science, and Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA; ³Department of Ophthalmology, Federal University of São Paulo, School of Medicine, São Paulo, Brazil; ⁴Pattern Recognition Lab, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; ⁵Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL *CR

818 — 3:45 Visualizing Relative Blood Flow Speeds in Choroidal Neovascularization Using Variable Inter-scan Time Analysis (VISTA) Optical Coherence Tomography Angiography (OCTA). *Carl B. Rebhun¹, E. M. Moul^{2,3}, S. B. Ploner⁴, F. Rifai^{1,7}, C. Moreira^{1,5}, A. Alibhai¹, J. Schottenhamml⁴, B. Lee^{3,2}, C. R. Baumal¹, P. J. Rosenfeld⁶, J. S. Duker¹, J. G. Fujimoto^{3,2}, N. Waheed¹.*
¹Ophthalmology, Tufts Medical Center, Boston, MA; ²Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Boston, MA; ³Research Laboratory of Electronics, Massachusetts Institute of Technology, Boston, MA; ⁴Pattern Recognition Lab, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; ⁵Federal University of Sao Paulo, Sao Paulo, Brazil; ⁶Bascom Palmer Eye Institute of University of Miami Leonard M. Miller School of Medicine, Miami, FL; ⁷University of South Alabama School of Medicine, Mobile, AL *CR

819 — 4:00 Impact of eye tracking technology on OCT-Angiography imaging in patients with age-related macular degeneration. *Jost L. Lauer¹, M. Treder², C. R. Clemens², N. Eter², F. Alten¹.*
¹University Hospital Münster, Münster, Germany; ²Department of Ophthalmology, University of Muenster Medical Center, Muenster, Germany *CR

820 — 4:15 Early detection of choroidal neovascularization with OCT Angiography. *Steven T. Bailey, S. S. Gao, C. J. Flaxel, T. S. Hwang, A. K. Lauer, P. Lin, D. Huang, Y. Jia.*
 Ophthalmology, Casey Eye Institute, OHSU, Portland, OR *CR

821 — 4:30 Swept-Source Optical Coherence Tomography Angiography features of Subretinal Fibrosis and association with Visual Acuity. *Nikolaos Giannakopoulos¹, T. Saddik¹, Z. Ali¹, M. K. Gemenetzi^{2,3}, T. Aslam¹, M. Thorell¹, S. Mahmood¹, P. J. Patel^{2,3}, K. Balaskas^{2,3}.*
¹Manchester Royal Eye Hospital, Patra, Greece; ²NIHR Biomedical Research Centre at Moorfields Eye Hospital, London, United Kingdom; ³UCL Institute of Ophthalmology, London, United Kingdom

Room 301

Sunday, May 07, 2017 3:15 PM-5:00 PM

Multidisciplinary Ophthalmic Imaging Group

146 Deep learning for image segmentation and classification

Moderators: Yoshiaki Yasuno, Ruikang K. Wang and Sina Farsiu

822 — 3:15 Deep learning is effective in classifying normal versus Age-related Macular degeneration using OCT images. *Aaron Y. Lee.*
 University of Washington, Seattle, WA *CR

823 — 3:30 Classification of macular lesions using optical coherence tomography and an artificial neural network. *Kunal K. Dansingani^{1,7}, S. T. Devarakonda², K. Vupparaboina^{3,2}, S. Jana², J. Chhablani⁴, K. Freund^{5,6}, O. Gal-Or^{5,6}, S. Gattoussi^{5,6}.*
¹Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE; ²Department of Electrical Engineering, Indian Institute of Technology, Hyderabad, India; ³Institute of Translational Research Engineering and Advancement of Technology, LV Prasad Eye Institute, Hyderabad, India; ⁴Vitreo-retinal Service, LV Prasad Eye Institute, Hyderabad, India; ⁵Vitreous Retina Macula Consultants of New York, New York, NY; ⁶LuEsther T Mertz Retinal Research Center, New York, NY; ⁷Vitreo-retinal Service, Moorfields Eye Hospital, London, United Kingdom *CR

824 — 3:45 Computer aided diagnosis of age-related macular degeneration in 3D OCT images by deep learning. *Yalin Zheng^{1,2}, B. M. Williams¹, H. Pratt¹, B. Al-Bander^{3,1}, X. Wu⁴, Y. Zhao^{5,1}.* ¹Department of Eye and Vision Science, University of Liverpool, Liverpool, United Kingdom; ²St Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom; ³Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, United Kingdom; ⁴School of Computer Science and Technology, Harbin Institute of Technology, Harbin, China; ⁵School of Optics and Electronics, Beijing Institute of Technology, Beijing, China

825 — 4:00 A deep learning approach for automatic identification of referral-warranted diabetic retinopathy. *Theodore Leng, R. Gargeya.* Byers Eye Institute at Stanford, Stanford University School of Medicine, Palo Alto, CA

826 — 4:15 How to Distill Disease-Differentiating, Quantitative Phenotypic Patterns from OCT Data. *S Scott Whitmore^{2,1}, K. Lee³, A. P. DeLuca^{2,1}, Y. H. Kwon^{2,1}, J. M. Hoffman^{2,1}, J. A. Halder^{2,1}, R. F. Mullins^{2,1}, T. E. Scheetz^{2,1}, E. M. Stone^{2,1}, M. D. Abramoff^{2,3}.* ¹Ophthalmology & Visual Sciences, The University of Iowa, Iowa City, IA; ²Stephen A. Wynn Institute for Vision Research, The University of Iowa, Iowa City, IA; ³Iowa Institute for Biomedical Imaging, The University of Iowa, Iowa City, IA *CR

827 — 4:30 Machine Learning-assisted Automated Quantification of Foveal Avascular Zone Parameters and Perifoveal Capillary Density of Prototype and Commercial Optical Coherence Tomography Angiography (OCT-A) Platforms in Healthy and Diabetic Eyes. *Forson Chan², Z. Mammo¹, M. L. Heisler³, C. Bala⁴,⁵, P. Prentas⁶, G. Docherty¹, S. Rajapakse², S. Loncaric⁶, A. Merkur¹, A. Kirker¹, D. Albani¹, M. F. Beg³, M. V. Sarunic³, E. Navajas¹.* ¹Ophthalmology and Visual Science, University of British Columbia, Vancouver, BC, Canada; ²Faculty of Medicine, University of British Columbia, Vancouver, BC, Canada; ³School of Engineering Science, Simon Fraser University, Burnaby, BC, Canada; ⁴Department of Physiology and Pharmacology, University of Western Australia, Nedlands, WA, Australia; ⁵Vitreous Retina Macula Consultants of New York, New York, NY; ⁶University of Zagreb, Zagreb, Croatia *CR

Room 307

Sunday, May 07, 2017 3:15 PM-5:00 PM

Lens

147 Genetics and modeling of lens and anterior segment anomalies - Minisymposium

This minisymposium focuses on identification of genetic lesions underlying lens and anterior segment anomalies in human patients and modeling these in a variety of in vitro and in vivo systems to identify the cellular and molecular mechanisms underlying the ocular pathologies.

Moderators: Jeffrey M. Gross and Elena Semina

— 3:15 Introduction

828 — 3:18 PITX3 pathway in lens and anterior segment development. *Elena Semina.* Pediatrics, Medical College of Wisconsin, Milwaukee, WI

829 — 3:35 EPH-receptor A2 (EPHA2) in lens development and cataract. *Alan Shiels.* Ophthal & Vis Sciences, Washington University in St. Louis, St Louis, MO

830 — 3:52 Genomics, functional genomics and new insights to cellular polarity, adhesion and other factors in the lens and anterior segment. *Robyn Jamieson.* Children's Medical Research Institute, University of Sydney, Westmead, NSW, Australia; Eye Genetics Research Group, Sydney Children's Hospital Network, Sydney, NSW, Australia

831 — 4:09 Molecular mechanisms of disease development in the Tcf8 knock-in mouse model of Fuchs corneal dystrophy. *John Gottsch.* Anterior Segment/Ex Diseases, Johns Hopkins University School of Medicine, Baltimore, MD

832 — 4:26 Application of iSyTE knowledge-maps to expedite eye disease gene discovery. *Salil Lachke.* Department of Biological Sciences, University of Delaware, Newark, DE

833 — 4:43 Functional assessment confirms the indispensable role of FYCO1 in lens morphogenesis. *S Amer Riazuddin.* Department of Ophthalmology, The Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD

Room 309

Sunday, May 07, 2017 3:15 PM-5:00 PM

Clinical/Epidemiologic Research

148 Frequency of Visual Impairment and Eye Disease and Their Risk Factors

Moderators: Rohit C. Khanna and Rupert R. Bourne

834 — 3:15 The prevalence and main causes of vision loss in Indigenous and non-Indigenous Australians: The Australian National Eye Health Survey. *Joshua Foreman¹, S. Keel¹, J. Xie¹, P. V. Wijngaarden¹, H. Taylor², M. Dirani¹.* ¹Centre for Eye Research Australia, Melbourne, VIC, Australia; ²Indigenous Eye Health Unit, Melbourne School of Population and Global Health, The University of Melbourne, Melbourne, VIC, Australia *CR

835 — 3:30 The Longitudinal Andhra Pradesh Eye Disease Study (APEDS3): 15 Years Incidence of Blindness and Visual Impairment.

Rohit C. Khanna^{1,2}, S. Marmamula^{1,2}, A. Mettla¹, P. Giridhar¹, S. Banerjee¹, S. Konegari¹, S. Chakrabarti², G. Murthy^{3,4}, C. Gilbert³, G. N. Rao^{1,2}. ¹Allen Foster Research Centre for Community Eye Health, Gullapalli Pratibha Rao International Centre for Advancement of Rural Eye Care, L V Prasad Eye Institute, Hyderabad, India; ²Brien Holden Eye Research Centre, L.V. Prasad Eye Institute, Hyderabad, India; ³International Centre for Eye Health, Department of Clinical Research, London School of Hygiene and Tropical Medicine, London, United Kingdom; ⁴Indian Institute of Public Health, Hyderabad, India

836 — 3:45 Secular Changes in Trachoma in a Hyperendemic Community in Tanzania. *Meraf A. Wolle¹, B. Munoz¹, H. Mkocha², C. gaydos³, T. A. Quinn³, S. West¹.* ¹Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Kongwa Trachoma Project, Kongwa, United Republic of Tanzania; ³Department of Infectious Disease, Johns Hopkins University, Baltimore, MD

837 — 4:00 Epidemiologic Assessment of Avoidable Blindness and Diabetic Retinopathy in the Philippines. *Leo D. Cubilan¹, E. Lamento¹, L. Manganip¹, G. L. Yau², J. K. Sun^{2,3}, L. P. Aiello^{2,3}, P. S. Silva^{2,3}.* ¹Philippine Eye Research Institute, University of the Philippines Manila, Manila, Philippines; ²Beetham Eye Institute, Joslin Diabetes Center, Boston, MA; ³Ophthalmology, Harvard Medical School, Boston, MA *CR

838 — 4:15 Eight-Year Cumulative Incidence of Visual Impairment (VI) and blindness in the Los Angeles Latino Eye Study (LALES). *Roberta McKean-Cowdin¹, M. Torres², H. Vora², F. Choudhury^{2,1}, B. Burkemper², X. Jiang², R. Varma².* ¹Preventive Medicine, Univ of Southern California, Los Angeles, CA; ²Ophthalmology, University of Southern California, Los Angeles, CA

839 — 4:30 Mediterranean diet and risk of visual impairment: The CONSTANCES study. *Benedicte M. Merle^{1,2}, B. Srour^{1,2}, A. Ozguler³, C. Fear^{1,2}, C. Samieri^{1,2}, M. Goldberg³, M. Zins³, C. DelCourt^{1,2}.* ¹Population Health Research Center, Inserm, Bordeaux, France; ²ISPED, Univ. Bordeaux, Bordeaux, France; ³UMS 11, Cohortes épidémiologiques en population, Inserm-UVSQ, Villejuif, France *CR

840 — 4:45 Global Prevalence of Blindness and Distance and Near Vision Impairment: Magnitude, Temporal Trends, and Projections. *Rupert R. Bourne¹, S. Flaxman², T. Braithwaite¹, J. B. Jonas², J. Keeffe⁴, J. H. Kempen^{15,16}, J. L. Leasher⁵, H. Limburg⁶, K. S. Naidoo^{7,14}, K. Pesudovs⁸, S. Resnikoff⁹, G. Stevens¹⁰, N. Tahhan^{7,13}, T. Wong¹¹, H. Taylor¹².* ¹Vision & Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom; ²Medical Faculty Mannheim, Department of Ophthalmology, Mannheim, Germany; ³Department of Statistics, University of Oxford, Oxford, United Kingdom; ⁴L V Prasad Eye Institute, Hyderabad, India; ⁵Nova Southeastern University, Fort Lauderdale, FL; ⁶Health Information Services, Grootebroek, Netherlands; ⁷Brien Holden Vision Institute, Sydney, NSW, Australia; ⁸NHMRC Centre for Clinical Eye Research, Flinders University, Adelaide, SA, Australia; ⁹International Health and Development, Geneva, Switzerland; ¹⁰Department of Information, Evidence and Research, World Health Organization, Geneva, Switzerland; ¹¹Singapore Eye Research Institute, National University of Singapore, Singapore, Singapore; ¹²Melbourne School of Populations and Global Health, University of Melbourne, Melbourne, VIC, Australia; ¹³School of optometry and Vision science, University of New South Wales, Sydney, NSW, Australia; ¹⁴African Vision Research Institute, University of Kwazulu-Natal, Durban, South Africa; ¹⁵Massachusetts Eye and Ear Infirmary and Harvard Medical School, Boston, MA; ¹⁶Discovery Eye Center, MyungSung Christian Medical College, Addis Ababa, Ethiopia

Room 310

Sunday, May 07, 2017 3:15 PM-5:00 PM

Immunology/Microbiology**149 Systemic influences on ocular disease****Moderators: Choun-Ki Joo and Rachel R. Caspi**

841 — 3:15 Vitamin A deficiency impacts acquisition, but not expression, of autoimmunity to the neuroretina. *Reiko Horai, R. Zhou, S. Bing, K. Wloka, J. Chen, P. Silver, Y. Jittayasothorn, R. R. Caspi.* Laboratory of Immunology, National Eye Institute, NIH, Bethesda, MD

842 — 3:30 Microbiome-dependent modulation of immunity at the ocular surface. *Anthony J. St. Leger¹, J. Desai², R. Drummond², A. Kugadas³, F. Almaghrabi¹, P. Silver¹, M. Gadjeva³, Y. Iwakura⁴, M. Lionakis², R. R. Caspi¹.* ¹Laboratory of Immunology, National Eye Institute, NIH, Derwood, MD; ²Fungal Pathogenesis Unit, Laboratory of Clinical Infectious Diseases, NIAID, NIH, Bethesda, MD; ³Department of Medicine, Brigham and Women's Hospital, Boston, MA; ⁴Center for Experimental Animal Models, Institute for Medical Sciences, Tokyo University of Science, Tokyo, Japan

843 — 3:45 Vitamin D supplementation modulates Th2 immune response by inducing T regulatory cells in allergic conjunctivitis. *Hyun Soo Lee¹, J. Kwon¹, C. Rho², J. Mok¹, C. Joo¹.* ¹Ophthalmology, Seoul St.Mary Hospital, Seoul, Korea (the Republic of); ²Ophthalmology, Daejeon St. Mary's Hospital, Daejeon, Korea (the Republic of)

844 — 4:00 The effect of dietary omega-3 fatty acids on allergic conjunctivitis in mice. *Toshiaki Hirakata^{1,2}, K. Lee², M. Ohba², A. Matsuda¹, A. Murakami¹, T. Yokomizo².* ¹Ophthalmology, Juntendo University School of Medicine, Bunko-ku, Japan; ²Biochemistry, Juntendo University Graduate School of Medicine, Tokyo, Japan

845 — 4:15 Low vitamin D is associated with different types of ocular inflammation. *Stephanie M. Llop, S. Davoudi, L. Grotting, L. Tom, G. Papaliodis, L. Sobrin.* Uveitis/Ocular Immunology, Massachusetts Eye and Ear Infirmary, Boston, MA

846 — 4:30 Gut Microbiome in Uveitis. *H Nida Sen¹, B. Chaigne-Delalande¹, Z. Li¹, V. Lagishetty², J. Jacobs^{2,3}, J. Braun².* ¹National Eye Institute, National Institutes of Health, Bethesda, MD; ²Pathology and Laboratory Medicine, UCLA David Geffen School of Medicine, Los Angeles, CA; ³Division of Digestive Diseases, Department of Medicine, UCLA David Geffen School of Medicine, Los Angeles, CA, Los Angeles, CA

847 — 4:45 Short-term high fat diet feeding reduces corneal wound healing in mice. *Zhijie Li^{1,2}, A. Hargrave³, Y. Xue², S. D. Hanlon³, A. R. Burns³, C. W. Smith¹.* ¹Pediatrics-Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX; ²Ocular Surface Research Center, Jinan University Medical School, Guangzhou, China; ³College of Optometry, University of Houston, Houston, TX

Room 316

Sunday, May 07, 2017 3:15 PM-5:00 PM

Glaucoma**150 Pharmacology and Cellular Mechanisms****Moderators: Tonia S. Rex and Jeremy M. Sivak**

848 — 3:15 Overexpression of ATF-4 in trabecular meshwork causes elevation of intra ocular pressure and reduction of outflow facility in a CHOP dependent manner. *Prabhavathi Maddineni, R. Kasetti, G. Zode.* North Texas Eye Research Institute, University of North Texas Health Science Center, Fort worth, TX

849 — 3:30 Glucocorticoid receptor GRβ regulates glucocorticoid-induced ocular hypertension and glaucoma in mice. *Gaurang C. Patel, Y. Liu, J. Millar, A. F. Clark.* North Texas Eye Research Institute, University of North Texas Health Science Center, Fort Worth, TX *CR

850 — 3:45 Does estrogen deficiency promote the development of glaucoma? *Xiaomin Chen, Y. Liu, Y. Zhang, W. R. Kam, L. R. Pasquale, D. A. Sullivan.* Schepens/MEEI, Boston, MA

851 — 4:00 Increased IOP primes the NLRP3 inflammasome and increases IL-1β levels. *Claire H. Mitchell, F. Albalawi, W. Lu.* Anatomy and Cell Biology, University of Pennsylvania, Philadelphia, PA

852 — 4:15 P2RX4 facilitates Panx1-mediated neurotoxicity in ischemic and ocular hypertension injuries. *Valery I. Shestopalov¹, A. N. Pronin², V. Z. Slepak², H. D. Rooney³, A. Valdivia¹.* ¹Bascom Palmer Eye Institute Dept. Ophtha, Univ. of Miami Miller School of Medicine, Miami, FL; ²Molecular Pharmacology, University of Miami Miller School of Medicine, Miami, FL, Miami, FL; ³Biomedical Engineering, University of Miami, Miami, FL

853 — 4:30 Sustained dorzolamide release prevents axonal and retinal ganglion cell loss in a rat model of IOP-glaucoma. *Ian Pitha^{1,2}, E. Cone-Kimball¹, E. Oglesby¹, M. Pease¹, J. Fu², Y. Kim², J. Schaub¹, Q. Hu², J. Hanes², H. A. Quigley^{1,2}.* ¹Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ²Ophthalmology, Center for Nanomedicine, Johns Hopkins University, Baltimore, MD *CR

Room 321

Sunday, May 07, 2017 3:15 PM-5:00 PM

Anatomy and Pathology/Oncology

151 Retinoblastoma: From Genetics and Pathology to Therapy**Moderators: Helen Dimaras, Hans E. Grossniklaus and Vanessa M. Morales****854 — 3:15 Retinoblastoma and Next-Gen-Sequencing Era: Challenges and Opportunities at Clinics and Counseling in India.** Govindasamy Kumaramanickavel¹, S. Malaichamy², R. Shetty¹, A. Ghosh¹, S. Seshagiri³, V. L. Ramprasad².¹Narayana Nethralaya, Bangalore, India;²MedGenome, Bangalore, India; ³Genentech, South San Francisco, CA**855 — 3:30 Vitreous and Subretinal Seeds in Retinoblastoma: Clinicopathologic Correlation.** Alec L. Amram¹, G. Rico², J. W. Kim^{3,4}, D. Gombos^{5,6}, P. Chevez-Barrios^{2,5}.¹Ophthalmology & Visual Sciences, University of Texas Medical Branch, Galveston, TX; ²Department of Pathology and Genomic Medicine, Houston Methodist Hospital, Houston, TX; ³Department of Ophthalmology, University of California, Los Angeles, Los Angeles, CA; ⁴Children's Hospital Los Angeles, Los Angeles, CA; ⁵Retinoblastoma Center of Houston, Houston, TX; ⁶Section of Ophthalmology, University of Texas, MD Anderson Cancer Center, Houston, TX**856 — 3:45 Aqueous Humor as a Surrogate Liquid Tumor Biopsy in Retinoblastoma.** Jesse L. Berry^{1,2}, L. Xu³, K. Stachelek², A. Murphree^{2,1}, E. Zolfoghar², K. McGovern², T. Lee^{2,1}, A. Carlsson³, P. Kuhn^{4,3}, J. Kim^{1,2}, D. Cobrinik^{2,1}, J. Hicks^{4,3}.¹USC Roski Eye Institute, Los Angeles, CA; ²Ophthalmology, Children's Hospital Los Angeles, Los Angeles, CA; ³University of Southern California, Department of Biological Sciences, Dornsife College of Letters, Arts, and Sciences, Los Angeles, CA; ⁴University of Southern California, Norris Comprehensive Cancer Center, Keck School of Medicine, Los Angeles, CA**857 — 4:00 Identifying Invasion-Promoting Molecular Pathways In Retinoblastoma.** Laura Asnaghi¹, A. Mahale², H. Alkatan¹, D. P. Edward^{3,2}, W. Yu³, S. Al Mesfer², A. Maktabi², L. Abu Safieh², C. Eberhart^{1,3}.¹Dept of Pathology, Sch of Med, Johns Hopkins University, Baltimore, MD; ²King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia; ³Department of Ophthalmology, Johns Hopkins University, Baltimore, MD; ⁴Department of Ophthalmology, King Saud University, Riyadh, Saudi Arabia; ⁵Microarray Core Facility, Sidney Kimmel Cancer Center, Johns Hopkins University, Baltimore, MD**858 — 4:15 Novel STAT3 Inhibitors with Michael Acceptor from In-House Chemical Library as Therapeutics for Retinoblastoma.**Eunoo Bak^{1,2}, D. Jo^{1,3}, J. Kim^{1,3}, K. Kim⁴, S. Lee⁴, Y. Suh⁵, J. Kim^{1,6}. ¹Fight against Angiogenesis-Related Blindness (FARB) Laboratory, Clinical Research Institute, Seoul National University Hospital, Seoul, Korea (the Republic of); ²Department of Ophthalmology, Seoul National University College of Medicine, Seoul, Korea (the Republic of); ³Tumor Microenvironment Research Center, Global Core Research Center, Seoul National University, Seoul, Korea (the Republic of); ⁴College of Pharmacy, Seoul National University, Seoul, Korea (the Republic of); ⁵College of Pharmacy, Cha University, Seongnam, Gyeonggi-do, Korea (the Republic of); ⁶Department of Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea (the Republic of)**859 — 4:30 Pharmacokinetics, Toxicities, and Vascular Variations in a Small Animal (Rabbit) Model of Intra-arterial Chemotherapy.**Anthony B. Daniels^{1,2}, M. T. Froehler³, J. M. Pierce⁴, A. H. Nunnally⁴, M. W. Calcutt⁵, T. M. Bridges⁶, D. C. LaNeve⁷, P. E. Williams⁷, K. L. Boyd^{8,2}, M. L. Rezyer⁸, C. W. Lindsley^{6,9}, D. L. Friedman^{10,2}, A. Richmond^{11,12}. ¹Departments of Ophthalmology, Cancer Biology, and Radiation Oncology, Vanderbilt University Medical Center, Nashville, TN; ²Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center, Nashville, TN; ³Cerebrovascular Program, Vanderbilt University Medical Center, Nashville, TN; ⁴Department of Ophthalmology and Visual Sciences, Vanderbilt University Medical Center, Nashville, TN; ⁵Department of Biochemistry, Vanderbilt University, Nashville, TN; ⁶Vanderbilt Center for Neurosciences Drug Discovery, Department of Pharmacology, Vanderbilt University, Nashville, TN; ⁷Department of Surgery, Vanderbilt University Medical Center, Nashville, TN; ⁸Department of Pathology, Microbiology and Immunology, Vanderbilt University Medical Center, Nashville, TN; ⁹Department of Chemistry, Vanderbilt University, Nashville, TN; ¹⁰Department of Pediatrics, Vanderbilt University Medical Center, Nashville, TN; ¹¹Tennessee Valley Healthcare System, Department of Veterans Affairs, Nashville, TN; ¹²Department of Cancer Biology, Vanderbilt University, Nashville, TN *CR

Room 324

Sunday, May 07, 2017 3:15 PM-5:00 PM

Eye Movements/Strabismus/Amblyopia/ Neuro-Ophthalmology

152 Nystagmus and Gaze Holding**Moderators: Frank A. Proudlock and Avery H. Weiss****860 — 3:15 Visual Acuity Development with Infantile Nystagmus: Prediction of Visual Acuity Limits.** John P. Kelly^{1,2}, J. O. Phillips¹, A. H. Weiss^{1,2}. ¹Ophthalmology OA.5.342, Seattle Children's Hospital, Seattle, WA; ²Ophthalmology, University of Washington, Seattle, WA**861 — 3:30 Comparison of retinal development in idiopathic infantile nystagmus and nystagmus associated with albinism, PAX6 mutations and achromatopsia.** Mervyn G. Thomas¹, V. Sheth¹, G. Macconachie¹, S. Ather¹, R. J. McLean¹, F. A. Proudlock¹, S. Kohl¹, B. P. Leroy³, A. T. Moore², I. Gottlob¹. ¹Ulverscroft Eye Unit, University of Leicester, Leicester, United Kingdom; ²Ophthalmology, UCSF, San Francisco, CA; ³Ophthalmology, Childrens Hospital of Philadelphia, Philadelphia, PA; ⁴Ophthalmology, University of Tübingen, Tübingen, Germany**862 — 3:45 Prenatal Exposure to Cocaine, Amphetamines and Methadone Disrupts the Development of Gaze Holding Circuits.** Avery H. Weiss^{1,2}, J. O. Phillips^{1,2}, J. P. Kelly^{1,2}. ¹Ophthalmology, Roger Johnson Vis Lab, Seattle Children's Hosp/W-7729, Seattle, WA; ²Ophthalmology, University of Washington, Seattle, WA**863 — 4:00 Clinical and Electrophysiological Results of Eye Muscle Surgery in 17 Patients with Downbeat Nystagmus (DBN).** Richard W. Hertle^{1,2}, A. Ahmad^{2,1}. ¹Ophthalmology, Children's Hosp Medical Ctr of Akron, Akron, OH; ²Northeast Ohio Medical College, Rootstown, OH ✗**864 — 4:15 Contribution of Central and Peripheral Visual Cues to Postural Control in Infantile Nystagmus.** Frank A. Proudlock¹, T. Sivagnanasithiyar¹, R. J. McLean¹, P. Duke², R. Patel³, I. Gottlob¹, Z. Tu¹. ¹Ulverscroft Eye Unit, University of Leicester, Leicester, United Kingdom; ²Neuroscience, Psychology and Behaviour, University of Leicester, Leicester, United Kingdom; ³Division of Audiology, De Montfort University, Leicester, United Kingdom**865 — 4:30 Optimising visual attention in children with autism spectrum disorder: a comparison of fixation distributions viewing singing and speech.** Larry A. Abel¹, G. A. Thompson². ¹Optometry & Vision Sciences, University of Melbourne, Parkville, VIC, Australia; ²Melbourne Conservatorium of Music, The University of Melbourne, Melbourne, VIC, AustraliaSunday Papers/
Minisymposium
3:15 pm – 5:00 pm

866 – Sunday – Papers/Minisymposium

866 — 4:45 **Out of the blue: Effects of blue-filtering lenses on EEG and eye movements during reading.** *Hyongsok Ryu, C. Wallraven.*
Brain and Cognitive Engineering, Korea University,
Seoul, Korea (the Republic of)

Sunday Papers/
Minisymposium
3:15 pm – 5:00 pm

Exhibit/Poster Hall B0384-B0438

Sunday, May 07, 2017 3:15 PM-5:00 PM

Multidisciplinary Ophthalmic Imaging Group

138 Image Processing and Interpretation

Moderators: Chieh-Li Chen and Yali Jia

637 — B0384 Reliability Of Split-Spectrum Amplitude-Decorrelation Angiography OCTA Capillary Perfusion Density Analysis. Jason Young, F. Q. Silva, R. P. Singh. Ophthalmology, Cleveland Clinic, Cleveland, OH *CR

638 — B0385 Hybrid OCT-OCTA Vessel Visualization for Projection-Free Display of the Intermediate and Deep Retinal Plexuses. Stefan B. Ploner¹, E. M. Moul², J. Schottenhamm^{1,3}, L. Husvogt¹, C. D. Lu², C. B. Rebhun³, A. Alibhai³, J. S. Duker³, N. Waheed⁴, A. K. Maier², J. G. Fujimoto². ¹Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nürnberg, Erlangen, Germany; ²Department of Electrical Engineering and Computer Science, and Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA; ³New England Eye Center, Tufts Medical Center, Boston, MA *CR

639 — B0386 Relationship Between Computer-based Hypertensive Retinopathy Grading and Cardiovascular Disease Risk. Vinayak S. Joshi¹, C. Agurto¹, E. Barriga¹, S. C. Nemeth¹, E. Ebrahim², P. Soliz¹. ¹Medical Image analysis, VisionQuest Biomedical LLC, Albuquerque, NM; ²Community healthcare center, Wichita Falls, TX *CR

640 — B0387 Automated Montage OCT Angiography for Wide-Field Visualization of Retinal Pathologies. Roger Goldberg¹, M. Chen², C. Leahy³, K. Meng², M. K. Durbin². ¹Bay Area Retina Associates, Walnut Creek, CA; ²R&D, Carl Zeiss Meditec, Dublin, CA *CR

641 — B0388 Registration of 3D Retinal OCT Images. Lingjiao Pan^{1,2}, X. Chen¹. ¹School of Electronics and Information Engineering, Soochow University, Suzhou, China; ²School of Electricity and Information Engineering, Jiangsu University of Technology, Changzhou, China

642 — B0389 Algorithm for bulk motion removal in optical coherence tomography angiography. Acner Camino, Y. Jia, G. Liu, J. Wang, D. Huang. OHSU, Portland, OR *CR

643 — B0390 A Fast Method to Reduce Decorrelation Tail Artifacts in OCT Angiography. Homayoun Bagherinia, R. W. Knighton, L. De Sistiernes, M. H. Chen, M. K. Durbin. R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR

644 — B0391 Layer-Specific Vascular Analysis of OCT Angiography in Diabetic Macular Edema. Kyungmoo Lee^{1,2}, I. C. Han^{3,4}, D. B. Critser³, A. Wahle^{1,2}, M. Sonka^{1,2}, M. D. Abramoff^{3,5}. ¹Electrical and Computer Engineering, University of Iowa, Iowa City, IA; ²Iowa Institute for Biomedical Imaging, University of Iowa, Iowa City, IA; ³Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ⁴Stephen A. Wynn Institute for Vision Research, University of Iowa, Iowa City, IA; ⁵Iowa City VA Health Care System, Iowa City, IA *CR

645 — B0392 OCT-OCTA Segmentation: a Novel Framework and an Application to Segment Bruch's Membrane in the Presence of Drusen. Julia Schottenhamm^{1,2}, E. M. Moul¹, E. A. Novais^{4,3}, M. F. Kraus², B. Lee¹, W. Choi¹, S. B. Ploner², L. Husvogt², C. D. Lu¹, P. Yiu¹, P. J. Rosenfeld³, J. S. Duker³, A. K. Maier², N. Waheed³, J. G. Fujimoto¹. ¹Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA; ²Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nuremberg, Erlangen, Germany; ³New England Eye Center, Tufts Medical Center, Boston, MA; ⁴Department of Ophthalmology, Federal University of Sao Paulo, Sao Paulo, Brazil; ⁵Department of Ophthalmology, University of Miami Miller School of Medicine, Miami, FL *CR

646 — B0393 Spectral-Domain Optical Coherence Tomography Optic-Nerve-Head and Macular En-Face Image Registration in Cases of Papilledema. Qingyang Su¹, J. Wang¹, M. Miri¹, V. A. Robles¹, M. K. Garvin^{2,1}. ¹Electrical and Computer Engineering, The University of Iowa, Iowa City, IA; ²Center for the Prevention and Treatment of Visual Loss, Iowa City VA Health System, Iowa City, IA *CR, ✗

647 — B0394 Frame averaging and automated segmentation technique for foveal avascular zone quantification with optical coherence tomography angiography. Taly G. Schmidt¹, R. E. Linderman², M. R. Strampe³, J. Carroll^{2,4}. ¹Biomedical Engineering, Marquette University, Milwaukee, WI; ²Ophthalmology and Visual Sciences, Medical College of Wisconsin, Milwaukee, WI; ³University of Minnesota Medical School, Minneapolis, MN; ⁴Cell Biology, Neurobiology, & Anatomy, Medical College of Wisconsin, Milwaukee, WI *CR

648 — B0395 Curvelet-based Vessel Enhancement for 3D OCT Angiography. Yonggang Shi¹, J. Gahm¹, A. H. Kashani². ¹Stevens Neuroimaging and Informatics Institute, University of Southern California, Los Angeles, CA; ²USC Roski Eye Institute and Department of Ophthalmology, University of Southern California, Los Angeles, CA *CR

649 — B0396 Convolutional neural networks for artifact free OCT retinal angiography. Maciej Szkulmowski¹, P. Liskowski², B. Wieloch², K. Krawiec², B. Sikorski^{3,4}. ¹Institute of Physics, Nicolaus Copernicus Univ, Torun, Poland; ²Laboratory of Intelligent Decision Support Systems, Poznan University of Technology, Poznan, Poland; ³Collegium Medicum, Nicolaus Copernicus University, Bydgoszcz, Poland; ⁴Department of Ophthalmology, Nicolaus Copernicus University, Bydgoszcz, Poland

650 — B0397 Compensation for reflectance variation in flow index quantification by optical coherence tomography angiography. Simon S. Gao, Y. Jia, L. Liu, H. L. Takusagawa, J. C. Morrison, D. Huang. Ophthalmology, Oregon Health & Science University, Portland, OR *CR

651 — B0398 A Method for Quantitative Assessment of Retinal Vessel Tortuosity Imaged by Optical Coherence Tomography Angiography. Maziyar M Khansari^{1,2}, J. I. Lim², M. Shahidi². ¹BioEngineering, University of Illinois at Chicago, Chicago, IL; ²Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL

652 — B0399 Measuring asymmetry of the foveal avascular zone in subjects with Type 1 Diabetes Mellitus using OCTA. Radhika Ragam¹, B. Szirth¹, A. S. Hourii¹, K. A. Soules². ¹Rutgers New Jersey Medical School, Flemington, NJ; ²OptoVue, Freemont, CA *CR

653 — B0400 Smoothed and Resolved Thresholding (Smart)-Display: A New OCTA Display Technique to Resolve the Low Flow Ambiguity. Patrick Yiu¹, E. M. Moul¹, S. B. Ploner², B. Lee¹, L. Husvogt², A. K. Maier², R. Spaide³, J. S. Duker⁴, N. Waheed⁴, J. G. Fujimoto¹. ¹Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, Cambridge, MA; ²Pattern Recognition Lab, Friedrich-Alexander-Universität Erlangen-Nürnberg, Erlangen, Germany; ³Vitreous, Retina, Macula Consultants of New York, New York, NY; ⁴New England Eye Center at Tufts Medical Center, Boston, MA *CR

654 — B0401 Detection of plus disease in retinopathy of prematurity using automatic vessel tortuosity measurements. Jeffrey C. Wigdahl¹, C. Agurto¹, S. C. Nemeth¹, V. S. Joshi¹, W. Bauman², P. Soliz¹, E. Barriga¹. ¹VisionQuest Biomedical, Albuquerque, NM; ²Retina Institute of South Texas, San Antonio, TX *CR

655 — B0402 Web-based Smart Retinal Vessel Analysis System (VASP). Maryam Mehdizadeh¹, S. Yu¹, S. Frost¹, D. Xiao¹, M. Tay-Kearney², Y. Kanagasam¹. ¹The Commonwealth Scientific and Industrial Research Organisation (CSIRO), Floreat, WA, Australia; ²Lions Eye Institute, Perth, WA, Australia

656 — B0403 Graph Theory Based Intelligent Retinal Vessel Analysis. *Shuang Yu, M.*

Mehdizadeh, S. Frost, D. Xiao, Y. Kanagasingam.
Commonwealth Scientific and Industrial Research Organisation (CSIRO), Perth, WA, Australia

657 — B0404 Quantitative shadow compensated optical coherence tomography of choroidal vasculature. *Kiran Vupparaboina^{5,2},*

K. K. Dansingani^{3,6}, A. G. Marupally¹, M. Jawed³, S. Jana², K. Freund^{7,4}, J. Chhablani⁸, A. Richhariya⁵. ¹Clinical Research, LV Prasad Eye Institute Hyderabad, Hyderabad, India; ²Department of Electrical Engineering, Indian Institute of Technology Hyderabad, Hyderabad, India; ³Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE; ⁴LuEsther T Mertz Retinal Research Center, New York, NY; ⁵Institute of Translational Research Engg and Advancement of Technology, LV Prasad Eye Institute Hyderabad, Hyderabad, India; ⁶Vitreo-retinal Service, Moorfields Eye Hospital, London, United Kingdom; ⁷Vitreous Retina Macula Consultants of New York, NY, NY; ⁸Vitreo-retinal Service, LV Prasad Eye Institute Hyderabad, Hyderabad, India *CR

658 — B0405 Predicting Age-related Changes with High Accuracy using a Pattern Recognition Derived Retinal Ganglion Cell Regression Model. *Nayuta Yoshioka^{1,2}, B. Zangerl^{1,2}, L. Nivison-Smith^{1,2}, S. Khuu², B. W. Jones³, R. L. Pfeiffer³,*

R. E. Marc³, M. Kalloniatis^{1,2}. ¹Centre for Eye Health, University of New South Wales Australia, Kensington, NSW, Australia; ²School of Optometry and Vision Science, University of New South Wales Australia, Sydney, NSW, Australia; ³Department of Ophthalmology, Moran Eye Center, University of Utah, Salt Lake City, UT

659 — B0406 Comparison of automated and expert human grading of diabetic retinopathy using smartphone-based retinal photography. *Tyson Kim¹, P. Li¹, L. M. Niziol¹, M. Bhaskaranand²,*

S. Bhat², C. Ramachandra², K. Solanki², J. R. Davila¹, F. Myers³, C. Reber³, D. C. Musch¹, T. P. Margolis⁴, D. Fletcher³, M. A. Woodward¹, Y. M. Paulus¹. ¹Ophthalmology and Visual Sciences, University of Michigan Kellogg Eye Center, Ann Arbor, MI; ²Eyenuk Inc, Woodland Hills, CA; ³Bioengineering, University of California Berkeley, Berkeley, CA; ⁴Ophthalmology and Visual Sciences, Washington University School of Medicine, St. Louis, MO *CR

660 — B0407 The Benefits of Real Time Pupil Tracking on the Quality of the B-Scan. *Simon C. Stock^{1,2}, S. Kubach¹, P. Sha¹, J. Straub¹, W. Stork².*

¹R&D, Carl Zeiss Meditec, Inc., Dublin, CA; ²Institute for Information Processing Technologies (ITIV), Karlsruhe Institute of Technology, Karlsruhe, Germany *CR

661 — B0408 Retinal Pigment Epithelium Layer Segmentation Accuracy on Widefield High Resolution Optical Coherence Tomography Cubes. *Sophie Kubach¹, W. Lewis², G. Gregori³,*

P. J. Rosenfeld³. ¹R&D, Carl Zeiss Meditec, Inc, Dublin, CA; ²Bayside Photonics, Inc., Yellow Springs, OH; ³Bascom Palmer Eye Institute, Miami, FL *CR

662 — B0409 Repeatability of ellipsoid zone width measurements in retinitis pigmentosa using longitudinal reflectivity profiles. *Margaret R. Strampe^{1,2}, A. L. Huckenpahler³, B. P. Higgins¹,*

K. E. Stepien¹, J. Carroll^{1,3}. ¹Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI; ²University of Minnesota Medical School, Minneapolis, MN; ³Cell Biology, Neurobiology, and Anatomy, Medical College of Wisconsin, Milwaukee, WI; ⁴Ophthalmology & Visual Sciences, University of Wisconsin-Madison, Madison, WI

663 — B0410 The utility of the opacity suppression (OS) filter tool with automated retinal analysis software and manual reading for detection of DR in DM Type 1. *Sumana Kommana, N. Mendez, L. Wu, P. Padgaonkar, B. Szirth, A. S. Khouri.*

Ophthalmology, Rutgers New Jersey Medical School, Newark, NJ

664 — B0411 Computed tomography imaging of periorcular metallic foreign bodies can be improved by artifact reduction software. *Keirnan Willett¹, M. Sheng², J. Woo², T. Gorry¹.*

¹Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Radiology, University of Pennsylvania, Philadelphia, PA

665 — B0412 A New Scale (Penn Scale) for Measuring Bulbar Conjunctival Redness from Digital Photographs. *Ilaria Macchi³, V. Y. Bunya², M. Massaro-Giordano³, Y. Zheng², M. Chen¹, M. G. Maguire¹, R. A. Stone¹, E. Smith¹,*

J. Gee¹, E. Daniel¹. ¹University of Pennsylvania, Philadelphia, PA; ²School of Information Science and Engineering at Shandong Normal University, Jinan, China; ³Scheie Eye Institute, Philadelphia, PA; ⁴Radiology, University of Pennsylvania, Philadelphia, PA *CR

666 — B0413 Automatic segmentation of nine layer boundaries in OCT images using convolutional neural networks and graph search. *Leyuan Fang^{1,2}, C. Wang², D. Cunefare¹, R. H. Guymer³, S. Farsiu¹.*

¹Biomedical Engineering, Duke University, Durham, NC; ²College of Electrical and Information Engineering, Hunan University, Changsha, China; ³Centre for Eye Research, Australia University of Melbourne, Melbourne, VIC, Australia *CR

667 — B0414 Novel ImageJ Analysis Technique for the Quantitation of Apoptotic Hotspots. *Tyler N. Heisler-Taylor^{1,2}, A. Haridas¹, B. Kim¹, R. Kusibati¹, C. M. Cebulla¹.*

¹Havener Eye Institute, Ophthalmology and Visual Science, The Ohio State University, Columbus, OH; ²Department of Biomedical Engineering, The Ohio State University, Columbus, OH

668 — B0415 Deep convolutional neural networks for automated OCT pathology recognition. *Daniel B. Russakoff¹, J. D. Oakley¹,*

R. Chang². ¹Voxeleron LLC, San Francisco, CA; ²Byers Eye Institute at Stanford University, Stanford, CA *CR

669 — B0416 Automated Segmentation of Retinal Layers for Optic Nerve Head Centered OCT Images. *Xinjian Chen², E. Gao², F. Shi²,*

W. Zhu², H. Chen¹. ¹Joint Shantou International Eye Center, Shantou University and the Chinese University of Hong Kong, Shantou, China; ²School of Electronics and Information Engineering, Soochow University, Suzhou, China

670 — B0417 Automatic detection of the foveal center in optical coherence tomography. *Bart Liefers¹, F. G. Venhuizen¹, V. Schreur²,*

B. van Ginneken¹, C. C. Hoyng², T. Theelen², C. I. Sanchez¹. ¹Diagnostic Image Analysis Group, Radboudumc, Nijmegen, Netherlands; ²Ophthalmology, Radboudumc, Nijmegen, Netherlands

671 — B0418 Fully automated detection of hyperreflective foci in optical coherence tomography. *Freerk G. Venhuizen^{1,3}, S. Schaffhauser^{1,2}, V. Schreur³, L. Altay⁴, B. Liefers^{1,3},*

B. van Ginneken¹, C. C. Hoyng², T. Theelen^{3,1}, E. de Jong³, C. I. Sanchez^{1,3}. ¹Diagnostic Image Analysis Group, Radboudumc, Nijmegen, Netherlands; ²Department of statistics, ETH Zürich, Zürich, Switzerland; ³Department of ophthalmology, Radboudumc, Nijmegen, Netherlands; ⁴Department of ophthalmology, Uniklinik Köln, Cologne, Germany

672 — B0419 Retinal layer segmentation results differ between two generations of OCT devices. *Beerend Winkelman^{1,6}, J. Colijn¹, P. W. Bonnemaier¹, F. Fujihara¹, M. D. Abramoff^{3,3},*

K. E. Lee⁴, A. S. Fairbanks⁴, S. M. Meuer⁴, B. E. Klein⁴, R. Klein⁴, C. Klaver^{1,2}. ¹Ophthalmology and Epidemiology, Erasmus MC, Rotterdam, Netherlands; ²Ophthalmology, Radmoud UMC, Nijmegen, Netherlands; ³Electrical and Computer Engineering, University of Iowa, Iowa City, IA; ⁴Ophthalmology & Visual Sciences, University of Wisconsin, Madison, WI; ⁵Stephen A. Wynn Institute for Vision Research, University of Iowa, Iowa City, IA; ⁶Netherlands Institute for Neuroscience, Amsterdam, Netherlands *CR

- 673 — B0420 Development of an Automated Segmentation Program to Assess Corneal Suturing Performance of Ophthalmology Residents Using 3D Printed Eye Models.** Kelly L. Mote¹, Y. Chang^{1,2}, F. Cabot^{1,3}, K. A. Alawa¹, J. Silgado¹, C. J. Rowaan¹, M. Joag³, S. H. Yoo^{3,4}, C. Karp³, J. A. Parel^{1,4}. ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL; ³Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴Brien Holden Institute and Vision Cooperative Research Centre, Sydney, NSW, Australia
- 674 — B0421 Using a bot script to bulk export Spectralis OCT scan measurements into a clinical data warehouse.** Karsten U. Kortuem^{1,2}, J. Schiefelbein¹, D. Jeliakova¹, P. A. Keane², C. Kern¹, M. Müller¹, W. J. Mayer¹, S. Priglinger¹, D. Nasseh³. ¹Ophthalmology, Ludwig-Maximilians-University, Munich, Germany; ²Moorfields Eye Hospital, London, United Kingdom; ³Institute for Biometry and Epidemiology, Ludwig-Maximilians-University, Munich, Germany *CR
- 675 — B0422 Aligning Automatically Sequential Spectral Slices from Multispectral Imaging (MSI) of Retina.** Wanzen Jiao¹, Y. Zheng^{2,3}, J. Gee⁴, B. Zhao¹. ¹Ophthalmology, Shandong Provincial Hospital affiliated to Shandong University, Philadelphia, PA; ²School of Information Science & Engineering, Shandong Normal University, Jinan, China; ³Institute of Life Sciences, Shandong Normal University, Jinan, China; ⁴University of Pennsylvania, Philadelphia, PA
- 676 — B0423 Automatic Segmentation and Quantification of Subretinal Fluid on Acute Central Serous Chorioretinopathy.** Manuel Falcao^{1,2}, C. Figueiredo¹, F. Carvalho³, C. Silva⁴, J. Oliveira⁴, S. Penas², A. Sousa^{1,2}, F. Falcao-Reis^{1,2}. ¹Surgery and Physiology, Faculty of Medicine of the University of Porto, Porto, Portugal; ²Ophthalmology, Centro Hospitalar São João, Porto, Portugal; ³Instituto Superior de Engenharia do Porto, Porto, Portugal; ⁴CMEMS-UMINHO, Universidade do Minho, Guimarães, Portugal
- 677 — B0424 Evaluation of a Segmentation Method to Estimate Corneal Endothelium Parameters.** Juan P. Viguera-Guillén^{1,3}, J. Rooij², H. G. Lemij², A. Engel¹, L. Vliet³, K. A. Vermeer^{1,2}. ¹Rotterdam Ophthalmic Institute, Rotterdam Eye Hospital, Rotterdam, Netherlands; ²Rotterdam Eye Hospital, Rotterdam, Netherlands; ³Quantitative Imaging Group, Delft University of Technology, Delft, Netherlands
- 678 — B0425 Reliability of ellipsoid zone (EZ) area and shape measurements.** Travis B. Smith¹, M. A. Parker¹, P. Steinkamp¹, A. Romo¹, L. R. Erker¹, B. J. Lujan¹, N. Smith². ¹Casey Eye Institute, Oregon Health & Science University, Portland, OR; ²Center for Health Research, Kaiser Permanente, Portland, OR *CR, ✗
- 679 — B0426 Normative dataset for retinal layers' thickness maps automatically generated by spectral domain optical coherence tomography in a Caucasian population.** Alessandra Acquistapace¹, A. Invernizzi^{1,2}, M. Pellegrini¹, E. Benatti³, S. Erba¹, M. Cozzi¹, M. V. Cigada¹, F. Viola³, G. Staurenghi¹. ¹Department of Clinical Science, Sacco Hospital Eye Clinic, Milano, Italy; ²University of Sydney, Save Sight Institute, Sydney, NSW, Australia; ³University of Milan, Ophthalmological Unit, IRCCS-Cà Granda Foundation - Ospedale Maggiore Policlinico, Department of Clinical Sciences and Community Health, Milan, Italy *CR
- 680 — B0427 Retinal Surface Detection in intraoperative Optical Coherence Tomography (iOCT).** Moritz Pettenkofer, M. Nasser, M. Zhou, C. Lohmann. Ophthalmology, Munich Tech University, Munich, Germany
- 681 — B0428 Automatic analysis of retinal oximetry images.** Sveinn H. Hardarson², R. A. Karlsson³, O. B. Olafsdottir¹, T. S. Eliasdottir¹, T. Bek⁴, E. Stefansson¹. ¹Ophthalmology, University of Iceland, Reykjavik, Iceland; ²Institute of Physiology, University of Iceland, Reykjavik, Iceland; ³Oxymap ehf., Reykjavik, Iceland; ⁴Aarhus University Hospital, Aarhus, Denmark *CR
- 682 — B0429 Quantitative volumetric analysis of retinal tissue oxygen tension.** Anthony Felder, J. Wanek, N. P. Blair, M. Shahidi. Ophthalmology & Visual Sciences, University of Illinois at Chicago, Chicago, IL *CR
- 683 — B0430 Deep Learning System for Screening of Diabetic Retinopathy, Glaucoma and Age-related Macular Degeneration Using Retinal Photographs: The DEEP EYE Study.** Gilbert Lim¹, D. Ting^{2,3}, C. Y. Cheung^{2,4}, G. S. Tan^{2,3}, R. Rudyanto¹, A. T. Gan², C. Cheng^{2,3}, W. Hsu¹, M. Lee¹, T. Wong^{2,3}. ¹School of Computing, National University of Singapore, Singapore, Singapore; ²Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore; ³Duke-NUS Graduate Medical School, National University of Singapore, Singapore, Singapore; ⁴Department of Ophthalmology and Visual Sciences, Chinese University of Hong Kong, Hong Kong, Hong Kong
- 684 — B0431 A Machine Learning Based Automated Image Quality Assessment Tool for Color Fundus Images Taken with VISUSCOUT 100 Handheld Camera.** Abhishek Rawat¹, C. Chakraborty², S. Tewary², K. Ranipa¹, K. PATEL¹. ¹CARIn, Carl Zeiss India Pvt Ltd, Bangalore, India; ²SMST, IIT Kharagpur, Kharagpur, India *CR
- 685 — B0432 Deep-learning estimation of choroidal thickness from color fundus photographs.** Hironobu Tampo¹, H. Takahashi¹, Y. Yanagi², S. Sakamoto¹, S. Inoda¹, H. Kawashima¹, Y. Inoue¹, Y. Arai¹, R. Takahashi¹, M. Soeta¹. ¹Ophthalmology, Jichi Medical University, Shimotsuke City, Japan; ²Singapore Eye Research Institute, Singapore, Singapore *CR
- 686 — B0433 Use of Opacity Suppression enhancement software improves quality of color fundus, fundus autofluorescence, and anterior segment images obtained during teleglaucoma screenings.** Alice Wang, B. Szirth, A. S. Khouri. Rutgers - New Jersey Medical School, Nutley, NJ
- 687 — B0434 Automated detection and quantification of retinal nerve fibre layer defects on fundus photography.** Aparna Rao¹, R. Panda², N. Puhan³, D. Padhy¹. ¹Glaucoma Services, LV Prasad Eye Institute, Odisha, India, Bhubaneswar, India; ²PhD scholar, School of Electrical sciences, IIT Bhubaneswar, Bhubaneswar, India; ³Assistant professor, School of electrical Sciences, IIT Bhubaneswar, Bhubaneswar, India
- 688 — B0435 Neural Network For Detection Of Diabetic Macular Edema In Fundus Color Images.** Francisco J.J. Rodriguez¹, O. Perdomo², F. E. Gomez¹, S. M. Rosenstiehl¹, H. A. Rios¹, F. Gonzalez². ¹Retina and Vitreous, Fundacion Oftalmologica Nacional, Bogota, Colombia; ²Faculty of Engineering, Universidad Nacional de Colombia, Bogota, Colombia
- 689 — B0436 Image Quality Assessment of Fundus Images Using Deep Convolutional Neural Networks with Extremely Few Parameters.** Christian Wojek¹, K. Ranipa², A. Rawat², T. Milde¹, A. Freytag¹. ¹Corporate Research, Carl Zeiss AG, Oberkochen, Germany; ²CARIn, Carl Zeiss India, Bangalore, India *CR
- 690 — B0437 Fundus images spatial feature analysis for an improved single-pixel camera ophthalmoscope.** Benjamin Lochocki¹, E. Irles², A. De Castro¹, A. Gambin¹, E. Tajahuerce², J. Lancis², P. Artal¹. ¹Laboratorio de Óptica, Universidad de Murcia, Murcia, Spain; ²Institute of New Imaging Technologies, Castellon, Spain *CR
- 691 — B0438 Detection of Lesions and Severity Grading for Diabetic Retinopathy in Normalized Fundus Images.** Kedir Adal^{1,2}, K. Rouwen³, T. Peto^{4,5}, P. van Etten³, J. Martinez³, L. van Vliet², K. A. Vermeer¹. ¹Rotterdam Ophthalmic Institute, Rotterdam, Netherlands; ²Imaging Physics, Delft University of Technology, Delft, Netherlands; ³Rotterdam Eye Hospital, Rotterdam, Netherlands; ⁴NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ⁵Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom

Exhibit/Poster Hall A0046-A0090

Sunday, May 07, 2017 3:15 PM-5:00 PM

Retina164

153 AMD and anti-VEGF therapy 2

Moderator: Timothy Y. Lai

867 — A0046 Switching to Aflibercept in Ranibizumab Refractory Age-Related Macular Degeneration: a Real-World Experience from Sweden. *assem mejaddam¹, A. Rosso², I. Westborg³.*

¹Ophthalmology, Uppsala University Hospital, Stockholm, Sweden; ²Epidemiology and Register Centre South, Skåne University Hospital, Malmö, Sweden; ³Department of Clinical Sciences/Ophthalmology, Umeå University Hospital, Umeå, Sweden

868 — A0047 A UK survey of anti-VEGF use for the eye in January 2015. *Sandro Di Simplicio¹, A. Shalaby², K. Lewis², K. Bush², P. Meredith², A. Lockwood².* ¹Vitreoretinal Service, Bristol Eye Hospital, Bristol, United Kingdom; ²Southampton General Hospital, Southampton, United Kingdom

869 — A0048 Poor anti VEGF response in patients with exudative age related macular degeneration and cancer. *Kanishka R. Mendis^{1,2}, J. L. Ang².* ¹Canberra Retina Clinic, Canberra, ACT, Australia; ²The Canberra Hospital, Canberra, ACT, Australia

870 — A0049 Linking optical coherence tomographic, angiographic and photographic lesion components in neovascular age-related macular degeneration in the Comparison of Age-related Macular Degeneration Treatments Trials. *Vincent Tai¹, S. Chiu¹, K. Winter¹, E. Daniel¹, J. E. Grunwald², M. Pistilli², M. Sevilla¹, G. Ying², G. J. Jaffe¹, D. F. Martin², S. Farsiu¹, M. G. Maguire², C. A. Toth¹.* ¹Ophthalmology, Duke University Eye Center, Durham, NC; ²Ophthalmology, University of Pennsylvania, Philadelphia, PA; ³Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ⁴Biomedical Engineering, Duke University, Durham, NC *CR, ✗

871 — A0050 The Real World Effect of Anti-VEGF Injections on IOP Using the IRIS Registry. *Elizabeth A. Atchison¹, C. N. Barry², F. Lum², C. Mattox³, M. W. MacCumber¹.* ¹Ophthalmology, Illinois Retina Associates/Rush University, Chicago, IL; ²American Academy of Ophthalmology, San Francisco, CA; ³Tufts University School of Medicine, New England Eye Center, Boston, MA *CR

872 — A0051 Retinal function improved, assessed with 30-HZ flicker, in patients treated with Aflibercept for neovascular AMD at six months follow-up. *Marion Schroeder, I. Huzevkova, S. Andreasson, M. Loevestam-Adrian.* Lund University, Lund, Sweden *CR, ✗

873 — A0052 Long term effects of repetitive administration of VEGF-antagonists on primary RPE cells - comparison between Ranibizumab, Bevacizumab and Aflibercept. *Alexa Klettner¹, J. Schottler¹, N. Randoll¹, A. Caliebe², R. Lucius³, J. Roeder¹.* ¹Ophthalmology, University of Kiel, University Medical Center, Kiel, Germany; ²Medical Statistics, University of Kiel, Kiel, Germany; ³Anatomy, University of Kiel, Kiel, Germany *CR

874 — A0053 Three-Year Real World Outcomes of Aflibercept Treatment of Treatment-naïve Patients with Neovascular Age-related Macular Degeneration. *Maria Eleftheriadou^{1,2}, M. K. Gemenetzi^{1,2}, S. Sivaprasad^{1,2}, P. G. Hykin^{1,2}, R. Hamilton^{1,2}, A. Tufail^{1,2}, P. J. Patel^{1,2}.* ¹NIHR Biomedical Research centre, Moorfields Eye Hospital, London, United Kingdom; ²UCL, Institute of Ophthalmology, London, United Kingdom *CR

875 — A0054 Vision improvement maintained at year 2 in patients with persistent neovascular AMD requiring intensive intravitreal aflibercept monotherapy through week 56. *Nishal Patel¹, S. Sivaprasad², J. Talks³.* ¹Kent and Canterbury Hospital, East Kent Hosp University Foundation NHS Trust, Canterbury, United Kingdom; ²Biomedical Research Centre, Moorfields Eye Hospital, London, UK; ³London, United Kingdom; ⁴Newcastle Eye Centre, Royal Victoria Infirmary, Newcastle upon Tyne, United Kingdom *CR

876 — A0055 Risk of Stroke, Myocardial Infarction, and Mortality in AMD Patients Undergoing Anti-VEGF Therapy: A Population-Based Study in Olmsted County, MN. *Lauren A. Dalvin, M. Starr, J. Abou Chehade, G. M. Damento, M. Garcia, S. M. Shah, S. J. Bakri, R. Iezzi.* Ophthalmology, Mayo Clinic, Rochester, MN *CR

877 — A0056 Effects of ranibizumab and aflibercept on human Müller cells and photoreceptors under stress. *Weiyong Shen, B. Yau, S. Lee, L. Zhu, M. Yam, M. C. Gillies.* Save Sight Institute, University of Sydney, Sydney, NSW, Australia *CR

878 — A0057 Results of intravitreal aflibercept in patients with neovascular age-related macular degeneration, without optimal response to anti VEGF-A therapy. MACBETH STUDY. *Marc Biarnes Perez^{2,1}, J. Monés^{2,1}.* ¹Barcelona Macula Foundation, Barcelona, Spain; ²Institut de la Màcula, Barcelona, Spain *CR, ✗

879 — A0058 Two-year outcomes of intravitreal aflibercept injection for age-related macular degeneration resistant to ranibizumab. *Hidetomo Izawa¹, K. Azuma¹, A. Matsuda², K. Shimizu¹, X. tan¹, T. Inoue¹, R. Obata¹.* ¹the university of Tokyo Hospital, Bunkyo, Japan; ²Toranomon Hospital, Tokyo, Japan

880 — A0059 5-year outcome of initial treatment with ranibizumab monotherapy for polypoidal choroidal vasculopathy with good visual acuity. *Takeya Kohno¹, M. Yamamoto¹, T. Tamachi¹, J. Asai¹, N. Oishi¹, S. Ataka¹, A. Yasui¹, A. Cho², M. Hirabayashi², K. Shiraki¹.* ¹Ophthalmology & Visual Science, Osaka City Univ Grad Sch of Med, Osaka, Japan; ²Shiraniwa Hosp, Ikoma, Japan

881 — A0060 Real-world visual outcomes in patients with neovascular age-related macular degeneration receiving aflibercept (Eylea) intravitreal injections at fixed intervals as per UK license. *Mehmet Ozturk¹, M. Harris¹, V. Nguyen², D. Barthelmes², M. C. Gillies², H. Mehta¹.* ¹Ophthalmology, Royal Free NHS Foundation Trust, London, United Kingdom; ²University of Sydney, Save Sight Institute, Sydney, NSW, Australia *CR

882 — A0061 Bevacizumab complements inhibitory effects of proton beam radiation on VEGF enriched proliferative choroidal endothelial cells. *Bharani Krishna Mynampati Arunadithya, S. Grover, K. Chalam.* Ophthalmology, University of Florida, Jacksonville, FL

883 — A0062 Growth of Polypoidal Choroidal Vasculopathy without Exudative Findings assessed in En Face Optical Coherence Tomography. *Hanjo Kwon, S. Park, I. Byon, J. E. Lee.* Department of Ophthalmology, Pusan National University Hospital, Pusan, Pusan-gwangyoksi, Korea (the Republic of)

884 — A0063 Influence of Vitreomacular Interface Configuration on Anti-vascular Endothelial Growth Factor Treatment for Neovascular Age-related Macular Degeneration: A Meta-analysis. *Meng Gao, W. Liu, X. Liang, Y. Yu.* Beijing Tongren Eye Center, Beijing Tongren Hospital, Beijing, China

885 — A0064 One year outcome of treat and extend regimen of aflibercept for polypoidal choroidal vasculopathy. *Tomoko Tamachi¹, T. Kohno¹, A. Kyo¹, M. Yamamoto¹, N. Oishi¹, J. Asai¹, S. Ataka¹, A. Yasui¹, A. Cho², M. Hirabayashi², K. Shiraki¹.* ¹Ophthalmology and Visual Sciences, Osaka City University Graduate School of Medicine, Osaka, Japan; ²Shiraniwa Hosp, Ikoma, Japan

886 — A0065 Baseline Predictors of Five-Year Visual Acuity in the Comparison of AMD Treatment Trials (CATT). *Gui-Shuang Ying¹, M. G. Maguire¹, W. Pan¹, J. E. Grunwald¹, E. Daniel¹, G. J. Jaffe², C. A. Toth², D. F. Martin³.* ¹Ophthalmology, Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, Duke University, Durham, NC; ³Ophthalmology, Cleveland Clinic, Cleveland, OH *CR, ✗

887 — A0066 Evaluation of contrast sensitivity and other visual function outcomes in neovascular AMD patients following treatment switch to aflibercept from ranibizumab. *Don Nixon, N. Flinn.* Trimed Laser Eye Centre, Barrie, ON, Canada *CR

- 888 — A0067 Ranibizumab Versus Aflibercept For The Treatment Of Pigment Epithelial Detachment In Neovascular Age-Related Macular Degeneration: Data From A Prospective Observational Study.** *Daniel Barthelmes^{1,2}, A. Vaze², V. Nguyen², V. Daien², J. J. Arnold³, S. H. Young³, N. Morlet⁴, M. C. Gillies².* ¹Ophthalmology, University Hospital Zurich, Zurich, Switzerland; ²Medical School, Clinical Ophthalmology, The University of Sydney, Sydney, NSW, Australia; ³Marsden Eye, Sydney, NSW, Australia; ⁴Ophthalmology, Royal Perth Hospital, Perth, WA, Australia *CR
- 889 — A0068 Choroidal thickness as a prognostic factor in exudative age related macular degeneration.** *Jaya B. Kumar, J. Ehlers, R. P. Singh, A. V. Rachitskaya.* Ophthalmology, Cleveland Clinic Cole Eye Institute, Cleveland, OH *CR
- 890 — A0069 Two-year outcome of aflibercept for treatment-naïve patient with neovascular age-related macular degeneration using modified treat-and-extend regimen.** *Masayuki Ohnaka, Y. Nagai, M. Kimura, T. Chihara, K. Nakagawa, K. Fujita, K. Takahashi.* Ophthalmology, Kansai Medical University, Hirakata, Japan
- 891 — A0070 Ranibizumab efficacy in nAMD using a treat and extend regimen: a comparison between the interventional TREND and non-interventional LUMINOUS studies.** *Paul Mitchell¹, W. Macfadden², V. Möcke², S. Lacey², C. Dunger-Baldauf².* ¹Ophthalmology, University of Sydney, North Sydney, NSW, Australia; ²Novartis Pharma AG, Basel, Switzerland *CR, ✗
- 892 — A0071 Classification of strokes seen in patients receiving intravitreal anti-vascular endothelial growth factor.** *Matthew Starr, L. A. Dalvin, J. Abou Chehade, G. M. Damento, M. Garcia, S. M. Shah, R. Iezzi, S. J. Bakri.* Mayo Clinic, Rochester, MN
- 893 — A0072 The top 10 clinical pearls on treating pigment epithelial detachments due to neovascular age-related macular degeneration with ranibizumab in the HARBOR study.** *Arshad M. Khanani¹, L. Hill², L. Tuomi².* ¹Sierra Eye Associates, Reno, NV; ²Genentech, Inc., South San Francisco, CA *CR, ✗
- 894 — A0073 A novel structural variant in VIEW1 neovascular age-related macular degeneration (AMD) patients.** *Lorah T. Perlee, R. Vitti.* Ophthalmology, Regeneron Pharmaceuticals, Inc., Tarrytown, NY *CR, ✗
- 895 — A0074 The mean change in visual acuity and retinal thickness in 50 patients with wet AMD treated with Aflibercept monotherapy: twelve-month follow-up.** *Carmine Luciano Vulcano¹, A. Labate¹, E. Bonci², E. Sterbini³, M. Giubilei³, S. Altimari³.* ¹Ophthalmology, Crotono Hospital, Crotono, Italy; ²Ophthalmology, Bonci & partners private practice, Roma, Italy; ³Ophthalmology, Colleferro Hospital, Colleferro, Italy
- 896 — A0075 Twelve-month outcomes of ranibizumab versus aflibercept for neovascular age-related macular degeneration: an observational study.** *Mark C. Gillies¹, V. Daien¹, V. Nguyen¹, J. J. Arnold², N. Morlet³, D. Barthelmes⁴.* ¹Ophthalmology, University of Sydney, Sydney, NSW, Australia; ²Marsden Eye Specialists, Parramatta, NSW, Australia; ³University of Western Australia, Perth, WA, Australia; ⁴University Hospital Zurich, Zurich, Switzerland *CR
- 897 — A0076 Development of geographic atrophy in age-related macular degeneration treated with long term intravitreal injections of anti-vascular endothelial growth factor.** *Ang Li, F. Q. Silva, J. E. Sears, S. K. Srivastava, J. Ehlers, A. Schachat, P. K. Kaiser, D. F. Martin, R. P. Singh.* ophthalmology, Cole Eye Institute, Lakewood, OH
- 898 — A0077 Wet AMD Quiescence with Visual Acuity Stability in a Sub-Group Following PRN Treatment.** *Greg D. Flitney¹, L. Zukin¹, C. Hagedorn².* ¹University of Colorado School of Medicine, Aurora, CO; ²Colorado Retina Associates, Denver, CO
- 899 — A0078 Efficacy of aflibercept in the second eyes of neovascular age-related macular degeneration patients who refractory to bevacizumab or ranibizumab in the first eyes.** *Dae Joong Ma, U. Park, H. Yu.* Ophthalmology, Seoul National University Hospital, Seoul, Korea (the Republic of)
- 900 — A0079 Evaluation of time-to-recurrence of disease activity in treatment-naïve patients with neovascular age-related macular degeneration after ranibizumab treatment: 12-month analysis from the ORACLE study.** *Maddalena Quaranta¹, F. Devin², G. Quentel³, J. Uzzan⁴, E. Fourmaux⁵, L. Castelnovo⁶, W. Roquet⁷, C. Francois-Maury⁸, S. Razavi⁹, N. San Nicolas¹⁰.* ¹Ophthalmology, Centre Rabelais, Lyon, France; ²Ophthalmology, Centre Monticelli Paradis, Marseille, France; ³Ophthalmology, Centre Imagerie et Laser, Paris, France; ⁴Ophthalmology, Clinique Mathilde, Rouen, France; ⁵Ophthalmology, Rétine Gallien, Bordeaux, France; ⁶Ophthalmology, Clinique Maison Rouge, Strasbourg, France; ⁷Ophthalmology, Centre Blatin, Clermont-Ferrand, France; ⁸Ophthalmology, Centre de l'Odéon, Paris, France; ⁹Ophthalmology, Clinique Saint-Gatien, Tours, France; ¹⁰Ophthalmology, Novartis Pharma SAS, Rueil-Malmaison, France *CR
- 901 — A0080 Baseline characteristics of polypoidal choroidal vasculopathy in the EVEREST II Study.** *Tock H. Lim¹, C. Feller², P. Margaron³, C. S. Tan^{1,2}.* ¹National Healthcare Group Eye Institute, Tan Tock Seng Hospital, Singapore, Singapore; ²Fundus Image Reading Centre, National Healthcare Group Eye Institute, Singapore, Singapore; ³Novartis Pharma AG, Basel, Switzerland *CR, ✗
- 902 — A0081 A Pharmacoepidemiological study of intravitreal drug consumption in the first 12 months of treatment.** *The EPIdemiology and SAFETy collaboration. Vincent Daien¹, C. P. Creuzot Garcher², M. Delyfer³, A. M. Bron², M. C. Gillies⁴, S. Lacombe⁴, L. Papinaud⁵, D. Cholley⁶, C. Domerg⁵, A. Cougnard-Gregoire⁷, C. Quantin², M. Villain¹, J. Daures⁴, C. DelCourt⁷, J. Korobelnik³.* ¹Ophthalmology, CHU Montpellier, Saint Gely Du Fesc, France; ²CHU Dijon, Dijon, France; ³Ophtalmologie, CHU BORDEAUX, Bordeaux, France; ⁴Statistiques, IURC, Montpellier, France; ⁵ERSM, Montpellier, France; ⁶Save Sight Institute, SYDNEY, NSW, Australia; ⁷Bordeaux University, Bordeaux, France *CR
- 903 — A0082 Efficacy and safety of ranibizumab treatment guided by functional and/or anatomical criteria in patients with neovascular age-related macular degeneration: results from the OCTAVE study.** *Petr Kolar¹, G. Staurenghi², C. Dunger-Baldauf³, W. Macfadden³.* ¹University Eye Clinic of Masaryk University and Univesity Hospital Brno, Brno, Czech Republic; ²Az.Osp.Luigi Sacco-Polo,Universitario Università degli Studi, Milan, Italy; ³Novartis Pharma AG, Basel, Switzerland *CR, ✗
- 904 — A0083 Twelve months outcomes of Intravitreal aflibercept for neovascular age-related macular degeneration. Fixed versus as needed dosing.** *Daniele Veritti^{1,2}, F. U. Ricci³, V. Sarao^{1,2}, P. Lanzetta^{1,2}.* ¹Dept. of Medical and Biological Sciences - Ophthalmology, University of Udine, Udine, Italy; ²Istituto Europeo di Microchirurgia Oculare, Udine, Italy; ³Department of Ophthalmology, University of Rome Tor Vergata, Rome, Italy *CR
- 905 — A0084 What Determines the Retinal Concentration of an Intravitreally Injected Antibody? New Insights Using a 3-Compartment Semi-Mechanistic Pharmacokinetic Model.** *Norman A. Mazer¹, L. A. Hutton-Smith², H. M. Byrne², E. A. Gaffney², P. K. Maini², K. Gadkar³.* ¹Clinical Pharmacology, Roche Innovation Center Basel, Basel, Switzerland; ²Wolfson Centre of Mathematical Biology, University of Oxford, Oxford, United Kingdom; ³Preclinical and Translational Pharmacokinetics, Genentech Inc., South San Francisco, CA *CR
- 906 — A0085 Evaluation of polypoidal choroidal vasculopathy lesions on indocyanine green angiograms in the first year of the EVEREST II study.** *Colin S. Tan¹, C. Feller², P. Margaron², T. H. Lim¹.* ¹Ophthalmology, National Healthcare Group Eye Institute, Singapore, Singapore; ²Novartis Pharma AG, Basel, Switzerland *CR, ✗
- 907 — A0086 Long-term anatomical and functional outcomes in patients with neovascular age-related macular degeneration (nAMD) after switching from Ranibizumab to Aflibercept therapy.** *Louise Christou, V. Kirithi, H. Peregrine, F. Essaji, S. Canning, P. Ioannidis, S. Kashani.* Ophthalmology, East Sussex NHS Trust, Hove, United Kingdom *CR

908 — A0087 Outcomes in Patients with Neovascular Age-related Macular Degeneration Based on Dosing Subgroups in the Second Year of the VIEW 1 and VIEW 2 Studies. *Ehsan Rahimy.* Palo Alto Medical Foundation, Palo Alto, CA *CR, ✗

909 — A0088 36 month evaluation of intravitreal aflibercept injection for wet age related macular degeneration in patients previously receiving ranibizumab or bevacizumab. *Rishi P. Singh, F. Q. Silva, S. K. Srivastava, J. Ehlers, A. Schachat.* Ophthalmology, Cleveland Clinic Cole Eye Institute, Cleveland, OH *CR, ✗

910 — A0089 Subretinal hemorrhage due to wet AMD - Combining intravitreal Bevacizumab, recombinant tissue plasminogen activator (RTPA) and gas tamponade for better long-term outcome. *Johanna Maass, E. Matthé.* Ophthalmology, Universitätsklinikum Carl Gustav-Carus, Dresden, Germany

911 — A0090 Intravitreal aflibercept for neovascular AMD in the very elderly neovascular AMD patients: UK Multi-centre Real World Outcome. *James Talks¹, S. Sivaprasad².* ¹Eye Centre, Newcastle Upon Tyne Hospitals NHS Foundation Trust, Newcastle Upon Tyne, United Kingdom; ²Moorfields Eye Hospital, London, United Kingdom *CR

Exhibit/Poster Hall A0091-A0137

Sunday, May 07, 2017 3:15 PM-5:00 PM

Retina

154 Diabetic macular edema clinical research

Moderator: Peter K. Kaiser

912 — A0091 Treatment of Refractory Diabetic Macular Edema with Intravitreal Injection of a Fluocinolone Acetonide Implant. *Shaina M. Rubino, C. B. Komanski, V. J. John.* Ophthalmology, Wake Forest Baptist Health, Winston Salem, NC *CR

913 — A0092 Diabetic Macular Edema In Naive Patients Treated By Intravitreal Ozurdex In Clinical Practice: The “DIMENTION” Study. *Despreaux Raphaelle¹, S. Touhami², C. Virevialle¹, R. Adam¹, J. Nordmann¹, J. Akesbi¹.* ¹Paris, Centre Hospitalier National d’Ophtalmologie des Quinze-Vingts, Paris, France; ²Pitié Salpêtrière Hospital, Paris, France

914 — A0093 One-Year Follow Up Results of Fluocinolone Acetonide Intravitreal Implant for Diabetic Macular Edema (DME) in Highly Treated Eyes. *Nisha Dhawlikar^{1,2}, S. P. Shah^{3,1}, D. L. Yarian^{3,1}, J. Prenner^{3,1}, E. S. Friedman^{3,1}, H. M. Wheatley^{3,1}, H. F. Fine^{3,1}, D. Mantopoulos^{3,1}, D. B. Roth^{3,1}.* ¹Rutgers Robert Wood Johnson Medical School, Holmdel, NJ; ²Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ³NJ Retina, New Brunswick, NJ *CR

915 — A0094 Early versus long-term changes in visual acuity (VA) with continuous 0.2 µg/day fluocinolone acetonide (FAc) microdosing. *Vishak J. John.* Ophthalmology, Wake Forest Baptist Health, Winston-Salem, NC *CR

916 — A0095 Early Response to Ranibizumab Predictive of Functional Outcome after Dexamethasone for Unresponsive Diabetic Macular Edema. *Maria Vittoria Cicinelli¹, M. Cavalleri¹, L. Querques¹, A. Rabiolo¹, R. Sacconi^{1,2}, A. Carnevali^{1,3}, C. Giuffrè¹, L. Tomasso¹, F. Bandello¹, G. Querques¹.* ¹Ophthalmology, San Raffaele Scientific Institute, Milano, Italy; ²Department of Ophthalmology, University Hospital of Verona, Verona, Italy; ³Department of Ophthalmology, University Magna Graecia, Catanzaro, Italy *CR

917 — A0096 Selective laser trabeculoplasty (SLT) for the reduction of elevated intraocular pressure (IOP) associated with fluocinolone acetonide (FAc) intravitreal implants. *Nathan M. Radcliffe.* New York University, New York, NY *CR

918 — A0097 Early central subfield thickness and long-term visual acuity changes with fluocinolone acetonide (FAc)-associated continuous microdosing in diabetic macular edema. *Caesar Luo.* Progressive Vision Institute, Pottsville, PA *CR

919 — A0098 Identifying physiological biomarkers intermediating DME treatment. *Charlotte E. Joslin^{1,2}, J. K. Kresovich², N. P. Blair¹, M. Shahidi¹.* ¹Ophthalmology/Visual Sciences, University Illinois at Chicago, Chicago, IL; ²Epidemiology and Biostatistics, University of Illinois at Chicago, Chicago, IL

920 — A0099 Distribution of Nonperfusion Area on Ultra Widefield Angiography in Eyes with Diabetic Macular Edema: DAVE Study. *wenyang fan^{1,2}, K. Wang³, K. G. Falavarjani^{1,2}, M. Sagong⁴, A. Uji^{1,2}, M. S. Ip^{1,2}, J. Hemert⁵, C. C. Wykoff^{6,7}, D. M. Brown^{6,7}, S. R. Sadda^{1,2}.* ¹Doheny Eye Institute, Los Angeles, CA; ²Department of Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ³Department of Ophthalmology, Beijing Friendship Hospital, Beijing, China; ⁴Department of Ophthalmology, Yeungnam University College of Medicine, Daegu, Korea (the Republic of); ⁵Optos PLC, Dunfermline, United Kingdom; ⁶Retina Consultants of Houston, Houston, TX; ⁷Blanton Eye Institute, Houston Methodist Hospital & Weill Cornell Medical College, Houston, TX *CR, ✗

921 — A0100 Comparison of efficacy and safety of intravitreal triamcinolone acetonide vs dexamethasone implant (Ozurdex) in treatment of diabetic macular edema. *Rachel C. Chen, J. Ehlers, R. P. Singh, S. K. Srivastava, D. F. Martin, A. Schachat, J. E. Sears, A. Yuan, A. S. Babich, P. K. Kaiser.* Cole Eye Institute, Cleveland Clinic Foundation, Cleveland Heights, OH *CR

922 — A0101 Retinal oxygen saturation in relation to retinal thickness in diabetic macular edema. *Søren Leer Blindbæk^{1,3}, T. Peto^{2,3}, J. Graustund^{1,3}.* ¹Department of Ophthalmology, Odense University Hospital, Odense C, Denmark; ²Centre for Public Health, Queen’s University Belfast, Belfast, United Kingdom; ³Department of Clinical Research, University of Southern Denmark, Odense C, Denmark ✗

923 — A0102 Ischemic index changes in diabetic retinopathy after intravitreal dexamethasone implant using ultra wide-field fluorescein angiography: a pilot study. *Lea Querques^{1,2}, M. Parravano², R. Sacconi¹, A. Rabiolo¹, M. Cicinelli¹, A. Carnevali¹, L. De Vitis¹, G. Albertini¹, F. Bandello¹, G. Querques¹.* ¹Ospedale S. Raffaele, Milano, Milan, Italy; ²G.B. Bietti Foundation-IRCCS, Rome, Italy *CR

924 — A0103 Compliance Trends for Patients with Diabetic Macular Edema and Exudative Macular Degeneration in the United States vs. European Union. *Chelsey Krambeer¹, M. Jansen², D. S. Kermany³, J. Waters², W. Tie², S. Bahadorani², M. Singer².* ¹Texas Tech University Health Science Center Paul L. Foster School of Medicine, El Paso, TX; ²University of Texas Health Science Center San Antonio, San Antonio, TX; ³University of Texas at Austin, Austin, TX *CR

925 — A0104 ICE-UK - The evaluation of the fluocinolone acetonide intravitreal implant for the treatment of chronic diabetic macular edema (DME) in NHS clinical practice. *Daniela Collins.* Ophthalmology, James Cook University Hospital, Durham, United Kingdom *CR

926 — A0105 Initial efficacy, anatomic and safety outcomes after fluocinolone acetonide 0.2 µg/day implant in patients with DME: The PALADIN real-world observational study. *Sam Mansour.* Virginia Retina Center, Warrenton, VA; The George Washington University, Washington, DC *CR, ✗

927 — A0106 Performance of the handheld Radial Shape Discrimination test in Diabetic Macular Oedema suspects. *Jae Y. Ku^{1,2}, S. P. Harding^{1,2}, D. M. Broadbent^{1,2}, A. Stylianides², T. Criddle², P. C. Knox¹.* ¹Eye and Vision Science, University of Liverpool, Liverpool, United Kingdom; ²St Paul’s Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom

- 928 — A0107 The first European report of real-life clinical outcomes after 3 years of treatment with ILUVIEN® (fluocinolone acetonide) in patients with chronic diabetic macular edema (DME).** *Albert J. Augustin, J. Atorf.* Ophthalmology, Staedtisches Klinikum Karlsruhe, Karlsruhe, Germany *CR
- 929 — A0108 Predicting 3-month response of DME to intravitreal concebrcept from 24-hour response.** *Dawei Sun.* Ophthalmology, the 2nd affiliated hospital of Harbin Medical University, Harbin, China
- 930 — A0109 Impact of Presence or Absence of Posterior Vitreous Detachment (PVD) at Baseline on Treatment Outcomes for Diabetic Macular Edema (DME) in the VISTA and VIVID trials.** *Sundeeep Kasi, A. Ho.* Retina, Wills Eye Hospital, Philadelphia, PA *CR
- 931 — A0110 The CONSTANT study: area-under-the-curve (AUC) analysis comparing fluocinolone acetonide 0.2µg/day (ILUVIEN®) implant with ranibizumab plus deferred laser over a 36-month study period.** *Daniel M. Miller.* Ophthalmology, Cincinnati Eye Institute/University of Cincinnati, Cincinnati, OH *CR
- 932 — A0111 670 nm Photobiomodulation as a Therapy for Diabetic Macular Edema: A Pilot Study.** *Janis T. Eells^{1,2}, S. Gopalakrishnan³, T. B. Connor², K. Stepien⁴, J. Carroll⁵, V. Williams², K. Packard⁶, J. E. Kim².* ¹Biomedical Sciences, Univ of Wisconsin - Milwaukee, Milwaukee, WI; ²Ophthalmology, Medical College of Wisconsin, Milwaukee, WI; ³College of Nursing, University of Wisconsin-Milwaukee, Milwaukee, WI; ⁴Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI *CR, x
- 933 — A0112 Diabetic macular edema with and without subfoveal neuroretinal detachment: different morphologic and functional entities.** *Stela Vujosevic¹, T. Torresin¹, S. Bini¹, M. Berton¹, E. Convento¹, E. Midena^{1,2}.* ¹Ophthalmology, University of Padova, Padova, Italy; ²G.B. Bietti Eye Foundation, IRCCS, Roma, Italy
- 934 — A0113 Ocular photostimulation with the 577 nm micropulse yellow laser in the management of clinically significant diabetic macular edema (CSDME) - 3rd Year of Follow-up.** *Ezio Cappello¹, E. Cecchin¹, S. Morselli¹, G. Dorin².* ¹Ophthalmology, Ospedale San Bassiano - Bassano del Grappa, Bassano Del Grappa, Italy; ²Cupertino, Cupertino, CA *CR
- 935 — A0114 Bayesian Adaptive Contrast Sensitivity Function as a Sensitive Indicator of Diabetic Macular Edema.** *Lloyd P. Aiello^{3,4}, J. Rhee², L. A. Lesmes³, A. K. Bittner⁴, J. K. Sun^{2,1}.* ¹Ophthalmology, Harvard Medical School, Boston, MA; ²Beetham Eye Institute, Joslin Diabetes Center, Boston, MA; ³Adaptive Sensory Technology, Boston, MA; ⁴College of Optometry, Nova Southeastern University, Fort Lauderdale, FL *CR
- 936 — A0115 Quantitative Ultra-widefield Fluorescein Angiography and Volumetric Optical Coherence Tomography Analysis in the REACT Study: A Prospective Randomized Comparative Dosage Trial Evaluating Ranibizumab in Bevacizumab-Resistant Diabetic Macular Edema.** *Kevin Wang¹, S. K. Srivastava², A. Vasanji³, M. Hu², J. Reese², S. Laura², J. Ehlers².* ¹Medicine, Case Western Reserve University, Cleveland, OH; ²Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ³ImageIQ, Cleveland, OH *CR, x
- 937 — A0116 Suspended Scattering Particles in Motion (SSPiM): A Feature of OCT Angiography in Diabetic Macular Edema.** *Julie Y. Kwon³, A. H. Kashani³, G. Liu¹, F. Zheng¹, A. R. Miller¹, Z. Chu², R. K. Wang², G. Gregori¹, P. J. Rosenfeld¹.* ¹Bascom Palmer Eye Institute, Miami, FL; ²University of Washington Medicine Eye Institute, Seattle, WA; ³University of Southern California Roski Eye Institute, Los Angeles, CA *CR
- 938 — A0117 Do eyes with vitreomacular adhesion require less frequent antiVEGF injections to treat diabetic macular edema?** *Xavier Valldeperas, S. Gomez Sanchez.* Ophthalmology, Hospital Universitari Germans Trias, Barcelona, Spain x
- 939 — A0118 Efficacy and safety outcomes following the use of Fluocinolone Acetonide - an ongoing prospective clinical study.** *Ramin Khoramnia, K. Ceglowska, J. Wasiak, I. Dacheva, K. Linz, T. Tandogan, S. Sel, F. Hengerer, G. Auffarth.* University Eye Clinic Heidelberg, Heidelberg, Germany *CR, x
- 940 — A0119 Low-intensity, low-density focal macular laser in the treatment of Diabetic Macular Edema (DME).** *Matthew S. Katz, T. Choudhury, B. M. Glaser.* National Retina Institute, Towson, MD
- 941 — A0120 Clinical Practice In The Management Of Diabetic Macular Edema. Results From A Retinologists National Survey.** *Isabel Pinilla Lozano^{1,2}, M. Lopez², R. Abreu⁴, R. Gallego-Pinazo^{6,5}, M. J. Abraldes^{8,9}.* ¹Ophthalmology, University Hospital Lozano Blesa, Zaragoza, Spain; ²IIS Aragon, Zaragoza, Spain; ³IOBA, Universidad de Valladolid, Valladolid, Spain; ⁴University Hospital of La Candelaria, Tenerife, Spain; ⁵Univ & Polytechnic Hospital La Fe, Valencia, Spain; ⁶Unit of Macula, Oftalvist Clinic, Valencia, Spain; ⁷Abreu Ophthalmology Centre, Canary Islands, Spain; ⁸Ophthalmology, Complejo Hospitalario Universitario, Santiago de Compostela, Spain; ⁹Surgery, Santiago University, Santiago de Compostela, Spain *CR
- 942 — A0121 Reduction of Aqueous Levels of VEGF After Sequential Intravitreal Injections of Aflibercept in Diabetic Macular Edema.** *Kumar Sambhav, B. Mynampati, K. Chalam, S. Grover.* University of Florida, Jacksonville, FL
- 943 — A0122 Clinical Outcomes in Treatment of Diabetic Macular Edema with Fluocinolone Acetonide Intravitreal Implant.** *Matthew West^{1,2}, S. Kim², A. Khanifar².* ¹Ophthalmology, Georgetown University Hospital, Washington, DC; ²Ophthalmology, The Retina Group of Washington, Washington, DC
- 944 — A0123 Conversion to Aflibercept After Prior Anti-VEGF Therapy for Persistent Diabetic Macular Edema: One Year Follow Up.** *Christopher M. Aderman¹, E. Rahimy², A. Shahlaee¹, J. Hsu¹.* ¹Retina Service, Wills Eye Hospital, Philadelphia, PA; ²Palo Alto Medical Foundation, Palo Alto, CA
- 945 — A0124 Retinal Integrity after Short Wavelength Subthreshold Micropulse Laser Therapy for Diabetic Macular Edema.** *Stacey S. Choi¹, E. Wells-Gray¹, M. P. Ohr², N. Doble¹.* ¹Optometry, The Ohio State University, Columbus, OH; ²Ophthalmology and Visual Science, The Ohio State University, Columbus, OH *CR
- 946 — A0125 Intravitreal Fluocinolone Acetonide and Intraocular Pressure: 1 year of follow-up in a clinical setting.** *Ana Carolina C. Abreu¹, J. Coelho¹, B. Pessoa¹, M. Menères^{1,2}, A. Meireles^{1,2}.* ¹Ophthalmology, Centro Hospitalar do Porto, Vizela, Portugal; ²ICBAS - Instituto de Ciências Biomédicas Abel Salazar, Oporto, Portugal
- 947 — A0126 Retinal layers and microperimetry changes after subthreshold micropulse laser in the treatment of diabetic macular edema.** *Giulia Midena¹, S. Vujosevic², F. Martini², E. Convento², E. Pilotto², M. Federici¹, V. Pagliei¹, A. Minnella¹, E. Midena^{2,3}.* ¹Ophthalmology, Catholic University, Roma, Italy; ²Ophthalmology, University of Padova, Padova, Italy; ³GB Bietti Foundation, Roma, Italy
- 948 — A0127 Efficacy of vitrectomy in diabetic macular edema with non-tractional epiretinal membrane: a comparison between treated eye and untreated fellow eye.** *Ugo Nava, I. D'Agostino, C. Preziosa, M. G. Cereda, G. Staurengghi.* Eye Clinic, Department of Biomedical and Clinical Science "Luigi Sacco", Sacco Hospital, University of Milan, Milan, Italy *CR
- 949 — A0128 Choroidal thickness at 6 months and 1 year in eyes with DME treated with focal grid LASER.** *Pedro Alfaiate, A. Campos, S. Campos, J. Pereira, M. Santos, J. Castro e Sousa.* Ophthalmology, Centro Hospitalar de Leiria, Albergaria dos Doze, Portugal
- 950 — A0129 Can the levels of inflammatory cytokines in the anterior chamber of eyes with diabetic macular edema predict response to therapy?** *Rubbia Afridi¹, M. S. Halim¹, M. A. Sadiq¹, M. Hassan¹, A. Agarwal², D. V. Do^{1,2}, Q. D. Nguyen^{1,2}, Y. J. Sepah^{1,2}.* ¹Byers Eye Institute, Stanford University, Palo Alto, CA; ²Ocular Imaging Research and Reading Center, Menlo Park, CA *CR, x

951 — A0130 Evaluation of foveal avascular zone alterations in diabetic retinopathy with optical coherence tomography angiography. Maurizio Fossarello¹, F. Coscas², P. E. Napoli¹, M. Galantuomo¹, R. Farci¹, G. Diaz³. ¹University Eye Clinic, University of Cagliari, Cagliari, Italy; ²Eye Clinic, Hôpital Intercommunal, Créteil, Paris, Créteil, France; ³Biomedical Science, University of Cagliari, Cagliari, Italy

952 — A0131 Choroidal thickness is reduced in patients with diabetic macular edema. Antonio Ferreras^{1,2}, B. Abadia¹, P. Calvo^{1,2}, I. Suñen¹, F. Bartol¹, A. Pajarin³. ¹Ophthalmology, Miguel Servet University Hospital, Zaragoza, Spain; ²University of Zaragoza, Zaragoza, Spain; ³Centro de Salud Seminario, Zaragoza, Spain

953 — A0132 Correlation between initial vision and vision improvement with automatically calculated retinal cyst volume in treated DME after resolution. James Kohler¹, A. Rashno², K. K. Parhi², P. Drayna³, S. Radwan⁴, D. D. Koozekanani³. ¹University of Minnesota Medical School, Minneapolis, MN; ²Electrical and Computer Engineering, University of Minnesota, Minneapolis, MN; ³Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN; ⁴No Affiliation, Dallas, TX

954 — A0133 Bevacizumab or Triamcinolone for Persistent Diabetic Macular Edema: 24-week preliminary results. Murilo W. Rodrigues, A. Messias, J. A. Cardillo, R. C. Siqueira, R. Jorge. Ophthalmology, Ribeirão Preto School of Medicine, Ribeirão Preto, Brazil ✗

955 — A0134 Description of Capillary Macroaneurysms in diabetic macular edema with Optical Coherence Tomography Angiography. Juan I. Bianchi, R. Matsui, D. Castro. Retina department, Conde de Valenciana Foundation, Mexico City, Mexico

956 — A0135 OCT characteristics in a diabetic eye with pseudophakic cystoid macular edema. Timothy Peiris, R. Issa, G. Budoff, S. Guo, A. S. Khouri, M. Dastjerdi, A. Cohen, M. A. Zarbin, N. Bhagat. Rutgers New Jersey Medical School, Newark, NJ *CR

957 — A0136 Full Thickness Macular Hole Formation after Intravitreal Bevacizumab for Proliferative Diabetic Retinopathy and Diabetic Macular Edema. Bilal Farhat, J. P. Shulman, J. Feistmann. Ophthalmology, Jamaica Hospital Medical Center, Jamaica, NY

958 — A0137 Real-Life Efficacy With Iluvien® (Fluocinolone Acetonide [FAC]) In Diabetic Macular Edema (Dme) Patients In 4 Portuguese Ophthalmology Units. Angelina Meireles^{1,2}, B. Pessoa¹, J. Coelho¹, C. Teixeira³, M. Falcão^{4,5}, R. Gonçalves³, M. Silva¹, J. Castro e Sousa⁶. ¹Ophthalmology, Centro Hospitalar Porto-HSA, Porto, Portugal; ²Instituto de Ciências Biomédicas Abel Salazar, Porto, Portugal; ³Ophthalmology, Hospital Pedro Hispano, Porto, Portugal; ⁴Ophthalmology, Centro Hospitalar S. João, EPE, Porto, Portugal; ⁵Faculty of Medicine of the University of Porto, Porto, Portugal; ⁶Ophthalmology, Centro Hospitalar de Leiria, Leiria, Portugal

Exhibit/Poster Hall A0307-A0316

Sunday, May 07, 2017 3:15 PM-5:00 PM

Cornea

155 Cornea Development

Moderator: Chia-Yang Liu

959 — A0307 Effect of Wnt/β-Catenin Signaling Modifiers on Self-Renewal of Human Limbal Epithelial Progenitor Cells Grown from Limbal Biopsy Explants. Hyun Jung Lee¹, J. Wolosin², S. Chung¹. ¹Ophthalmology and Visual Science, Catholic Institute of Visual Science, College of Medicine, The Catholic University of Korea, Seoul, Korea (the Republic of); ²Department of Ophthalmology and Black Family Stem Cell Institute, Icahn School of Medicine at Mount Sinai, Seoul, Korea (the Republic of)

960 — A0308 Spatiotemporally regulated ablation of *Klf5* results in dysregulated epithelial homeostasis in mature mouse corneas. Chelsea L. Loughner¹, D. Kenchegowda^{1,4}, S. Swamynathan¹, S. K. Swamynathan^{3,2}. ¹Ophthalmology, University of Pittsburgh School of Medicine, Pittsburgh, PA; ²Fox Center for Vision Restoration, University of Pittsburgh School of Medicine, Pittsburgh, PA; ³Ophthalmology and Cell Biology, University of Pittsburgh School of Medicine, Pittsburgh, PA; ⁴Medicine, University of Maryland School of Medicine, Baltimore, MD *CR

961 — A0309 Exogenous TGFβ3 promotes mouse corneal stroma development. Lingling Zhang¹, L. Yeh^{2,3}, Y. Zhang¹, Y. Okada^{4,1}, Y. Wang¹, C. Liu¹. ¹Indiana University, BLOOMINGTON, IN; ²Department of Ophthalmology, Chang-Gung Memorial Hospital, Taoyuan, Taiwan; ³Chang-Gung University College of Medicine, Taoyuan, Taiwan; ⁴Wakayama Medical University, Wakayama, Japan

962 — A0310 Developmental expression of SV2 in embryonic chicken corneal epithelium. James K. Kubilus, C. Talbot, T. Linsenmayer. Integrative Physiology and Pathobiology, Tufts University School of Medicine, Boston, MA

963 — A0311 Overexpression of TGF-α is detrimental to the corneal epithelial development. Yen-Chiao Wang¹, Y. Zhang¹, L. Zhang¹, Y. Okada^{1,2}, C. Liu¹. ¹School of Optometry, Indiana University, Bloomington, IN; ²Wakayama Medical University, Wakayama, Japan

964 — A0312 Pigment epithelial-derived factor promotes niche reconstruction in rabbit limbal regeneration. Nai-Wen Fan¹, T. Ho², S. Yeh³, Y. Tsao^{3,2}. ¹Ophthalmology, Taipei Veterans General Hospital, Taipei, Taiwan; ²Department of Medical Research, Mackay Memorial Hospital, Taipei, Taiwan, Taipei, Taiwan; ³Department of Ophthalmology, Mackay Memorial Hospital, Taipei, Taiwan

965 — A0313 Can corneal limbal proteins drive the trans-differentiation of dental pulp stem cells into corneal epithelium like cells? M C. Hillarby¹, J. Smith¹, S. Shawcross², J. Yates³, A. Brahma⁴, F. Carley⁴, A. Al¹. ¹Division of Pharmacy and Optometry, University of Manchester, Manchester, United Kingdom; ²Division of Cell Matrix Biology & Regenerative Medicine, University of Manchester, Manchester, United Kingdom; ³Division of Dentistry, University of Manchester, Manchester, United Kingdom; ⁴Manchester Royal Eye Hospital, Manchester, United Kingdom

966 — A0314 Altered fate of corneal epithelial cells in *Dsn1^{com1}* mice. Yuyun Zhu¹, S. Kawakami-Schulz¹, W. Lee¹, A. Ikeda¹, W. W. Kao², S. Ikeda¹. ¹Department of Medical Genetics, University of Wisconsin-Madison, Madison, WI; ²Department of Ophthalmology, University of Cincinnati, Cincinnati, OH

967 — A0315 Evaluation of the effects of RB-35 on the viability and growth of a corneal epithelium cell line. Blanca Elizabeth Martinez Baez, R. Gullías-Cañizo, V. Sanchez-Huerta, F. Castro Muñoz-Ledo, L. Zendejas Reyes. Cornea, Asociación para Evitar la Ceguera en México “Hospital Dr. Luis Sánchez Bulnes” IAP, Ciudad de Mexico, Mexico

968 — A0316 A novel *CYP1B1* mutation with the Von Hippel’s description of an internal corneal ulcer phenotype. Tania Albavera, V. Oliva, A. Navas, O. Chacon, J. C. Zenteno, E. O. Graue-Hernandez, M. Astiazarán, A. Bermudez. Instituto de Oftalmología Conde de Valenciana, Distrito Federal, Mexico

Exhibit/Poster Hall B0001-B0054

Sunday, May 07, 2017 3:15 PM-5:00 PM

Cornea

156 Corneal neovascularization, immunology and neuropathy**Moderators: Sunil Chauhan and Takefumi Yamaguchi**

969 — B0001 Intrastromal AAV-HLA-G gene therapy to re-establish corneal immune tolerance. Brian C. Gilger¹, L. Conatser², S. Smith¹, J. Salmon¹, M. Hirsch^{2,3}. ¹Clinical Sciences, North Carolina State University, Raleigh, NC; ²Ophthalmology, University of North Carolina, Chapel Hill, NC; ³Gene Therapy Center, University of North Carolina, Chapel Hill, NC *CR

970 — B0002 Interferon gamma-Positive Natural Killer Cells Contribute to Corneal Allograft Rejection in Young Mice. Takeshi Nakao^{1,2}, T. Inomata^{1,2}, M. Tahvildari^{1,2}, R. Dana^{1,2}. ¹Schepens Eye Research Institute, Boston, MA; ²Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA

971 — B0003 Topical Pigment Epithelium-Derived Factor Suppresses Corneal Epitheliopathy and Inflammation in Dry Eye disease. Man Yu, J. Hong, A. Amouzegar, M. Fernandes, Y. Chen, T. Nakao, R. Dana. Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary, Department of Ophthalmology, Harvard Medical School, Malden, MA

972 — B0004 mRNA and microRNA Analysis of Syngeneic, Accepted, and Rejected Corneal Allograft in Murine Allograft Model. Hyung Keun Lee^{1,2}, H. Noh¹, A. YEO¹, H. Kim³, J. Song⁴. ¹Ophthal-Severance Hosp, Yonsei Univ College of Medicine, Seoul, Korea (the Republic of); ²Pharmacy, Yonsei University College of Medicine, SEOUL, Korea (the Republic of); ³Preventive Medicine, Yonsei University College of Medicine, SEOUL, Korea (the Republic of); ⁴Ophthalmology, Korea University College of Medicine, SEOUL, Korea (the Republic of)

973 — B0005 Greater diversity of arachadonic acid metabolites is observed in tears of diseased eyes of children compared to normal eyes. Dennis Kwon¹, G. W. Zaidman^{2,3}, L. Bellner⁴, M. Schwartzman⁴, K. Gotlinger⁴. ¹New York Medical College, Valhalla, NY; ²Ophthalmology, Westchester Medical Center, Valhalla, NY, NY; ³Ophthalmology, New York Medical College, Valhalla, NY; ⁴Pharmacology, New York Medical College, Valhalla, NY

974 — B0006 Comparative efficacy of anti-CD40 antibody mediated-costimulation blockade and anti-CD20 antibody/tacrolimus treatment on the survival of full thickness xenocorneal transplantation in non-human primates. Mee Kum Kim^{1,2}, C. Yoon¹, J. Kim¹, H. Lee², H. Kwon², H. Kang³, C. Park⁴, E. Hwang⁴, W. Wee^{1,2}. ¹Department of Ophthalmology, Seoul National University College of Medicine, Seoul, Korea (the Republic of); ²Laboratory of Ocular Regenerative Medicine and Immunology, Seoul Artificial Eye Center, Seoul National University Hospital Biomedical Research Institute, Seoul, Korea (the Republic of); ³Department of Laboratory Medicine, Hallym University College of Medicine, Seoul, Korea (the Republic of); ⁴Department of Microbiology and Immunology, Cancer Research Institute, Seoul National University College of Medicine, Seoul, Korea (the Republic of)

975 — B0007 Effects of subconjunctival bevacizumab and corneal-graft-bevacizumab-preconditioning in high-risk corneal transplantation. Kun Li¹, P. Wang¹, R. Cui¹, Y. Teng^{1,2}, N. Li¹. ¹Beijing Tongren Hospital, Capital Medical University, Beijing, China; ²Beijing Key Laboratory of Ophthalmology and Visual Science, Beijing Institute of Ophthalmology, Beijing, China

976 — B0008 Antibody-mediated ALCAM blockade induces corneal allograft tolerance. Ann-Charlott Schneider¹, A. Willrodt², C. Halin², F. Bock¹. ¹University Hospital Cologne, Köln, Germany; ²Institute of Pharmaceutical Sciences, ETH Zurich, Zurich, Switzerland

977 — B0009 The effect of H-Y matching on graft survival in primary penetrating keratoplasty. MJJIN KIM^{1,2}, J. Kim², H. Jeon², W. Wee¹, J. Hyon^{1,2}. ¹Ophthalmology, Seoul National University College of Medicine, Seoul, Korea (the Republic of); ²Ophthalmology, Seoul National University Bundang Hospital, Seoul, Korea (the Republic of)

978 — B0010 Topical Neurokinin 1 receptor antagonist as a treatment of ocular surface inflammation. Giulio Ferrari, F. Bignami, P. Rama. Ophthalmology -Cornea Unit-Eye Repair, Ospedale San Raffaele, Milan, Italy *CR

979 — B0011 Secreted Ly-6/uPAR Related Protein-1 (SLURP1) suppresses neutrophil docking on endothelial cells and extravasation- a key step in inflammation. Sudha Swamynathan¹, C. L. Loughner¹, C. Roy¹, S. K. Swamynathan^{1,2}. ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Fox Center for Vision Restoration, Pittsburgh, PA *CR

980 — B0012 Plasmacytoid Dendritic Cells in the Mouse Cornea: a Multiphoton Intravital Microscopy Study. Tomas Blanco¹, A. Jamal¹, V. G. Sendra¹, M. J. Lopez², H. Moein¹, P. Hamrah^{1,2}. ¹Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine Boston, Boston, MA; ²Cornea Service, New England Eye Center, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA

981 — B0013 The Effect of Human Corneal-Derived Mesenchymal Stromal Cells Secretome on the Human Macrophages Viability. Ilham Putra¹, M. Eslani¹, J. Hamouie¹, A. Tadepalli¹, X. Shen¹, V. Desai¹, P. Hematti², A. R. Djalilian¹. ¹Ophthalmology and Vision Science, University of Illinois- Chicago, Chicago, IL; ²Medicine, Hematology/Oncology division, University of Wisconsin School of Medicine and Public Health, Madison, WI

982 — B0014 Characterization of dendritic cell subtypes in native and cultured cadaveric human limbal tissue on amniotic membrane. Zala Luznik¹, A. N. Kopitar², A. Ihan², M. Hawlina¹, P. Schollmayer¹. ¹Eye Hospital, University Medical Centre, Ljubljana, Ljubljana, Slovenia; ²Medical Faculty Ljubljana, Institute of Microbiology and Immunology University of Ljubljana, Slovenia, Ljubljana, Slovenia

983 — B0015 Immunocompetent Cells Infiltration Into Reconstructed Human Corneal Epithelium: Application To Dry Eye Syndrome. Barbara De Servi¹, M. Meloni¹, S. Barabino². ¹VitroScreen Srl, MILAN, Italy; ²Clinica Oculistica, University of Genoa, Genoa, Italy

984 — B0016 Elevated aqueous inflammatory cytokine levels in eyes with ocular surface disease. Naohiko Nakayama^{2,1}, T. Yamaguchi^{2,1}, Y. Yagi-Yaguchi^{2,1}, T. Suzuki², K. Higa², D. Tomida², K. Kakisu², S. Den², Y. Satake², J. Shimazaki². ¹Department of Ophthalmology, Keio University School of Medicine, Tokyo, Japan; ²Ophthalmology, Tokyo dental college Ichikawa general hospital, Chiba, Japan

985 — B0017 Severing corneal nerves induces CD11c+ contrasuppressor cells that disable T regulatory cells induced by either orthotopic corneal allografts or by injection of antigen into the anterior chamber. Sudha neelam. Ophthalmology, UTSouthwestern Medical center, Flowermound, TX

986 — B0018 Management of Pediatric Blepharokeratoconjunctivitis. Thomas H. Dohlman, B. Lertsuwanroj, J. Ciralsky. Department of Ophthalmology, Weill Cornell Medical College, New York, NY *CR

987 — B0019 Application of mesenchymal stromal cells modulates corneal allograft rejection in a pre-sensitized high risk cornea transplantation model. Paul Lohan¹, O. Treacy¹, M. Morcos¹, N. Murphy¹, G. Fahy², M. D. Griffin¹, T. Ritter¹. ¹Regenerative Medicine Institute, National University of Ireland, Galway, Galway, Ireland; ²Galway University Hospital, Galway, Ireland

988 — B0020 Complement Fragment C4d Deposition Causing Thickening of Descemet's Membrane in Corneal Graft Rejection: Animal Model Study. Mohamed Abou Shousha¹, G. Kolar², X. Yin², G. R. Gameiro¹, C. Smith², R. Bentivegna², S. H. Yoo¹, P. M. Stuart². ¹Bascom Palmer Eye Institute, University of Miami, Miami, FL; ²Saint Louis University, St. Louis, MO

989 — B0021 Lymphatic Hypoplasia Induced in Mice Reduces Recruitment of Immune Cells to the Ocular Surface in Low-grade Chronic Inflammation Such As Dry Eye. Hyun Goo Kang¹, N. Gu¹, H. Lee^{1,2}. ¹Department of Ophthalmology, Institute of Vision Research, Yonsei University College of Medicine, Seoul, Korea (the Republic of); ²Department of Ophthalmology, Institute of Corneal Dystrophy Research, Yonsei University College of Medicine, Seoul, Korea (the Republic of)

990 — B0022 A core role for T cells in meibomian gland dysfunction. Nancy Reyes¹, P. Gupta¹, D. Saban^{1,2}. ¹Ophthalmology, Duke University School of Medicine, Durham, NC; ²Immunology, Duke University School of Medicine, Durham, NC *CR

991 — B0023 The Effect of Lipopolysaccharide on TSG6 Expression in Mesenchymal Stromal Cells. Gaurav Agnihotri¹, S. Ghassemi¹, I. Putra¹, X. Shen¹, J. Sheth¹, M. Eslani¹, P. Hematti², A. R. Djalilian¹. ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Hematology/oncology, Medicine, University of Wisconsin at Madison, Madison, WI

992 — B0024 Turnover of Resident Plasmacytoid Dendritic Cells in the Cornea. Luca Schwarzenbacher^{1,2}, A. Jamali¹, D. L. Harris¹, V. G. Sendra¹, T. Blanco¹, M. J. Lopez¹, P. Hamrah^{1,3}. ¹Department of Ophthalmology, Center for Translational Ocular Immunology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA; ²Department of Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria; ³Cornea Service, New England Eye Center, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA

993 — B0025 Local Adoptive Transfer of Plasmacytoid Dendritic Cells as a Novel Therapeutic Approach for Corneal Nerve Regeneration. Arisa Jamali¹, M. J. Lopez¹, V. G. Sendra¹, D. L. Harris¹, N. Pondelis¹, P. Hamrah^{1,2}. ¹Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA; ²Cornea Service, New England Eye Center, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA

995 — B0027 T helper cells that co-express ROR γ t and Foxp3 in high-risk corneal allografts at the early stage after transplant. Zhigang Fan, S. Yang, C. Ouyang, L. Yang, Z. Feng, T. Huang, J. Ge. Zhongshan Ophthalmic Center Sun Yat-sen University, Guang Zhou, China

996 — B0028 Galectin-3 Inhibition by A Small-Molecule Inhibitor Reduces Both Pathological Corneal Neovascularization and Fibrosis. Noorjahan A. Panjwani¹, Z. Cao¹, W. Chen¹, H. Ieffler³, U. J. Nilsson². ¹Ophthalmology, Tufts University Medical School, Boston, MA; ²Chemistry, Lund University, Lund, Sweden; ³Laboratory Medicine, Lund University, Lund, Sweden *CR

997 — B0029 Corneal-Limbal Mesenchymal Stromal Cell Secretome is Antiangiogenic in Vitro. Medi Eslani¹, I. Putra¹, X. Shen¹, J. Hamouie¹, A. Tadepalli¹, A. Movahedan¹, N. Afsharkhamesh¹, E. Ghahari¹, P. Hematti², A. R. Djalilian¹. ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Hematology/Oncology, Medicine, University of Wisconsin at Madison, Madison, IL

998 — B0030 Galectin-8-Induced Angiogenesis Is Independent of VEGF-A But Dependent on Integrins. Wei-Sheng Chen, Z. Cao, N. A. Panjwani. Ophthalmology, Tufts University, Boston, MA

999 — B0031 Angiopoietin-like 3 (ANGPTL3) Does not Induce Protein-Specific Corneal Neovascularization (CoNV) after Intrastromal Implantation of ANGPTL3 Pellet in Rat. Duo Sun¹, Y. Liu¹, H. Li¹, A. C. Parenky², H. Chen², A. Skinner², X. C. Tang², J. Cao¹, C. Romano¹. ¹Ophthalmology, Regeneron Pharmaceuticals Inc, Ossining, NY; ²Formulation Department, Regeneron Pharmaceuticals Inc, Tarrytown, NY

1000 — B0032 Inhibition of Corneal Neovascularization by Dexamethasone-Eluting Contact Lenses in a Rabbit Model. Hidenaga Kobashi¹, L. Bengani¹, A. Ross¹, H. Zhai¹, S. Mittal¹, S. Chauhan¹, D. Kohane², J. B. Ciolino¹. ¹Ophthalmology, Schepens Eye Research Institute, Brookline, MA; ²Department of Anesthesiology, Boston Children's Hospital, Boston, MA *CR

1001 — B0033 Fine needle diathermy induces regression of murine corneal (lymph) angiogenesis. Viet Nhat Hung Le, F. Bock, C. Cursiefen. Ophthalmology, University Hospital of Cologne, Cologne, Germany

1002 — B0034 PDT timing dependent regression of corneal blood and lymphatic vessels after intravenous Verteporfin injection. Yanhong Hou, F. Bock, C. Cursiefen. Department of Ophthalmology, University of Cologne, Cologne, Germany

1003 — B0035 Selective I κ B kinase β inhibitor IMD-0354 is a potent antineovascular compound in model of corneal neovascularisation in rats. Anton Lennikov^{1,3}, A. Mukwaya¹, M. Pierfrancesco¹, M. Schapper¹, M. Thangewell¹, Z. Ali², L. Jensen², N. S. Lagali¹. ¹Department of Ophthalmology, Linköping University, Linköping, Sweden; ²Department of Medical and Health Sciences, Division of Cardiovascular Medicine, Linköping University, Linköping, Sweden; ³Laboratory of Biomedical Cell Technologies, Far Eastern Federal University, Vladivostok, Russian Federation

1004 — B0036 Cornea re-vascularisation response after initial vascular regression. Anthony Mukwaya², M. Xeroudaki², A. Lennikov², B. Peebo², L. Jensen¹, N. S. Lagali². ¹Department of Medical and Health Sciences, Division of Cardiovascular Medicine, Linköping University, 581 83 Linköping, Sweden, Linköping University, Linköping, Sweden; ²Department of Ophthalmology, Institute for Clinical and Experimental Medicine, Faculty of Health Sciences, Linköping University, 58183 Linköping, Sweden, Linköping University, Linköping, Sweden

1005 — B0037 Evaluation of corneal neovascularization using optical coherence tomography angiography in patients with limbal stem-cell deficiency. Yoshinori Oie, T. soma, S. Koh, S. Kawasaki, M. Tsujikawa, N. Maeda, K. Nishida. Ophthalmology, Osaka University, Suita, Japan

1006 — B0038 Specific Inhibition of inflammatory corneal lymphangiogenesis by topical application of Sema3F. Felix Bock¹, A. Schneider¹, A. Stahl², T. Reuer², C. Cursiefen¹. ¹Ophthalmology, University of Cologne, Cologne, Germany; ²Department of Ophthalmology, University of Freiburg, Freiburg, Germany

1007 — B0039 Id Genes: Key Regulator of Fibroblast Transdifferentiation to Myofibroblast In The Cornea. Suneel Gupta^{1,2}, T. Ratnakar^{1,2}, G. anumanthan^{1,2}, M. K. Fink^{1,2}, P. R. Sinha^{1,2}, E. A. Giuliano², N. P. Hesemann^{1,3}, S. S. Chaurasia², R. R. Mohan^{1,2}. ¹Harry S. Truman Memorial Veteran Hospital, Columbia, MO; ²College of Veterinary Medicine, University of Missouri, Columbia, MO; ³Mason Eye Institute, University of Missouri, Columbia, MO

1008 — B0040 Human Xylosyltransferase-1: A New Marker for Corneal Fibrosis Detection.

Ratnakar Tripathi^{1,2}, K. Smith³, S. Gupta^{2,1}, G. Anumanthan^{2,1}, M. K. Fink^{2,1}, N. R. Sinha^{2,1}, D. Goyal¹, R. R. Mohan^{3,2}. ¹VMTH, University of Missouri, Columbia, MO; ²Ophthalmology, Truman VA Hospital, Columbia, MO; ³Mason Eye Institute and VMTH, University of Missouri, Columbia, MO, United States., Columbia, MO

1009 — B0041 Tyrosinase: a novel endogenous regulator of (corneal) lymphangiogenesis.

Thomas Clahsen¹, B. Regenfuss¹, C. Büttner², M. Dreisow¹, T. Gabriel¹, F. Bock¹, A. Reis², C. Cursiefen¹. ¹Department of Ophthalmology, University of Cologne, Cologne, Germany; ²Department of Human Genetics, University Hospital Erlangen, Erlangen, Germany

1010 — B0042 The Role of Toll-like Receptor 3 in Corneal Neovascularization.

Ruijuan Zhao, S. Su, X. Lin. Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

1011 — B0043 Topical steroids vs anti-Vegf in experimental corneal neovascularization: differential efficacy, microscopic features and genomic response.

Pierfrancesco Mirabelli¹, A. Mukwaya², A. Lennikov², M. Xeroudaki¹, B. Peebo¹, N. S. Lagali². ¹Department of Ophthalmology and Department of Clinical and Experimental Medicine, Linköping University, Linköping, Sweden; ²Department of Clinical and Experimental Medicine, Linköping University, Linköping, Sweden

1012 — B0044 Pharmacogenetic manipulation of neuronal activity reveals a role of brain spinal trigeminal nucleus in reflex tearing.

Yusuke Izuta¹, M. Shibuya¹, E. Onishi¹, I. Toshihiro¹, S. Nakamura¹, A. Katagiri², A. Yamana³, K. Tsubota¹. ¹Ophthalmology, School of Medicine, Keio University, Shinjuku, Japan; ²Department of Physiology, Nihon University School of Dentistry, Tokyo, Japan; ³Department of Neuroscience II, Nagoya University Research Institute of Environmental Medicine, Nagoya, Japan

1013 — B0045 The Ocular Pain Assessment Survey and In Vivo Confocal Microscopy as Valuable Tools in the Diagnosis and Management of Patients with Corneal Neuropathic Pain.

Maria J. Lopez, A. Abbouda, N. Pondelis, B. Khaksari, A. Jamali, Z. salem, P. Hamrah. Ophthalmology, Tufts Medical Center, Boston, MA *CR

1014 — B0046 Corneal Confocal Microscopy for Early Detection of Diabetic Neuropathy in Newly Diagnosed Patients with Type 2 Diabetes Mellitus.

Mitra Tavakoli^{1,2}, C. Soiland-Reyes², R. Spencer², S. Howard², R. Boaden². ¹University of Exeter Medical School, Exeter, United Kingdom; ²NIHR Collaboration for Leadership in Applied Health Research and Care (CLAHRC) Greater Manchester, Manchester, United Kingdom

1015 — B0047 The effects of humidity on Cochet-Bonnet aesthesiometer measurements.

Edward Lum^{1,3}, P. J. Murphy^{1,2}. ¹School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada; ²School of Optometry and Vision Science, Cardiff University, Cardiff, United Kingdom; ³School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia

1016 — B0048 PPAR α in diabetic keratopathy.

Greg H. Matlock^{1,2}, S. Priyadarsini^{1,3}, V. Malechka^{1,2}, G. DENG^{1,2}, F. Qiu^{1,2}, K. Zhou¹, E. P. Moran^{1,2}, D. Karamichos^{1,3}, J. Ma^{1,2}. ¹Physiology, OUHSC, Oklahoma City, OK; ²Harold Hamm Diabetes Center, Oklahoma City, OK; ³Department of Ophthalmology, OUHSC, Oklahoma City, OK

1017 — B0049 In vivo corneal confocal microscopy detects progressive loss of epithelial cells and sub-basal nerve fibers over 2 years in young patients with type 1 diabetes.

Eszter A. Deák^{1,2}, E. Szalai², N. Tóth², A. Berta², R. A. Malik³, A. Csutak². ¹Department of Biochemistry and Molecular Biology, University of Debrecen, Debrecen, Hungary; ²Department of Ophthalmology, University of Debrecen, Debrecen, Hungary; ³Weill Cornell Medicine and Division of Cardiovascular Sciences, University of Manchester, Manchester, United Kingdom

1018 — B0050 The role of Vitamin D in Sjogren's Syndrome patients with corneal neuropathy.

Trenton Rivera, R. O'Sullivan, M. Alvarez, V. Y. Bunya, G. Massaro-Giordano. Ophthalmology, Scheie Eye Institute, Philadelphia, PA *CR

1019 — B0051 A New Holistic Concept On The Pathophysiology In Dry Eye Disease - Development of an Educational Animation.

Erich Knop, N. Knop. Ocular Surface Center Berlin (OSCB), Univ Charite Berlin, Dept Cell & Neurobiol, Berlin, Germany

1020 — B0052 Somatotopic organization of the different functional types of trigeminal ganglion neurons innervating the ocular surface and periocular tissues.

Baldemar Santiago, A. Diaz-Tahoces, J. Gallar, C. Belmonte, M. Acosta. Instituto de Neurociencias, Universidad Miguel Hernandez-CSIC, San Juan de Alicante, Spain

1021 — B0053 Remodeling Of Corneal Cold Sensory Nerve Fibers In The Adult Living Mouse.

Almudena Íñigo-Portugués, G. Exposito, J. Gallar, C. Belmonte, V. Meseguer. Instituto de Neurociencias de Alicante, Universidad Miguel Hernández-CSIC, San Juan de Alicante, Spain

1022 — B0054 Potential Role of IL-10-producing Th17 Cells in Pathogenesis of Dry Eye Disease.

Qi Hong^{1,2}, Y. Chen², T. Inomata², R. Liu¹, R. Dana². ¹Peking University Eye Center, Peking University Third Hospital, Beijing, China; ²Department of Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary, Boston, MA

Exhibit/Poster Hall B0205-B0219

Sunday, May 07, 2017 3:15 PM-5:00 PM

Visual Neuroscience**157 Outer Retina Function****Moderator: Teresa Duda****1023 — B0205 Evolution of Adaptation in Vertebrate Photoreceptors.**

Ala Morshedian¹, G. Fain^{1,2}. ¹Integrative Biology and Physiology, UCLA, Los Angeles, CA; ²Ophthalmology, UCLA, Los Angeles, CA

1024 — B0206 Patch clamp recordings from mouse cone photoreceptors.

Norriane T. Ingram^{1,2}, G. Fain^{1,2}, A. P. Sampath². ¹Integrative Biology and Physiology, UCLA, Los Angeles, CA; ²Ophthalmology, The Jules Stein Institute, UCLA, Los Angeles, CA

1025 — B0207 Identification of mouse mutant lacking cone vision.

Catherine Cobb¹, N. Hasan¹, R. Ji¹, T. Hoffman¹, R. G. Gregg^{1,2}. ¹Biochemistry and Molecular Genetics, University of Louisville, Louisville, KY; ²Ophthalmology and Visual Sciences, University of Louisville, Louisville, KY

1026 — B0208 The genetic basis of photoreceptor synaptic terminal structure.

Dustin T. Whitaker^{1,2}, H. Fann¹, P. J. Hargrove^{1,3}, A. Alsufyani^{1,4}, M. Brooks⁴, S. Kim¹, A. Swaroop¹. ¹National Eye Institute, Bethesda, MD; ²Neuroscience, Texas A&M University, College Station, TX; ³Biomedical Sciences, George Washington University, Washington, DC; ⁴Chemistry and Biochemistry, George Mason University, Fairfax, VA

1027 — B0209 Bicarbonate enters a rod thru its synapse to stimulate ROS-GC in its outer segment, whereas cones generate bicarbonate intracellularly from CO₂.

Clint L. Makino¹, A. Pertzev², R. K. Sharma², T. Duda². ¹Physiology & Biophysics, Boston University School of Medicine, Boston, MA; ²Research Divisions of Biochemistry and Molecular Biology, Salus University, Elkins Park, PA

1028 — B0210 Regulation of phototransduction by GCAP1 and GCAP2 in mammalian cone photoreceptors.

Vladimir J. Kefalov¹, F. Vinberg¹, I. V. Peshenko², A. M. Dizhoor². ¹Ophthalmology & Visual Sciences, Washington University School of Medicine, Saint Louis, MO; ²Pennsylvania College of Optometry, Salus University, Elkins Park, PA

1029 — B0211 Molecular determinants of peripherin-2/rds membrane-shaping activity.

Michelle L. Milstein¹, V. A. Kimler¹, C. Ghatak², A. S. Ladokhin², A. F. Goldberg¹. ¹Eye Research Institute, Oakland University, Rochester, MI; ²University of Kansas Medical Center, Kansas City, KS

1030 — B0212 Endocytosis promotes release site restoration at rod ribbon synapses. *Wallace B. Thoreson^{1,2}, M. J. Van Hook^{1,2}, X. Wen^{2,1}, K. M. Cork^{2,1}.* ¹Ophthalmology and Visual Sciences, Univ Nebraska Medical Center, Truhlsen Eye Institute, Omaha, NE; ²Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE

1031 — B0213 A dual function for LRIT3 - control of retinal photoreceptor synaptic morphology and depolarizing bipolar cell signaling. *Nazarul Hasan¹, J. Noel², I. S. Pyle², G. Pangen², K. M. Heath², B. G. Borghuis³, M. A. McCall^{2,3}, R. G. Gregg^{1,2}.* ¹Biochemistry & Molecular Genetics, University Of Louisville, Louisville, KY; ²Ophthalmology and Visual Sciences, University Of Louisville, Louisville, KY; ³Anatomical Sciences and Neurobiology, University of Louisville, Louisville, KY

1032 — B0214 Dual function of Gβ5 in regulating dendritic morphology and light responses of rod bipolar cell. *Chih-Chun Hsu¹, H. Shim², R. R. Neubig³, C. J. Chen^{1,4}.* ¹Neuroscience, Baylor College of Medicine, Houston, TX; ²Biochemistry and Molecular Biology, Virginia Commonwealth University, Richmond, VA; ³Pharmacology and Toxicology, Michigan State University, East Lansing, MI; ⁴Ophthalmology, Baylor College of Medicine, Houston, TX

1033 — B0215 Dendritic plasticity after photoreceptor loss differs between cone bipolar cell types. *Corinne Beier¹, A. Hovhannysyan³, D. V. Palanker², A. Sher³.* ¹Electrical Engineering, UC Santa Cruz, Santa Cruz, CA; ²Stanford University, Stanford, CA; ³SCIPP, UC Santa Cruz, Santa Cruz, CA

1034 — B0216 Cone synapses in mammalian retinal rod bipolar cells. *Ji-Jie Pang, Z. Yang, R. A. Jacoby, S. M. Wu.* Ophthalmology, Baylor College of Medicine, Houston, TX

1035 — B0217 Restricted cone connections of horizontal cells in the human foveal center. *Orin S. Packer¹, R. Schalek³, R. O. Wong¹, C. Curcio², J. E. Dowling³, J. Lichtman³, D. M. Dacey¹.* ¹Biological Structure, University of Washington, Seattle, WA; ²Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ³Molecular and Cellular Biology, Harvard, Cambridge, MA

1036 — B0218 Connectomic reconstruction links human foveal cones to distinct circuitry in the center of the foveal pit. *Dennis M. Dacey¹, O. Packer¹, R. Schalek², C. Curcio³, R. O. Wong¹, J. E. Dowling², J. Lichtman².* ¹Biological Structure, University of Washington, Seattle, WA; ²Molecular and Cell Biology, Harvard, Cambridge, MA; ³Ophthalmology, University of Alabama, Birmingham, Birmingham, AL

1037 — B0219 Cone Mitochondria Enhance Light Transmission. *Wei Li, J. Ball, S. Chen.* Section of Retinal Neurobiology, National Eye Institute, Bethesda, MD

Exhibit/Poster Hall B0294-B0315

Sunday, May 07, 2017 3:15 PM-5:00 PM

Retinal Cell Biology

158 New insights in RPE anatomy and physiology

1038 — B0294 The role of cAMP and protein kinase A (PKA) in regulation of pigment granule aggregation in RPE of sunfish, *Lepomis spp.* *Christina King-Smith, J. Quinlan, N. Fischer, E. Del Rio, M. Messalli.* Biology, Saint Joseph's University, Philadelphia, PA

1039 — B0295 Remodelling of the basal labyrinth of Retinal Pigment Epithelial cells with osmotic challenge, age and disease. *Miguel C. Seabra^{2,1}, M. Hayes³, T. Burgoyne³, S. T. Wavre-Shapton³, T. Tolmachova¹, C. Futter³.* ¹Molecular Medicine, Imperial College London, London, United Kingdom; ²CEDOC, Universidade Nova de Lisboa, Lisbon, Portugal; ³UCL-Institute of Ophthalmology, London, United Kingdom

1040 — B0296 Multi Lamellar and Lipofuscin Bodies in Aging Monkey Retinal Epithelium. *Peter Gouras¹, L. Ivert², M. Neuringer³, T. Nagasaki¹.* ¹Ophthalmology, Columbia University, New York, NY; ²St. Erik's Eye Hospital, Karolinska Institute, Stockholm, Sweden; ³Oregon Health & Science University, Portland, OR

1041 — B0297 Automated Quantification of Subcellular Structures in the RPE: Lipid Droplets, Autophagic Vacuoles, and Lipofuscin. *Feriel K. Presswalla, Q. Zhang, D. N. Zacks, D. A. Thompson, J. Miller.* Ophthalmology & Visual Science, University of Michigan Kellogg Eye Center, Ann Arbor, MI

1042 — B0298 CRB2 is involved in the apicobasal polarization of RPE cells by participating in tight junction maintenance and cell cycle arrest. *Concepcion Lillo, A. Segurado, V. Valle, J. Fernández-Dolon, A. Velasco, H. Albertos, A. E. Paniagua.* Cell Biology and Pathology, Institute of Neurosciences of Castilla and León, IBSAL, University of Salamanca, Salamanca, Spain

1043 — B0299 Yap1 is required for maintaining adult RPE differentiation. *Qitang Li¹, P. A. Scott¹, E. Vukmanic¹, L. Xue², D. C. Dean¹, H. J. Kaplan¹, Q. Lu¹.* ¹DOVS, University of Louisville, Louisville, KY; ²School of Life Science and Technology, Tongji University, Shanghai, China

1044 — B0300 Effects of cyclosporine on lysosomal function and autophagy in the Retinal pigment epithelium. *Hsuan-Yeh Pan¹, K. Hatton¹, A. H. Alamr², M. Valapala¹.* ¹optometry, Indiana university, Bloomington, IN; ²college of optometry, state university of New York, New York, NY

1045 — B0301 Connexin 43 translocation in retinal pigment epithelium during phagocytosis of photoreceptor outer segments. *Julia K. Johansson¹, T. Ihalainen², H. Skottman², S. Nymark¹.* ¹BioMediTech, Tampere University of Technology, Tampere, Finland; ²BioMediTech, University of Tampere, Tampere, Finland

1047 — B0303 Regulation of miR-21 expression and exosomes-mediated secretion in human retinal pigmented epithelial cells (HuRPE) exposed to hypoxia. *Menaka Thounaojam¹, D. Gutsaeva¹, P. M. Martin², M. Bartoli¹.* ¹Ophthalmology, Augusta University, Augusta, GA; ²Biochemistry and Molecular Biology, Augusta University, Augusta, GA

1048 — B0304 Loss of ABCB5 leads to progressive visual loss due to sphingolipid accumulation in Retinal Pigment Epithelium. *Yuzuru Sasamoto^{1,2}, G. Gonzalez^{1,3}, P. Banerjee², J. D. Akula², V. Poulaki³, G. Berg^{2,3}, M. H. Frank², B. Ksander⁴, N. Frank^{1,3}.* ¹Brigham & Women's Hospital, Harvard Medical School, Boston, MA; ²Boston Children's Hospital, Harvard Medical School, Boston, MA; ³VA Boston Healthcare System, Boston, MA; ⁴Massachusetts Eye and Ear Infirmary, Boston, MA *CR

1049 — B0305 Polarized secretion of pro-inflammatory exosomes by the retinal pigment epithelium is selectively regulated by vitamin A dimers and membrane cholesterol. *Aparna Lakkaraju, C. Germer, L. Tan, G. Kaur.* Ophthalmology & Visual Sciences, University of Wisconsin-Madison, Madison, WI

1050 — B0306 DHA-NPD1 signaling via cREL downregulates pro-inflammatory Wnt5a in RPE cells. *Jorgelina M. Calandria, K. Do, N. G. Bazan.* Neuroscience Center, LSU Health Sciences Center, New Orleans, LA

1051 — B0307 The discovery of a new family of lipid mediators, the elovanoids, biosynthesized in human RPE cells. *Nicolas G. Bazan¹, A. Asatryan¹, P. K. Mukherjee¹, R. Yang², N. Petasis², B. Jun¹.* ¹Ophthal & Neuroscience, LSU Health New Orleans, New Orleans, LA; ²Department of Chemistry and Loker Hydrocarbon Research Institute, University of Southern California, Los Angeles, CA

1052 — B0308 Characterization of the lipid efflux pathways in RPE. *Venkata R. Chavali¹, F. La², N. Haider¹, D. J. Rader¹, N. N. Lyssenko⁴.* ¹Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Department of Genetics, University of Pennsylvania, Philadelphia, PA; ³School of Engineering and Applied Science, University of Pennsylvania, Philadelphia, PA; ⁴Division of Translational Medicine and Human Genetics, University of Pennsylvania, Philadelphia, PA

1053 — B0309 Defective lysosomal calcium signaling in retinal pigmented epithelium cells from ABCA4^{-/-} mice. *Nestor Mas Gomez¹, W. Lu¹, C. H. Mitchell^{1,2}.* ¹School of Dental Medicine, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, University of Pennsylvania, Philadelphia, PA

1054 — B0310 Effect of Intracellular Junction Formation on VEGF Expression in Retinal Pigment Epithelial Cells. *Farhad Farjoood, E. Vargis.* Biological Engineering, Utah State University, Logan, UT

1055 — B0311 GHRH/IGF-1 pathway in retinal progenitor cell differentiation. *Tsz Kin Ng¹, J. S. Yung¹, S. Chan², C. Wang², H. S. Cheung³, A. V. Schally³, C. Pang¹.* ¹Ophthalmology & Visual Sciences, The Chinese University of Hong Kong, Kowloon, Hong Kong; ²The Chinese University of Hong Kong, Shatin, Hong Kong; ³Miami Veterans Affairs Medical Center, Miami, FL

1056 — B0312 CEP290 or IFT88 Loss of Function in RPE Suggest a Role for Primary Cilia in Human iPSC-RPE Maturation and Provide Insights into the Mechanism of Ciliopathy-Induced Retinal Degeneration. *Qin Wan¹, R. Sharma¹, J. Chang¹, V. Khristov¹, K. Miyagishima¹, R. Dejene¹, Q. Lu², C. Westlake², M. Gunay-Aygun³, S. S. Miller¹, K. Bharti¹.* ¹NEI, NIH, Bethesda, MD; ²NCI, NIH, Bethesda, MD; ³NHGRI, NIH, Bethesda, MD

1057 — B0313 The Effects of Electromagnetic Fields on Cultured Human Retinal Pigment Epithelial Cells. *Mozhgan Rezaeikanavi¹, N. Nasrabadi¹, Z. Soheili², A. Bagheri³.* ¹Ocular Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (the Islamic Republic of); ²National Institute of Genetic Engineering and Biotechnology, Tehran, Iran (the Islamic Republic of); ³University of Social Welfare and Rehabilitation Sciences, Tehran, Iran (the Islamic Republic of)

1058 — B0314 Effects of Ranibizumab on gene expressions in ARPE-19 cells during cobalt chloride-mediated hypoxia. *Mohammad Riazi Esfahani^{1,2}, Z. Faghiri¹, M. Tarek Moustafa¹, M. Mohamed¹, A. Memon¹, B. D. Kuppermann¹, C. M. Kenney¹.* ¹Ophthalmology, University of California, Irvine, Irvine, CA; ²Ophthalmology, Tehran University of Medical Sciences, Tehran, Iran (the Islamic Republic of) *CR

1059 — B0315 p53-independent Role of MDM2 in Suppressing NF-κB-mediated Inflammation in Retinal Pigment Epithelium Cells. *Yan Fan.* North Texas Eye Research Institute, University of North Texas Health Science Center, Fort Worth, TX

Exhibit/Poster Hall B0348-B0366

Sunday, May 07, 2017 3:15 PM-5:00 PM

Physiology/Pharmacology

159 Intraocular pressure; aqueous humor dynamics

1060 — B0348 Comparison of Pressure-Dependent Facility in Rodent Eyes. *Michael Madekurozwa¹, A. Feola², C. R. Ethier², D. R. Overby¹, J. Sherwood¹.* ¹Bioengineering, Imperial College London, London, United Kingdom; ²Bioengineering, Georgia Institute of Technology, Atlanta, GA

1061 — B0349 Anterior Chamber Versus Posterior Chamber Perfusion Does Not Influence Aqueous Outflow Facility in Living Mice as Measured by Constant Flow Infusion. *J Cameron Millar, N. N. Lopez, G. C. Patel, T. Phan, A. F. Clark.* North Texas Eye Research Institute (NTERI), Fort Worth, TX *CR

1062 — B0350 Performance of shear stress-responsive reporter viruses in human Schlemm's canal monolayers. *Kristin M. Perkumas, N. E. Ashpole, J. Kalnitsky, W. Stamer.* Ophthalmology, Duke University, Durham, NC

1063 — B0351 Comparison of Aqueous Humor Dynamics Among Chinese and Caucasian Adults. *Shan Fan¹, T. guo^{2,3}, B. Chen⁴, J. Xiong⁵, F. Wang², C. B. Toris^{1,6}.* ¹Ophthalmology, Univ of Nebraska Medical Ctr, Omaha, NE; ²Ophthalmology, Tenth People's Hospital of Tongji University, Shanghai, China; ³Ophthalmology, No. 9 People's Hospital of Shanghai Jiaotong University School of Medicine, Shanghai, China; ⁴Department of Biostatistics, University of Texas Health Science Center at Houston, School of Public Health, Austin, TX; ⁵Department of Biostatistics, University of Nebraska Medical Center, Omaha, NE; ⁶Ophthalmology, Case Western Reserve University, Cleveland, OH

1064 — B0352 A Method to Expose the Inner Wall of Schlemm's Canal in Mice. *A T. Read¹, D. R. Overby², C. R. Ethier¹.* ¹Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA; ²Department of Bioengineering, Imperial College London, London, United Kingdom

1065 — B0353 A mathematical model of aqueous humor dynamics and ocular pulse amplitude. *Anh Tuan H. Nguyen, J. W. Kiel.* Department of Ophthalmology, University of Texas Health Science Center at San Antonio, San Antonio, TX

1066 — B0354 The influence of reversed light-dark cycle on circadian rhythm of intraocular pressure in mice. *Rie Suzuki, S. Matsushita, O. Sakai, H. Tokushige.* Research & Development Division, Senju Pharmaceutical Co., Ltd, Kobe, Japan *CR

1067 — B0355 Comparison of Laser- and Circumlimbal Suture-Induced Ocular Hypertension in Albino CD-1 Mice. *Hsin-Hua Liu, L. Zhang, L. Chen, J. G. Flanagan.* School of Optometry and Vision Science, University of California Berkeley, Berkeley, CA *CR

1068 — B0356 Repeated Ozurdex injections do not increase the frequency of ocular hypertension beyond 30 mmHg. *Sepehr Bahadorani¹, M. Jansen², W. Tie², C. Krambeer¹, D. Kermany¹, M. Singer¹.* ¹Medical Center Ophthalmology Associates, San Antonio, TX; ²University of Texas Health Science Center at San Antonio, San Antonio, TX *CR

1069 — B0357 Evaluation of transport time of lipids in anterior segment organ cultures fitted in 3D-printed holding structures. *Ravin Sajjani, G. Edwards, S. K. Bhattacharya.* University of Miami, Tampa, FL

1070 — B0358 The Effect of the Maximal Aerobic Exercise Test on Intraocular Pressure. *Eliska Najmanova, F. Pluhacek.* department of optics, Palacky Univerzity Olomouc, Olomouc, Czech Republic

1071 — B0359 Stimulation of TRPV4 induces aralkylamine N-acetyltransferase (AANAT) phosphorylation and melatonin production via Ca-calmodulin pathway in human ciliary body epithelial cells. *Jesus J. Pintor, H. A. Alkozi, M. J. Perez de Lara.* Bioquimica y Biologia Molecular IV, E U de Optica UCM, Madrid, Spain

1072 — B0360 A 12-Month Study of the ENV515 (Travoprost) Intracameral Implant on Intraocular Pressure in Beagle Dogs. *RiLee Robeson¹, R. S. Verhoeven¹, A. Garcia¹, S. Das¹, K. Hamby¹, M. Hernandez¹, G. G. Gum², B. R. Yerxa¹, T. Navratil¹.* ¹Envisia Therapeutics, Durham, NC; ²Absorption Systems, San Diego, CA *CR

1073 — B0361 Inhibitory Action Of Mitochondrial-Targeting Hydrogen Sulfide Releasing Compounds On Porcine Isolated Irides. *Sunny E. Ohia¹, J. Robinson¹, K. Ngele¹, M. Whiteman², C. A. Opere³, Y. Njie-Mbye¹.* ¹Department of Pharmaceutical Sciences, Texas Southern University, Houston, TX; ²Institute of Biomedical and Clinical Science, Peninsula Medical School, Exeter, United Kingdom; ³Department of Pharmacy Sciences, Creighton University, Omaha, NE

1074 — B0362 Netarsudil increases size of giant vacuoles in Schlemm's canal of perfused human eyes. *Kevin Wu¹, R. Ren^{1,2}, G. Li³, C. Koczyński⁴, W. Stamer³, H. Gong^{1,2}.* ¹Ophthalmology, Boston University School of Medicine, Boston, MA; ²Anatomy and Ophthalmology, Boston University School of Medicine, Boston, MA; ³Ophthalmology, Duke University, Durham, NC; ⁴Research and Development, Aerie Pharmaceuticals, Inc, Research Triangle Park, NC *CR

1075 — B0363 Insights from comparative proteomic profiling of aqueous humor and plasma. Darrell WuDunn¹, M. Key³, F. Rankin², S. Ragg². ¹Department of Ophthalmology, Indiana Univ Sch of Medicine, Indianapolis, IN; ²Pediatrics, Indiana University School of Medicine, Indianapolis, IN; ³Biostatistics, Indiana University, Indianapolis, IN *CR

1076 — B0364 Fabrication of a micellar supramolecular hydrogel for ocular drug delivery. zhao liang zhang, H. Chen, X. Li. School of Ophthalmology & Optometry and Eye Hospital, Wenzhou Medical University, Wen Zhou, China

1077 — B0365 The role of cellular connections in Schlemm's canal endothelial cells in regulating segmental aqueous outflow. Julia Lai¹, Y. Su¹, D. Huang¹, H. Gong^{1,2}. ¹Ophthalmology, Boston University School of Medicine, Boston, MA; ²Anatomy & Neurobiology, Boston University School of Medicine, Boston, MA

1078 — B0366 In Vivo Angiographic Study of Normal Rabbit Aqueous Outflow. Susan S. Lee, A. Almazan, J. A. Burke, M. R. Robinson. Allergan, Inc., Irvine, CA *CR

Exhibit/Poster Hall B0367-B0383

Sunday, May 07, 2017 3:15 PM-5:00 PM

Physiology/Pharmacology

160 Anti-inflammatory; antibiotics; antivirals

Moderator: Morgan V. Fedorchak

1079 — B0367 T1565, a new efficient and safe preservative free hydrocortisone. Celine Ollmiere¹, A. Raveu^{2,3}, C. Baudouin⁴. ¹R & D, Laboratoires Thea, Clermont-ferrand, France; ²UPMC Univ Paris 06, UMR_S 968, Paris, France; ³Institut de la Vision, Paris, France; ⁴Ophthalmology, Quinze-Vingts Hospital, Paris, France *CR

1080 — B0368 Ex-vivo corneal permeation of nepafenac 0.1% ophthalmic suspension in different species (porcine, canine, equine and feline). Roxanne M. Rodriguez Galarza², H. Porter¹, J. Ramapuram¹, S. Duran², E. Abarca^{3,2}. ¹Harrison School of Pharmacy, Auburn University, Auburn, AL; ²Clinical Sciences, Auburn University, Auburn, AL; ³Vetsuisse-Fakultät, University of Bern, Bern, Switzerland

1081 — B0369 Efficacy and safety of an Iontophoresis platform to control post cataract inflammation and pain. Barbara M. Wirosko¹, C. M. Assang¹, B. Mann¹, S. From¹, M. Raizman². ¹EyeGate Pharmaceutical, Inc, Salt Lake City, UT; ²Ophthalmic Consultants of Boston, Boston, MA *CR, ✕

1082 — B0370 Assessment of ophthalmic steroid class adverse event reports for loteprednol etabonate. Megan E. Cavet, C. M. Sanfilippo, H. H. DeCory. Medical Affairs, Bausch + Lomb, Rochester, NY *CR

1083 — B0371 Antibiotic Resistance in Ocular Pathogens - An Update from the 2016 ARMOR Surveillance Program. Christine M. Sanfilippo¹, H. H. DeCory¹, D. F. Sahn², P. A. Asbell³. ¹Medical Affairs, Bausch + Lomb, Rochester, NY; ²IHMA, Inc., Schaumburg, IL; ³Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY *CR

1084 — B0372 OcuSurf™-Mediated Antimicrobial Therapies to Treat Multi-Drug Resistant Ocular Infections. Kevin L. Ward¹, S. P. Barman², K. Barman¹, A. Cromwick¹, K. S. Crawford³. ¹Formulations, Integral BioSystems, Bedford, MA; ²Executive, Integral Biosystems LLC, Bedford, MA; ³PharmOcu, Andover, MA *CR

1085 — B0373 In vitro antimicrobial evaluation of ozonized balanced salt solution used for cataract surgery. Alberto Sumitomo, R. Y. Hida, I. C. Teixeira, A. Navarini, R. A. Silva. Santa Casa de S.Paulo, Sao Paulo, Brazil

1086 — B0374 Mode-of-action evaluation of the antimycotic effect of a tetracycline-chloramphenicol-colistimethate sodium fixed-dose combination. Anna Rita Blanco², M. D'Arrigo¹, M. Mazzone², A. Marino¹. ¹Scienze Chimiche, Biologiche, Farmaceutiche e Ambientali, Università Messina, Messina, Italy; ²SIFI SpA, Aci S. Antonio, Italy *CR

1087 — B0375 New Water Based Drug Delivery System for Azithromycin Eye drops (MDV1226). PK Study in Rats vs Oily Azyter. Barbara Melilli¹, M. G. Saita¹, D. Aleo¹, S. Dattilo², S. Mangiafico¹, M. Cro¹, S. Mangiafico¹. ¹R&D, Medivis, Catania, Italy; ²Istituto per i Polimeri, Compositi e Biomateriali, National Research Council, Catania, Italy *CR

1088 — B0376 Safety and efficacy of 0.09% Pazuflloxacin ophthalmic solution vs gatixifloxacin 0.5% and moxifloxacin 0.5% in subjects with bacterial conjunctivitis: a multicenter randomized controlled trial. Aldo A. Oregon-Miranda, O. Olvera, A. R. Mercado, L. Baiza. Clinical research, Laboratorios Sophia S.A. de C.V., Zapopan Lso-841221-6d2, Mexico *CR, ✕

1089 — B0377 Solithromycin, a potent next-generation macrolide, for topical ophthalmic use. Kathryn S. Crawford¹, K. L. Ward², A. Cromwick², L. Kaminski², K. Keedy³, P. Fernandes³, S. P. Barman². ¹PharmOcu, Andover, MA; ²Integral BioSystems, Bedford, MA; ³Cempra, Chapel Hill, NC *CR

1090 — B0378 Anti-inflammatory effects of *Hymenaea courbaril* essential oil compounds on pterygium fibroblasts. Magda M. Hata Viveiros¹, C. A. Rainho², M. G. Silva³, J. G. da Costa⁴, A. G. de Oliveira⁶, C. R. Padovani⁵, S. A. Schellini¹. ¹Ophthalmology, Universidade Estadual Paulista "Júlio de Mesquita Filho" - Campus Botucatu, Botucatu, Brazil; ²Genetics, Biosciences Institute of Universidade Estadual Paulista, Botucatu, Brazil; ³Pathology, Universidade Estadual Paulista "Júlio de Mesquita Filho" - Campus Botucatu, Botucatu, Brazil; ⁴Biological Chemistry, Universidade Regional do Cariri, Crato, Brazil; ⁵Biostatistic, Universidade Estadual Paulista "Júlio de Mesquita Filho" - Campus Botucatu, Botucatu, Brazil; ⁶Pharmaceuticals and Medicines, Universidade Estadual Paulista "Júlio de Mesquita Filho" - Campus Araraquara, Araraquara, Brazil

1091 — B0379 Evaluation of anti-human complement component 5 antibody in humanized C5 mice. Adrianna Latuszek¹, Y. Liu², R. Foster³, I. Lovric², M. Yuan¹, H. Chen¹, Y. Hu¹, P. Krueger³, T. Huang³, W. Poueymirou⁴, G. Yancopoulos⁵, B. Zambrowicz⁴, J. Cao¹, C. Romano¹, W. Olson³. ¹Ophthalmology, Regeneron Pharmaceuticals, Tarrytown, NY; ²Technology & Discovery Centers, Regeneron Pharmaceuticals, Tarrytown, NY; ³VI Antibody, Regeneron Pharmaceuticals, Tarrytown, NY; ⁴Velocigen, Regeneron Pharmaceuticals, Tarrytown, NY; ⁵Regeneron Pharmaceuticals, Tarrytown, NY *CR

1092 — B0380 A SOCS1 peptide alleviates inflammation and associated damage to barrier properties in ARPE-19 cells. Chulbul M. Ahmed, A. S. Lewin. Molecular Genetics and Microbiology, University of Florida, Gainesville, FL *CR

1093 — B0381 Estimating Total Dose Received by an Ophthalmic Irrigation Solution Used during Cataract Surgery. L David Waterbury¹, V. Florio². ¹Raven Biosolutions LLC, San Carlos, CA; ²Omeros Corporation, Seattle, WA *CR

1094 — B0382 The granulocyte colony-stimulating factor (G-CSF) induced stabilization of blood-optic nerve barrier (BOB) in the optic nerve (ON) crush model via PI3K/AKT activation. Yao-Tseng Wen, R. Tsai. Buddhist Tzu Chi General Hospital, Hualien, Taiwan

1095 — B0383 Management of chronic anterior uveitis relapses: efficacy of oral vitamin D treatment. Giulia Malaguarnera^{2,1}, D. Scollo^{1,2}, A. Messina², R. Foti^{3,2}, E. Visalli^{3,2}, R. Amato^{1,2}, A. Cantavenera^{1,2}, M. Toro¹, M. Gallo Afflitto^{1,2}, C. Gagliano^{1,2}. ¹Department of Ophthalmology, University of Catania, Catania, Italy; ²Rare Diseases Center (Ra.Di.Ce.), Santa Marta Hospital, Catania, Italy; ³Rheumatologic Unit, Catania University, Catania, Italy

Exhibit/Poster Hall B0516-B0536

Sunday, May 07, 2017 3:15 PM-5:00 PM

Anatomy and Pathology/Oncology

161 Posterior segment mechanisms and functions in eye development and myopia

Moderator: Li-Fang Hung

1096 — B0516 Title: Quantification of Proteoglycan 4 (PRG4) / Lubricin in Human Vitreous Humor. Abdulaziz Alarifi¹, S. Regmi², D. Hart³, T. A. Schmidt². ¹Medical Sciences, University of Calgary, Calgary, AB, Canada; ²Kinesiology, University of Calgary, Calgary, AB, Canada; ³University of Calgary, Calgary, AB, Canada

1097 — B0517 Towards elucidation of the myopia signalling cascade: association of human cone system electrophysiological response parameters with a myopia susceptibility polymorphism. Omar A. Mahroo^{1,2}, A. Tariq³, T. Bhatti³, T. Shen³, K. M. Williams^{1,3}, C. J. Hammond^{1,3}, P. G. Hysi³. ¹Ophthalmology, King's College London, London, United Kingdom; ²Retinal Service, Moorfields Eye Hospital, London, United Kingdom; ³Twin Research and Genetic Epidemiology, King's College London, London, United Kingdom

1098 — B0518 MITF alternative splicing isoforms differently regulate cell proliferation in the retinal pigment epithelium. Xiaoyin Ma. School of Ophthalmology and Optometry and Eye Hospital, Wenzhou Medical University, City, China

1099 — B0519 Development and characterization of tissue-engineered choroidal stromas produced by the self-assembly approach. Aïcha Dede Djigo^{1,2}, J. Bérubé^{1,2}, S. Proulx^{1,2}. ¹Ophthalmologie, Université Laval, Québec, QC, Canada; ²CUO-LOEX, CHU de Québec, Québec, QC, Canada

1100 — B0520 Isolation and Transcriptome Analyses of Choroidal Retinaldehyde Dehydrogenase-2 (RALDH2) Expressing Cells. Jody A. Summers Rada¹, S. Hamid², A. Harper¹, L. Forest-Smith³, J. Wren⁴. ¹Dept of Cell Biology, Univ of Oklahoma Hlth Sci Ctr, Oklahoma City, OK; ²University of Oklahoma, Norman, OK; ³Saving Sight, Kansas City, MO; ⁴Arthritis and Clinical Immunology Research Program, Oklahoma Medical Research Foundation, Oklahoma City, OK

1101 — B0521 Urocortin in the chicken eye: distribution and origin. Falk Schroedl¹, A. Trost², B. Bogner², C. Runge², D. Bruckner², C. Strohmaier², C. Kee⁴, A. Horn³, H. A. Reitsamer^{2,5}, A. Kaser-Eichberger². ¹Ophthalmology and Anatomy, Paracelsus University Salzburg, Salzburg, Austria; ²Research Program for Experimental Ophthalmology and Glaucoma Research, Dept. of Ophthalmology and Optometry, Salzburg, Austria; ³Dept. of Anatomy, Ludwig-Maximilians-University, Munich, Germany; ⁴School of Optometry, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; ⁵Head of Research Program for Experimental Ophthalmology and Glaucoma Research, Salzburg, Austria

1102 — B0522 Shear stress governs choroidal endothelial cell proliferation and homeostasis. Bradley D. Gelfand^{1,2}, S. An^{3,4}, W. Yu³, R. Chen³, J. Yao⁴, J. Ambati¹. ¹Ophthalmology, University of Virginia, Charlottesville, VA; ²Biomedical Engineering, University of Virginia, Charlottesville, VA; ³Mechanical Engineering, Indiana-University Purdue-University Indianapolis, Indianapolis, IN; ⁴Science and Technology Department, China University of Petroleum (Huadong), Qingdao, China *CR

1103 — B0523 Endothelial cell-derived Indian Hedgehog targets multipotent perivascular cells in the adult choroid and prevents retinal damage. Guillermo Lehmann-Mantaras¹, I. Benedicto¹, M. Ginsberg², D. J. Nolan², O. Elemento³, A. Maminishkis⁴, S. S. Miller³, A. Wojcinski⁵, A. L. Joyner⁵, S. Rafiq⁶, E. J. Rodriguez-Boulant¹. ¹Ophthalmology, Weill Cornell Medical College, New York, NY; ²Angiocrine Bioscience, Inc., New York, NY; ³Department of Physiology and Biophysics, Weill Cornell Medical College, New York, NY; ⁴Section of Epithelial and Retinal Physiology and Disease, National Eye Institute, National Institutes of Health, Bethesda, MD; ⁵Memorial Sloan Kettering Cancer Center, New York, NY; ⁶Ansary Stem Cell Institute, Weill Cornell Medical College, New York, NY *CR

1104 — B0524 Quantitative OCT Angiography of the Retinal Microvasculature and the Choriocapillaris in Myopic Eyes. Mayss Al-Sheikh^{1,2}, N. Phasukkijwatana^{2,3}, R. Dolz-Marco⁴, N. A. Iafe², K. Freund^{4,5}, S. R. Sadda¹, D. Sarraf^{2,6}. ¹Doheny Eye Institute, Los Angeles, CA; ²Department of Ophthalmology, Stein Eye Institute, Los Angeles, CA; ³Ophthalmology, Mahidol University, Bangkok, Thailand; ⁴Ophthalmology, Vitreous Retina Macula Consultants of New York, New York, NY; ⁵Department of Ophthalmology, New York University School of Medicine, New York, NY; ⁶Department of Ophthalmology, Greater Los Angeles Veterans Affairs Healthcare System, Los Angeles, CA *CR

1105 — B0525 Effect of Myopia on the Macular Vessel Flow Density in Eyes Using Optical Coherence Tomography Angiography. Yasir Jamal J. Sepah^{1,2}, M. Hassan¹, M. S. Halim¹, M. A. Sadiq¹, R. Afridi¹, D. V. Do^{1,2}, Q. D. Nguyen^{1,2}. ¹Ophthalmology, Byers Eye Institute- Stanford University, Palo Alto, CA; ²Ocular Imaging Research and Reading Center, Menlo Park, CA *CR

1106 — B0526 Longitudinal Evaluation of Choroidal Thickness and Ocular Perfusion Pressure in Progressing Myopes, Baseline Data. Jason Ning¹, N. Joshi¹, R. Franchi-Pereira², A. Benavente-Perez¹. ¹State University of New York College of Optometry, Bridgewater, NJ; ²Fordham University, New York, NY *CR

1107 — B0527 Choroidal Structure and Relation to Responses to Imposed Defocus in Young Guinea Pigs. Liqin Jiang, C. F. Wildsoet. School of Optometry, University of California, Berkeley, CA

1108 — B0528 Wide-field choroidal thickness in myopes and emmetropes. Hoseini Hoseini-Yazdi, S. Vincent, M. J. Collins, S. A. Read, D. Alonso-Caneiro. School of Optometry and Vision Science, Queensland University of Technology, Brisbane, QLD, Australia

1109 — B0529 Prevalence of a suprachoroidal space on EDI-OCT in 11-12-year-old Danish children. Mathias Hvidtfelt^{1,2}, X. Qiang Li¹, J. N. Duarte¹, I. Munch^{3,2}, M. Larsen^{1,2}. ¹Department of Ophthalmology, Rigshospitalet-Glostrup, Glostrup, Denmark; ²University of Copenhagen, Faculty of Health and Medical Sciences, Copenhagen, Denmark; ³Zealand University Hospital, Department of Ophthalmology, Roskilde, Denmark

1110 — B0530 Characterization of the Dynamics of Liquid and Gel Spread in the Suprachoroidal Space of Enucleated Porcine Eyes. Jesse Yoo, V. Zarnitsyn, S. R. Patel, G. Noronha. Engineering, Clearside Biomedical Inc., Atlanta, GA

1111 — B0531 Suprachoroid structure and its role in uveoscleral outflow. Andrey Zolotarev, E. Karlova. Ophthalmology, Samara State Medical University, Samara, Russian Federation

1112 — B0532 Second-harmonic generation imaging of scleral collagen fibers in myopic mice. Deng Pan, L. Xiang, C. Feng, Z. Jin. Lab for Stem Cell & Retinal Regeneration, The Eye Hospital, Wenzhou Medical University, Wenzhou, China

1113 — B0533 Bidirectional Changes in Type IV Collagen mRNA Expression in the Retina after Lens-Induced Myopia and Recovery in the Guinea Pig. Lena Fuchs¹, M. P. Feldkaemper², S. A. McFadden¹. ¹School of Psychology, University of Newcastle, Newcastle, NSW, Australia; ²Centre for Ophthalmic Research, University of Tuebingen, Tuebingen, Germany

Sunday Posters
3:15 pm – 5:00 pm

1114 — B0534 Study of retina and choroid biological parameters of rhesus monkeys eyes on scleral collagen cross-linking by riboflavin and ultraviolet A. *Mingshen Sun¹, F. Zhang¹, B. Ouyang¹, M. Wang².* ¹Beijing Tongren Hospital, Beijing, China; ²Hebei Provincial Eye Hospital, Hebei, China

1115 — B0535 Morphological changes of scleral fibroblasts in a murine lens-induced myopia model. *Shin-cihl Ikeda^{1,2}, T. Kurihara^{1,2}, X. Jiang^{1,2}, Y. TANAKA^{1,2}, K. Mori^{1,2}, M. Miyauchi^{1,2}, H. Torii^{1,2}, K. Tsubota².* ¹Laboratory of Photobiology, Keio University School of Medicine, Tokyo, Japan; ²Department of Ophthalmology, Keio University School of Medicine, Tokyo, Japan

1116 — B0536 Culture of Guinea Pig Limbal Epithelial Stem Cells in Three Different Media. *Jiexi Zeng^{1,2}, Y. Zhang¹, G. M. Chuang¹, C. F. Wildsoet¹.* ¹School of Optometry, University of California, Berkeley, CA; ²Ophthalmology, 2nd Xiangya Hospital, Changsha, China

Exhibit/Poster Hall B0537-B0561

Sunday, May 07, 2017 3:15 PM-5:00 PM

Visual Psychophysics/Physiological Optics

162 Aberrations, optical models

Moderators: Jason D. Marsack and Lucie Sawides

1117 — B0537 Corneal shape and optical properties: principal component analysis of corneal Zernike coefficients and comparison with other wavefront error representations. *Jens Buehren^{1,2}, M. Shajari², K. Vunnava², T. Kohnen².* ¹Augenpraxisklinik Triangulum, Hanau, Germany; ²Department of Ophthalmology, Goethe University, Frankfurt am Main, Germany *CR

1118 — B0538 Assessment Of Corneal Aberrations Secondary To Pterygium Compared With Non-Affected Eyes. *Edgar Adrian Gonzalez Mendoza¹, A. J. Ramirez-Miranda¹, K. Zuñiga², O. Santana-Cruz¹, C. A. Muller Morales², A. Navas¹, E. O. Graue-Hernandez¹.* ¹Cornea and Refractive Surgery, Institute of Ophthalmology “Conde de Valenciana”, Mexico, Mexico; ²Institute of Ophthalmology “Conde de Valenciana”, Mexico, Mexico *CR

1119 — B0539 Measurement of anterior and posterior artificial cornea curvature for anterior segment optical coherence tomography. *Futoshi Taketani¹, M. Hasegawa¹, C. Miyazaki¹, K. Mori².* ¹Ophthalmology, Hyogo Prefectural Amagasaki General Medical Center, Amagasaki, Japan; ²Asagiri Hospital, Akashi, Japan

1120 — B0540 Anatomical Correlates of Increasing and Decreasing Keratometric Astigmatism in Astigmatic Native American Children. *Joseph M. Miller^{1,2}, E. M. Harvey¹, M. W. Belin¹.* ¹Ophthal & Vision Science, University of Arizona, Tucson, AZ; ²College of Optical Sciences, University of Arizona, Tucson, AZ *CR

1121 — B0541 Analysing the impact of a misaligned toric intraocular lens on wave front aberrations. *Natascha Bayer¹, N. Hirschall², L. Traxler¹, A. Drauschke¹, R. A. Leitgeb³, S. Norrby⁴, O. Findl².* ¹University of Applied Sciences Technikum Vienna, Vienna, Austria; ²Vienna Institute for Research in Ocular Surgery (VIROS), A Karl Landsteiner Institute, Hanusch Hospital, Vienna, Austria; ³Medical University Vienna, Center for Medical Physics and Biomedical Engineering, General Hospital Vienna, Vienna, Austria; ⁴Landauerlaan 17, Leek, Netherlands

1122 — B0542 Normative values of the visual image quality metric VSX as a function of age and pupil size. *Gareth D. Hastings, J. D. Marsack, R. A. Applegate.* College of Optometry, University of Houston, Houston, TX *CR

1123 — B0543 Radial averaging of the optical modulation transfer function and its impact on image quality. *Alexander Leube¹, D. Kern², A. Ohlendorf^{1,2}, S. Wahl^{1,2}.* ¹Institute for Ophthalmic Research, University Tuebingen, Tuebingen, Germany; ²Technology and Innovation, Carl Zeiss Vision International GmbH, Aalen, Germany *CR

1124 — B0544 Profile of off-axis higher order aberrations and its variation with time. *Krupa Philip¹, P. Sankaridurg^{2,1}, A. Ho^{1,2}, T. J. Naduvilath², P. Mitchell³.* ¹School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia; ²Brien Holden Vision Institute, University of New South Wales, Sydney, NSW, Australia; ³Westmead Millennium Institute, University of Sydney, Sydney, NSW, Australia

1125 — B0545 Scleral radius estimation based on anterior eye surface. *Izabela K. Garaszczuk^{1,2}, M. Mousavi², A. Cervino Exposito¹, D. H. Szczesna-Iskander³, R. Iskander², D. Andrade de Jesus².* ¹Optics, Optometry and Vision Science, University of Valencia, Burjassot, Spain; ²Biomedical Engineering, Wroclaw University of Science and Technology, Wroclaw, Poland; ³Optics and Photonics, Wroclaw University of Science and Technology, Wroclaw, Poland

1126 — B0546 Optical Bench Simulation for Intraocular Lenses Using Field-Tracing Technology. *inseok song¹, S. Oh², M. Kang², S. Song².* ¹Yeongdeungpo Lee’s eye clinic, Seoul, Korea (the Republic of); ²Department of Physics, Hanyang University College of Natural Science, Seoul, Korea (the Republic of); ³Department of Ophthalmology, Hanyang University College of Medicine, Seoul, Korea (the Republic of)

1127 — B0547 Evaluation of a Night Spectacle Correction concerning an Improvement of Mesopic Vision Quality. *Philipp Hessler, M. Stinn, J. Dolata, S. Degle.* Ernst-Abbe-University of Applied Sciences Jena, Klingenberg, Germany *CR, ✗

1128 — B0548 Blue light transmission of commercially available sunglasses. *Mitul Mehta¹, M. Mohamed^{1,2}, H. Hwang¹, J. Jester¹.* ¹Gavin Herbert Eye Institute, University of California Irvine, Irvine, CA; ²Ophthalmology Department, University of Minia, Minia, Egypt

1129 — B0549 The impact of soft contact lens dynamic movement, patient ocular spherical aberration distribution and clinical refraction error on lens visual correction performance. *Minghan Chen, B. Wooley.* Johnson and Johnson Vision Care, Jacksonville, FL *CR

1130 — B0550 Objective assessments of tear film quality before and after exposure to controlled environmental stress in young and older subjects. *Juan Taberero¹, J. Robinson¹, P. Arta², S. Pardhan¹.* ¹Vision and Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom; ²Laboratorio de Optica, Universidad de Murcia, Murcia, Spain

1131 — B0551 The influence of age, ethnicity, eye/body size and diet on corneal biomechanics. *Janis B. Orr, M. Zvirgzdina, J. Wolffsohn.* Life and Health Sciences (Optometry), Aston University, Birmingham, United Kingdom

1132 — B0552 Analysis of newborn ocular biometry as a pre-emmetropization reference. *Jos Rozema^{1,2}, Z. Herscovici^{3,4}, R. Axer-Siege^{3,4}.* ¹Ophthalmology, Universitair Ziekenhuis Antwerpen, Edegem, Belgium; ²Medicine and Health Science, University of Antwerp, Antwerp, Belgium; ³Ophthalmology, Rabin Medical Center, Petah Tiqva, Israel; ⁴Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel

1133 — B0553 Measurement of 360° Peripheral Refraction Profile in Emmetropic and Myopic Young Human Eyes. *Keyur Savla, V. Ramasubramanian.* Lotus College of Optometry, Mumbai, India

1134 — B0554 Effect of marginally induced astigmatism on refractive error development in chicks. *Sowmya Ravikumar, E. M. Ison, C. F. Wildsoet.* University of California Berkeley, Fremont, CA *CR

1135 — B0555 Pilot testing of a miniature autorefractor. *Ying-Ling Chen¹, L. Shi², J. L. Lewis².* ¹Center for Laser Applications, University of Tennessee Space Institute, Tullahoma, TN; ²E-Vision Technologies Inc., Tullahoma, TN *CR

1136 — B0556 A machine learning approach to determine refractive errors of the eye. *Arne Ohlendorf^{1,2}, A. Leube², C. Leibig², S. Wahl^{1,2}.* ¹Technology and Innovation, Carl Zeiss Vision International GmbH, Aalen, Germany; ²Institute for Ophthalmic Research, Eberhard Karls University Tuebingen, Tuebingen, Germany *CR

1137 — B0557 Wavefront-based autorefraction on a telemedicine platform. *Kacie Y. Li, H. Tran, D. Shu.* Smart Vision Labs, New York, NY *CR

1138 — B0558 Fast automated subjective refraction. *Jaume Pujol¹, C. Otero¹, M. Aldaba², F. Diaz-Doutón^{1,2}.* ¹Davalor Research Center (dRC). Universitat Politècnica de Catalunya, Terrassa, Spain; ²Centre for Sensors, Instruments and Systems Development (CD6), Universitat Politècnica de Catalunya, Terrassa, Spain *CR

1139 — B0559 Clinical validation of a novel wavefront autorefractor in a base hospital and vision center in rural India. *Nicholas J. Durr^{1,2}, S. R. Dave², D. Lim², R. Mahadevan⁴, S. Ravilla⁴, S. Joseph³, T. D. Ravilla^{3,4}, E. Lage^{2,5}.* ¹Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD; ²PlenOptika, Inc., Boston, MA; ³Aravind Eye Care System, Madurai, India; ⁴AuroLab, Madurai, India; ⁵Department of Biochemistry, Universidad Autonoma de Madrid, Medical School, Madrid, Spain *CR

1140 — B0560 Spurious image methodology: from optical bench to clinical assessment. *Henk A. Weeber, M. Van der Mooren, S. Boersma, A. Alarcon, P. A. Piers.* R & D, AMO Groningen BV, Groningen, Netherlands *CR

1141 — B0561 A Method to Measure Objective Refraction in Small-Aperture Corneal Inlay Patients. *Colin E. Brown¹, M. Myers², L. Kugler², S. Vilupuru³.* ¹Ophthalmology, University of Nebraska Medical Center, Omaha, NE; ²Kugler Vision, Omaha, NE; ³AcuFocus, Inc., Irvine, CA *CR

Exhibit/Poster Hall B0634-B0656

Sunday, May 07, 2017 3:15 PM-5:00 PM

Lens

163 Cataract Surgery - IOLs

Moderator: Christina Mastromonaco

1142 — B0634 Comparative analysis of efficacy between trifocal and bifocal diffractive intraocular lens implantation after cataract surgery or refractive lens exchange: a meta-analysis of randomized controlled trials. *Chang Ho Yoon^{1,2}, I. Shin³, M. Kim^{1,2}, W. Wee^{1,2}.* ¹Ophthalmology, Seoul National University College of Medicine, Seoul, Korea (the Republic of); ²Laboratory of Ocular Regenerative Medicine and Immunology, Seoul Artificial Eye Center, Seoul National University Hospital Clinical Research Institute, Seoul, Korea (the Republic of); ³Education, College of Education, Jeonju University, Jeonju, Korea (the Republic of)

1143 — B0635 Clinical outcome of two 1-piece hydrophobic acrylic intraocular lens insertion of different properties in primary angle closure glaucoma patients. *Chang Kyu Lee¹, J. Chey².* ¹Ophthalmology, Ulsan University Hospital, Ulsan, Korea (the Republic of); ²Department of Ophthalmology, Maryknoll Medical Center, Busan, Korea (the Republic of)

1144 — B0636 Visual acuity at designated distances for patients with implanted monofocal IOLs. *Haruhiko Yamada^{1,2}, H. Nakamura¹, Y. Nagasawa¹, R. Miyata¹, Y. Sasaki¹, A. Kido¹, M. Inoue¹, T. Mabara¹, E. Tamura¹.* ¹Ophthalmology, Kansai Medical University, Takatsuki, Japan; ²Yamada Eye Clinic, Sakai, Japan

1146 — B0638 Evaluation of Centration and Its Effect on Visual Outcomes in Small-aperture IOL Patients. *Ling Lin, S. Vilupuru.* AcuFocus Inc, Irvine, CA *CR

1147 — B0639 Intraocular lens power determination for a new extended range of vision lens. *Stan Bentow, S. Kasthurirangan.* Clinical Research, R&D, Abbott Medical Optics, Santa Ana, CA *CR

1148 — B0640 Sustained accuracy improvement in intraocular lens power calculation with the application of quality control circle. *Lei Lin, P. Chang, J. Xie, F. Lu, Y. Zhao.* School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China

1149 — B0641 Hill-RBF Calculator versus Holladay2 and SRK/T Formulas for Intraocular Lens Power Selection. *Carrie Wright, S. Sudhakar, H. Andrews, T. L. O'Rourke, I. U. Scott, S. Pantanelli.* Penn State Milton S. Hershey Medical Center, Hummelstown, PA

1150 — B0642 Outcomes of the Haigis-L formula for calculating intraocular lens power after myopic and hyperopic laser refractive surgery in a tertiary teaching hospital. *Valerie P. Saw^{3,1}, C. Da Costa Paula³, Y. Shweikh³, R. Deshmukh³, M. Restor².* ¹UCL Institute of Ophthalmology, London, United Kingdom; ²Biometry Department, Moorfields Eye Hospital, London, United Kingdom; ³Cornea & Cataract, Moorfields Eye Hospital, London, United Kingdom

1151 — B0643 Comparison of 4 Methods of Toric IOL Cylinder Power Selection. *Tom D. Padrick³, N. Fram¹, R. Vann¹, M. Breen³.* ¹Advance Vision Care, Los Angeles, CA; ²Duke Eye Center, Durham, NC; ³Alcon Laboratories, Fort Worth, TX *CR

1152 — B0644 Comparison of refractive outcomes for different intraocular lens formulae using ultrasound biometry. *Darshak S. Patel, L. Ilari.* West Kent Eye Centre, Princess Royal University Hospital, Kings College Hospital NHS Foundation Trust, London, United Kingdom

1153 — B0645 Intraocular lens power calculations in patients with an axial length greater than 25mm. *Mauricio Galvan, S. Gonzalez, R. Saucedo, C. Velasco.* APEC, Mexico City, Mexico

1154 — B0646 Comparison of the postoperative stability of the three types of single-piece intraocular lenses. *Hidetoshi Ishida, N. Mita, E. Shibuya, M. Kita, A. Nakano, Y. Ukai, A. Okamoto, N. Shibata, E. Kubo, H. Sasaki.* Kanazawa Medical University, Kahoku, Japan

1155 — B0647 Postoperative Refractive and Visual Acuity Outcomes Using Manual Ink Markings versus Callisto Markerless System for Toric Intraocular Lens Implantation. *Deepak Sambhara¹, H. Andrews¹, S. Sudhakar¹, T. L. O'Rourke¹, K. Wolford², I. U. Scott¹, S. Pantanelli¹.* ¹Dept of Ophthalmology, Penn State Hershey Eye Center, Hummelstown, PA; ²Ophthalmology Department, VA Medical Center, Lebanon, PA

1156 — B0648 Comparison of Manual Ink Markings to the Callisto Markerless System for Defining the Reference Axis in Anticipation of Toric IOL Implantation. *Hans Andrews, D. Sambhara, S. Sudhakar, I. U. Scott, S. Pantanelli.* Penn State College of Medicine, Hershey, PA

1157 — B0649 Influence of pupil dynamics on near vision performance in eyes implanted with a diffractive multifocal intraocular lens. *Miriam Alves Ferreira.* Ophthalmology, School of Medicine of Ribeirão Preto - University of São Paulo, Ribeirão Preto, Brazil

1158 — B0650 The effect of limbal relaxing incisions with multifocal intraocular lens implantation. *Kelly Krespan.* Ophthalmology, Medstar Georgetown/Washington Hospital Center, Washington, DC

1159 — B0651 Impact of Incomplete Intraocular Lens Unfolding on Induced Astigmatism with Real-time Intraoperative Aberrometry. *Nathan J. Abraham¹, J. Solomon².* ¹Ophthalmology, Howard University Hospital, Washington, DC; ²Bowie Vision Institute, Bowie, MD *CR

1160 — B0652 Intraocular lens insertion during resident phacoemulsification cases: identification of intraoperative characteristics specific to lens choice. *Alan Shan, G. Villarreal, A. O. Eghrari.* Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore, MD

1161 — B0653 Outcomes in Scleral Fixed Sutured Intraocular Lenses. *Ailee Laham, J. N. Martel, I. Conner, E. Chay.* Ophthalmology, University of Pittsburgh medical Center, Pittsburgh, PA

1162 — B0654 Clinical Results After Scleral Fixation of Akreos AO60 Lens Using Gore-Tex suture. *Nimesh Patel, N. A. Yannuzzi, A. E. Kuriyan, H. W. Flynn.* Ophthalmology, Bascom Palmer Eye Institute, Miami, FL

1163 — B0655 Short-term outcomes of sutured versus sutureless scleral fixated intraocular lenses. *Miguel Nicolas N. Cruz Pimentel¹, J. Lora¹, M. López¹, Y. Báez¹, E. Hernandez-Bogantes².* ¹Ophthalmology, Hospital Dr. Elias Santana, Santo Domingo, Dominican Republic; ²Centro Ocular, Heredia, Costa Rica

1164 — B0656 Iris-sutured posterior chamber intraocular lens implants: visual outcomes and complications. *Daliya Dzhaber, F. A. Alsaleh, Y. J. Daoud.* Cornea, Wilmer Eye Institute, Baltimore, MD

Hall G

Sunday, May 07, 2017 5:15 PM-7:15 PM

**Anatomy and Pathology/Oncology /
Clinical/Epidemiologic Research / Cornea /
Eye Movements/Strabismus/Amblyopia/Neuro-
Ophthalmology / Genetics / Glaucoma /
Immunology/Microbiology / Low Vision /
Multidisciplinary Ophthalmic Imaging**

***164 Improving global eye health:
Beating the odds for neglected and
emerging diseases around the world***

Vision Diseases affecting eye health and vision constitute a global burden. However, successes in prevention, understanding, diagnosis, treatment and partnerships are needed to improve care for a number of neglected and emerging diseases. Presenting perspectives from five continents, this symposium will bring together diverse experts to describe the impact of key eye diseases on human health in networks of connected communities from local to global levels.

Moderators: *Yeni H. Yucel, Sheila West and Thomas A. Ferguson*

1165 — 5:15 Zika: Emerging diseases and eye health. *Rubens Belfort.* Federal Univ Sao Paulo, São Paulo, Brazil

1166 — 5:35 Eye health for aboriginal populations. *Hugh Taylor.* Melbourne School of Population and Global Health, The University of Melbourne, Carlton, VIC, Australia

1167 — 5:55 Eye health in sub-saharan Africa: A moving target. *Paul Courtright.* Kilimanjaro Centre for Community Ophthalmology International RSA, Kensington, MD

1168 — 6:15 Trachoma: where are we with elimination? *Sheila West.* Ophthalmology, Johns Hopkins Wilmer Eye Inst, Baltimore, MD *CR

1169 — 6:35 International collaboration addresses disparity: Learning from retinoblastoma. *Brenda L. Gallie.* Dept Ophthalmology and Vision Science, Hospital for Sick Children, Toronto, ON, Canada; Health Informatics Research, Techna Institute, University Health Network, Toronto, ON, Canada

1170 — 6:55 Global networks to decipher genetic eye diseases. *Tin Aung.* Glaucoma, Singapore National Eye Center, Singapore, Singapore; Singapore Eye Research Institute, Singapore, Singapore

Ballroom 2

Sunday, May 07, 2017 5:30 PM-6:30 PM

***165 Beckman-Argyros Award in
Vision Research***

For almost thirty years, Jeremy Nathans, MD, PhD, has been producing transformative breakthroughs in vision science at Johns Hopkins University, which earned him the prestigious 2016 Beckman-Argyros Award in Vision Research. The Arnold and Mabel Beckman Foundation award will help Nathan's lab further their research using molecular genetic approaches to study the development of mammalian retina and embryo.

**1171 — 5:30 Beckman-Argyros Award in
Vision Research.** *Jeremy Nathans.* School of
Medicine, Johns Hopkins University, Baltimore, MD

Sunday Award
Lecture
5:30 pm – 6:30 pm

NOTES

Lined writing area consisting of 25 horizontal lines.

Monday

May 8, 2017

ARVO
2017

Global Connections
in Vision Research

MAY 7 – 11 | BALTIMORE

Monday, May 8

Room	8:30–10:15am Papers/Minisymposia	10:15–10:55am	11am–12:45pm Papers/Minisymposia	1–2:30pm Cross-Sectional Group/Workshops/SIGs	2:30–3:45pm	3:45–5:30pm Papers/Minisymposia	5:45–6:30pm	6:45–7:30pm
Hall G	207 AMD and anti-VEGF therapy [RE] #1195-1201		229 Vitreoretinal interface and retinal detachment [RE] #1590-1595			267 Diabetic macular edema clinical and anti-VEGF research [RE] #2024-2029	288 Proctor Award Lecture #2436	289 Weisenfeld Award Lecture #2437
Ballroom 1	204 Common pathogenic role of inflammation in retinal diseases — Minisymposium [RC, BI] #1179-1184	204a RC Section Business Meeting	226 Gene therapies [BI] #1570-1576	256 Nanotechnology for Imaging the Eye — SIG [CO, AP, GL, PH, RE, RC]		264 Biomarkers based on vasculature imaging [MOJ] #2003-2009		
Ballroom 2	203 Corneal Wound Healing [CO] #1172-1178	203a CO Section Business Meeting	225 Barrier function of the ocular surface — Minisymposium [CO, IM] #1562-1569	261 Update on Treatments for Diabetic Retinopathy: Clinically Relevant Results from DROR.net #1995a-1995g		265 Corneal Development and Repair [CO] #1996-2002		
Ballroom 3	205 Vitreoretinal surgery I [RE] #1185-1190	205a RE Section Business Meeting	227 AMD imaging [RE] #1577-1582	257 The RPE-Photoreceptor Nexus: the Good, the Bad and the Ugly — SIG [RC, AP, BI, IM, PH, RE]		266 Inherited retinal diseases and macul [RE] #2010-2016		
Ballroom 4	206 Optic nerve regeneration: Barriers past and future — Minisymposium [GL, AP, BI, YE, NT, RC, RE, VN] #1191-1194	206a GL Section Business Meeting	228 Imaging Posterior Segment and Progression [GL] #1583-1589			266 Neurodegeneration [GL] #2017-2023		
Room 301	208 Retina/RPE 1 [PH] #1202-1208	208a PH Section Business Meeting	230 IOP Measurement and Characterization I [GL] #1596-1602	258 Targeting Mitochondrial Dysfunction in Retinal and Optic Nerve Disease — SIG [RC, BI, GL, PH, RE]		268 Retinal[PH] #2030-2036		
Room 307	209 Lens Development and Cell Biology [LE] #1209-1215	209a LE Section Business Meeting	231 RPE metabolism, autophagy and cell death [RC] #1603-1608	259 TGF beta signal transductions in ocular health and disease — SIG [CO, IM, LE, RE, RC]		269 Cataractogenesis I [LE] #2037-2043		
Room 308	210 Diseases and Protection [VN] #1216-1222	210a VN Section Business Meeting	232 Ganglion cells [VN] #1609-1615	251 LV Group: Reading with low vision: What we know and need to know [LV, VI, CL, EY]		270 The Impact of Low Vision on Mobility [LV] #2044-2049		
Room 309	211 Genetic Epidemiology [CL] #1223-1229	211a CL Section Business Meeting	233 Improving Eye Care Delivery [CL] #1616-1622					
Room 310	212 Emerging treatments for uveitis [IM] #1230-1236	212a IM Section Business Meeting	234 Immunological influences on AMD [IM] #1623-1628	252 Novel models and trends for accelerating applied ophthalmic product discovery and development				
Room 314	213 Genotype-phenotype correlations, prevalence studies and novel gene defects [BI] #1237-1243	213a BI Section Business Meeting		253 A global perspective on diversity: Challenges and opportunity		271 Molecular and biochemical mechanisms in retinal disorders [BI] #2050-2056		
Room 316	214 IOL and presbyopia correction [VI] #1244-1250	214a VI Section Business Meeting	235 Applications of adaptive optics for retinal imaging and visual function testing — Minisymposium [VI, CL, GL, LV, MOI, RC, RE, VN] #1629-1634	254 NEI extramural roundtable		272 Mechanisms of accommodation [VI] #2057-2063		
Room 321	215 Novel Imaging and Biomarkers for Ocular Tumors and Disease [AP, MOI] #1251-1256	215a AP Section Business Meeting		260 Controversies in Albinism: Why is Their Vision Poor and How Do We Fix It? —SIG [EY, RE, RC, VI, GEN]		273 Corneal immunology and neuropathy [CO] #2064-2070		
Room 324		215b EY Section Business Meeting	236 Optical coherence tomography in pediatric neuro-ophthalmology — Minisymposium [EY, GL, LV, RC] #1635-1640	255 China-ARVO networking forum				
Room 328								

Monday, May 8 ■ Posters

8:30–10:15am

Session Number	Session Title	Program Number	Board Number
216	AO, OCT, and advanced optical methods [VI, MOI]	1257 - 1279	A0001 - A0023
217	OCT applications [MOI]	1280 - 1327	A0024 - A0071
218	Living With Vision Loss [CL]	1328 - 1359	A0297 - A0328
219	Stem cells for ganglion cell regeneration and repair [RC]	1360 - 1373	A0381 - A0394
220	Corneal Biology and Regenerative Medicine [CO]	1374 - 1432	B0024 - B0082
221	Corneal Endothelium [CO]	1433 - 1485	B0083 - B0135
222	Retinal Diseases [CL, LV]	1486 - 1509	B0167 - B0190
223	AMD [CL]	1510 - 1529	B0191 - B0210
224	Retinal vascular diseases I (excluding diabetes) [RE]	1530 - 1561	B0362 - B0393

11am–12:45pm

Session Number	Session Title	Program Number	Board Number
237	Clinical applications of OCT angiography [MOI]	1641 - 1700	A0072 - A0131
238	Lens Development and Molecular Cell Biology [LE]	1701 - 1722	A0179 - A0200
239	Embryology and morphogenesis of ocular structures [AP, MOI, RC, GL]	1723 - 1735	A0201 - A0213
240	Optic and extraocular anatomy and function [AP]	1736 - 1745	A0214 - A0223
241	Ganglion Cells: Development, axotomy, trauma [RC]	1746 - 1769	A0357 - A0380
242	Retinoblastoma: Basic/Translational [AP, BI]	1770 - 1781	A0410 - A0421
243	Tumors - Inside and around the eye, I [AP, EY, GEN]	1782 - 1802	A0422 - A0442
244	Cataract Surgery Procedures [LE]	1803 - 1832	B0136 - B0165
245	Genetics of macular degeneration [GEN]	1833 - 1853	B0276 - B0296
246	Clinical retinal imaging 1 [RE, AP, MOI, RC, VI, VN]	1854 - 1889	B0326 - B0361
247	Diabetic macular edema and anti-VEGF therapy [RE]	1890 - 1921	B0394 - B0425
248	AMD therapies (excluding anti-VEGF) [RE]	1922 - 1946	B0426 - B0450
249	AMD: New drugs, delivery systems [PH]	1947 - 1980	B0451 - B0484
250	AMD-Novel therapies [RC, RE]	1981 - 1995	B0485 - B0499

3:45–5:30pm

Session Number	Session Title	Program Number	Board Number
274	Imaging: Anterior Segment [GL]	2071 - 2098	A0132 - A0159
275	Clinical Trials and Drug Studies I [GL]	2099 - 2117	A0160 - A0178
276	Genetics of glaucoma [GEN]	2118 - 2142	A0224 - A0248
277	Uveitis: Diagnosis, Epidemiology, Quality of Life [IM, MOI]	2143 - 2190	A0249 - A0296
278	Visual Impairment [CL, LV]	2191 - 2218	A0329 - A0356
279	Inner Retinal circuits [VN]	2219 - 2233	A0395 - A0409
280	Lacrimal glands and Meibomian glands [CO]	2234 - 2256	B0001 - B0023
281	Bruch's membrane and choroid in macular disease [RC]	2257 - 2272	B0211 - B0226
282	RPE dysfunction in macular diseases [RC]	2273 - 2297	B0227 - B0251
283	AMD translational studies and choroidal neovascularization [RE]	2298 - 2321	B0252 - B0275
284	AMD Clinical Research 1 [RE]	2322 - 2350	B0297 - B0325
285	Amblyopia I [EY]	2351 - 2368	B0500 - B0517
286	Refractive Error [CL, AP, LV]	2369 - 2405	B0518 - B0554
287	Pediatric Eye Disease [CL]	2406 - 2435	B0555 - B0584

Poster board numbers correspond to poster location in Exhibit Hall

A = Poster Area A, B = Poster Area B

2:45–3:45pm: All Posters and Networking — authors will be present at poster boards

Ballroom 2

Monday, May 08, 2017 8:30 AM-10:15 AM

Cornea

203 Corneal Wound Healing**Moderators: Dimitrios Karamichos and Shukti Chakravarti**

1172 — 8:30 Phase I/II randomized, double-masked, vehicle-controlled trial of recombinant human nerve growth factor (rhNGF) eye drops in stage 2/3 neurotrophic keratitis. Flavio Mantelli, M. Allegretti, W. Chao, I. Filatori, P. Battigello, V. Vaja, J. Goodman, F. Sinigaglia. Ophthalmology, Dompé farmaceutici SpA, Milan, Italy *CR, x

1173 — 8:45 Nerve regeneration by human corneal stromal keratocytes (CSKs) and stromal fibroblasts (SFs). Gary Hin-Fai Yam, G. P. Williams, M. Fuest, X. Lee, L. Zhou, J. Mehta. Singapore Eye Research Institute, Singapore, Singapore

1174 — 9:00 Hepatocyte Growth Factor Promotes Corneal Epithelial Repair by Inhibiting the Antiproliferative Effect of Inflammation on Epithelial Cells. Mingshun Li, A. Amouzegar, S. Mittal, S. Sahu, S. Chauhan. Schepens Eye Research Institute, Mass Eye & Ear, Harvard Medical School, Boston, MA

1175 — 9:15 Precision nanomedicine for eliminating corneal fibrosis and restoring vision with HGF-BMP7 gene transfer. Michael K. Fink^{1,2}, S. Gupta^{1,3}, R. Tripathi^{1,3}, G. anumanthan^{1,3}, P. R. Sinha^{1,3}, M. Faubion^{1,4}, A. Ghosh⁵, N. P. Hesemann^{1,4}, S. S. Chaurasia^{1,3}, E. A. Giuliano³, R. R. Mohan^{1,6}. ¹Harry S. Truman Memorial Veterans' Hospital, Columbia, MO; ²Veterinary Pathobiology, University of Missouri, Columbia, MO; ³Veterinary Medicine & Surgery, University of Missouri, Columbia, MO; ⁴Mason Eye Institute, University of Missouri, Columbia, MO; ⁵GROW Research Laboratory, Narayana Nethralaya Foundation, Bangalore, India; ⁶Veterinary Medicine & Surgery, Veterinary Pathobiology, and Mason Eye Institute, University of Missouri, Columbia, MO

1176 — 9:30 Engineered FGF-1 derivatives as protective agents in nitrogen mustard induced corneal injury. David Eveleth¹, J. Eveleth¹, M. K. Gordon², A. Subramaniam¹, R. A. Hahn², K. Thomas¹, M. blaber³, R. Bradshaw¹. ¹Trefoil Therapeutics, San Diego, CA; ²Rutgers University, Piscataway, NJ; ³Florida State University, Tallahassee, FL *CR

1177 — 9:45 Beta glucogallin, a plant-derived antioxidant and anti-inflammatory agent, alleviates corneal injury from chloropicrin exposure. David A. Ammar², D. G. Goswami¹, R. Kant¹, K. S. Fritz¹, D. V. LaBarbera¹, R. Agarwal¹, J. Petrash², N. Tewari-Singh¹. ¹Pharmaceutical Sciences, Univ Colorado Denver, Aurora, CO; ²Ophthalmology, Univ of Colorado Denver, Aurora, CO *CR

1178 — 10:00 Development of a hydrogel flowable dressing for the prevention of corneal scarring. Lisa J. Hill¹, G. Chouhan¹, C. Vareechon², E. Pearlman², S. Rauz¹, G. R. Wallace¹, A. Logan¹, L. Grover¹. ¹Neuroscience & Ophthalmology, University of Birmingham, Edgbaston, United Kingdom; ²University of California Irvine, Irvine, CA

Ballroom 2

Monday, May 08, 2017 10:15 AM-10:55 AM

203a CO Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

Ballroom 1

Monday, May 08, 2017 8:30 AM-10:15 AM

Retinal Cell Biology / Biochemistry/Molecular Biology**204 Common pathogenic role of inflammation in retinal diseases - Minisymposium**

The importance of inflammation as a primary contributor of ocular diseases is known for only few pathological conditions. However, recent data confirm a concurring pathogenic role of chronic inflammation even in disorders without a primary inflammatory cause. The minisymposium will focus on common immunological properties of the inflammatory response associated to major retinal pathologies, encompassing cellular aspects of the local microglial response and stimulating the notion of targeting inflammation to ameliorate the disease outcome.

Moderators: Goldis Malek and Enrica Strettoi

— 8:30 Introduction

1179 — 8:34 Common pathways of inflammation in ocular immune responses. Victor L. Perez. Ophthalmology, Bascom Palmer Eye Institute, Miami, FL *CR

1180 — 8:50 Regulation of phagocytosis and antigen processing in retinal antigen presenting cells. Andrew W. Taylor. Ophthalmology, Boston Univ School of Medicine, Boston, MA

1181 — 9:06 Microglia-neuron interactions in the healthy and diseased retina. Wai T. Wong. Unit on Neuron-Glia Interactions, National Eye Institute, NIH, Gaithersburg, MD

1182 — 9:22 IL-1 family cytokines in retinal degeneration. Sarah Doyle. Clinical Medicine,, Trinity College Dublin, Dublin 2, Ireland *CR

1183 — 9:38 Nuclear receptors: Important regulators of inflammation in the retina and AMD. Goldis Malek. Ophthalmology and Pathology, Duke University, Durham, NC

1184 — 9:54 Effect of diabetes on resolution of inflammation and repair of the inner blood-retinal barrier following ischemia-reperfusion injury. Steven Abcouwer. Ophthalmology & Visual Science, Univ of Michigan Kellogg Eye Ctr, Ann Arbor, MI *CR

— 10:10 Concluding Remarks

Ballroom 1

Monday, May 08, 2017 10:15 AM-10:55 AM

204a RC Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

Ballroom 3

Monday, May 08, 2017 8:30 AM-10:15 AM

Retina

205 Vitreoretinal surgery I**Moderators: Timothy G. Murray and William F. Mieler**

1185 — 8:30 Results from the first use of a robot to operate inside the human eye. Robert E. MacLaren¹, T. Edwards¹, K. Xue¹, M. Simunovic¹, T. C. Meenink², M. J. Beelen², G. Naus², M. D. De Smet². ¹Nuffield Lab of Ophthalmology, University of Oxford, Oxford, United Kingdom; ²Preceyes BV, Eindhoven, Netherlands *CR, x

1186 — 8:45 Digitally Assisted Vitreoretinal Surgery using the NGENUITY 3-D System. William R. Freeman¹, J. Ho¹, D. Chao¹, M. H. Goldbaum¹, H. Ferreyra¹, B. Tripathi², E. Nudleman¹. ¹Ophthalmology, UCSD Jacobs Retina Ctr, UCSD Shiley Eye Institute, La Jolla, CA; ²True Vision Systems, Santa Barbara, CA *CR

1187 — 9:00 Intraretinal Injection: Fiber Optics OCT Sensor Guided SMART Microinjector Enables Precise Intraretinal Injections in Bovine Eyes. Jin U. Kang¹, J. J. Chae³, S. Lee¹, G. Cheon¹, B. Gonenc², C. Lee¹, P. L. Gehlbach³.
¹Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD; ²Mechanical Engineering, Johns Hopkins University, Baltimore, MD; ³Wilmer Eye Institution, Johns Hopkins University, Baltimore, MD *CR, ✕

1188 — 9:15 Analysis of Architectural Retinal Changes Utilizing Intraoperative OCT Following Surgical Interventions with the Membrane Flex Loop in the DISCOVER Study. Justis Ehlers, A. Uchida, J. Reese, C. Calabrese, S. K. Srivastava. Cole Eye Institute-Retina Service, Cole Eye Institute, Cleveland Clinic, Cleveland, OK *CR, ✕

1189 — 9:30 Augmented Reality Video Microscope (ARVM) for Retina Surgery as a Replacement of Operational Microscopes. Adiel Barak¹, R. schneider², A. Zeitouny², A. manor¹, A. Loewenstein¹. ¹Ophthalmology, Tel-Aviv Medical Center, Tel Aviv, Israel; ²Elbit Systems, Haifa, Israel *CR, ✕

1190 — 9:45 Four-dimensional microscope-integrated optical coherence tomography (4D MIOCT) guidance in subretinal surgery. Karim Sleiman^{1,2}, L. Vajzovic¹, O. Carrasco-Zevallos³, M. Klingeborn¹, A. Dandridge¹, C. Viehland³, C. Bowes Rickman^{1,4}, J. A. Izatt³, C. A. Toth^{1,3}. ¹Department of Ophthalmology, Duke University, Durham, NC; ²Faculty of Medicine, American University of Beirut, Beirut, Lebanon; ³Department of Biomedical Engineering, Duke University, Durham, NC; ⁴Department of Cell Biology, Duke University, Durham, NC *CR, ✕

Ballroom 3

Monday, May 08, 2017 10:15 AM-10:55 AM

205a RE Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

Ballroom 4

Monday, May 08, 2017 8:30 AM-10:15 AM

Glaucoma / Anatomy and Pathology/Oncology / Biochemistry/Molecular Biology / Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Retinal Cell Biology / Retina / Visual Neuroscience

206 Optic nerve regeneration: Barriers past and future - Minisymposium

Vision loss due to traumatic, ischemic and degenerative optic nerve conditions such as glaucoma is generally unrecoverable primarily because in mammals retinal ganglion cells, like other neurons throughout the central nervous system, fail to regenerate their axons beyond the site of injury to re-innervate their targets in the brain. Recent discoveries have uncovered endogenous mechanisms within retinal ganglion cells (RGC) that boost axon growth capacity, as well as RGC-intrinsic and RGC-extrinsic barriers to regeneration. When some of these factors are experimentally manipulated in animal models, they promote potent regenerative axon regrowth that extends beyond the site of injury through the optic nerve and, in some instances, reach the appropriate central targets culminating in the formation of appropriate synapses and functional recovery. This minisymposium will describe recent discoveries in this field, and will outline the critical barriers remaining before optic nerve regeneration can be used clinically.

Moderators: Adriana Di Polo and Nicholas Marsh-Armstrong

— 8:30 Introduction

1191 — 8:40 Zebrafish as a model system for uncovering mechanisms underlying optic nerve and retina regeneration. Daniel Goldman. Molecular & Behavioral Neuroscience Inst, University of Michigan, Ann Arbor, MI

1192 — 9:00 Amacrine cells regulate the survival and regenerative potential of retinal ganglion cells. Larry Benowitz. Neurosurgery and Ophthalmology, Harvard Medical School, Boston, MA; Neurosurgery; Neurobiology, Boston Children's Hospital, Boston, MA

1193 — 9:20 Electrical activity and compartmented signaling of survival and axon growth. Jeffrey L. Goldberg. Ophthalmology, Stanford University, Palo Alto, CA

1194 — 9:40 Challenges from axon regeneration to functional recovery. Zhigang He. Neurology, Boston Children's Hospital, Boston, MA

— 10:00 Q & A Discussion

Ballroom 4

Monday, May 08, 2017 10:15 AM-10:55 AM

206a GL Section Business Meeting

1. Trustee's Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chair's Report
4. Annual Meeting Program Committee Election Results
5. GL Section Trustee nomination(s) update
6. Other Business

Hall G

Monday, May 08, 2017 8:30 AM-10:15 AM

Retina

207 AMD and anti-VEGF therapy

Moderators: Stephen Kim and Phil Hykin

1195 — 8:30 Distribution of optical coherence tomographic morphologic components within areas appearing as atrophic or scarred after two years of anti-VEGF treatment for neovascular age-related macular degeneration in the Comparison of Age-related Macular Degeneration Treatments Trials. Cynthia A. Toth¹, V. Tai¹, M. Pistilli², S. Chiu¹, K. Winter¹, E. Daniel², J. E. Grunwald², G. J. Jaffe¹, D. F. Martin³, G. Ying², S. Farsiu⁴, M. G. Maguire². ¹Ophthalmology, Duke University Eye Center, Durham, NC; ²Ophthalmology, University of Pennsylvania, Philadelphia, PA; ³Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ⁴Biomedical Engineering, Duke University, Durham, NC *CR, ✕

1196 — 8:45 Characteristics of Patients with Good Visual Acuity at 5 Years Despite No Treatment after 2 Years in the Comparison of AMD Treatment Trials (CATT) Follow-up Study. Daniel F. Martin¹, S. L. Fine², W. Pan³, J. E. Grunwald³, E. Daniel³, G. J. Jaffe⁴, C. A. Toth⁴, G. Ying³, M. G. Maguire³. ¹Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²Ophthalmology, University of Colorado, Aurora, CO; ³Ophthalmology, University of Pennsylvania, Philadelphia, PA; ⁴Ophthalmology, Duke University, Durham, NC *CR, ✕

1197 — 9:00 Effect of Intraocular Pressure (IOP)-Lowering Medications on Neovascular Age-Related Macular Degeneration (AMD) Treatment Outcomes in the Comparison of AMD Treatment Trials (CATT). Jason Hsu¹, E. Rahimy², G. Ying², W. Pan³. ¹Retina Service, Wills Eye Hospital, Philadelphia, PA; ²Retina, Palo Alto Medical Foundation, Palo Alto, CA; ³Ophthalmology, University of Pennsylvania, Philadelphia, PA *CR, ✕

1198 — 9:15 Evaluating the effect of ranibizumab and aflibercept on systemic vascular endothelial growth factor levels in neovascular age-related macular degeneration: the UNRAVEL study. *Anat Loewenstein¹, W. Chang^{2,3}, C. Chee⁴, C. Lai⁵, S. Malfait⁶, I. Rosenblatt⁷, P. Ruamviboonsuk⁸, P. Singh⁹, H. Uy¹⁰, K. Cooke⁶, N. Chlunas⁶.* ¹Ophthalmology, Tel Aviv Medical Center, Tel Aviv, Israel; ²Department of Ophthalmology, Yeungnam University College of Medicine, Daegu, Korea (the Republic of); ³Chang's Retina Center, Daegu, Korea (the Republic of); ⁴National University Hospital, Singapore; ⁵Chang-Gung Memorial Hospital, Linkou, Taiwan; ⁶Novartis Pharma AG, Basel, Switzerland; ⁷Rabin Medical Center, Petach Tikva, Israel; ⁸Rajavithi Hospital, Bangkok, Thailand; ⁹Tun Hussein Onn National Eye Hospital, Petaling Jaya Selangor Darul Ehsan, Malaysia; ¹⁰Peregrine Eye and Laser Institute, Makati City, Philippines *CR, ✕

1199 — 9:30 Efficacy and Safety of Intravitreal Aflibercept in Polypoidal Choroidal Vasculopathy: 12-Month Results of the PLANET Study. *Won Ki Lee¹, Y. Ogura², T. Iida³, S. Chen⁸, T. Wong^{4,5}, P. Mitchell⁶, T. Ishibashi⁷, E. zhang¹⁰, S. Leal⁹.* ¹Ophthalmology, Seoul St. Mary's Hospital, Catholic Medical Center, Seoul, Korea (the Republic of); ²Department of Ophthalmology and Visual Sciences, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan; ³Department of Ophthalmology, Tokyo Women's Medical University, Tokyo, Japan; ⁴Singapore National Eye Centre, Singapore, Singapore; ⁵National University of Singapore, Singapore, Singapore; ⁶Department of Ophthalmology, University of Sydney, Sydney, NSW, Australia; ⁷Department of Ophthalmology, Kyushu University Hospital, Fukuoka, Japan; ⁸Taipei Veterans General Hospital, Taipei, Taiwan; ⁹Bayer Pharmaceuticals Healthcare, Berlin, Germany; ¹⁰Bayer Pharmaceuticals Healthcare, Beijing, China *CR, ✕

1200 — 9:45 Canadian Treat and Extend Analysis Trial with Ranibizumab in Patients with Neovascular AMD: Interim Analysis of the CANTREAT Study. *Peter Kertes¹, T. G. Sheidow², G. Williams³, M. Greve⁴, I. Galic⁵, E. Rampakakis⁶, J. Gavalakis⁷, A. Scarino⁷.* ¹Ophthalmology and Vision Sciences, Sunnybrook Health Sciences Centre, Toronto, ON, Canada; ²Ivey Eye Institute, London, ON, Canada; ³Calgary Retina Consultants, Calgary, AB, Canada; ⁴Alberta Retina Consultants, Edmonton, AB, Canada; ⁵Montreal Retina Institute, Montreal, QC, Canada; ⁶JSS Medical Research, Saint-Laurent, QC, Canada; ⁷Novartis Pharma Canada, Dorval, QC, Canada *CR, ✕

1201 — 10:00 Whole Exome sequencing to identify the pharmacogenetic basis of retinal fluid clearance in anti-VEGF treated AMD. *Paul N. Baird^{1,2}, M. Riaz^{1,2}, A. J. Richardson¹, T. Nguyen¹, S. Taori¹, C. Khor^{3,4}, R. H. Guymer^{1,2}.* ¹Centre for Eye Research Australia, Melbourne, VIC, Australia; ²Surgery, Ophthalmology, University of Melbourne, Melbourne, VIC, Australia; ³Genome Institute of Singapore, Singapore, Singapore; ⁴Singapore Eye Research Institute, Singapore, Singapore

Room 301

Monday, May 08, 2017 8:30 AM-10:15 AM

Physiology/Pharmacology

208 Retina/RPE 1

Moderators: Naj Sharif and Lily L. Wong

1202 — 8:30 The role of Fc portion in the intravitreal half-life of anti-VEGF drugs. *Kwangsi Joo¹, S. Park¹, Y. Na¹, H. Hong¹, Y. Choi², J. Lee⁴, H. Kim³, K. Park¹, H. Kim⁴, J. Chung², S. Woo¹.* ¹Department of Ophthalmology, Seoul National University College of Medicine, Seoul National University Bundang Hospital, Seongnam-si, Korea (the Republic of); ²Department of Clinical Pharmacology and Therapeutics, Seoul National University College of Medicine and Bundang Hospital, Seongnam-si, Korea (the Republic of); ³Department of Chemical and Biomolecular Engineering, Sogang University, Seoul, Korea (the Republic of); ⁴Graduate School of Medical Science and Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea (the Republic of)

1203 — 8:45 QRX-411, an Antisense Oligonucleotide (AON) Directing Splice Correction in *USH2A* mRNA Caused by the Frequent Deep-Intronic c.7595-2144A>G Mutation Associated with Retinitis Pigmentosa in Usher Syndrome Type 2. *Hester van Diepen¹, H. Chan¹, J. Turunen¹, M. Semo², A. Vugler², R. Slijkerman³, E. van Wijk³, P. Adamson^{1,2}.* ¹ProQR Therapeutics, Leiden, Netherlands; ²Institute of Ophthalmology, UCL, London, United Kingdom; ³Department of Otorhinolaryngology and Donders Institute for Brain, Cognition and Behaviour, Radboudumc, Radboud University, Nijmegen, Netherlands *CR

1204 — 9:00 OXC063, A Novel Small Molecule Drug, Exhibits Anti-Inflammatory and Anti-Fibrotic Properties in Retinal Cultures. *Roy Chze Khai C. Kong¹, A. J. Cox¹, S. Glowacka¹, D. J. Kelly^{1,2}, F. Khong^{1,2}.* ¹Medicine, The University of Melbourne, Melbourne, VIC, Australia; ²OccuRx Pty Ltd, Melbourne, VIC, Australia *CR

1205 — 9:15 Distinct Cellular Uptake and Clearance Patterns of Nanoceria in the Retina. *Lily L. Wong¹, S. Barkam², S. Seal^{2,3}.* ¹Department of Ophthalmology, College of Medicine, University of Oklahoma Health Sciences Center & Dean McGee Eye Institute, Oklahoma City, OK; ²Department of Materials Science and Advanced Materials Processing and Analysis Center, University of Central Florida, Orlando, FL; ³NanoScience Technology Center and College of Medicine, University of Central Florida, Orlando, FL *CR

1206 — 9:30 Adverse ocular effect of sertraline use: case series of sertraline-associated maculopathy. *Hedayat Javid, K. Balaskas, T. Aslam, S. Mahmood.* Manchester Royal Eye Hospital, Manchester, United Kingdom

1207 — 9:45 Effect of Bevacizumab, Ranibizumab and Aflibercept on retinal pigment epithelium phagocytosis. *Patricia Fernandez^{1,2}, M. Hernandez^{1,2}, S. Recalde^{1,2}, M. Saenz de Viteri¹, I. Belza¹, M. Moreno¹, J. Bezunartea¹, A. Garcia-Layana^{3,2}.* ¹Experimental Ophthalmology Laboratory, Clinica Universidad de Navarra, Pamplona, Spain; ²IdISNA, Navarra Institute for Health Research, Pamplona, Spain; ³Ophthalmology, Clinica Universidad de Navarra, Pamplona, Spain *CR

1208 — 10:00 Expression and Inhibition of Peptidyl arginine Deiminase (PAD) Enzymes in Eye Injury. *Royce Mohan, J. Wizeman.* Neuroscience, University of Connecticut Health Center, Farmington, CT

Room 301

Monday, May 08, 2017 10:15 AM-10:55 AM

208a PH Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

Room 307

Monday, May 08, 2017 8:30 AM-10:15 AM

Lens

209 Lens Development and Cell Biology

Moderators: Janice L. Walker and Salil Lachke

1209 — 8:30 Characterization of a new RNA-binding protein Rbm24 in vertebrate eye development. *Soma Dash¹, M. K. Brastrom³, D. Slusarski³, S. Lachke^{1,2}.* ¹Biological Sciences, University of Delaware, Newark, DE; ²Center for Bioinformatics and Computational Biology, University of Delaware, Newark, DE; ³Department of Biology, University of Iowa, Iowa City, IA

1210 — 8:45 Loss of β A3/A1-crystallin in astrocytes lead to persistent fetal vasculature (PFV) by activating EGFR/mTORC1 signaling and inhibiting autophagy. *Meysam Yazdankhah, T. Luo, I. A. Bhutto, P. Shang, S. Mishra, G. A. Luty, S. L. Hose, J. Ziegler, Jr., D. Sinha.* Ophthalmology, Wilmer Eye Institute, Johns Hopkins School of Medicine, Baltimore, MD

1211 — 9:00 The Long noncoding RNA p10540 regulates autophagy through LC3B during human lens development. *Qiuli FU, Z. Qin, L. Zhang, K. Yao.* Eye Center, the 2nd Affiliated Hospital of Zhejiang University, Hangzhou, China

1212 — 9:15 Elimination of Mitochondria, Endoplasmic Reticulum and Golgi during lens cell differentiation to form the lens organelle-free zone requires the mitophagy protein BNIP3L and is regulated by the transcription factor HIF1 α . *Lisa A. Brennan¹, R. McGreal², C. Logan³, A. Cvekl⁴, A. Menko³, M. Kantorow¹.* ¹Biomedical Sciences, Florida Atlantic University, Boca Raton, FL; ²Ophthalmology & Vis Sci & Genetics, Albert Einstein College of Medicine, NY, NY; ³Pathology, Anatomy and Cell Biology, Thomas Jefferson University, Philadelphia, PA

1213 — 9:30 High resolution confocal microscopy of potential newly described nuclear excisomes in primate lenses. *M.J. Costello¹, A. Mohamed², K. Gilliland¹, S. Johnsen³, K. Schey⁴.* ¹Cell Biology and Physiology, University of North Carolina, Chapel Hill, NC; ²Ophthalmic Biophysics, LV Prasad Eye Institute, Hyderabad, India; ³Biology, Duke University, Durham, NC; ⁴Biochemistry, Vanderbilt University, Nashville, TN

1214 — 9:45 Promoter-enhancer interactions and regulation of α A-crystallin locus during lens fiber cell differentiation. *Rebecca McGreal, L. Wolf, A. Cvekl.* Ophthalmology and Genetics, Albert Einstein College of Medicine, New York, NY

1215 — 10:00 The Klotho- related KLPH/Lctl is highly expressed in lens epithelium and is required for expression of Clic5 and normal suture formation in mouse lens. *Jianguo Fan, J. Lerner, P. Cai, L. Dong, G. Wistow.* MSFG, National Eye Institute, Bethesda, MD

Room 307

Monday, May 08, 2017 10:15 AM-10:55 AM

209a LE Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Presentation of the National Foundation for Eye Research 2016 Cataract Research Award to Janice Walker, PhD, of the Thomas Jefferson University, Philadelphia
5. Annual Meeting Program Committee Election Results
6. Other Business

Room 308

Monday, May 08, 2017 8:30 AM-10:15 AM

Visual Neuroscience**210 Diseases and Protection****Moderator: Mabelle T. Pardue**

1216 — 8:30 Development of the Focal Electro-oculogram and its Application to Stargardt Disease. *Alisa Thavikulwai¹, L. Huryn², W. M. Zein², B. P. Brooks², B. G. Jeffrey².* ¹Illinois Eye and Ear Infirmary, Chicago, IL; ²National Eye Institute, National Institutes of Health, Bethesda, MD ✕

1217 — 8:45 Smith-Magenis Syndrome patients show reduced melanopsin response in the pupillary light reflex. *Mirella T. Barboni⁵, C. Bueno¹, B. Nagy^{2,5}, P. L. Maia¹, K. S. Vidal⁵, R. C. Alves¹, F. G. Amara⁵, J. Cipolla-Neto⁴, D. F. Ventura⁵.* ¹Department of Neurology, University of Sao Paulo, Sao Paulo, Brazil; ²Department of Mechatronics, Optics and Engineering Informatics, Budapest University of Technology and Economics, Budapest, Hungary; ³Department of Physiology, Federal University of Sao Paulo, Sao Paulo, Brazil; ⁴Department of Physiology and Biophysics, University of Sao Paulo, Sao Paulo, Brazil; ⁵Department of Experimental Psychology, University of Sao Paulo, Sao Paulo, Brazil

1218 — 9:00 Enhancing visual responses in retinal degeneration with human melanopsin. *Jasmina Cehajic Kapetanovic, A. E. Allen, N. Milosavljevic, T. M. Brown, P. N. Bishop, R. J. Lucas.* Faculty of Biology, Medicine and Health, University of Manchester, Manchester, United Kingdom

1219 — 9:15 Long term visual restoration using optogenetic engineering of retinal ganglion cells with AAV2.7m8- ChrimsonR-tdTomato. *Gregory Gauvain¹, R. Caplette¹, H. Akolkar¹, C. Jaillard², D. Pruneau³, J. sahel², D. Dalkara⁴, R. Benosman¹, S. A. Picaud¹.* ¹Visual Information Processing, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ²Institut de la Vision, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Paris, France; ³GenSight Biologics, Paris, France; ⁴Therapeutics, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France *CR

1220 — 9:30 Inhibition in the retinal ON cone pathway is increased in early diabetes. *Johnnie Moore-Dotson, E. D. Eggers.* University of Arizona, Tucson, AZ

1221 — 9:45 A naturally occurring mouse model of achromatopsia caused by a novel missense change in Cngb3. *Alun R. Barnard^{1,2}, M. M. Hassall¹, P. Charbel Issa^{1,2}, R. E. MacLaren^{1,2}.* ¹Nuffield Lab of Ophthalmology, University of Oxford, Oxford, United Kingdom; ²Oxford Eye Hospital, Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom

1222 — 10:00 Recovery from amblyopia enhanced by daily stimulation during development. *Victoria Yang¹, R. Chakraborty¹, E. Landis², R. G. Strickland², M. T. Pardue^{1,3}.* ¹Atlanta VA Center for Visual and Neurocognitive Rehab Ophthalmology, Emory University, Decatur, GA; ²Emory University, Decatur, GA; ³Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA

Room 308

Monday, May 08, 2017 10:15 AM-10:55 AM

210a VN Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. 2017 Trustee Election Results
6. Other Business

Room 309

Monday, May 08, 2017 8:30 AM-10:15 AM

Clinical/Epidemiologic Research**211 Genetic Epidemiology****Moderator: Tien Y. Wong**

1223 — 8:30 Han Chinese families show significant linkage for myopia on 10q26 and suggestive linkage on 9q33. *Joan E. Bailey-Wilson¹, A. Musolf¹, C. L. Simpson^{2,1}, B. A. Moiz¹, K. A. Long¹, D. D. Lewis¹, C. D. Middlebrooks¹, L. Portas³, F. Murgia³, D. Stambolian⁴.* ¹National Human Genome Research Inst, National Institutes of Health, Baltimore, MD; ²Department of Genetics, Genomics and Informatics, Univ of Tennessee Health Science Center, Memphis, TN; ³Institute of Population Genetics, CNR, Li Punti, Italy; ⁴Ophthal-Stellar Chance Lab, University of Pennsylvania, Philadelphia, PA

1224 — 8:45 Epigenetic markers for early-onset myopia in an epigenome-wide association study. *Seang-Mei Saw^{2,1}, C. Ngo³, P. Hong⁴, W. Seow¹, S. W. Tompson⁷, K. N. Whisenant⁷, E. N. Vithana², Y. Chong^{5,4}, F. Yap⁸, V. A. Barathi², P. G. Hysi⁶, T. L. Young⁷, N. Karnani⁴.* ¹Saw Swee Hock School of Public Health, National Univ of Singapore, Singapore, Singapore; ²Singapore Eye Research Institute, Singapore, Singapore; ³Ophthalmology, National University Hospital, Singapore, Singapore; ⁴Singapore Institute of Clinical Sciences, Singapore, Singapore; ⁵Obstetrics and Gynaecology, National University of Singapore, Singapore, Singapore; ⁶St Thomas' Hospital, London, United Kingdom; ⁷Ophthalmology, Wisconsin University, Madison, WI; ⁸Kerdang Kerbau Hospital, Singapore, Singapore

1225 — 9:00 Light processing and regulators are important mechanisms in refractive error.

Milly S. Tedja⁵, R. Wojciechowski^{1,2}, P. G. Hysi³, V. J. Verhoeven⁵, A. Iglesias⁴, R. Haak⁶, P. J. Van der Spek⁶, C. J. Hammond³, C. Klaver^{5,7}. ¹Inherited Disease Research Branch, US National Institutes of Health, Baltimore, MD; ²Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ³Department of Twin Research and Genetic Epidemiology, King's College London School of Medicine, London, United Kingdom; ⁴Epidemiology, Genetic Epidemiology Unit, Erasmus Medical Center, Rotterdam, Netherlands; ⁵Ophthalmology & Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands; ⁶Bio-informatics, Erasmus Medical Center, Rotterdam, Netherlands; ⁷Ophthalmology, Radboud University, Nijmegen, Netherlands

1226 — 9:15 Post-GWAS analysis approaches uncover dozens of novel genes associated with myopic refractive error.

Stuart MacGregor¹, M. S. Tedja², R. Wojciechowski^{3,4}, P. G. Hysi⁵, V. J. Verhoeven², C. J. Hammond⁵, A. Iglesias⁵, D. A. Mackey⁶, C. van Duijn², C. Klaver². ¹QIMR Berghofer Medical Research Institute, Brisbane, QLD, Australia; ²Ophthalmology and Epidemiology, Erasmus University, Rotterdam, Netherlands; ³Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ⁴Wilmer Eye Institute, Johns Hopkins Medical Institutions, Baltimore, MD; ⁵Ophthalmology, Kings College London, London, United Kingdom; ⁶Lions Eye Institute, Perth, WA, Australia

1227 — 9:30 Meta-analyses of two large GWAS show a high genetic correlation between myopia age-at-onset and refractive error during adulthood and older age.

Robert Wojciechowski^{1,2}, P. G. Hysi^{4,3}, M. S. Tedja⁵, V. J. Verhoeven⁵, J. A. Guggenheim⁶, S. MacGregor⁷, C. J. Hammond³, C. Klaver⁵. ¹Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ²Wilmer Eye Institute, Johns Hopkins Medical Institutions, Baltimore, MD; ³Ophthalmology, King's College London, London, United Kingdom; ⁴Twin Research & Genetic Epidemiology, King's College London, London, United Kingdom; ⁵Ophthalmology and Epidemiology, Erasmus University, Rotterdam, Netherlands; ⁶School of Optometry & Vision Sciences, Cardiff University, Cardiff, United Kingdom; ⁷Genetic Epidemiology & Statistical Genetics Laboratories, QIMR Berghofer Medical Research Institute, Brisbane, QLD, Australia

1228 — 9:45 Genome-wide association study identifies a new genetic locus at 2q36.3 for polypoidal choroidal vasculopathy in East Asians: The GAMA consortium.

Tien Y. Wong^{2,1}, M. Yasuda², Q. Fan¹, C. Cheung², M. Akiyama³, C. Khor⁴, C. Pang⁵, K. Park⁷, N. Yoshimura⁶, C. Cheng². ¹Duke-National University of Singapore School of Medicine, Singapore, Singapore; ²Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore; ³RIKEN Center for Integrative Medical Sciences, Yokohama, Japan; ⁴Genome Institute of Singapore, Agency for Science, Technology and Research, Singapore, Singapore; ⁵Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong; ⁶Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine, Kyoto, Japan; ⁷Ophthalmology, Seoul National University Bundang Hospital, Seoul, Korea (the Republic of) *CR

1229 — 10:00 Evaluation of the myocilin mutation Gln368Stop demonstrates reduced penetrance for glaucoma in European populations.

Abhishek Nag¹, A. Iglesias², P. W. Bonnemaier², C. van Duijn², C. Klaver², P. G. Hysi¹, C. J. Hammond¹. ¹King's College London, London, United Kingdom; ²Erasmus Medical Centre, Rotterdam, Netherlands

Room 309

Monday, May 08, 2017 10:15 AM-10:55 AM

211a CL Section Business Meeting

1. Trustee's Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chair's Report
4. Annual Meeting Program Committee Election Results
5. 2017 Trustee Elections Results
6. Other Business

Room 310

Monday, May 08, 2017 8:30 AM-10:15 AM

Immunology/Microbiology**212 Emerging treatments for uveitis****Moderator: Kathryn L. Pepple****1230 — 8:30 A prospective, longitudinal observational study of patients receiving TNF α inhibitors for refractory ocular inflammation.**

Colm D. Andrews^{1,3}, E. Damato², A. Hinchcliffe⁴, K. Tilling³, A. D. Dick^{3,4}, S. M. Sharma^{1,5}. ¹University of Oxford, Abingdon, United Kingdom; ²Sandwell and West Birmingham Hospitals NHS Trust, Birmingham, United Kingdom; ³University of Bristol, Bristol, United Kingdom; ⁴University Hospitals Bristol NHS Foundation Trust, Bristol, United Kingdom; ⁵Oxford University Hospitals Foundation Trust, Oxford University Hospitals Foundation Trust, United Kingdom ✗

1231 — 8:45 A Randomized, Comparator-Controlled Phase 2 Clinical Trial of ADX-102 Ophthalmic Solution in Noninfectious Anterior Uveitis.

John D. Sheppard^{1,2}, T. Brady³, C. Foster⁴, K. J. Mandell³, S. L. Young³. ¹Ophthalmology, Eastern Virginia Medical School, Norfolk, VA; ²Cornea & Uveitis, Virginia Eye Consultants, Norfolk, VA; ³Aldeyra Therapeutics, Lexington, MA; ⁴Harvard Medical School, Boston, MA *CR, ✗

1232 — 9:00 An Injectable Fluocinolone Acetonide Intravitreal Insert Decreases the Incidence of Recurrence in Patients with Chronic Non-infectious Uveitis Affecting the Posterior Segment of the Eye: 12 Month Results.

Glenn J. Jaffe¹, D. Paggiarino², G. Riedel¹. ¹Ophthalmology, Duke University Eye Center, Durham, NC; ²pSivida, Watertown, MA *CR, ✗

1233 — 9:15 Optical Coherence Tomography Evaluation of Uveitic Macular Edema and Response to Treatment with Oral Carbonic Anhydrase Inhibitor Monotherapy.

Macklin H. Nguyen, C. Lee, R. N. Van Gelder, K. L. Pepple. Ophthalmology, University of Washington, Seattle, WA

1234 — 9:30 Clinical, Adaptive Optics Imaging and Electrophysiologic Outcomes in Autoimmune Retinopathy Patients with Rituximab.

Samanah Davoudi, D. Sevgi, C. Yasa, N. Ebrahimiadib, I. Lains, R. Roohipoor, E. Papavasiliou, J. Comander, L. Sobrin. Ophthalmology, MEEI, Arlington, MA

1235 — 9:45 Development of mouse anti-mouse CD6 monoclonal antibodies (mAbs) for treating experimental autoimmune uveitis in mice. Lingjun Zhang¹, W. Qiu¹, B. A. Bell², L. Yan¹, T. S. Kern³, R. R. Caspi⁴, F. Lin¹. ¹Immunology, Cleveland Clinic, Cleveland, OH; ²Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ³Department of Medicine and Ophthalmology, Case Western Reserve University, Cleveland, OH; ⁴Laboratory of Immunology, National Eye Institute, National Institutes of Health, Bethesda, MD

1236 — 10:00 Neuroprotective effects of IL-22 during CNS inflammation. Rachel R. Caspi, R. C. Rigden, J. L. Kielczewski, C. R. Zarate-Blades, A. J. St. Leger, P. B. Silver, Y. Jittayasothorn, C. Chan, M. J. Mattapallil. Laboratory of Immunology, National Eye Inst/NIH, Bethesda, MD

Room 310

Monday, May 08, 2017 10:15 AM-10:55 AM

212a IM Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Cora Verhagen Award
6. Dr. Raniyah Ramadan Foundation Award
7. Other Business

Room 314

Monday, May 08, 2017 8:30 AM-10:15 AM

Biochemistry/Molecular Biology

213 Genotype-phenotype correlations, prevalence studies and novel gene defects

Moderators: Christina Zeitz and Frans P. Cremers

1237 — 8:30 Reinspection of FEVR based on exome sequencing: a common disease with extremely variable phenotypes. Qingjiong Zhang, X. Xiao, S. Li, X. Jia, X. Guo. State Key Lab of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-Sen University, Guangzhou, China

1238 — 8:45 The Israeli Inherited Retinal Diseases Consortium (IIRDC): Mapping Inherited Retinal Diseases in the Israeli Population. Dror Sharon¹, T. Ben-Yosef², N. Goldenberg-Cohen⁶, L. Gradstein³, E. Pras⁴, A. Abbasi¹¹, N. Shomron⁹, E. Mezer^{2,5}, M. Ehrenberg¹⁰, S. Zayit-Soudry⁵, H. Newman^{7,9}, R. Leib⁵, Y. Rotenstreich⁸, H. Levy³, E. Banin¹, I. Perlman^{2,7}. ¹Department of Ophthalmology, Hadassah-Hebrew Univ Medical Ctr, Jerusalem, Israel; ²Rappaport Faculty of Medicine, Technion, Haifa, Israel; ³Soroka Medical Center and Ben-Gurion University of the Negev, Beer Sheva, Israel; ⁴Asaf Ha'Rofe Medical Center, Rishon Lezion, Israel; ⁵Rambam Medical Center, Haifa, Israel; ⁶Ophthalmology, Bnai Zion Medical Center, Haifa, Israel; ⁷Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel; ⁸Sheba Medical Center, Tel-Hashomer, Israel; ⁹Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel; ¹⁰Schneider Medical Center, Petah Tikva, Israel; ¹¹Bnai Zion Medical Center, Haifa, Israel

1239 — 9:00 Mutation spectrum of a French cohort with autosomal recessive bestrophinopathy. Isabelle S. Audo^{1,2}, S. Mohand-Said^{1,2}, B. Ekpe², A. Antonio¹, C. Condroyer¹, F. Boyard¹, J. sahel^{1,2}, C. Zeitz¹. ¹Department of Genetics, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ²CHNO des Quinze-Vingts DHU Sight Restore, INSERM-DHOS CIC1423, Paris, France

1240 — 9:15 Frequent hypomorphic alleles solve 80% of late-onset ABCA4 disease and distinguish it from age-related macular degeneration. Rando Allikmets¹, J. Zernant¹, F. T. Collison³, G. A. Fishman³, Y. V. Sergeev², K. Schuerch¹, J. R. Sparrow¹, S. Tsang¹, W. Lee¹. ¹Ophthalmology, Columbia University, New York, NY; ²OGVFB, National Eye Institute, Bethesda, MD; ³Chicago Lthouse for the Blind & Vis Impaired, Chicago, IL

1241 — 9:30 In silico functional meta-analysis of 5,962 ABCA4 variants in 3,928 Stargardt disease and cone-rod dystrophy cases. Frans P. Cremers^{1,7}, S. Cornelis^{1,7}, N. Bax^{2,7}, J. Zernant³, R. Allikmets³, A. Fritsche⁴, J. den Dunnen⁵, M. Ajmal⁶, C. C. Hoyng^{2,7}. ¹Human Genetics, Raboud university medical center, Nijmegen, Netherlands; ²Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands; ³Ophthalmology, Columbia University, New York, NY; ⁴Norwegian University of Science and Technology, Trondheim, Norway; ⁵Clinical Genetics and Human Genetics, Leiden University Medical Center, Leiden, Netherlands; ⁶Biosciences, COMSATS Institute of Information Technology, Islamabad, Pakistan; ⁷Donders Institute for Brain, Cognition and Behaviour, Radboud University, Nijmegen, Netherlands

1242 — 9:45 Homozygosity mapping-guided exome sequencing in LCA patients of consanguineous origin reveals mutations in known genes and a novel candidate gene. Basamat Almoallem^{1,2}, K. Van Schil¹, L. Jeddawi³, B. P. Leroy^{4,1}, F. Coppieters¹, E. De Baere¹. ¹Center for Medical Genetics, Ghent University and Ghent University Hospital, Ghent, Belgium; ²Department of Ophthalmology, King Abdul-Aziz University Hospital, College of Medicine, King Saud University, Riyadh, Saudi Arabia; ³Pediatric Ophthalmology Division, Dhahran Eye Specialist Hospital, Dhahran, Saudi Arabia; ⁴Department of Ophthalmology, Ghent University Hospital, Ghent, Belgium

1243 — 10:00 Mutations in the X-linked gene PRPS1 cause retinal degeneration in females. Alessia Fiorentino¹, G. Arno^{1,2}, N. Pontikos^{1,3}, K. Fujinami^{1,2}, T. Hayashi⁴, V. Plagnol⁵, M. E. Cheetham¹, T. Iwata⁵, A. R. Webster^{1,2}, M. Michaelides^{1,2}, A. J. Hardcastle¹. ¹UCL Institute of Ophthalmology, London, United Kingdom; ²Moorfields Eye Hospital, London, United Kingdom; ³UCL Genetics Institute, London, United Kingdom; ⁴Department of Ophthalmology, The Jikei University School of Medicine, Tokyo, Japan; ⁵Division of Molecular and Cellular Biology, National Institute of Sensory Organs, National Hospital Organization, Tokyo Medical Center, Tokyo, Japan

Room 314

Monday, May 08, 2017 10:15 AM-10:55 AM

213a BI Section Business Meeting

1. Trustee's Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chair's Report
4. Annual Meeting Program Committee Election Results
5. 2017 Trustee Election Results
6. Other Business

Room 316

Monday, May 08, 2017 8:30 AM-10:15 AM

**Visual Psychophysics/Physiological Optics
214 IOL and presbyopia correction****Moderators: Fabrice Manns and
Sowmya Ravikumar**

1244 — 8:30 Age- and accommodation-dependence of the human crystalline lens shape and thickness measured with extended-depth Optical Coherence Tomography. Alex T. Pham^{1,2}, E. Adre^{1,2}, K. Liu^{1,2}, Y. Chang^{1,2}, I. Shestopalov¹, F. Cabot^{1,3}, S. Williams^{1,2}, G. Gregori⁴, M. Ruggeri¹, A. Ho^{5,6}, J. A. Parell^{1,5}, F. Manns^{1,2}. ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Department of Biomedical Engineering, University of Miami College of Engineering, Miami, FL; ³Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴Quantitative Imaging Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁵Brien Holden Vision Institute, Sydney, NSW, Australia; ⁶School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia *CR

1245 — 8:45 Peripheral aberrations of pseudophakic eyes implanted with an aspheric monofocal intraocular lens. Aixa Alarcon¹, R. Rosen¹, P. Drasch², N. Hirsch², M. Van der Moeren¹, P. A. Piers¹, O. Findl¹. ¹Abbott Medical Optics, Abbott Medical Optics, Groningen, Netherlands; ²Department of Ophthalmology, Hanusch Hospital, Vienna, Austria *CR

1246 — 9:00 Intraocular photobonding for accommodating intraocular lenses. Rocio Gutierrez-Contreras², N. Alejandre^{2,1}, C. Dorronsoro², S. Marcos². ¹Fundación Jiménez Díaz, Madrid, Spain; ²Instituto de Optica, CSIC, Madrid, Spain *CR

1247 — 9:15 SAVER Study- Simulation by Adaptive Optics for Vision Experiment and tReatment in presbyopia. Shruti Kochar Marul¹, R. Shetty², K. Shetty³, A. Sinha Roy⁴. ¹Cataract and Refractive Services, Narayana Nethralaya, Bangalore, India; ²Vice Chairman, Head of Refractive Department, Neuroophthalmology and Electrophysiology, Narayana Nethralaya, Bangalore, India; ³Chairman, Narayana Nethralaya, Bangalore, India; ⁴IBMS-Imaging, Biomechanics and Mathematical Modeling Solutions, Narayana Nethralaya Foundation, Bangalore, India

1248 — 9:30 Visual simulations of real multifocal lenses in a multi-channel Adaptive Optics system. Susana Marcos, M. Vinas, C. Benedi, S. Aissati, V. Akondi, X. Barcala, E. Gamba. Instituto de Optica, CSIC, Madrid, Spain *CR

1249 — 9:45 Visualization of retinal images after virtual intraocular lens implantation. Karsten Sperlich¹, S. Bohn¹, M. Gerlach², J. Schubert¹, H. Stolz³, P. Marczuk², O. Stachs¹, R. F. Guthoff¹. ¹Department of Ophthalmology, University Medicine Rostock, Rostock, Germany; ²Carl Zeiss Meditec AG, Berlin, Germany; ³Institute of Physics, University of Rostock, Rostock, Germany *CR

1250 — 10:00 Realistic three-dimensional scene visualization through presbyopia treatment modalities. Jim Schwiegerling. Optical Sciences, University of Arizona, Tucson, AZ *CR

Room 316

Monday, May 08, 2017 10:15 AM-10:55 AM

214a VI Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

Room 321

Monday, May 08, 2017 8:30 AM-10:15 AM

Anatomy and Pathology/Oncology**215 Novel Imaging and Biomarkers for Ocular Tumors and Disease****Moderators: Deepak P. Edward, Solange Landreville and Randolph Glickman**

1251 — 8:30 Precision medicine for vitreoretinal lymphomas: new routes to targeted therapies from liquid biopsies. Rajesh C. Rao¹, A. K. Cani², D. H. Hovelson², H. Demirci¹, M. W. Johnson¹, S. A. Tomlins². ¹Ophthalmology and Visual Sciences, University of Michigan Medical School, Ann Arbor, MI; ²Pathology, University of Michigan, Ann Arbor, MI *CR

1252 — 8:45 Diagnostic imaging of retinoblastoma in pediatric patients with a novel 1050nm optical coherence tomography clinical system. Oleg Nadiarnykh¹, N. McNeill², F. D. Verbraak^{3,2}, A. C. Moll¹, J. F. De Boer¹. ¹Physics, Vrije University, Amsterdam, Netherlands; ²Ophthalmology, VU University Medical Center, Amsterdam, Netherlands; ³Academic Medical Center, Ophthalmology, University of Amsterdam, Amsterdam, Netherlands *CR

1253 — 9:00 A murine model of von Hippel-Lindau associated retinal hemangioblastoma. Chi-Chao Chan^{1,2}, H. Wang³, L. Dong⁴, L. Guedez¹, S. Park^{1,5}, Y. Wang^{2,1}, S. Chen^{2,1}, C. Gao⁶, W. T. Wong⁷, H. Wiley⁸, E. Chew⁸, Z. Zhuang³.

¹Laboratory of Immunology, National Eye Institute/NIH, Bethesda, MD; ²Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ³National Institute of Neurological Disorders and Stroke, NIH, Bethesda, MD; ⁴NEI Rodent Transgenic/ Knockout and Veterinary Research and Resources Facility, National Eye Institute/NIH, Bethesda, MD; ⁵Ophthalmology, Ohio State University Wexner Medical Center, Columbus, OH; ⁶NEI Biological Imaging Core, National Eye Institute/NIH, Bethesda, MD; ⁷Neuroglia interactions in retinal disease, National Eye Institute/NEI, Bethesda, MD; ⁸Division of Epidemiology and Clinical Application, National Eye Institute/NIH, Bethesda, MD

1254 — 9:15 CXCR4 expression in an intraocular melanoma mouse model with hepatic metastases. Hua Yang¹, S. Tan², H. E. Grossniklaus¹, V. M. Morales³, Q. Zhang¹, B. L. Burgess⁴, D. Hu⁵, S. E. Woodman⁶, T. A. McCannel⁷, J. Yang². ¹Ophthalmology, Emory University Eye Center, Atlanta, GA; ²Chemistry, Georgia State University, Atlanta, GA; ³Ophthalmology, Hamilton Eye Institute, University of Tennessee Health Science Center, Memphis, TN; ⁴Ophthalmology, UCLA, Calabasas, CA; ⁵Pathology & Ophthalmology, New York Eye & Ear Infirmary of Mount Sinai, New York, NY; ⁶Melanoma Medical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX; ⁷Ophthalmology, Jules Stein Eye Institute UCLA, Los Angeles, CA

1255 — 9:30 Amyloid beta deposits in ex vivo retinas correlate with the severity of Alzheimer's brain pathology. Melanie C. Campbell¹, L. Emptage², F. Corapi², R. Redekop², N. Shah², M. Kitor², V. Hirsch-Reinshagen³, R. Hsiung⁴, I. Mackenzie⁵. ¹Physics & Astronomy/Sch of Optom, University of Waterloo, Waterloo, ON, Canada; ²Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; ³Pathology and Laboratory Medicine, University of British Columbia, Vancouver, BC, Canada; ⁴UBC Hospital Clinic for Alzheimer and Related Disorders, Vancouver, BC, Canada *CR

1256 — 9:45 Dynamic retinal arterial and venous oscillations are changed in Alzheimer's disease. Konstantin E. Kotliar¹, C. Hauser², M. Ortner³, I. Lanz¹, C. Schmadere², T. Grimmer³. ¹FH Aachen, Biomedical Engineering, University of Applied Sciences, Juelich, Germany; ²Nephrology, Technische Universität München, Munich, Germany; ³Psychiatry and Psychotherapy, Technische Universität München, Munich, Germany; ⁴Ophthalmology, Technische Universität München, Munich, Germany

Monday – Papers/Section Business Meetings

Room 321

Monday, May 08, 2017 10:15 AM-10:55 AM

215a AP Section Business Meeting

1. Trustee’s Report of Status of Association
 2. ARVO Strategic Plan
 3. Annual Meeting Program Committee Chair’s Report
 4. Annual Meeting Program Committee Election Results
 5. AP Section Trustee nomination(s) update
 6. Other Business
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Room 324

Monday, May 08, 2017 10:15 AM-10:55 AM

215b EY Section Business Meeting

1. Trustees Report of Status of Association
2. ARVO Strategic Plan
3. Annual Meeting Program Committee Chairs Report
4. Annual Meeting Program Committee Election Results
5. Other Business

**Monday Business Meetings
10:15 am – 10:55 am**

Exhibit/Poster Hall A0001-A0023

Monday, May 08, 2017 8:30 AM-10:15 AM

Visual Psychophysics/Physiological Optics

216 AO, OCT, and advanced optical methods

Moderators: Kaitlyn Sapoznik and Ethan A. Rossi

1257 — A0001 Assessing cone photoreceptor structure in patients with mutations in the *OPN1LW/OPN1MW* gene array. Emily J. Patterson¹, M. Kasilian², A. Kalitzeos², C. P. Malone³, M. Carrigan⁴, A. Green^{7,8}, G. J. Farrar⁷, M. Neitz⁵, P. F. Kenna^{3,4}, M. Michaelides^{2,6}, J. Carroll¹. ¹Ophthalmology & Visual Science, Medical College of Wisconsin, Milwaukee, WI; ²UCL Institute of Ophthalmology, London, United Kingdom; ³The Research Foundation, The Royal Victoria Eye & Ear Hospital, Dublin, Ireland; ⁴The Ocular Genetics Unit, Trinity College, Dublin, Ireland; ⁵Department of Ophthalmology, University of Washington, Seattle, WA; ⁶Moorfields Eye Hospital, London, United Kingdom; ⁷Department of Clinical Genetics, Our Lady's Hospital for Sick Children, Dublin, Ireland; ⁸UCD School of Medicine and Medical Science, University College Dublin, Dublin, Ireland *CR

1258 — A0002 Reliability of Counting Cone Inner Segments in Choroideremia. Grace K. Han¹, R. F. Cooper^{1,3}, D. Scoles¹, J. Bennett^{1,2}, A. M. Maguire^{1,2}, T. S. Aleman^{1,2}, J. I. Morgan^{1,2}. ¹Scheie Eye Institute, Department of Ophthalmology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA; ²Center for Advanced Retinal and Ophthalmic Therapeutics, Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA; ³Department of Psychology, University of Pennsylvania, Philadelphia, PA *CR, ✗

1259 — A0003 Short-term evolution of diabetic hard exudates monitored by adaptive optics. prisca loganadane, M. Saleh, B. Y. Delbosch. Ophthalmology retina, University Hospital of Besançon, Besançon, France

1260 — A0004 Modeling retinal arterial diameters and velocities at bifurcations. Ting Luo, A. De Castro, L. Sawides, T. Gast, K. Sapoznik, R. L. Warner, S. A. Burns. School of Optometry, Indiana University Bloomington, Bloomington, IN

1261 — A0005 Flicker evoked changes in retinal capillary blood flow measured using a dual channel Adaptive Optics Scanning Laser Ophthalmoscope. Raymond L. Warner¹, A. De Castro², L. Sawides², T. Luo¹, K. Sapoznik¹, S. A. Burns¹. ¹Optometry, University of Indiana, Bloomington, Bloomington, IN; ²Laboratorio de Optica, Universidad de Murcia, Murcia, Spain

1262 — A0006 Individual variability of foveal location determined by spectral domain optical coherence tomography. Robert A. Sharpe¹, D. Williams², R. Trivedi¹, J. Blice¹. ¹Ophthalmology, Medical University of South Carolina, Charleston, SC; ²Naval Hospital Jacksonville, Jacksonville, FL

1263 — A0007 A two-year longitudinal study of cone photoreceptor density in normal subjects using adaptive optics scanning light ophthalmoscopy. Kevin Jackson¹, G. K. Han¹, G. Ying¹, J. I. Morgan^{1,2}. ¹Scheie Eye Institute, Department of Ophthalmology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA; ²Center for Advanced Retinal and Ophthalmic Therapeutics, Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA *CR

1264 — A0008 Longitudinal repeatability of *in vivo* cone density measurements in normal eyes from confocal and split detector adaptive optics images. Suman Adhikari¹, A. Schill¹, G. Musia², H. Mirhajianmoghadam¹, H. M. Queener¹, J. Porter^{1,2}. ¹College of Optometry, University of Houston, Houston, TX; ²Department of Biomedical Engineering, University of Houston, Houston, TX

1265 — A0009 Diurnal Time Course of Cone Photoreceptor Disc Shedding in the Living Human Eye. Furu Zhang, Z. Liu, K. Kurokawa, D. T. Miller. School of Optometry, Indiana University, Bloomington, IN

1266 — A0010 Imaging photoreceptor/RPE/choriocapillaris complex with adaptive optics optical coherence tomography. Kazuhiro Kurokawa, Z. Liu, D. T. Miller. School of Optometry, Indiana University, Bloomington, IN

1267 — A0011 Relationship of Pupil Entry Position and Cone intensity in Flood-Illuminated Adaptive Optics Imaging. Gareth Harman, M. E. Pennesi. Genetics, Oregon Health and Science University - Ophthalmic Genetics, Portland, OR

1268 — A0012 Optimizing stimulus dimensions for single cone stimulation. Alexander Meadway, A. McKeown, L. Sincich. Dept of Optometry and Vision Science, University of Alabama Birmingham, Birmingham, AL

1269 — A0013 Foveal crowding resolved with adaptive optics. Daniel R. Coates¹, P. Touch², D. M. Levi³, R. Sabesan². ¹Institute of Psychology, University of Bern, Bern, Switzerland; ²Department of Ophthalmology, University of Washington School of Medicine, Seattle, WA; ³School of Optometry, University of California, Berkeley, Berkeley, CA

1270 — A0014 Construction and validation of a novel method to measure tolerance of aniseikonia. Therese Krarup, U. C. Christensen, J. F. Kiilgaard, M. la Cour. Eye department, Rigshospitalet, Copenhagen, Denmark

1271 — A0015 Adaptive optics visual simulator with extended dioptric range. Nikolai Suchkov^{1,2}, E. Fernandez², B. Jaeken¹, P. Artal². ¹Optica S.L., Murcia, Spain; ²Laboratorio de Optica, Universidad de Murcia, Murcia, Spain *CR

1272 — A0016 Simulating multifocal intraocular lenses with a spatial light modulator and a tunable lens: a computational evaluation. Vyas Akondi, E. Gamba, M. Vinas, S. Aissati, C. Dorronsoro, D. Pascual, S. Marcos. Visual Optics and Biophotonics lab, Instituto de Optica CSIC, Madrid, Spain *CR

1273 — A0017 Adaptive Alvarez Lens for Vision Assessment and Correction. Guoqiang Li, Z. Li. Depts of Ophthal and Vis Sci and ECE, Ohio State University, Columbus, OH

1274 — A0018 First demonstration of human visual performance through refractive-index modified ophthalmic devices written in hydrogels. Len Zheleznyak^{1,2}, G. Gandara-Montano², S. MacRae^{6,3}, K. R. Huxlin^{1,3}, J. D. Ellis^{2,5}, G. Yoon^{4,3}, W. H. Knox^{2,1}. ¹Clerio Vision, Inc., Rochester, NY; ²The Institute of Optics, University of Rochester, Rochester, NY; ³Center for Visual Science, University of Rochester, Rochester, NY; ⁴Flaum Eye Institute, University of Rochester, Rochester, NY; ⁵Department of Mechanical Engineering, University of Rochester, Rochester, NY *CR

1275 — A0019 Optical bench testing of gradient-index Fresnel lenses written with femtosecond laser induced refractive index change. Gustavo Gandara-Montano¹, L. Zheleznyak^{1,2}, W. H. Knox^{1,2}. ¹Institute of Optics, University of Rochester, Rochester, NY; ²Clerio Vision, Inc., Rochester, NY *CR

1276 — A0020 Wavefront-customized soft contact lenses for high-order aberration correction in normal eyes. Donnie Akers¹, G. Asimellis¹, L. Karageorgiadis², C. Katsoulos², N. Vasileiou². ¹Optometry, University of Pikeville, Pikeville, KY; ²Eye Art Contact Lens Laboratory, Thessaloniki, Greece *CR

1277 — A0021 Performance of Spherical and Wavefront-Guided Scleral Lenses in Keratoconus. Roxana T. Hemmati, G. D. Hastings, L. Nguyen, J. D. Marsack, R. A. Applegate. University of Houston College of Optometry, Bellaire, TX

1278 — A0022 Optimizing scleral lens prescriptions in highly aberrated eyes. Lan Chi Nguyen, G. D. Hastings, R. T. Hemmati, R. A. Applegate, J. D. Marsack. Optometry, University of Houston, Houston, TX *CR

1279 — A0023 Applying Measured Levels Of Rigid Lens Horns Reduction To A Large, Simulated Sample Of Keratoconic Wavefront Errors. Jason D. Marsack¹, G. D. Hastings¹, R. T. Hemmati¹, L. C. Nguyen¹, J. Rozema^{2,3}, R. A. Applegate¹. ¹Optometry, University of Houston, Houston, TX; ²Ophthalmology, Antwerp University Hospital, Antwerp, Belgium; ³Faculty of Medicine and Health Sciences, University of Antwerp, Antwerp, Belgium *CR

Exhibit/Poster Hall A0024-A0071

Monday, May 08, 2017 8:30 AM-10:15 AM
Multidisciplinary Ophthalmic Imaging Group
217 OCT applications

Moderator: Donald Hood

1280 — A0024 Progression of Ellipsoid Zone Loss correlates with Change of Scotoma Size in Macular Telangiectasia Type 2. Tjebo F. Heeren^{1,2}, D. Kitka¹, D. Florea¹, A. C. Bird¹, E. Chew⁶, T. E. Clemons⁵, D. Pauleikhoff⁶, F. G. Holz², T. Peto^{1,3}. ¹NIHR Biomedical Research Centre, Moorfields Eye Hospital, London, United Kingdom; ²Ophthalmology, University of Bonn, Bonn, Germany; ³Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom; ⁴Ophthalmology, St Franziskus Hospital, Münster, Germany; ⁵Statistics, Emmes Corporation, Rockville, MD; ⁶Epidemiology & Clinical Applications, National Eye Institute, Bethesda, MD

1281 — A0025 Quantifying the rate of ellipsoid zone loss in Stargardt disease. Cindy Cai¹, J. G. Light¹, J. T. Handa². ¹Ophthalmology, Johns Hopkins Hospital--Wilmer Eye Institute, Baltimore, MD; ²Robert Bond Welch Professor, Ophthalmology, Johns Hopkins Hospital--Wilmer Eye Institute, Baltimore, MD

1282 — A0026 Validation of 3D volumetry for a novel anti-angiogenic therapy of neovascular age-related macular degeneration. Guillaume Normand¹, E. SOUIED², B. Lay³, R. Danno³, R. Blanco-Garavito², P. Charrard³, J. Harrod⁴, M. Maker¹, S. Chandra¹, G. Weissgerber⁵. ¹Biomarker Development, Novartis Institutes for Biomedical Research, East Hanover, NJ; ²Creteil University Eye Clinic, Creteil, France; ³ADCIS, Saint-Contest, France; ⁴Meinig School of Biomedical Engineering, Cornell University, Ithaca, NY; ⁵Translational Medicine-Ophthalmology, Novartis Institutes for Biomedical Research, Basel, Switzerland *CR, X

1283 — A0027 Corneal nerves and retina involvements in patients with amyotrophic lateral sclerosis. Ziyuan Liu, P. Zhang, K. Guo, W. Wang. Department of Ophthalmology, Peking University third hospital, Beijing, China

1284 — A0028 Tear film lipid layer visualization and tear film decrease rate quantification using ultrahigh resolution OCT. Valentin Aranha dos Santos², L. Schmetterer³, G. Garhofer¹, R. M. Werkmeister². ¹Department of Clinical Pharmacology, Medical University of Vienna, Vienna, Austria; ²Center for medical physics and biomedical engineering, Medical University of Vienna, Vienna, Austria; ³Singapore Eye Research Institute, Singapore, Singapore

1285 — A0029 Visualization of depth-localized birefringence of pterygium using polarization sensitive optical coherence tomography. Sujin Hoshi¹, D. Kasaragod², Y. Ueno¹, A. Fujita¹, S. Fukuda¹, Y. Yasuno², T. Oshika¹. ¹Department of Ophthalmology, Faculty of Medicine, University of Tsukuba, Tsukuba, Japan; ²Computational Optics Group, University of Tsukuba, Tsukuba, Japan *CR

1286 — A0030 Evaluation of iris volume in Fuchs' Heterochromic Iridocyclitis using three-dimensional anterior segment optical coherence tomography. Yuma Shibahara^{2,1}, T. Kaburaki², R. Tanaka², M. Takamoto², H. Nakahara², A. Karakawa², Y. Fujino^{2,1}, M. Aihara². ¹Tokyo Shinjyuku Medical center, Tokyo, Japan; ²Ophthalmology, The University of Tokyo Graduate School of Medicine, Tokyo, Japan

1287 — A0031 Agreement and Reproducibility of Tear Meniscus Parameters determined from Spectral Domain Optical Coherence Tomography. Saumya Nagar¹, T. Tepehus¹, E. Baghdasaryan¹, P. Huang¹, K. Marion¹, S. S. Lee², O. L. Lee¹. ¹DEI, DIRC, La Jolla, CA; ²Allergan, Irvine, CA *CR

1288 — A0032 Quantification of Imaging Artifacts using Anterior Segment Optical Coherence Tomography (ASOCT) for Iridocorneal Angle Evaluations. Amy Lock¹, Y. Shi¹, D. Jenkins¹, S. R. Sadda^{1,2}, V. Chopra^{1,2}. ¹Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA *CR

1289 — A0033 The impact of lens opacification on SD-OCT retinal nerve fiber layer and Bruch's membrane measurements using the Anatomical Positioning System. Matthias Marten Mauschitz¹, F. Roth², F. G. Holz³, M. M. Breteler¹, R. P. Finger³. ¹Department for Population Sciences, German Center of Neurodegenerative Diseases, Bonn, Germany; ²Augenlinik Roth GmbH, Bonn, Germany; ³Department for Ophthalmology, University of Bonn, Bonn, Germany *CR

1290 — A0034 Analysis of Ocular Anterior Chamber Inflammation in Anterior Chamber Involving Uveitis Imaged by Swept-Source Anterior Segment OCT. Elmira Baghdasaryan¹, T. Tepehus¹, P. Huang¹, J. Huang¹, S. R. Sadda^{1,2}, O. L. Lee^{1,2}. ¹Ophthalmology, Doheny Image Reading Center, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA *CR

1291 — A0035 Measurement of Geographic Atrophy Using OCT Split Tool. Amitha Domalpally, R. P. Danis, S. Cleland, L. Zhou, R. Trane, Y. Huang, B. A. Blodi. Ophthalmology, Fundus Photograph Reading Center, Madison, WI *CR

1292 — A0036 Comparison of spectral-domain and swept-source optical coherence tomography in the detection of neovascular age related macular degeneration disease activity. Daren Hanumunthadu¹, T. Ilginis¹, A. Tufail¹, K. S. Balaggan^{1,2}, P. A. Keane¹, P. J. Patel¹. ¹NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ²Wolverhampton and Midland Counties Eye Infirmary, Wolverhampton, United Kingdom *CR

1293 — A0037 Intraocular pressure and choroidal changes during a simulated microgravity and attempted countermeasure: relevance to long-term space travel. Siva Balasubramanian¹, T. Tepehus¹, J. Sadda^{1,2}, M. B. Stenger³, S. Lee³, S. Laurie², J. H. Liu⁴, A. Feiveson⁵, S. R. Sadda^{1,2}, A. S. Huang^{1,2}, B. Macias³. ¹Doheny Eye Institute, Los Angeles, CA; ²Department of Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ³KBRWyle, Houston, TX; ⁴University of California San Diego, San Diego, CA; ⁵NASA-JSC, Houston, TX *CR

1294 — A0038 A Novel and Faster Method of Manual Grading to Measure Mean Choroidal Thickness using Optical Coherence Tomography. Kelvin Z. Li¹, K. Cheong², L. W. Lim¹, C. S. Tan^{1,3}. ¹Ophthalmology, Tan Tock Seng Hospital, Singapore, Singapore; ²Singapore National Eye Center, Singapore, Singapore; ³Fundus Imaging Reading Center, Singapore, Singapore *CR

1295 — A0039 Choroidal layer thickness in central serous retinopathy. Jay Chhablani, D. Hanumunthadu, E. van Dijk, S. Dumpala, B. Rajesh, A. Jabeen, A. Jabeen, M. Ansari, P. Mehta, S. Shah, C. Sarvaiva, C. Meyerele, L. Wu, A. Banker, G. Anantharaman, C. Boon. Vitreo-Retina, L V Prasad Eye Insititute, Hyderabad, India

1296 — A0040 Change in Retinal and Choroidal Thickness after Hemodialysis in Chronic Renal Failure Patients using Swept Source Optical Coherence Tomography. Yong Un Shin, S. Lee, H. Cho, M. Seong, M. Kang. Ophthalmology, Hanyang Medical Center, Seoul, Korea (the Republic of)

1297 — A0041 Regional difference of choroidal structure on OCT image. Naoko Kakiuchi, S. Sonoda, T. Yamashita, H. Shiihara, N. Yoshihara, Y. Kii, N. Kuroiwa, N. Yoshinaga, T. Sakamoto. Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima city, Japan

- 1298 — A0042 Evaluation of hyperreflective foci in diabetic macular edema by ultra-high resolution en face optical coherence tomography.** *Shintaro Nakao¹, Y. Kaizu¹, I. Wada¹, M. Yamaguchi¹, S. Yoshida¹, S. Tanaka², M. Mizuochi², T. Ishibashi¹, K. Sonoda¹.* ¹Ophthalmology, Kyushu University, Fukuoka, Japan; ²Tokyo New Drug Research Laboratories, Kowa Company, Tokyo, Japan *CR
- 1299 — A0043 Association between Visual Acuity and Retinal Layer Metrics in Diabetic Retinopathy by Enface OCT Imaging.** *Lakshmi Priya Ranagaraju, M. R. Tan, J. Wanek, N. P. Blair, J. I. Lim, M. Shahidi.* Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL
- 1300 — A0044 Ellipsoid Zone Area as a Marker for Recovery in Patients with Acute Posterior Multifocal Placoid Pigmented Epitheliopathy Treated with Oral Steroids.** *Andrew Browne, W. Ansari, K. Baynes, C. Lowder, S. K. Srivastava.* Ophthalmology, Cole Eye Institute, Cleveland Clinic, Cleveland, OH
- 1301 — A0045 Correlation of Baseline Ellipsoid Zone Parameters with the Degree of Macular Edema in Retinal Vein Occlusion.** *Touka Banaee^{1,2}, K. M. Wai¹, L. Beven¹, K. Champ¹, J. Ehlers¹, R. P. Singh¹.* ¹Ophthalmology, Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²Ophthalmology, Mashhad University of Medical Sciences, Mashhad, Iran (the Islamic Republic of) *CR
- 1302 — A0046 Reformation of ellipsoid zone in en face OCT imaging in patients with solar maculopathy and laser injuries.** *Jeanne M. Gunzinger¹, K. Fasler¹, P. Maloca², P. Hasler², C. Böni¹, D. Barthelmes¹, S. A. Zweifel¹.* ¹Ophthalmology, University Hospital Zurich, Zurich, Switzerland; ²Ophthalmology, University Hospital Basel, Basel, Switzerland
- 1303 — A0047 Size measurement of full thickness macular holes with en-face optical coherence tomography.** *Ali Erginay¹, M. Legrand¹, E. Philippakis¹, M. El Sanharawi^{1,2}, A. Gaudric¹, R. Tadayoni¹.* ¹Hopital Lariboisière, Paris, France; ²Centre hospitalier intercommunal Villeneuve-Saint-Georges, Villeneuve Saint-Georges, France *CR
- 1304 — A0048 Association of axial length and cortical vitreous morphology as assessed by swept source optical coherence tomography.** *Quraish Ghadiali^{1,2}, O. Gal-Or¹, R. Dolz-Marco¹, M. Engelbert^{1,2}.* ¹Vitreous Retina Macula Consultants of New York, New York, NY; ²Ophthalmology, Manhattan Eye Ear & Throat Hospital, New York, NY
- 1305 — A0049 Retinal Vessel Morphology in Patients with Relapsing-Remitting Multiple Sclerosis and Optic Neuritis.** *Lisa M. Danzmann¹, M. Awe¹, R. Kromer¹, D. Brockmann¹, A. Pielen¹, A. Weber², S. Bektas², C. Framme¹, R. Pul^{2,3}.* ¹University Eye Hospital, Medical School Hannover, Hannover, Germany; ²Clinic for Neurology, Hannover Medical School, Hannover, Germany; ³Clinic for Neurology, Universitätsklinikum Essen, Essen, Germany *CR
- 1306 — A0050 Bruch's Membrane Opening-Minimum Rim Width is Reduced in Patients with Multiple Sclerosis with and without Optic Neuritis.** *Marita Awe¹, L. M. Danzmann¹, A. Pielen¹, C. Framme¹, S. Bektas², A. Weber², R. Pul^{2,3}.* ¹University Eye Hospital Hannover, Hannover, Germany; ²Neurology, Hannover Medical School, Hannover, Germany; ³Neurology, University Hospital Essen, Essen, Germany *CR
- 1307 — A0051 Validation of optical coherence tomography retinal segmentation algorithm in neuro-degenerative disease.** *Bryan M. Wong¹, R. Cheng¹, W. Hatch^{2,3}, E. Mandelcorn^{2,3}, E. Margolin^{2,3}, P. Yan^{2,3}, A. T. Santiago⁴, W. Lou⁴, C. Hudson^{1,2}.* ¹School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada; ²Department of Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada; ³Kensington Eye Institute, Toronto, ON, Canada; ⁴Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada
- 1308 — A0052 Range of Retinal Thicknesses in Healthy Subjects Compared to ADOA-Patients.** *Christina Lysholm Eckmann, X. Qiang Li, C. Rönnbäck, B. Sander, M. Larsen.* Eye Research Department Ø37, Rigshospitalet - Glostrup, Vanløse, Denmark
- 1309 — A0053 Characteristic optical coherence tomography findings in a case series of patients with primary vitreoretinal lymphoma: A novel aid to early diagnosis.** *Anastasia Tasiopoulou¹, R. J. Barry³, A. K. Denniston², P. A. Keane¹.* ¹Moorfields Eye Hospital, London, United Kingdom; ²Queen Elizabeth Hospital Birmingham, Birmingham, United Kingdom; ³Birmingham & Midland Eye Centre, Birmingham, United Kingdom *CR
- 1310 — A0054 Measurement of SD-OCT Bruch's Membrane Opening Minimum Rim Width: Method to correct for Optic Nerve Circumference.** *Robert Kromer, M. S. Spitzer.* Department of Ophthalmology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany
- 1311 — A0055 Averaging Multiple OCT Volumes Improves Visibility of Lamina Cribrosa.** *Youngeok Song¹, D. Ruminski¹, K. A. Lucy¹, G. Wollstein¹, J. SHIN², K. Sung², J. S. Schuman¹, H. Ishikawa¹.* ¹New York University Langone Eye Center, New York University School of Medicine, New York, NY; ²Department of Ophthalmology, College of Medicine, University of Ulsan, Asan Medical Center, Seoul, Korea (the Republic of) *CR
- 1312 — A0056 Fluid Shift Induced Alterations of the Optic Nerve Head and Peripapillary Choroid Assessed using Optical Coherence Tomography.** *Brandon Macias³, S. Balasubramanian³, A. S. Huang³, J. H. Liu⁴, S. M. Lee², S. Laurie², A. Feiveson¹, M. B. Stenger¹.* ¹NASA-Johnson Space Center, Houston, TX; ²NASA Cardiovascular and Vision Laboratory, KBRwyle, Houston, TX; ³Doheny Eye Center-UCLA, Pasadena, CA; ⁴UCSD, La Jolla, CA *CR
- 1313 — A0057 Morphological and morphometric characteristics of optic disc and fovea in healthy eyes.** *Elena Zampedri, R. Frisina, M. Scalfati, F. Romanelli.* Multizonal Unit of Ophthalmology Trento, Rovereto, Italy
- 1314 — A0058 Noninvasive detection of buried and superficial Optic Nerve Head Drusen with Transverse Section Enhanced Depth Imaging Optical Coherence Tomography.** *Katharina Blobner, M. M. Maier, C. Lohmann, N. Feucht.* Department of Ophthalmology, Technische Universität München, Munich, Germany
- 1315 — A0059 Spectral Domain Optical Coherence Tomography in detecting sub-clinical retinal findings in children with Down Syndrome.** *Anand Vinekar¹, S. Mangalesh¹, C. Jayadev¹, M. Bhat², V. Kemmanu¹.* ¹Pediatric Retina, Narayana Nethralaya Eye Hospital, Bangalore, India; ²Center for Human Genetics, Bangalore, India
- 1316 — A0060 SD-OCT imaging of retinal degeneration in juvenile CLN3 disease - a potential adjunctive tool for global neurodegenerative assessment.** *Simon Dulz¹, Y. Atiskova¹, J. Hochstein², L. Wagenfeld¹, M. Nickel³, J. Sedlacik³, C. Schwering², M. S. Spitzer¹, A. Kohlschütter², A. Schulz².* ¹Ophthalmology, Medical University Hamburg-Eppendorf, Hamburg, Germany; ²Childrens Hospital, Medical University Hamburg-Eppendorf, Hamburg, Germany
- 1317 — A0061 Standardization of OCT Derived Central Retinal Thickness With Custom Segmentation Software.** *Gregory J. Sovinski, A. Domalpaly, D. Myers, Y. Huang, B. A. Blodi.* Department of Ophthalmology and Visual Sciences, University of Wisconsin School of Medicine and Public Health, Madison, WI *CR
- 1318 — A0062 Signal-to-Noise Ratio Comparisons Between Spectral-Domain and Swept-Source OCTs.** *Wei Chieh Huang¹, Y. Dong¹, B. Turley², R. Gibson², C. A. Reisman¹.* ¹Topcon Adv Biomedical Imaging Laboratory, Oakland, NJ; ²Topcon Medical Systems, Inc, Oakland, NJ *CR, X¹
- 1319 — A0063 Cellular Characterization of the OCT Retinal Bands Using Specific Immunohistochemistry Markers.** *Nicolas Cuenca¹, I. Ortuño Lizarán¹, I. Pinilla².* ¹Physiology, Genetics and Microbiology, University of Alicante, Alicante, Spain; ²Lozano Blesa University Hospital, Aragon Institute for Health Research, Zaragoza, Spain

1320 — A0064 Standardization of retinal thickness and volume on ETDRS grid subdivisions using SD-OCT. Renato Peroni, R. Memória, B. Nascimento, L. Albieri, M. W. Rodrigues, J. A. Cardillo, R. Jorge. Retina Department, University of São Paulo, Ribeirão Preto, Brazil

1321 — A0065 Development of Normative Reference Values for En Face RNFL Thickness. William H. Swanson, B. J. King, D. G. Horner. School of Optometry, Indiana University, Bloomington, IN *CR

1322 — A0066 Reproducibility of Minimum Rim Width and Retinal Nerve Fiber Layer Thickness Measurements using the Anatomic Positioning System in Patients with Glaucoma and Normal Controls. Lalita Gupta^{1,2}, P. Gogte¹, S. Siraj¹, S. S. Fudemberg¹, A. V. Mantravadi¹, L. A. Hark¹, L. Katz¹, M. Waisbourd¹. ¹Glaucoma Research Department, Wills Eye Hospital, Philadelphia, PA; ²George Washington University School of Medicine, Washington, DC ✗

1323 — A0067 Variability of Retinal Thickness Measurements in Tilted or Stretched Optical Coherence Tomography Images. Akihito Uji^{1,3}, N. S. Abdelfattah^{1,3}, D. S. Boyer², S. Balasubramanian^{1,3}, J. Lei^{1,3}, S. R. Sadda^{1,3}. ¹Doheny Eye Institute, Los Angeles, CA; ²Retina Vitreous Associates Medical Group, Beverly Hills, CA; ³Ophthalmology, David Geffen School of Medicine at the University of California-Los Angeles, Los Angeles, CA *CR

1324 — A0068 Reproducibility of Macular Thickness Measurements in Normal and Pathologic Eyes from two different Spectral Domain Optical Coherence Tomography Instruments. Lorane Nava¹, T. Tepelus^{1,2}, A. H. Hariri^{1,2}, S. Balasubramanian^{1,2}, S. R. Sadda^{1,2}. ¹Doheny Eye Institute, Norwalk, CA; ²Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA *CR

1325 — A0069 Reproducibility of measurements of iridocorneal angle in children using hand-held spectral domain optical coherence tomography. Budor SA Edawaji, S. Shah, F. A. Proudlock, I. Gottlob. Department of Neuroscience, Psychology and Behaviour, University of Leicester, Leicester, United Kingdom

1326 — A0070 Investigating differences in the Cirrus OCT results for Hispanic and Black children from nine years through 17. Sandra S. Block, A. Hempelmann. School-Based Vision Clinic, Illinois College of Optometry, Chicago, IL

1327 — A0071 Reproducibility and Reliability of a New Automated Scheimpflug Imaging Pterygium Severity Measure. Jenny Ha¹, J. Mekhail², S. L. Cremers¹, J. A. Martinez^{1,2}. ¹Research, Visionary Eye Doctors, Rockville, MD; ²Georgetown University School of Medicine, Washington, DC

Exhibit/Poster Hall A0297-A0328

Monday, May 08, 2017 8:30 AM-10:15 AM
Clinical/Epidemiologic Research
218 Living With Vision Loss

Moderator: Yaping Jin

1328 — A0297 Gaze Changes During Visual Behavior in Hemianopia. Yaping J. Liao, J. Song, A. Shariati, D. Hwang. Ophthalmology, Byers Eye Institute at Stanford, Stanford, CA

1329 — A0298 Impact of location and VF damage on step-adjusted fall rates in glaucoma. Pradeep Ramulu, A. Mihailovic, D. S. Friedman, S. West, L. Gitlin. Ophthalmology, Johns Hopkins University, Baltimore, MD

1330 — A0299 Visual Disability and Reading Difficulty in Patients with Parkinson's Disease. Caroline Yu, A. Shariati, Y. J. Liao. Neuro-Ophthalmology, Stanford University, Stanford, CA

1331 — A0300 Initiation of walking in glaucoma. Moneesha Rani Mukherjee, A. Mihailovic, D. S. Friedman, S. West, P. Ramulu. Johns Hopkins Wilmer Eye Institute, Baltimore, MD

1332 — A0301 Balance confidence is associated with objective step-ascent movement kinematics in participants with age-related macular degeneration and glaucoma. Jonathan Allsop¹, A. C. Scarfe², M. A. Timmis^{3,1}, R. R. Bourne¹, S. Pardhan¹. ¹Vision and Eye Research Unit (VERU), Postgraduate Medical Institute, Anglia Ruskin University, Cambridge, United Kingdom; ²Department of Clinical Engineering, Medical Imaging and Medical Physics Directorate, Sheffield Teaching Hospitals NHS Foundation Trust, Sheffield, United Kingdom; ³Cambridge Centre for Sport and Exercise Science (CCSES), Life Sciences, Anglia Ruskin University, Cambridge, United Kingdom

1333 — A0302 Reduced mesopic vision function in older adults impairs night driving performance. Joanne Wood, J. Kimlin, A. A. Black. School of Optometry and Vision Science, Queensland University of Technology, Brisbane, QLD, Australia

1334 — A0303 The fear of fall in elderly subjects with eye diseases: a comparative analysis between glaucoma and age-related macular degeneration patients from a developing country. Carla N. Urata, L. S. Mazzoli, N. Kasahara. glaucoma, santa casa de sao paulo, São Paulo, Brazil

1335 — A0304 Age-related eye disease and frequency of participation in lifestyle activities. Ellen E. Freeman^{1,2}, S. Belleville³, G. Li^{2,4}, J. Rousseau³, M. Roy-Gagnon¹, S. Moghadaszadeh², M. Varin¹, M. Kergoat³. ¹School of Epidemiology, University of Ottawa, Ottawa, ON, Canada; ²Ophthalmology, Maisonneuve-Rosemont Hospital, Montreal, QC, Canada; ³Institut universitaire de gériatrie de Montréal, Montreal, QC, Canada; ⁴Ophthalmology, Université de Montréal, Montreal, QC, Canada

1336 — A0305 Predicting the likelihood of an inpatient fall as a function of visual pathology, visual acuity, and constitutive health. Giovanni Campagna, S. Khandelwal, K. Biggerstaff, S. Orenge-Nania. School of Medicine, Baylor College of Medicine, Houston, TX

1337 — A0306 Impact of presbyopia on use of smart phones among Chinese adults. Congyao Wang¹, X. Wang^{1,2}, L. Jin^{1,2}, J. Wang¹, G. Zhang¹, W. Zhu^{1,3}, T. Chen¹, B. Xiao¹, N. G. Congdon^{1,4}. ¹State Key Laboratory of Ophthalmology and Division of Preventive Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou City, China; ²The Ophthalmology Department, Affiliated Hospital of Guangdong Medical University, Zhanjiang, China; ³The Ophthalmology Department, First Affiliated Hospital of Sun Yat-sen University, Guangzhou, China; ⁴Centre for Public Health, Queen's University Belfast, Belfast, Antrim, United Kingdom

1338 — A0307 The Association of Mortality with Age-Related Macular Degeneration and Cataract Surgery in AREDS2. Chandana Papudesu^{1,2}, T. E. Clemons¹, E. Agron¹, E. Chew¹. ¹National Eye Institute, National Institutes of Health, Bethesda, MD; ²Medical College of Georgia at Augusta University, Augusta, GA ✗

1339 — A0308 Cognitive, visual and genetic factors influencing the Useful Field of View (UFOV) test: a twin study. Shehnaaz Bazeer, E. Yonova, K. M. Williams, D. Kozareva, M. Simcoe, C. J. Hammond. Kings' College London, London, United Kingdom

1340 — A0309 Face memory deficits in subjects with eye diseases: a comparative analysis between glaucoma and age-related macular degeneration patients from a developing country. Livia S. Mazzoli, N. Kasahara, C. N. Urata. Oftalmologia, Santa Casa de São Paulo, Sao paulo, Brazil

1341 — A0310 Longitudinal Relationship between Visual Acuity and Cognitive functioning in Community Residing Older Adults: The Salisbury Eye Evaluation Study. Dandan D. Zheng¹, S. L. Christ², B. K. Swenor¹, S. West¹, B. L. Lam³, D. J. Lee¹. ¹Dept. of Public Health Sciences, University of Miami, Miami, FL; ²Dept. of Human Development and Family Studies, Purdue University, West Lafayette, IN; ³Dept. of Ophthalmology, University of Miami, Miami, FL; ⁴Department of Ophthalmology, Johns Hopkins University, Baltimore, MD

1342 — A0311 Prevalence and risk factors of depressive disorders in an urban, ophthalmic population. *Teresa Horan¹, E. Mayro¹, A. P. Murchison², L. A. Hark², M. Silverstein¹, O. Y. Wang¹, B. T. Leiby¹, L. Pizzi³, R. Casten¹, B. W. Rovner¹, J. A. Haller².* ¹Sidney Kimmel Medical College, Thomas Jefferson University, Philadelphia, PA; ²Research, Wills Eye Hospital, Philadelphia, PA; ³Jefferson College of Pharmacy, Thomas Jefferson University, Philadelphia, PA

1343 — A0312 The Relationship Between Vision-Related Quality of Life Scores and Depression Symptoms in a Community-Based Glaucoma Screening Program. *Kamran Rahmatnejad¹, A. Thau², M. E. Biron², E. Mayro², D. Johnson¹, T. Zhan^{1,2}, P. M. Gentile¹, M. Waisbourd¹, A. P. Murchison^{1,2}, L. Katz^{1,2}, S. S. Fudemberg¹, L. A. Hark^{1,2}.* ¹Glaucoma Research Center, Wills Eye Hospital, Philadelphia, PA; ²Sidney Kimmel Medical College, Philadelphia, PA

1344 — A0313 Food Insecurity, Vision Impairment and Disability in Adults. *Richard C. Hom.* Graduate Biomedicine, Salus Univeristy, San Mateo, CA

1345 — A0314 A Longitudinal Analysis of the Impact of Glaucoma on Performance in Daily Life. *James Murphy¹, K. Kodja¹, M. Waisbourd¹, R. Manzi Muhire², T. Zhan¹, K. Rahmatnejad², S. Lin², S. S. Wizov², L. A. Hark², J. S. Myers², S. S. Fudemberg², A. V. Mantravadi², L. Katz², M. Moster², M. Pro², G. L. Spaeth².* ¹Thomas Jefferson University, Philadelphia, PA; ²Glaucoma Research, Wills Eye Hospital, Philadelphia, PA *CR

1346 — A0315 Self-administered Questionnaires Correlate with Visual Function and Vitreous Structure in Patients with Vitreous Floaters. *Jeannie Nguyen-Cuu, E. Nguyen, K. M. Yee, J. Nguyen, J. Sebag.* VMR Institute for Vitreous Macula Retina, Huntington Beach, CA

1347 — A0316 Do children operated for congenital glaucoma and their parents agree on the child's health-related quality of life? *Vijaya K. Gothwal^{1,3}, B. Seelam³, A. K. Mandap¹.* ¹Brien Holden Eye Research Centre - Patient Reported Outcomes Unit, L V Prasad Eye Institute, Hyderabad, India; ²Jasti V Ramanamma Children's Eye Care Centre, L V Prasad Eye Institute, Hyderabad, India; ³Meera and L B Deshpande Centre for Sight Enhancement, L V Prasad Eye Institute, Hyderabad, India

1348 — A0317 Refinement of a new patient-reported outcome measure for pediatric eye conditions. *Suzanne M. Wernimont¹, Y. S. Castaneda², D. A. Leske¹, S. R. Hatt¹, L. Liebermann¹, C. S. Cheng-Pate², E. E. Birch^{2,3}, J. M. Holmes¹.* ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Retina Foundation of the Southwest, Dallas, TX; ³UT Southwestern Medical Center, Dallas, TX

1349 — A0318 The impact of vision loss on health related quality of life in Trinidad and Tobago. *Tasaneë Braithwaite¹, H. Bailey², D. R. Bartholomew³, K. Pesudovs³, R. R. Bourne¹, A. Gray⁴.* ¹Vision and Eye Research Unit, Anglia Ruskin University, London, United Kingdom; ²Department of Finance and Economics, Arthur Lok Jack Graduate School of Business, St Augustine, Trinidad and Tobago; ³Optometry and Vision Science, Flinders University, Adelaide, SA, Australia; ⁴Health Economics Research Centre, University of Oxford, Oxford, United Kingdom; ⁵Department of Ophthalmology, Port of Spain General Hospital, Port of Spain, Trinidad and Tobago

1350 — A0319 Quality of Life and Visual Functioning in Rural Nepal. *Stephen Lau¹, M. Shrestha².* ¹University of Sheffield, Sheffield, United Kingdom; ²Tilganga Institute of Ophthalmology, Kathmandu, Nepal *CR

1351 — A0320 Understanding the Patient's Perspective in Herpes Simplex Keratitis - Lessons from a Patient Involvement Group in the West Midlands, United Kingdom. *Xiaoxuan Liu¹, S. Koll², P. McDonnell¹, A. Patel³, G. P. Williams⁴.* ¹Ophthalmology Department, Sandwell and West Birmingham NHS Trust, Birmingham, United Kingdom; ²University Hospitals Birmingham NHS Foundation Trust, Birmingham, United Kingdom; ³Heart of England NHS Foundation Trust, Birmingham, United Kingdom; ⁴Worcestershire Acute Hospitals NHS Trust, Worcester, United Kingdom

1352 — A0321 Low Vision Patients' Satisfaction with Telerehabilitation Encounters. *Ava K. Bittner¹, T. Succar², A. Bowers⁴, P. Yoshinaga², J. Shepherd⁶, A. Jacobson⁷, N. Ross³.* ¹Optometry, Nova Southeastern University, College of Optometry, Ft. Lauderdale, FL; ²Envision Research Institute, Wichita, KS; ³New England College of Optometry, Boston, MA; ⁴Alphapointe, Kansas City, KS; ⁵Southern California College of Optometry, Fullerton, CA; ⁶University of Nebraska Medical Center, Omaha, NE; ⁷Black Box Network Services, Richardson, TX

1353 — A0322 Contextual factors that impact on the life of children with vision impairment. *Jill E. Keeffe¹, V. Gothwal¹, S. Resnikoff², D. Bagga¹.* ¹L V Prasad Eye Institute, Hyderabad, India; ²Brien Holden Vision Institute, Sydney, NSW, Australia

1354 — A0323 Visual acuity, health-related quality of life, and their correlation in a nationwide epidemiological study of adult population in Finland. *Alexandra Mikhailova^{1,2}, M. Ojamo^{1,3}, M. Gissler³, S. Koskinen³, H. Rissanen³, P. Sainio³, H. M. Uusitalo^{2,4}.* ¹Finnish Register of Visual Impairment, Finnish Federation of the Visually Impaired, Helsinki, Finland; ²SILK, Department of Ophthalmology, University of Tampere, Tampere, Finland; ³National Institute for Health and Welfare, Helsinki, Finland; ⁴Eye Center, Tampere University Hospital, Tampere, Finland *CR

1355 — A0324 Living with Usher's syndrome Type 1: Development of a disease impact model from qualitative interviews with patients and their parents. *Andrea Piscopo^{2,1}, A. Roborel De Climens², C. Brun-Strang², R. Buggage², C. Dias Barbosa⁴, N. Knoble³.* ¹Experis IT, Nanterre, France; ²Sanofi, Chilly-Mazarin, France; ³Mapi, Boston, MA; ⁴Mapi, Lyon, France *CR

1356 — A0325 Understanding the impact of Stargardt disease on patients' lives: Insights from patients and their parents based on qualitative research. *Aude Roborel De Climens¹, A. Piscopo², C. Brun-Strang³, R. Buggage³, C. Dias Barbosa⁴, B. Tugaut⁴.* ¹Heor, Sanofi, Lyon, France; ²Experis IT, Nanterre, France; ³R&D, Sanofi, Chilly-Mazarin, France; ⁴Patient-Centered Outcomes, Mapi, Lyon, France; ⁵HEOR, Sanofi, Chilly-Mazarin, France *CR

1357 — A0326 Impact of incidence and progression of diabetic retinopathy on visual functioning in Singapore. *Ecosse L. Lamoureux^{1,2}, R. E. Man¹, E. K. Fenwick^{1,2}, A. T. Gan¹, C. Sabanayagam^{1,2}, K. Neelam^{1,2}, P. Gupta¹, T. Wong^{1,2}, C. Cheng^{1,2}.* ¹Singapore Eye Research Institute, Singapore, Singapore; ²Duke NUS Medical School, Singapore, Singapore

1358 — A0327 Problems using the Andrich model to estimate visual ability measures. *Chris Bradley, R. W. Massof.* Ophthalmology, Johns Hopkins Medicine, Baltimore, MD

1359 — A0328 The Eye-tem Bank project: an update on development and validation. *Konrad Pesudovs¹, J. Khadka¹, M. Prem Senthil¹, H. Kandel¹, S. Kumaran¹, E. Fenwick², E. L. Lamoureux².* ¹NHMRC Ctr Clin Eye Res/Optometry, Flinders University SA, Adelaide, SA, Australia; ²SERI, Singapore, Singapore

Exhibit/Poster Hall A0381-A0394

Monday, May 08, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

219 Stem cells for ganglion cell regeneration and repair

Moderator: Ruth B. Caldwell

1360 — A0381 Direct induction of functional neurons from adult human retina derived fibroblast-like cells. *Lili Hao, Z. Xu, W. Luo, Y. Yan, H. Sun, S. Chen.* ZhongShan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

1361 — A0382 Exploring mouse retinal ganglion cell diversity within iPSC derived optic cups. *Julia Oswald, P. Baranov.* affiliate of Harvard Medical School, Schepens Eye Research Institute, Massachusetts Eye and Ear, Boston, MA

1362 — A0383 3D Retinal Cups from Human iPS Cells Display Differentiated Subtypes of Amacrine Cells and Immature Synaptic Contacts. *Dunja Lukovic¹, A. Artero Castro¹, L. Campello², N. Cuenca², S. Erceg¹.* ¹National Stem Cell Bank, Research Center Principe Felipe, Valencia, Spain; ²Department of Physiology, Genetics and Microbiology, University of Alicante, Alicante, Spain

1363 — A0384 Modeling of autosomal dominant optic atrophy with human embryonic stem cell derived retinal ganglion cells by CRISPR-Cas9 mediated editing of OPA1. *Jie Cheng¹, C. A. Berlinicke¹, V. Sluch², X. Chamling¹, D. J. Zack¹.* ¹Ophthalmology, Wilmer Eye Institute, The Johns Hopkins University School of Medicine, Baltimore, MD; ²Department of Molecular Biology and Genetics, Johns Hopkins University School of Medicine, Baltimore, MD

1364 — A0385 Gene and cell therapy: combining two approaches to promote neuroprotection and neuroregeneration in a model of optic nerve injury. *Gabriel Nascimento dos Santos, L. Coelho Teixeira Pinheiro, A. Jordão da Silva Júnior, L. Rachel Pinheiro de Carvalho, L. Alessandra Mesentier Louro, R. Mendez Otero, H. Petrs Silva, M. Felipe Santiago.* Instituto de Biofísica Carlos Chagas Filho, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil

1365 — A0386 Can cell-based therapy in patients with optic atrophy be considered a biological visual rehabilitation? *Paolo G. Limoli¹, M. Nebbioso², E. Vingolo³, M. U. Morales¹, C. Limoli¹, S. Scalinci².* ¹Low Vision Research Center of Milan, Milan, Italy; ²Department of Sense Organs, Sapienza University of Rome, Rome, Italy; ³Department of Ophthalmology, A. Fiorini Hospital, Terracina, Polo Pontino, Sapienza University of Rome, Rome, Italy; ⁴Division of Clinical Neurosciences, Academic Ophthalmology, University of Nottingham, Nottingham, United Kingdom; ⁵Medical and Surgical Science Department, Policlinico S. Orsola-Malpighi - University of Bologna, Bologna, Italy

1366 — A0387 Axotomy-induced retinal ganglion cell death is attenuated by pluripotent cells isolated from the retinal ciliary body. *Fernando Lucas-Ruiz¹, M. Fernández-Nogales², F. Valiente-Soriano¹, F. M. Nadal-Nicolas¹, D. Baeza², E. Herrera González de Molina², M. Agudo-Barriso¹.* ¹Experimental Ophthalmology, IMIB-Arrixaca, El Palmar, Spain; ²Instituto de Neurociencias (CSIC-UMH), Alicante, Spain

1367 — A0388 Neuroprotective effect of mesenchymal stem cells isolated from the Wharton's jelly of the human umbilical cord. *Marta Agudo-Barriso¹, J. E. Millan-Rivero², F. M. Nadal-Nicolas¹, D. García-Berna¹, P. Sobrado-Calvo¹, M. Blanquer², M. Vidal-Sanz¹, J. M. Moraleda².* ¹Oftalmología Experimental, Instituto Murciano de Investigación Biosanitaria Virgen de la Arrixaca, El Palmar, Spain; ²Unidad de Hematología y Transplante Hematopoyético, Instituto Murciano de Investigación Biosanitaria Virgen de la Arrixaca, El Palmar, Spain

1368 — A0389 Genetic engineering for enriched retinal ganglion cell production from primary retinal culture. *Steven W. Wang.* Systems Biology, U.T. M.D. Anderson Cancer Center, Houston, TX

1369 — A0390 Analysis of Retinal Ganglion Cell Development and Maturation From Human Pluripotent Stem Cells. *Sarah Ohlemacher¹, A. Sridhar¹, Y. Xiao¹, A. Baucum^{1,2}, T. Cummins^{1,2}, J. S. Meyer^{1,2}.* ¹IUPUI/Biology, IUPUI, Indianapolis, IN; ²Stark Neurosciences Research Institute, Indiana University, Indianapolis, IN *CR

1370 — A0391 Extensive Axonal Outgrowth and Pathfinding from Retinal Ganglion Cells Derived From Human Pluripotent Stem Cells. *Clarisse Fligor¹, A. Sridhar¹, V. Sluch³, D. J. Zack², D. Suter⁴, J. S. Meyer^{1,2}.* ¹Biology, IUPUI, Indianapolis, IN; ²Stark Neurosciences Research Institute, Indiana University, Indianapolis, IN; ³Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ⁴Biology, Purdue University, West Lafayette, IN *CR

1371 — A0392 Molecular Characterization of Retinal Ganglion Cell Subtypes Derived from Human Induced Pluripotent Stem Cells. *Kirstin Langer¹, S. Ohlemacher¹, J. S. Meyer^{1,2}.* ¹Biology, Indiana University Purdue University Indianapolis, Indianapolis, IN; ²Stark Neurosciences Research Institute, Indiana University, Indianapolis, IN *CR

1372 — A0393 Promoting functional maturation of human iPS cell-derived retinal ganglion cells by a 3D/2D stepwise differentiation protocol. *Oriane O. Rabesandratana, A. J. Chaffiol, A. Slembrouck, S. Reichman, C. Nanteau, G. Gagliardi, J. Duebel, O. Gouveau, G. Orioux.* Institut de la Vision, Sorbonne Universités UPMC-Paris 06 ; INSERM U968 ; CNRS UMR7210, Paris, France

1373 — A0394 Differentiation and transplantation of iPSC derived retinal ganglion cells. *Tomas Minelli^{1,2}, M. J. Young¹, P. Baranov¹.* ¹Department of Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School, Boston, MA; ²University of São Paulo Medical School, São Paulo, Brazil

Exhibit/Poster Hall B0024-B0082

Monday, May 08, 2017 8:30 AM-10:15 AM

Cornea

220 Corneal Biology and Regenerative Medicine

Moderators: Petr Baranov and Cintia S. De Paiva

1374 — B0024 Effect of Advanced Glycation End Products on the generation of ROS in Corneal Epithelial Cells. *Long Shi, X. wu.* Ophthalmology, Qilu Hospital of Shandong University, JINAN, China

1375 — B0025 Comparative Study of Xenobiotic-free Media for the Cultivation of Human Corneal Epithelial Stem Cells. *Sheyla Gonzalez¹, L. Chen^{1,2}, S. X. Deng¹.* ¹Ophthalmology, Stein Eye Institute UCLA, Los Angeles, CA; ²Tianjin Eye Hospital and Eye Institute, Tianjin, China

1376 — B0026 Assessing the limbal explant size for transplantation: Expansion adequacy of human limbal tissue *in vitro*. *Abhinav Reddy Kethiri^{1,2}, S. Basu^{1,3}, S. Shukla^{1,3}, V. S. Sangwan^{1,3}, V. Singh^{1,3}.* ¹Center for Ocular Regeneration (CORE), LV Prasad Eye Institute (Hyderabad Eye Research Foundation), Hyderabad, India; ²Research Scholar, Manipal University, Manipal, India, Manipal, India; ³Tej Kohli Cornea Institute, L V Prasad Eye Institute, Hyderabad, India

1377 — B0027 Shp2 regulates the expression of ANP63-alpha in corneal basal epithelial cells. *Chia-Yang Liu, L. Zhang, Y. Okada, Y. Wang, Y. Zhang.* Optometry, Indiana University, Bloomington, IN

1378 — B0028 Ex vivo limbal epithelial sheet generation on amniotic membrane slide scaffold. *So-Hyang Chung, H. Lee, S. Shin.* The Catholic University of Korea, Seoul, Korea (the Republic of)

1379 — B0029 Mesenchymal stem cells for bilateral limbal stem cell deficiency: Expression profile of different markers and status of transdifferentiation into corneal epithelial cells. *Sachin Shukla, D. R. Reddy, M. Batta, V. Singh, V. S. Sangwan.* Centre for Ocular Regeneration, L. V. Prasad Eye Institute, Hyderabad, India

1380 — B0030 Laminin-511 and -521-based matrices for efficient *ex vivo*-expansion of human limbal epithelial progenitor cells. *Panah Liravi¹, N. Poliseti¹, N. Okumura², N. Koizumi², S. Kinoshita³, F. E. Kruse¹, U. Schlotzer-Schrehardt¹.* ¹Department of Ophthalmology, University of Erlangen-Nürnberg, Erlangen, Germany; ²Department of Biomedical Engineering, Faculty of Life and Medical Sciences, Doshisha University, Kyotanabe, Japan; ³Department of Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan

- 1381 — B0031 Lineage Tracing of Stem and Progenitor Cells of the Murine Corneal Epithelium in Hemostasis and after Limbal Chemical and Mechanical Injury.** Rana Hanna¹, A. Amitai-Lange², A. Altshuler², B. Tiosano¹, R. Shalom-Feuerstein². ¹Department of Ophthalmology, Hillel Yaffe Medical Center, Hadera, Israel, Affiliated to the Technion, Israel Institute of Technology, Hadera, Israel; ²Department of Genetics and Developmental Biology, The Ruth and Bruce Rappaport Faculty of Medicine, Technion, Israel Institute of Technology, Haifa, Israel
- 1382 — B0032 Dental Pulp Stem Cells for Corneal Surface Regeneration in Limbal Stem Cell Deficiency.** Waheedh Alshemmri¹, S. Shawcross², J. Yates³, F. Carley⁴, A. Brahma⁴, M. C. Hillarby¹. ¹Division of Pharmacy and Optometry, University of Manchester, Manchester, United Kingdom; ²Division of Cell Matrix Biology & Regenerative Medicine, University of Manchester, Manchester, United Kingdom; ³Division of Dentistry, University of Manchester, Manchester, United Kingdom; ⁴Manchester Royal Eye Hospital, Manchester, United Kingdom
- 1383 — B0033 The limbal stem cell microenvironment regulates limbal stem cell differentiation.** Vivien J. Coulson-Thomas¹, T. F. Gesteira², L. Yeh³, A. Nash¹, Y. M. Coulson-Thomas⁴, V. Hascall⁵. ¹College of Optometry, University of Houston, Houston, TX; ²Ophthalmology, University of Cincinnati, Cincinnati, OH; ³Department of Ophthalmology, Chang-Gung Memorial Hospital, Chang-Gung University College of Medicine, Linko, Taiwan; ⁴Biologia Molecular, Universidade Federal de Sao Paulo, Sao Paulo, Brazil; ⁵Cleveland Clinic, Cleveland, OH
- 1384 — B0034 New method for isolating and growing both corneal stromal and epithelial limbal stem cells.** Djida Ghoubay^{1,2}, K. Grieve^{1,2}, C. De Souza³, R. Martos¹, O. Thouvenin⁴, V. M. Borderie^{1,2}. ¹Institut de la vision, Paris, France; ²CHNO des Quinze Vingts, PARIS, France; ³Ettablissement français du sang, Paris, France; ⁴Institut Langevin, PARIS, France *CR
- 1385 — B0035 Hyperosmotic stress induces ATP release and changes in P2X7 receptor levels in human corneal and conjunctival epithelial cells.** Ana Guzman-Aranguéz, M. Perez de Lara, J. J. Pintor. Department of Biochemistry and Molecular Biology, Faculty of Optics and Optometry, Complutense University, Madrid, Spain
- 1386 — B0036 Corneal epithelial differentiation: A paradigm shift in keratoconus.** KrishnaPoojita Vunnava, R. Shetty, S. Murali, M. Ponnalagu, K. Dhamodaran, D. Das. Ophthalmology, Narayana Nethralaya, Bangalore, India
- 1387 — B0037 Evaluation of corneal nerve regeneration in vitro using novel 3D models.** Sonja Mertsch¹, G. Geerling², S. Schrader^{2,1}. ¹Department of Ophthalmology, Laboratory for experimental Ophthalmology, University of Duesseldorf, Duesseldorf, Germany; ²Department of Ophthalmology, University of Duesseldorf, Duesseldorf, Germany
- 1388 — B0038 Nerve fibers in rat cornea detected by direct staining by thiocholine modification of the acetylcholinesterase (AChE) technique and by anti-beta Tubulin III immunostaining.** Guzel Bikbova, T. Oshitari, S. Yamamoto. Ophthalmology & Visual Science, Chiba Univ Grad School of Medicine, Chuo-ku, Japan
- 1389 — B0039 New Regenerating Agents For Ocular Surface: A Neurotrophic Keratitis Case Series.** Ana María Muñoz Hernández, E. Santos-Bueso, R. Cuiña-Sardiña, D. Díaz-Valle, J. Gegúndez-Fernández, J. M. Benitez Del Castillo. Hospital Clinico San Carlos De Madrid (Spain), Madrid, Spain
- 1390 — B0040 PEDF+DHA stimulation of corneal nerve regeneration requires activation of Ca²⁺-independent Phospholipase A2- ζ and 15-lipoxygenase-1.** Thang L. PHAM¹, A. H. Kakazu², J. He², B. Jun¹, N. G. Bazan², H. E. Bazan². ¹Neuroscience Center, LSU Health, New Orleans, LA; ²Ophthalmology and Neuroscience, LSU Health, New Orleans, LA
- 1391 — B0041 A Pre-Type II diabetic mouse model confers a change in P2X7 protein trafficking that occurs with corneal injury.** Vickery E. Trinkaus-Randall¹, K. Kneer¹, C. Rich¹. ¹Biochemistry, Boston University School of Medicine, Boston, MA; ²Ophthalmology, Boston University School of Medicine, Boston, MA
- 1392 — B0042 Insulin Facilitates In Vitro Corneal Wound Healing In The Diabetic Environment.** Cornelia W. Peterson, H. L. Chandler. Vision Science, The Ohio State University, College of Optometry, Columbus, OH
- 1393 — B0043 Lacking Down's syndrome candidate region-1 lead corneal opacity via neovascularization.** Suguru Nakagawa^{1,2}, T. Toyono¹, T. Minami³, T. Usui¹. ¹Department of Ophthalmology, University of Tokyo, Tokyo, Japan; ²Department of Ophthalmology, Asahi general hospital, Asahi-shi, Japan; ³Dept. Life Science, Kumamoto University, Kumamoto, Japan
- 1394 — B0044 Optimization of Decellularized Bovine Cornea for Corneal Reconstruction.** Yu Jung Shin¹, J. J. Chae², J. Elisseeff^{2,1}. ¹Biomedical Engineering, Johns Hopkins University, Baltimore, MD; ²Wilmer Eye Institute, Baltimore, MD
- 1395 — B0045 Construction of a bioengineered corneal substitute in animal study.** Xinyi Wu, C. Zhang. Ophthal QiLu Hosp/Ophthal, Shandong University, Jinan, Shandong, China
- 1396 — B0046 Characterization of a collagen-based biomaterial for corneal transplantation: evaluation in a rabbit model.** Muthukumar Thangavelu^{1,2}, M. Xeroudaki¹, M. Rafat^{2,3}, P. Fagerholm¹, N. S. Lagali¹. ¹Department of Clinical and Experimental Medicine (IKE) / Division of Neuro and Inflammation Sciences (NIV), Linköping University, Linköping, Sweden; ²Department of Biomedical Engineering, Linköping University, Linköping, Sweden; ³LinkoCare Life Sciences AB, Linköping, Sweden, Linköping, Sweden *CR
- 1397 — B0047 3D-printed Nano-structural Poly(ϵ -caprolactone) (PCL) Scaffolds for Corneal Stromal Regeneration.** QI GAO^{1,2}, J. Xie^{1,2}, E. Salero^{1,3}, A. L. Sabater^{1,3}, G. Gaidosh¹, E. De Juan-Pardo⁴, D. W. Huttmacher⁴, J. Ye², V. L. Perez^{1,3}. ¹Ophthalmology, Bascom Palmer Eye Institute, University of Miami School of Medicine, Miami, FL; ²Eye Center, Second Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, China; ³Interdisciplinary Stem Cell Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴Institute for Health and Biomedical Innovation, Queensland University of Technology, Brisbane, QLD, Australia *CR
- 1398 — B0048 Ex vivo 3D human corneal stroma model for Schnyder corneal dystrophy - role of autophagy in its pathogenesis and resolution.** Dora J. Szabo¹, R. Nagymihály¹, Z. Veréb¹, N. Josifovska¹, A. Noer², P. Liskova³, A. Facskó¹, M. Moe², G. Petrovski^{1,2}. ¹Department of Ophthalmology, University of Szeged, Szeged, Hungary; ²Center of Eye Research, Department of Ophthalmology, University of Oslo, Oslo, Norway; ³Institute of Inherited Metabolic Disorders, First Faculty of Medicine, Charles University in Prague and General University Hospital in Prague, Pragu, Czech Republic
- 1399 — B0049 The use of corneal scrubbing associated with matrix therapy in the treatment of chronic ulcers.** Lazreg Sihem¹, D. renault². ¹Blida, Cabinet Dr Lazreg, Blida, Algeria; ²clinical trials, laboratoires THEA, Clermont ferrand, France *CR
- 1400 — B0050 Transcriptome Analysis of ALDH3A1-null Mice Elucidates New Roles of Corneal Crystallins.** Nicholas Apostolopoulos¹, Y. Chen², X. Yu³, H. Zhao³, D. Thompson⁴, V. Vasiliou^{2,1}. ¹Department of Ophthalmology & Visual Science, Yale School of Medicine, New Haven, CT; ²Department of Environmental Health Sciences, Yale School of Public Health, New Haven, CT; ³Department of Biostatistics, Yale School of Public Health, New Haven, CT; ⁴Department of Clinical Pharmacology, University of Colorado School of Pharmacy, Denver, CO
- 1401 — B0051 TNF- α upregulates HIF-1 α expression in pterygium fibroblasts and enhances their susceptibility to VEGF independent of hypoxia.** Jae Chan Kim, J. Yeo, S. Lee, K. Kim. Ophthalmology, Chung-Ang Univ. Hospital, Seoul, Korea (the Republic of)

1402 — B0052 Predicting optimal CXL outcomes with cone-specific lysyl oxidase and other tissue factors' expression in keratoconus patients. Pallak N. Kusungar¹, N. R. Kumar¹, R. Shetty¹, A. Sinha Roy¹, A. Ghosh², N. Pahuja¹. ¹Ophthalmology, Narayana Netralaya, Bangalore, India; ²Molecular signaling and gene therapy, Narayana Netralaya, Bangalore, India

1403 — B0053 Molecular characterization of MIR184 mutation in keratoconus using primary human corneal cells. Mariam L. Khaled, Z. Chen, M. A. Watsky, Y. Liu. Cellular Biology and Anatomy, Medical College of Georgia, Augusta University, Augusta, GA

1404 — B0054 Successful reduction of pro-apoptotic Bax in corneal endothelial cells using non-viral RNA transfer. Siddharth Mahajan, D. Thieme, F. E. Kruse, T. A. Fuchsluger. Eye Clinic - Cornea Lab, Universitätsklinikum Erlangen, Erlangen, Germany

1405 — B0055 Modified Therapeutic Agents to Reduce Corneal Edema in Ex-Vivo Porcine Eyes. Praveena Gupta, M. Singh, J. Saada, E. Kraft, K. Merkle, K. Vincent. University of Texas Medical Branch, Galveston, TX

1406 — B0056 Corticosteroids effects on LPS-induced rat inflammatory keratocyte cell model. Pengxia Wan, Y. Wang, H. Yan. Ophthalmology, The First Affiliated Hospital, Sun Yat-sen University, Guangzhou, China

1407 — B0057 Untargeted metabolomics reveal lipid profile changes in rabbit cornea after sulfur mustard exposure. Vasilis Vasilioi¹, J. Jester², D. Thompson³, G. Charkoftaki¹. ¹Environmental Health Sciences, Yale University, New Haven, CT; ²University of California, Irvine Gavin Herbert Eye Institute, Irvine, CA; ³University of Colorado Anschutz Medical Campus, Aurora, CO

1408 — B0058 Expression and partial purification of Secreted Ly-6/uPAR Related Protein-1 (SLURP1) in *Pichia pastoris* and its functional validation. Chandra Nath Roy¹, S. Swamynathan¹, S. K. Swamynathan^{1,2}. ¹Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Fox Center for Vision Restoration, University of Pittsburgh, Pittsburgh, PA *CR

1409 — B0059 RNAseq Profiling and Deep Immuno-phenotyping of Regenerating Lacrimal Glands. Dillon Hawley, C. Kublin, A. Michel, L. Clapissou, D. Zoukhri. Tufts University School of Dental Medicine, Boston, MA

1410 — B0060 Hyaluronic acid based hydrogels for therapeutic delivery of adipose stem cells to corneal defects. Laura Koivusalo¹, J. Karvinen², E. Sorsa², S. Miettinen¹, T. Ilmarinen¹, M. Kellomäki², H. Skottman¹. ¹BioMediTech, University of Tampere, Kangasala, Finland; ²Biomaterials and Tissue Engineering group, Tampere University of Technology, Tampere, Finland

1411 — B0061 The impact of smoking on corneal graft failure. Austin L. Strohbehn, M. Raju, K. Shanmugam, A. Grillo, F. W. Fraunfelder. Ophthalmology, University of Missouri, Columbia, MO

1412 — B0062 Lamellar corneal transplantation using reconstructed decellularized tissue in a rabbit model. Jemin J. Chae¹, Y. Shin², J. Elisseeff^{1,2}. ¹Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ²Biomedical Engineering, Johns Hopkins University, Baltimore, MD

1413 — B0063 Presence of an intact basement membrane enhances corneal endothelial cell migration and maintenance of a normal phenotype in-vivo. Maninder S. Bhogal^{1,2}, G. S. Peh², J. Mehta². ¹Cornea and External diseases, Moorfields Eye Hospital, London, United Kingdom; ²Tissue Engineering and Stem Cells, Singapore Eye Research Institute, Singapore, Singapore

1414 — B0064 Role of TRAIL signaling in corneal fibrosis. Yumin Oh^{1,2}, H. Lin³, Y. Liu³, A. Bora^{1,2}, S. C. Yiu³, S. Lee^{1,2}. ¹Radiology, Johns Hopkins Univ., Baltimore, MD; ²Center for Nanomedicine, Johns Hopkins Univ., Baltimore, MD; ³Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

1416 — B0066 Mechanism of corneal toxicity from chloropicrin exposure. Dinesh Goswami¹, R. Kant¹, D. A. Ammar², C. agarwal¹, J. Gomez¹, L. M. Saba¹, R. Agarwal¹, K. S. Fritz¹, N. Tewari-Singh¹. ¹Department of Pharmaceutical Sciences, University of Colorado Denver, Aurora, CO; ²Department of Ophthalmology, University of Colorado Denver, Aurora, CO

1417 — B0067 Corneal expression pattern of Semaphorin 3F. Tristan Reuer¹, B. Cakir¹, F. Bock², A. D. Buehler¹, J. Walz¹, C. Lange¹, H. Agostini¹, G. R. Schlunck¹, C. Cursiefen², T. Reinhard¹, A. Stahl¹. ¹Eye Center, Medical Center, Faculty of Medicine, University of Freiburg, Freiburg, Germany; ²Department of Ophthalmology, University of Cologne, Cologne, Germany

1418 — B0068 Characterization of the cornea in the YAP^{fl/+} mouse. Soohyun Kim¹, S. M. Thomasy¹, V. K. Raghunathan², P. G. FitzGerald³, C. J. Murphy^{1,4}. ¹Veterinary Surgical and Radiological Science, University of California Davis, Davis, CA; ²The Ocular Surface Institute, College of Optometry, University of Houston, Houston, TX; ³Department of Cell Biology and Human Anatomy, School of Medicine, University of California Davis, Davis, CA; ⁴Department of Ophthalmology & Vision Science, School of Medicine, University of California Davis, Davis, CA

1419 — B0069 TGFβ Induced KFM Transformation In Human Corneal Fibroblasts Is Modulated By YAP and TAZ. Santoshi Muppala¹, Y. Song¹, E. Rewinski¹, V. K. Raghunathan², I. Jalilian¹, S. M. Thomasy¹, C. J. Murphy^{1,3}. ¹Surgical and Radiological Sciences, University of California Davis, Davis, CA; ²The Ocular Surface Institute, College of Optometry, Houston, TX; ³Ophthalmology and Vision Science, UC Davis School of Medicine, Davis, CA

1420 — B0070 Effects of YAP small molecule activators on human neural crest stem cells and corneal endothelial cells. Jiagang Zhao¹, P. Yang^{2,3}, W. Shen³, P. G. Schultz^{2,3}, N. A. Afshari¹. ¹Shiley Eye Center, University of California San Diego, La Jolla, CA; ²Department of Chemistry and The Skaggs Institute for Chemical Biology, The Scripps Research Institute, La Jolla, CA; ³California Institute for Biomedical Research, La Jolla, CA

1421 — B0071 Functional study of RAD21 mutation identified in a sclerocornea pedigree. WAI KIT CHU¹, B. Zhang¹, P. Tam¹, L. Chen¹, T. Chan², V. Jhanji¹, C. Pang¹. ¹Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong, Hong Kong; ²Hong Kong Eye Hospital, Hong Kong, Hong Kong

1422 — B0072 Subbasal Corneal Nerves in Acute Desiccating Stress Model of Murine Dry Eye. Behrad Y. Milani, S. Jain. Ophthalmology, Univ of Illinois at Chicago, Chicago, IL

1423 — B0073 Immunological characterization of chemical burn-induced ocular surface pannus in humans, rabbits and mice after limbal stem cell deficiency. Vivek Singh^{1,2}, H. Agarwal^{1,2}, A. Kethiri^{1,2}, M. Damala^{1,2}, S. Basu^{1,2}, V. S. Sangwan^{1,2}. ¹Center for Ocular Regeneration (CORE), LV Prasad Eye Institute (Hyderabad Eye Research Foundation), Hyderabad, India; ²Tej Kohli Cornea Institute, LV Prasad Eye Institute, Hyderabad, India

1424 — B0074 Shp2 protein tyrosine phosphatase affects corneal epithelial stratification and innervation. Yuka Okada^{2,1}, Y. Zhang², L. Zhang², Y. Wang², C. Liu². ¹Ophthalmology, Wakayama Medical University, Wakayama, Japan; ²School of Optometry, Indian University, Bloomington, IN

1425 — B0075 Assessing the Potential of Stem Cells to Regenerate Stromal Tissue. James L. Funderburgh¹, M. L. Funderburgh¹, M. Mann¹, I. Khandaker¹, G. Shojaaati^{1,2}. ¹Ophthalmology, Univ of Pittsburgh School of Medicine, Pittsburgh, PA; ²Ophthalmology, University Hospital Zurich, Zurich, Switzerland

1426 — B0076 Establishment and characterization of a novel Serine Protease Induced Reprogramming (SPIR) method with applications in ocular tissue regeneration. Maryada Sharma¹, R. Kumar², J. Ram³, M. Luthra-Guptasarma¹. ¹Immunopathology, Postgraduate Institute of Medical Education and Research, Chandigarh, India; ²Panjab University, Chandigarh, India; ³Postgraduate Institute of Medical Education and Research, Chandigarh, India

1427 — B0077 Corneal nerve fibre changes and altered tear cytokine profile in migraine patients with photophobia. Rashmi Deshmukh¹, R. Shetty¹, P. Chevour², A. Rawoof³, S. Sethu², A. Ghosh². ¹Cornea and Refractive surgeries, Narayana Nethralaya, Bangalore, India; ²GROW Laboratories, Bangalore, India; ³Neuro-ophthalmology, Narayana Nethralaya, Bangalore, India

1428 — B0078 Estimating tear osmolality from the activity of the corneal nerves during corneal dryness (tear evaporation) in rats. Valentina Dallacasagrande¹, K. Mizerska¹, H. Hirata¹, M. Rosenblatt². ¹Department of Ophthalmology, Weill Cornell Medical College, New York, NY; ²Department of Ophthalmology and Visual Sciences, University of Illinois-Chicago, Chicago, IL

1429 — B0079 Dissecting the functional role of supporting cells in the human limbal niche. Ursula Schlotzer-Schrehardt, N. Poliseti, F. E. Kruse. Department of Ophthalmology, University of Erlangen-Nürnberg, Erlangen, Germany

1430 — B0080 Fibroblasts Induce MMP9 in Corneal Keratinocytes Through a Galectin-3-Dependent Mechanism. Jerome Mauris, P. Argueso. ophthalmology, Harvard Medical School/ Massachusetts Eye and Ear, Boston, MA

1431 — B0081 Concepts for automated fast focal plane control in subbasal nerve plexus mosaicking to reliably quantify a biomarker for diabetic peripheral neuropathy. Sebastian Bohn¹, S. Allgeier², A. Bartschat², R. F. Guthoff¹, B. Köhler², R. Mikut², K. Reichert², K. Sperlich¹, H. Stolz², O. Stachs¹. ¹Department of Ophthalmology, University of Rostock, Rostock, Germany; ²Institute for Applied Computer Science, Karlsruhe Institute of Technology, Karlsruhe, Germany; ³Institute of Physics, University of Rostock, Rostock, Germany

1432 — B0082 Transcriptome profiling of microRNA by deep sequencing reveals differential microRNA expression in type 1 and type 2 diabetic corneal limbus. Mehrnoosh Saghizadeh^{1,2}, M. Kulkarni¹, A. Leszczynska¹, J. Tang³, V. Punj⁴, A. V. Ljubimov^{1,2}, V. Funari³. ¹Biomedical Sciences, Regenerative Medicine Institute, Cedars-Sinai Medical Center, Los Angeles, CA; ²David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA; ³Genomic Core, Cedars-Sinai Medical Center, Los Angeles, CA; ⁴Norris Comprehensive Cancer Center Bioinformatics Core and Division of Hematology, University of Southern California, Los Angeles, CA

Exhibit/Poster Hall B0083-B0135

Monday, May 08, 2017 8:30 AM-10:15 AM

Cornea

221 Corneal Endothelium

Moderator: Ricardo F. Frausto

1433 — B0083 Characterization of gene mis-splicing events in Fuchs endothelial corneal dystrophy primary cell cultures. Tommy A. Rinkoski¹, C. Bahler¹, X. Tang², K. R. Kalari², K. Baratz¹, S. V. Patel¹, M. P. Fautsch¹, E. Wieben³. ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Division of Biostatistics and Bioinformatics and Department of Health Sciences Research, Mayo Clinic, Rochester, MN; ³Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN

1434 — B0084 Feasibility of TGF- β inhibition for the treatment of Fuchs endothelial corneal dystrophy. Naoki Okumura¹, K. Hashimoto¹, H. Okuda¹, E. Ueda¹, T. Tourtas², U. Schlotzer-Schrehardt², F. E. Kruse², N. Koizumi¹. ¹Biomedical Engineering, Doshisha University, Kyotanabe, Japan; ²Ophthalmology, University of Erlangen-Nürnberg, Erlangen, Germany *CR

1435 — B0085 Activation of an intrinsic pathway by endoplasmic reticulum stress in corneal endothelial cells. Okuda Hirokazu, N. Okumura, M. Kitahara, K. Hashimoto, N. Koizumi. Biomedical Engineering, Doshisha University, Kyotanabe, Japan

1436 — B0086 Feasibility of caspase inhibitor to treat Fuchs endothelial corneal dystrophy. Mako Endo¹, N. Okumura¹, T. Tourtas², U. Schlotzer-Schrehardt², F. E. Kruse², N. Koizumi¹. ¹Biomedical Engineering, Doshisha University, Kyoto, Japan; ²Ophthalmology, University of Erlangen-Nürnberg, Erlangen, Germany *CR

1437 — B0087 Primary cultures of Fuchs corneal endothelial cells harboring the TCF4 repeat expansion in the transcription factor 4 gene have increased susceptibility to oxidative stress. David M. Holmes¹, T. A. Rinkoski¹, C. Bahler¹, K. Baratz¹, S. V. Patel¹, E. Wieben², M. P. Fautsch¹. ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN

1438 — B0088 Expression level of the TCF4 gene in the corneal endothelium of Fuchs endothelial corneal dystrophy patients. Ryosuke Hayashi¹, N. Okumura¹, K. Ogata¹, M. Nakano², T. Tourtas³, U. Schlotzer-Schrehardt², F. E. Kruse³, N. Koizumi¹. ¹Biomedical Engineering, Doshisha University, Kyotanabe, Japan; ²Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ³Ophthalmology, University of Erlangen-Nürnberg, Nürnberg, Germany

1439 — B0089 CTG18.1 trinucleotide repeat expansion in African-Americans with Fuchs Corneal Dystrophy. Sina Vahedi^{1,2}, S. Vasanth¹, S. Riazuddin¹, J. Gottsch¹, A. O. Eghrari¹. ¹Wilmer Eye Institute, Johns Hopkins University School of Medicine, Philadelphia, PA; ²Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA

1440 — B0090 Transcription factor 4 Regulates Mitochondrial Function and Energy Metabolism in cultured Human Corneal Endothelial Cells. Young Joo Shin¹, T. Chung³, S. Kwon¹, J. Hyon². ¹Ophthalmology, Hallym University College of Medicine, Hallym Medical Center, Seoul, Korea (the Republic of); ²Seoul National University Bundang Hospital, Seongnam, Korea (the Republic of); ³Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea (the Republic of)

1441 — B0091 Macular drusen in Fuchs endothelial corneal dystrophy: a retrospective study using spectral-domain optical coherence tomography. Mario Mathaei¹, E. Elsner¹, A. Caramoy¹, W. Adler², S. E. Siebelmann¹, F. Schaub¹, Y. Guo¹, B. Bachmann¹, C. Cursiefen¹, L. M. Heindl¹. ¹Anterior Segment / Cornea, University of Cologne, Cologne, Germany; ²Department of Medical Informatics Biometry and Epidemiology, University of Erlangen-Nuremberg, Erlangen-Nuremberg, Germany

1442 — B0092 Implication of oxidation and mitochondrial alterations in Fuchs endothelial corneal dystrophy. Sébastien J. Méthot^{2,1}, S. P. Gendron^{2,1}, M. Theriault^{2,1}, S. Proulx^{2,1}, P. J. Rochette^{2,1}. ¹Université Laval, Québec, QC, Canada; ²Axe médecine régénératrice, Centre de recherche du CHU de Québec, Québec, QC, Canada

1443 — B0093 The involvement of microRNA-29b in Endoplasmic Reticulum stress triggered apoptosis in Fuchs' endothelial corneal dystrophy. Tetsuya Toyono¹, T. Miyai¹, Y. Taketani¹, A. S. Jun², T. Usui¹. ¹Ophthalmology, University of Tokyo, Bunkyo-ku, Japan; ²Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

1444 — B0094 Development of corneal endothelial cell-specific reporter constructs and a CRISPR-Cas9 genome editing approach to study Fuchs Dystrophy. Luke A. Wiley¹, L. R. Bohrer¹, E. R. Burnight¹, E. L. Kennedy¹, E. M. Stone¹, M. A. Greiner^{1,2}, M. D. Wagoner^{1,2}, B. Tucker¹. ¹Ophthalmology & Visual Sciences, University of Iowa, Iowa City, IA; ²Iowa Lions Eye Bank, Coralville, IA

- 1445 — B0095 A new tool for transfection of corneal endothelial cells: minicircle-based AAV-vectors.** Thomas A. Fuchsluger¹, M. Schmeer², M. Schleeff, M. Schnoedt³, H. Buening^{3,4}, F. E. Kruse¹, A. K. Gruenert¹. ¹Department of Ophthalmology, Friedrich-Alexander-University, Erlangen, Germany; ²PlasmidFactory, Bielefeld, Germany; ³Center for Molecular Medicine Cologne (CMMC), University of Cologne, Cologne, Germany; ⁴Institute of Experimental Hematology, Hannover Medical School, Hannover, Germany *CR
- 1446 — B0096 Ascorbic acid and hydrogen peroxide levels in the aqueous humor in Fuchs Endothelial Corneal Dystrophy.** Reena Gupta, A. Ross, J. B. Ciolino, S. Vasanth, U. V. Jurkunas. Ophthalmology, Schepens Eye Research Institute/Massachusetts Eye and Ear/ Harvard Medical School, Boston, MA
- 1447 — B0097 Involvement of the Nectin-afadin and N-cadherin-catenin systems in the formation of adherence junctions in corneal endothelium.** Takato Kagami, N. Okumura, M. Nakahara, N. Koizumi. Biomedical Engineering, Doshisha University, Kyotanabe, Japan
- 1448 — B0098 Estrogen receptor beta in human corneal endothelium.** Ali Mahdavi Fard^{1,2}, M. J. Morales³, S. P. Patel^{1,2}. ¹Ophthalmology, University at Buffalo, Buffalo, NY; ²Research Service, VA Western NY Healthcare System, Buffalo, NY; ³Physiology and Biophysics, University at Buffalo, Buffalo, NY
- 1449 — B0099 Ammonia toxicity attenuates ATP production and activates autophagy in human corneal endothelium.** Wenlin Zhang, J. A. Bonanno. School of Optometry, Indiana University Bloomington, Bloomington, IN
- 1450 — B0100 Specular microscopy revisited to allow endothelial controls of long-term stored corneas in an innovative bioreactor.** Gilles Thuret^{2,3}, T. Garcin^{2,1}, J. Schnitzler², P. Herbepin², Z. He², A. Gauthier^{2,4}, C. Perrache², P. Gain^{2,1}. ¹Ophthalmology, University Hospital of St-Etienne, Saint-etienne, France; ²Laboratory “Corneal Graft Biology, Engineering and Imaging” EA2521, University Jean Monnet, Saint-Etienne, France; ³Institut Universitaire de France, Paris, France; ⁴Ophthalmology, University Hospital, Besançon, France *CR
- 1451 — B0101 Corneal endothelium-improved graft for corneal transplantation.** Hongshan Liu^{1,2}, Q. Yang^{1,2}, Y. Zhang³, C. Liu³. ¹Cornea, Hainan Eye Hospital, Haikou, China; ²Hainan Key Laboratory of Ophthalmology, Haikou, China; ³Optometry, Indiana University, Bloomington, IN
- 1452 — B0102 Analysis of the age compatibility of donor corneal endothelium: a pilot study.** Marco O. Almeida¹, F. U. Carvalho¹, O. S. Neves¹, A. F. Silva¹, R. Holzchuh¹, R. Y. Hida¹, F. C. Abib². ¹Ophthalmology, Irmandade Santa Casa de Misericórdia, São Paulo, Brazil; ²Ophthalmology, Universidade Federal do Paraná, Curitiba, Brazil *CR
- 1453 — B0103 Artifacts in specular microscopy of donor corneas: new classification.** Fábio U. Carvalho¹, A. F. Silva¹, R. Holzchuh¹, F. C. Abib², R. Y. Hida¹. ¹Ophthalmology, Santa Casa de Sao Paulo, Sao Paulo, Brazil; ²Ophthalmology, Universidade Federal do Paraná, Curitiba, Brazil
- 1454 — B0104 Possible sampling error in donor corneal specular microscopy images: a pilot study.** Obidulho S. Naves¹, F. U. Carvalho¹, M. O. Almeida¹, A. F. Silva¹, R. Holzchuh¹, R. Y. Hida¹, F. C. Abib². ¹Ophthalmology, Santa Casa de São Paulo, São Paulo, Brazil; ²Ophthalmology, Universidade Federal do Paraná, Curitiba, Brazil *CR
- 1455 — B0105 Impact of Organ Culture Storage on donor corneas: A comparison of different age groups.** Meidong Zhu^{1,2}, J. Juarez², K. Luo³, P. Georges¹, C. Hodge¹, J. Treloggen¹, C. Petsoglou^{1,2}. ¹Lions New South Wales Eye Bank and Bone Bank, New South Wales Organ and Tissue Donation Service, Sydney, NSW, Australia; ²Save Sight Institute, The University of Sydney, Sydney, NSW, Australia; ³Statistics Department, Macquarie University, Sydney, NSW, Australia
- 1456 — B0106 In vivo corneal endothelial cell findings after the infusion of cultivated HCECs into the anterior chamber with a slit-scanning wide-field contact specular microscope.** Hiroshi Tanaka¹, M. Ueno¹, Y. Yamamoto¹, N. Okumura², N. Koizumi², K. Imai¹, M. Hagiya¹, J. Hamuro¹, C. Sotozono¹, S. Kinoshita³. ¹Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ²Biomedical Engineering, Doshisha University, Kyoto, Japan; ³Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan ✗
- 1457 — B0107 Wide-field contact specular microscopy analysis of corneal endothelium post trabeculectomy.** Daiki Matsumoto¹, N. Okumura¹, Y. Okazaki¹, T. Shimada¹, N. Koizumi¹, C. Sotozono², S. Kinoshita^{2,3}, K. Mori². ¹Biomedical Engineering, Doshisha University, Kyotanabe, Japan; ²Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ³Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan
- 1458 — B0108 FGF2 enhances cell proliferation and fibrosis through SNAI1 mediated induction of CDK2 and ZEB1 expression in human corneal endothelial cells.** JeongGoo Lee, J. M. Heur. USC Roski Eye Institute, Keck School of Medicine of the University of Southern California, Los Angeles, CA
- 1459 — B0109 The effect of coefficient of cell size variation on determination of endothelial cell density using multiple specular microscopy images.** Jianyan Huang^{1,2}, E. Baghdasaryan^{1,2}, P. Huang^{1,2}, T. Tepelus^{1,2}, S. R. Sadda^{1,2}, O. L. Lee^{1,2}. ¹Image Reading Center, Doheny Eye Institute, Temple City, CA; ²Department of Ophthalmology, David Geffen medical school, University of California, Los Angeles, Los Angeles, CA *CR
- 1460 — B0110 The Effect of Corneal Derived Mesenchymal Stromal Cell Secretome on the Porcine Corneal Endothelial Cell Injury.** Majid Rouhbakhshzaeri, N. F. Azar, E. Ghahari, M. Eslani, A. R. Djalilian. Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL
- 1461 — B0111 Biomechanics of an in vitro model of Descemet’s membrane in health and disease.** Sara M. Thomasy¹, V. K. Raghunathan³, M. Ali¹, I. Jalilian¹, C. J. Murphy^{1,2}. ¹Surgical & Radiological Sciences, School of Veterinary Medicine, University of California, Davis, Davis, CA; ²Ophthalmology and Vision Science, School of Medicine, University of California, Davis, Davis, CA; ³The Ocular Surface Institute, College of Optometry, University of Houston, Houston, TX
- 1462 — B0112 Reproducibility of a non-contact specular microscope in normal eyes using automatic counting.** Joao V. Godinho¹, F. U. Carvalho¹, R. Holzchuh¹, R. Y. Hida¹, F. C. Abib². ¹Ophthalmology, Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil; ²Ophthalmology, Universidade Federal do Paraná, Curitiba, Brazil
- 1463 — B0113 Utility of magnetic nanoparticles for targeted endothelial transplantation in an ex vivo model.** Lauren Cornell^{1,2}, J. McDaniel¹, B. Lund¹, D. O. Zamora¹. ¹Ocular Trauma, USAISR, Fort Sam Houston, TX; ²Translational Science, UT Health Science Center, San Antonio, TX
- 1464 — B0114 Establishment Of A Porcine Corneal Endothelial Organ Culture Model.** Maximilian Schultheiss¹, B. Kunzmann², C. Klameth², K. Bartz-Schmidt², M. S. Spitzer¹. ¹Ophthalmology, University of Hamburg, Hamburg, Germany; ²Center of Ophthalmology, University of Tuebingen, Tuebingen, Germany
- 1465 — B0115 Corneal Endothelial Cell-Like Cells Derived from Skin Stem Cells: A Promising Therapeutic Alternative for Corneal Endothelial Dysfunction.** Lin Shen, X. Wu. Ophthalmology, Qilu Hospital of Shandong University, Jinan, China
- 1466 — B0116 Expression profiling of stem cell for differentiation into corneal endothelium.** Alejandro Tamez, G. Guerrero-Ramirez, V. Treviño, J. Pantaleon-Garcia, J. Zavala, J. E. Valdez. Ophthalmology, Tec Salud, San Pedro Garza Garcia, Mexico
- 1467 — B0117 Promoting the expansion and function of human corneal endothelial cells by adipose-derived stem cell-conditioned medium.** Peng Sun^{1,2}, X. Wu¹. ¹Ophthalmology, Qilu Hospital of Shandong University, Jinan, China; ²The Key Laboratory of Cardiovascular Remodeling and Function Research, Chinese Ministry of Education and Chinese Ministry of Health, Qilu Hospital of Shandong University, Jinan, China

1468 — B0118 Collagenase isolation method delays endothelial to mesenchymal transition.Kim Santerre^{1,2}, M. Theriault^{1,2}, S. Proulx^{1,2}.¹Département d'Ophthalmologie, Université Laval, Québec, QC, Canada; ²Centre de recherche du CHU de Québec - UL, Québec, QC, Canada**1469 — B0119 Central transcorneal freezing alters the proliferation pattern of endothelial cells in the corneal periphery.**Mette Correll¹, E. Crouzet², J. Cabrerizo^{1,4}, M. la Cour¹, P. GAIN², Z. HE³, S. K. Heegaard^{1,3}, J. F. Kiilgaard¹, G. Thurel².¹Department of Ophthalmology, Rigshospitalet, Copenhagen, Denmark; ²Corneal Graft Biology, Engineering and Imaging Laboratory, Jean Monnet University, Faculty of Medicine, Saint-Etienne, France; ³Department of Pathology, Rigshospitalet, Copenhagen, Denmark; ⁴Copenhagen Eye Foundation, Copenhagen, Denmark**1470 — B0120 Transcriptional changes in corneal endothelial cell sheets following ROCK inhibition by Ripasudil/K-115 in vitro.**Johannes Menzel-Severing¹, M. Zenkel¹, N. Okumura², N. Koizumi², S. Kinoshita³, U. Schlotzer-Schrehardt¹, F. E. Kruse¹. ¹Ophthalmology, Univ of Erlangen-Nuremberg, Erlangen, Germany; ²Doshisha University, Kyotanabe, Japan; ³Kyoto Prefectural University of Medicine, Kyoto, Japan**1471 — B0121 Rabbit corneal endothelial cells expansion by Rock inhibitor and mesenchymal stem cell-derived conditioned medium.**Boyoung Jung¹, E. Kim², J. Kim³, H. Tchah³, C. Hwang^{2,1}.¹Biomedical Engineering, College of medicine, University of Ulsan, Seoul, Korea (the Republic of); ²Asan Institute for Life Sciences, Asan Medical Center, Seoul, Korea (the Republic of); ³Ophthalmology, Asan Medical Center, Seoul, Korea (the Republic of)**1472 — B0122 Hereditary Corneal Endothelial Dystrophy Protein, SLC4A11, has a role in Endothelial Cell Adhesion.**Darpan Malhotra¹, M. Jung², R. Zimmermann², J. R. Casey¹.¹Biochemistry, University of Alberta, Edmonton, AB, Canada; ²Medizinische Biochemie und Molekularbiologie, Universität des Saarlandes, Homburg, Germany**1473 — B0123 Impact of Actin Architecture on the Mechanical Vulnerability of Corneal Endothelial Cells.**Manuel A. Ramirez Garcia¹, Y. Khalifa², M. Buckley¹.¹Biomedical Engineering, University of Rochester, Rochester, NY; ²Emory Eye Center, Emory University, Atlanta, GA**1474 — B0124 Regenerative Ability of Magnetic Human Corneal Endothelial Cells.**Xin Xia¹, M. L. Atkins¹, K. Chang¹, O. Kuzmenko¹, R. Dalal¹, N. J. Kunzevitzky^{1,2}, J. L. Goldberg¹.¹Ophthalmology, Stanford University, Palo Alto, CA; ²Emmeccell, Key Biscayne, FL *CR**1475 — B0125 Effect of hydrostatic pressure on cultivated corneal endothelium.**Mathieu Theriault^{1,2}, O. Roy^{1,2}, S. Proulx^{1,2}.¹Ophthalmologie, Université Laval, Québec, QC, Canada; ²CUO-LOEX, CHU de Québec, Québec, QC, Canada**1476 — B0126 Corneal endothelial cell-based therapy: an evaluation of two different approaches; cell injection and tissue-engineered endothelial keratoplasty.**Hon Shing Ong^{1,2}, M. S. Bhogal¹, Y. Liu^{1,2}, H. Ang¹, X. Seah¹, K. B. Adnan¹, G. S. Peh¹, J. Mehta^{1,2}.¹Tissue Engineering and Stem Cell Group, Singapore Eye Research Institute, Singapore, Singapore; ²Corneal Service, Singapore National Eye Centre, Singapore, Singapore**1477 — B0127 Measurement of endothelial permeability to fluorescein with a Spot Fluorometer.**Sangly P. Srinivas¹, R. Ravindran², P. Padmanabhan², A. Goyal², D. Talele², P. Murthy², U. B. Kompella², S. Mahadik², S. Ranganath³, R. Sudhir².¹Optometry, Indiana University, Bloomington, IN; ²Sankara Nethralaya, Chennai, India; ³Chemical Eng. SIT, Tumkur, India; ⁴Pharmaceutical Sciences, University of Colorado, Denver, CO**1478 — B0128 Real-Time Assessment of Corneal Endothelial Cell Damage Following DMEK Graft Preparation and Insertion.**Gary S. Peh^{1,2}, M. S. Bhogal^{3,1}, C. N. Lwin¹, X. Seah¹, K. B. Adnan¹, E. Murugan¹, J. Mehta^{4,1}.¹Singapore Eye Research Institute, Singapore, Singapore; ²Duke-NUS Graduate Medical School, Singapore, Singapore; ³Moorfields Eye Hospital, London, United Kingdom; ⁴Singapore National Eye Centre, Singapore, Singapore**1479 — B0129 Tissue engineered silk fibroin endothelial graft in a Descemet's membrane keratoplasty.**Jesus Merayo-Lloves¹, J. L. Cenis², S. D. Aznar², M. Chacón¹, N. Vázquez¹, C. Rodriguez-Barrientos¹, M. Medina¹, I. Zambrano¹, A. C. Riestra¹, A. Meana¹.¹Instituto Universitario Fernández-Vega, Oviedo, Spain; ²Instituto Murciano de Investigación y Desarrollo Agroalimentario, Murcia, Spain**1480 — B0130 Corneal endothelium in pediatric patients with uveitis: a longitudinal study.**Simon S. Fung¹, A. El Hamouly², H. Sami², D. Jiandani¹, S. Williams¹, N. N. Tehrani¹, K. Mireskandari¹, A. Ali¹.¹Ophthalmology & Visual Sciences, The Hospital for Sick Children, Toronto, ON, Canada; ²Faculty of Medicine, University of Toronto, Toronto, ON, Canada *CR**1481 — B0131 A prospective observational study of corneal endothelial cell morphology in children using specular microscopy in vivo.**

Bhaskar Gupta, S. R. Rufai, R. Borbara, N. Tan, J. E. Self.

Ophthalmology, University Hospital NHS Foundation Trust, Reading, United Kingdom

1482 — B0132 Optical Coherence Tomography Endothelium/Descemet's membrane Complex Three Dimensional Thickness Maps in Normal Subjects.Amr Elsavay¹, G. R. Gameiro², M. Ruggieri², M. Abdel-Mottaleb¹, F. Manns³, M. Abou Shousha².¹Electrical and Computer Engineering, University of Miami, Coral Gables, FL; ²Bascom Palmer Eye Institute, University of Miami, Miami, FL**1483 — B0133 In Vivo Confocal Microscopy Demonstrates Bilateral Corneal Endothelial Cell Loss in Patients with Unilateral Herpes Zoster Ophthalmicus.**Pedram Hamrah^{1,2}, A. Sahin¹, C. Chirapapaisan², R. T. Muller^{1,2}, A. Abbouda¹, A. Cruzat², B. Cavalcanti², A. Jamali¹, D. Pavan-Langston¹.¹Cornea/Ophthalmology, NEEC, Tufts Medical Center, Tufts University, Boston, MA; ²Cornea/Ophthalmology, Massachusetts Eye & Ear Infirmary, Harvard Medical School, Boston, MA *CR**1484 — B0134 In vivo confocal microscopy of corneal wound healing after Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK).**

Everardo Hernandez-Quintela, C. Ortiz Valencia, G. De Wit, M. Ramirez Fernandez.

Cornea Service, Association Para Evitar la Ceguera, Mexico City, Mexico

1485 — B0135 The Predictive Value of Donor Demographics on Corneal Endothelial Cell Density.Elyse J. McGlumphy¹, J. Margo¹, M. Haidara¹, C. Brown², C. Hoover³, W. Munir¹.¹Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD; ²Department of Epidemiology and Biostatistics, University of Maryland School of Medicine, Baltimore, MD; ³SightLife, Seattle, WA

Exhibit/Poster Hall B0167-B0190

Monday, May 08, 2017 8:30 AM-10:15 AM

Clinical/Epidemiologic Research

222 Retinal Diseases

Moderator: Stuart Keel

1486 — B0167 Differential progression of Stargardt disease between young infancy and late adulthood.Dyon Valkenburg¹, S. Lambertus¹, N. Bax¹, J. Groenewoud², G. van der wilt², J. Klevering¹, C. C. Hoyng¹.¹Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center, Nijmegen, Netherlands; ²Health Evidence, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center, Nijmegen, Netherlands *CR**1487 — B0168 Natural History of Stargardt Disease: Patients' profile at clinical diagnosis.**Catherine Brun-Strang¹, A. Piscopo^{1,2}, R. Buggage¹, J. Milce³, R. Sellami³.¹Sanofi, Chilly-Mazarin, France; ²Experis IT, Nanterre, France; ³Kantar Health, Montrouge, France *CR**1488 — B0169 Natural History of Individuals with Retinal Degeneration Due to Biallelic Mutations in the RPE65 Gene.**Kathleen Z. Reape¹, D. C. Chung¹, G. Schaefer¹, J. A. Wellman¹, E. Liu¹, J. Pappas², O. Elci², S. McCague², K. A. High¹.¹Spark Therapeutics, Philadelphia, PA; ²Westat, Rockville, MD; ³CHOP, Philadelphia, PA *CR

1489 — B0170 Clinical features and a novel CHM mutation in a Portuguese family with X-linked choroideremia. *Liliana P. Paris¹, M. Rodrigues², L. Coutinho-Santos¹.* ¹Instituto de Oftalmologia Dr. Gama Pinto, Lisbon, Portugal; ²Medical Genetics, Hospital Dona Estefania, Lisbon, Portugal

1490 — B0171 Natural History and Effect of Carbonic Anhydrase Inhibitor Use in X-Linked Retinoschisis. *Maria A. Parker¹, D. G. Birch², T. Jayasundera³, L. R. Erker¹, R. Gurses-Ozden⁴, K. Beasley⁴, J. D. Chulay⁴, M. E. Pennesi¹.* ¹Casey Eye Institute, Oregon Health and Science University, Portland, OR; ²Retina Foundation of the Southwest, Dallas, TX; ³Kellogg Eye Center, Ann Arbor, MI; ⁴Applied Genetic Technologies Corporation, Alachua, FL *CR, ✗

1491 — B0172 Safety Profile of the Surgical Procedure for the Administration of Ocular Gene Therapies. *Ronald BUGGAGE¹, P. Barale^{2,3}, S. Ayello-Scheer^{2,3}, A. K. Lauer⁴, T. Stout⁵, I. S. Audo^{2,3}, S. Mohand-Said^{2,6}, J. A. Sahel^{2,6}, P. Yang⁴, M. E. Pennesi⁴, R. G. Weleber⁴, L. Titeux¹, A. Lahmar¹, P. A. Sundaram¹.* ¹Sanofi, Chilly-Mazarin, France; ²Centre Hospitalier National d'Ophthalmologie des Quinze-Vingts, Paris, France; ³DHU Sight Restore INSERM-DHOS CIC 1423, Paris, France; ⁴Casey Eye Institute, Oregon Health & Sciences University, Portland, OR; ⁵Cullen Eye Institute, Baylor College of Medicine, Houston, TX; ⁶Sorbonne Universités, UPMC Université Paris 06, Inserm UMRS 968, CNRS, Institut de la Vision, Paris, France *CR, ✗

1492 — B0173 The impact of cataract surgery on eyes with epiretinal membranes. *Marianeli Rodriguez^{1,2}, N. Gregori^{1,2}, A. K. Junk¹, A. Galor^{1,2}, S. Wellik^{1,2}, R. Goldhardt^{1,2}, P. Staropoli³, L. Phung³, W. She¹.* ¹Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²Ophthalmology, Miami VA Hospital, Miami, FL; ³University of Miami, Miller School of Medicine, Miami, FL

1493 — B0174 Retinal vascular calibres in older HIV-positive men compared to HIV-negative and younger HIV+ controls. *Tunde Peto¹, L. Haddow³, I. Leung¹, R. Laverick³, I. Williams³, J. Vera⁴, F. Post⁵, M. Boffito^{6,7}, R. Gilson³, A. Winston⁷, C. Sabin³.* ¹MEH and IoO, NIHR Biomedical Resrch Ctr for Ophthalmology, London, United Kingdom; ²Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom; ³Research Department of Infection & Population Health, University College London, London, United Kingdom; ⁴Division of Infection and Global Health, Brighton and Sussex Medical School, Brighton, United Kingdom; ⁵King's HIV Research Centre, King's College Hospital NHS Foundation Trust, London, United Kingdom; ⁶St Stephen's AIDS Trust, Chelsea & Westminster Hospital NHS Foundation Trust, London, United Kingdom; ⁷Department of Medicine, Imperial College London, London, United Kingdom

1494 — B0175 Outer retinal changes in Human Immunodeficiency Virus positive patients. *Yosuke Hotta, N. Katai.* Ophthalmology, National Center for Global health and Medicine, Shinjuku, Japan

1495 — B0176 Vitreoretinal Management in Proliferative Sickle Retinopathy Case Series in The Bronx. *Vincent Nguyen, U. Mian.* Montefiore, Bronx, NY

1496 — B0177 Longitudinal ophthalmic follow up in two patients with Sjögren-Larsson Syndrome. *Shaza Al-Holou¹, S. Jain¹, W. B. Rizzo², D. W. Suh¹.* ¹Truhlsen Eye Institute, University of Nebraska, Omaha, NE; ²Department of Pediatrics, University of Nebraska Medical Center, Omaha, NE

1497 — B0178 Prevalence and characteristics of peripheral retinal lesions in an ageing population. *Nicola B. Quinn, D. Wright, T. Peto, S. M. Cruise, I. Young, F. Kee, U. Chakravarthy, R. E. Hogg.* Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom *CR

1498 — B0179 Prevalence of reticular pseudodrusen and drusen in hereditary angioedema. *Lucia Pace¹, F. Corvi¹, A. Giani¹, L. Lonati¹, E. zanzottera¹, V. Romualdo², M. Cicardi², G. Staurenghi¹.* ¹Department of Biomedical and Clinical Sciences "Luigi Sacco", hospital luigi sacco Eye Clinic, Milan, Italy; ²Hospital Sacco, Milan, Italy *CR

1499 — B0180 Individual retinochoroidal layer thickness/volume analysis of the macula: effect of diabetes mellitus. *Yasuo Yanagi^{1,2}, W. Zhao¹, P. Gupta¹, Y. Tham¹, T. Wong^{1,2}, C. Cheng^{1,2}.* ¹Singapore Eye Research Institute, Singapore, Singapore; ²Singapore National Eye Centre, Singapore, Singapore

1500 — B0181 Review of Clinical Characteristics of Peripapillary Choroidal Neovascularization. *Jila Noori, J. N. Martel, M. Doss, A. W. Eller.* Ophthalmology/Retina Service, UPMC Eye Center, Pittsburgh, PA

1501 — B0182 Fluorescein angiography and fundus autofluorescence imaging discrepancy in patients with chronic central serous chorioretinopathy. *Vladimir Sheptulin¹, D. Mohabati², E. Van Dijk², C. J. Boon², C. C. Hoyng³, K. Purtskhvanidze¹, J. Roeder¹.* ¹Klinik für Ophthalmologie, University of Kiel, Kiel, Germany; ²Ophthalmology, University of Leiden, Leiden, Netherlands; ³Ophthalmology center, University of Nijmegen, Nijmegen, Netherlands ✗

1502 — B0183 Testosterone replacement and its association with central serous chorioretinopathy. *Brian L. VanderBeek^{1,2}, V. Dedania³, W. Pan⁴, D. N. Zacks³.* ¹Retina, Scheie Eye Institute University of Pennsylvania, Philadelphia, PA; ²Center for Pharmacoepidemiology and Research Training, University of Pennsylvania, Philadelphia, PA, PA; ³Ophthalmology, University of Michigan Kellogg Eye Center, Ann Arbor, MI; ⁴Center for Preventive Ophthalmology and Biostatistics, University of Pennsylvania, Philadelphia, PA

1503 — B0184 Long-term phenotype changes in patients with chronic central serous chorioretinopathy. *Johann Roeder¹, K. Purtskhvanidze¹, V. Sheptulin¹, D. Mohabati², E. van Dijk², C. J. Boon², C. C. Hoyng³.* ¹Klinik für Ophthalmologie, University of Kiel, Kiel, Germany; ²Ophthalmology, University of Leiden, Leiden, Netherlands; ³Ophthalmology center, University of Nijmegen, Nijmegen, Netherlands

1504 — B0185 Acute Retinal Necrosis: A case series. *Bárbara M. Elizondo Fernández¹, U. Moreno Páramo¹, L. E. Concha del Río², L. Arellanes García².* ¹Asociación para Evitar la Ceguera en México I.A.P., Coyoacán, Mexico; ²Clinica de Enfermedades Inflammatorias Oculares, Asociación para Evitar la Ceguera en México I.A.P., Ciudad de México, Mexico

1505 — B0186 Risk of Retinal Vein Occlusion in Patients with End Stage Renal Disease: An 11-Year, Retrospective Nationwide Cohort Study in South Korea. *Kyungsik Lee¹, K. H. Nam³, D. W. Kim², E. Kang¹, H. Koh¹.* ¹Ophthalmology, Institute of Vision Research, Yonsei University College of Medicine, Seoul, Korea., Seoul, Korea (the Republic of); ²Policy Research Affairs, National Health Insurance Service Ilsan Hospital, Goyang, Gyeonggi, Korea., Goyang, Korea (the Republic of); ³Internal Medicine, Division of Nephrology, College of Medicine, Yonsei University, Seoul, Korea, Seoul, Korea (the Republic of)

1506 — B0187 Epidemiologic Data and Visual Outcomes in Patients with Central Retinal Vein Occlusion in the Anti-VEGF Era. *Ryan Constantine, A. Thomas, D. Berry, S. S. Stinnett, S. Fekrat.* Ophthalmology, Duke University, Durham, NC

1507 — B0188 Variation in the use of bevacizumab and ranibizumab for branch retinal vein occlusion. *Fei Yu¹, A. Wu², C. Wu², P. B. Greenberg^{2,4}, F. Lum³, A. Coleman¹.* ¹Ophthalmology, UCLA Stein Eye Institute, Los Angeles, CA; ²Warren Alpert Medical School of Brown University, Providence, RI; ³American Academy of Ophthalmology, San Francisco, CA; ⁴Section of Ophthalmology, VA Medical Center, Providence, RI *CR

1508 — B0189 Are patients with retinal symptomatology over-imaged in the Emergency Room? *Adnan Mallick, D. Fastenberg, V. Deramo.* Ophthalmology, Hofstra Northwell School of Medicine, Roslyn Heights, NY

1509 — B0190 Analysis of disease types in videoconferencing-based teleconsultation of Beijing Tongren Eye Center in 2014-2016. *Jianjun Li.* Beijing Institute of Ophthalmology, Beijing, China

Exhibit/Poster Hall B0191-B0210

Monday, May 08, 2017 8:30 AM-10:15 AM

Clinical/Epidemiologic Research

223 AMD

Moderator: Tiarnan D. Keenan

1510 — B0191 Long-Term Cumulative Incidence Of Age-Related Macular Degeneration In Latinos: The Los Angeles Latino Eye Study (LALES). Farzana Choudhury^{1,2}, R. Varma¹, R. Klein³, M. Torres¹, R. McKean-Cowdin².

¹Department of Ophthalmology, USC Eye Institute, University of Southern California, Los Angeles, CA; ²Department of Preventive Medicine, University of Southern California, Los Angeles, CA; ³Department of Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI

1511 — B0192 Understanding the natural history of geographic atrophy secondary to age-related macular degeneration: Baseline data from Proxima A. Brandon Busbee¹, J. Monés², C. C. Wykoff³, G. Staurenght⁴, F. Tang⁵, B. Tong⁵, R. A. Cantrell⁵, C. Brittain⁵, J. Ehrlich⁵, H. Lin⁵, N. Holekamp⁶.

¹Tennessee Retina, Nashville, TN; ²Institut de la Màcula, Barcelona, Spain; ³Retina Consultants of Houston, Houston, TX; ⁴University Eye Clinic, Milan, Italy; ⁵Genentech, Inc., South San Francisco, CA; ⁶Barnes Retina Institute, St. Louis, MO *CR, ✕

1512 — B0193 Age-Related Macular Degeneration Characteristics In The Multi-Ethnic Population Of Queens County. Ana M. Suelves, J. P. Shulman, J. Elder. New York Medical College, MERSI, Queens, NY

1513 — B0194 Prevalence of Subclinical AMD in Patients in a General Ophthalmology Practice. Rebecca Weis, T. T. Henderson. Eye Clinic of Austin, Austin, TX

1514 — B0195 Centenarians with Age-Related Macular Degeneration. Maxwell S. Stem¹, D. Mammo², Y. Yonekawa³, B. Todorich¹, B. J. Thomas⁴, G. A. Williams^{1,2}. ¹Associated Retinal Consultants, PC, Royal Oak, MI; ²Oakland University William Beaumont School of Medicine, Rochester, MI; ³Massachusetts Eye and Ear Infirmary, Boston, MA; ⁴Florida Retina Institute, Jacksonville, FL

1515 — B0196 High waist-hip ratio and increased risk of age related macular degeneration among Koreans. Su Jeong Song¹, E. rhee². ¹Ophthalmology, Kangbuk Samsung Hospital, Seoul, Korea (the Republic of); ²Internal Medicine, Kangbuk Samsung Hospital, Seoul, Korea (the Republic of)

1516 — B0197 Infection of A Keystone Bacterium in Periodontal Microbiota And Risk for Age-related Macular Degeneration. Chung-Jung Chiu, M. Chang, A. Taylor. Human Nutrition Res Ctr, Tufts University, Boston, MA

1517 — B0198 Increased age-related macular degeneration diagnosis among Medicare beneficiaries with rheumatoid arthritis.

Gloriane Schnabolk¹, B. Rohrer^{1,2}, K. Simpson³. ¹Ophthalmology, Medical University of South Carolina, Charleston, SC; ²Research, Ralph H. Johnson VA Medical Center, Charleston, SC; ³Healthcare Leadership and Management, Medical University of South Carolina, Charleston, SC

1518 — B0199 Skin Intrinsic Fluorescence and Age-related Macular Degeneration (AMD) in an Aging Population: The Beaver Dam Eye Study.

Ronald Klein¹, K. E. Lee¹, J. D. Maynard², B. E. Klein¹. ¹Ophthalmology and Visual Sciences, Univ of Wisconsin Sch of Med & Public Hlth, Madison, WI; ²MDCC, Albuquerque, NM

1519 — B0200 The relationship of oral bisphosphonates to age-related macular degeneration: The Beaver Dam Eye Study.

Stacy M. Meurer, K. E. Lee, B. E. Klein, R. Klein. Ophthalmology & Visual Sciences, University of Wisconsin-Madison, Madison, WI

1520 — B0201 The effect of nutrients on age-related macular degeneration. Shun Masuda¹, S. Kaneoka¹, M. Sasaki¹, Y. Kiuchi¹, M. Yanagi¹, A. A. Faisal^{1,2}, M. I. Kamaruddin^{1,2}, A. Nagao¹, M. Yoneda¹, K. Itakura¹.

¹Hiroshima University, Hiroshima, Japan; ²Hasanuddin University, Makassar, Indonesia

1521 — B0202 Subfoveal choroidal thickness and its association with AMD in elderly French subjects: the ALIENOR study. Audrey Cougnard-Gregoire¹, S. Gattoussi^{1,2}, J. Korobelnik^{1,2}, M. B. Rougier², M. Delyfer^{1,2}, C. Schweitzer^{1,2}, M. Le Goff¹, B. M. Merle¹, J. Dartigues¹, C. Delcourt¹.

¹Univ. Bordeaux, INSERM, ISPED, INSERM U1219-Bordeaux Population Health Research Center, Bordeaux, France; ²CHU de Bordeaux, Service d'Ophthalmologie, Bordeaux, France *CR

1522 — B0203 Metamorphopsia measurement with AMD - A Metamorphopsia Detector® as a patient reported outcome (PRO) measure.

Ronald V. Krüger, D. Claessens. CEO, app4eyes, Duesseldorf, Germany *CR

1523 — B0204 Patient-, caregiver-, and healthcare provider-reported burden of geographic atrophy. Sunil S. Patel¹, R. P. Singh², J. S. Nielsen³, J. Schmier⁴, Y. Rajput⁵.

¹West Texas Retina Consultants, Abilene, TX; ²Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ³Vitreoretinal Diseases and Surgery, Wolfe Eye Clinic, Wolfe Surgery Center, West Des Moines, IA; ⁴Exponent, Alexandria, VA; ⁵Genentech, Inc., South San Francisco, CA *CR

1524 — B0205 Social and clinical characteristics associated with low visual acuity at presentation of AMD. Vuong Nguyen¹, V. Daien^{1,2}, R. Guymer³, I. McAllister⁴, N. Morlet⁵, D. Barthelmes⁶, M. C. Gillies¹.

¹Save Sight Institute, Sydney, NSW, Australia; ²Inserm, Montpellier, Macao; ³Centre for Eye Research Australia, Melbourne, VIC, Australia; ⁴Lions Eye Institute, Perth, WA, Australia; ⁵Department of Population Health, University of Western Australia, Perth, WA, Australia; ⁶University Hospital Zurich, Zurich, Switzerland *CR

1525 — B0206 Identifying causes for delays from symptom onset to treatment in patients with wet age-related macular degeneration (AMD) in south-east Scotland. Peng Yong Sim^{1,2}, S. Gajree³, B. Dhillon^{1,4}, S. Borooah⁵.

¹The University of Edinburgh, Edinburgh, United Kingdom; ²Royal Free Hospital, London, United Kingdom; ³Gartnavel General Hospital, Glasgow, United Kingdom; ⁴The Princess Alexandra Eye Pavilion, Edinburgh, United Kingdom; ⁵Moorfields Eye Hospital, London, United Kingdom

1526 — B0207 Low Luminance Visual Acuity in Patients with Age-Related Macular Degeneration. Traci E. Clemons², E. Chew¹, S. Duwel².

¹National Eye Institute, National Institutes of Health, Bethesda, MD; ²The Emmes Corporation, Rockville, MD

1527 — B0208 Seven years treatment outcome of neovascular age-related macula degeneration. Data from the Swedish Macula Register. Inger Westborg¹, E. Granstam², S. Albrecht³, A. Rosso⁴, N. Karlsson⁶, M. Lövestam-Adrian⁵.

¹Clinical Science/ Ophthalmology, Umeå University, Boden, Sweden; ²Center for Clinical Research, Uppsala University, Uppsala, Sweden; ³Register Center South, Karlskrona, Sweden; ⁴Department of Radiology, Institution of Translational Medicine, Lund University, Lund, Sweden; ⁵Department of Ophthalmology, Lund University, Lund, Sweden; ⁶Ophthalmology, Örebro University Hospital, Örebro, Sweden *CR

1528 — B0209 Assessing the prognostic significance of early changes in AMD scale score in the AREDS study. Susan Vitale¹, E. Agron¹, T. E. Clemons², A. Domalpally³, R. P. Danis³, E. Chew¹.

¹Div Epidemiol & Clin Applications, National Eye Inst/NIH, Bethesda, MD; ²Emmes Corporation, Rockville, MD; ³Fundus Photograph Reading Center, University of Wisconsin, Madison, WI ✕

1529 — B0210 Statistical Analysis for Correlated Binary Ophthalmologic Data. Bernard Rosner¹, G. Ying³, R. Glynn², M. G. Maguire³.

¹Medicine, Harvard Medical School/ Channing Laboratory, Lexington, MA; ²Preventive Medicine, Brigham and Women's Hospital, Boston, MA; ³Department of Ophthalmology, University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA *CR

Monday Posters
8:30 am – 10:15 am

Exhibit/Poster Hall B0362-B0393

Monday, May 08, 2017 8:30 AM-10:15 AM

Retina

**224 Retinal vascular diseases I
(excluding diabetes)**

1530 — B0362 Optical Coherence Tomography Angiography in Perifoveal Exudative Vascular Anomalous Complex. *Giuseppe Querques¹, R. Sacconi^{1,2}, L. Yannuzzi^{3,4}, K. Freund^{3,4}, R. Dolz-Marco^{3,4}, E. SUIED⁵, V. Capuano⁵, O. Semoun³, N. Phasukkijwatana⁶, D. Sarraf⁶, F. Bandello¹.* ¹Ophthalmology, University Vita-Salute, IRCCS Ospedale San Raffaele, Milan, Italy; ²Ophthalmology, University of Verona, University hospital of Verona, Verona, Italy; ³Ophthalmology, Vitreous Retina Macula Consultants of New York, New York, NY; ⁴Ophthalmology, LuEsther T. Mertz Retinal Research Center, Manhattan Eye, Ear and Throat Hospital, New York, New York, NY; ⁵Ophthalmology, Hospital Intercommunal de Creteil, University Paris Est Creteil, Creteil, France; ⁶Ophthalmology, Retinal Disorders and Ophthalmic Genetics Division, Stein Eye Institute, University of California, Los Angeles; Greater Los Angeles VA Healthcare Center, Los Angeles, CA *CR

1531 — B0363 Prediction of long-term visual outcome in patients with macular edema due to branch retinal vein occlusion based on short-term response to anti-VEGF therapy. *Yuki Kubo, S. Yoshida, Y. Koyanagi, M. Yamaguchi, Y. Kobayashi, T. Nakama, S. Nakao, Y. Ikeda, T. Ishibashi, K. Sonoda.* Ophthalmology, Kyushu University, Fukuoka, Fukuoka, Japan

1532 — B0364 Pro-angiogenic Role of Amino Acid Transporter Slc38a5 in Retinal Vascular Endothelial Cells. *Zhongxiao Wang, C. Liu, Y. Sun, S. Burnim, S. Meng, Z. Fu, Y. Gong, J. Chen.* Ophthalmology, Boston Children's Hospital, Boston, MA

1533 — B0365 Projection-Resolved Optical Coherence Tomography Angiography Features of Branch Retinal Vein and Branch Retinal Artery Occlusion. *Brigid Marshall¹, X. Wang², M. Zhang¹, J. WANG¹, X. Wei¹, P. Lin¹, D. Huang¹, Y. Jia¹, T. S. Hwang¹.* ¹Ophthalmology, Casey Eye Institute, Portland, OR; ²Shanxi Eye Hospital, Taiyuan, China *CR

1534 — B0366 Longitudinal Quantification of Retinal Nonperfusion in Eyes with Retinal Vein Occlusion Receiving Ranibizumab With or Without Targeted Peripheral Laser Photocoagulation. *William C. Ou¹, D. M. Brown^{1,2}, C. C. Wykoff².* ¹Retina Consultants of Houston, Houston, TX; ²Blanton Eye Institute, Houston Methodist Hospital & Weill Cornell Medical College, Houston, TX *CR, ✗

1535 — B0367 Fovea density assessed by OCTA in vein occlusion associated with macular edema treated by anti-VEGF. *Franck Fajnkuchen², S. Tabary-Ayrault², S. nghiem-buffet², A. Giocanti¹.* ¹Hopital Avicenne, Paris, France; ²Centre d'Imagerie et de Laser, Paris, France *CR

1536 — B0368 Longitudinal Automated Ellipsoid Zone Mapping Assessment in Retinal Vein Occlusions. *Kathryn Champ¹, L. Beven¹, R. P. Singh¹, T. Banaee¹, K. M. Wai^{1,2}, S. K. Srivastava¹, J. Reese¹, J. Ehlers¹.* ¹Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²School of Medicine, Case Western Reserve University, Cleveland, OH *CR

1537 — B0369 Caspase-9 Inhibitor Eyedrops Reduce Edema and Protect Retinal Function Following Central Retinal Vein Occlusion. *Maria Avrutsky¹, Y. Y. Jean¹, A. J. White¹, S. Snipas², G. Salvosen², C. Troy^{1,3}.* ¹Pathology and Cell Biology, Columbia University, New York, NY; ²Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA; ³Neurology, Columbia University, New York, NY

1538 — B0370 Characterization of Retinal and Choroidal Microvasculature Changes in Obstructive Sleep Apnea Patients by Optical Coherence Tomography Angiography Analysis. *Lauren Lombardi¹, O. Helmy¹, S. Sailer², K. Johnson³, S. Schaal¹.* ¹Ophthalmology and Visual Sciences, University of Massachusetts Medical School, Worcester, MA; ²Mass Lung & Allergy Sleep Center, Worcester, MA; ³Department of Neurology, University of Massachusetts Medical School-Baystate, Springfield, MA

1539 — B0371 VEGF Causes Retinal Nonperfusion by Leukostasis Stimulated by VEGFR1-mediated Leukocyte Recruitment and VCAM-1-mediated Leukocyte Adhesion. *yuanyuan liu^{1,2}, J. Shen¹, S. D. Fortmann¹, P. A. Campochiaro¹.* ¹ophthalmology, Johns Hopkins University, Baltimore, MD; ²Ophthalmology, Tianjin Medical University, Tianjin, China

1540 — B0372 Case Series Report of Safety of Serial Vitreous Needle Taps in Patients with Proliferative Diabetic Retinopathy (PDR) and Central Retinal Vein Occlusion (CRVO). *Hamzah Khalaf, V. H. Gonzalez.* Valley Retina Institute, McAllen, TX ✗

1541 — B0373 Long-Term Outcomes of Anti-VEGF Treatment in Patients with Macular Edema Secondary to Retinal Vein Occlusions. *Karen M. Wai^{1,2}, J. Young¹, F. Q. Silva¹, S. K. Srivastava¹, J. Ehlers¹, A. V. Rachitskaya¹, P. K. Kaiser¹, A. Schachat¹, A. S. Babich¹, A. Yuan¹, R. P. Singh¹.* ¹Cole Eye Institute, Cleveland Clinic, Saratoga, CA; ²Case Western Reserve University School of Medicine, Cleveland, OH *CR

1542 — B0374 The presence of the LAPPEL sign in multiple inherited and acquired retinal vascular diseases and temporal correlation with capillary dropout. *Prethy Rao, A. Thanos, J. D. Wolfe, M. T. Trese.* Associated Retinal Consultants, Royal Oak, MI

1543 — B0375 Ranibizumab 0.5 mg in Asian patients with visual impairment due to macular edema secondary to central retinal vein occlusion: results from the 12-month CAMELLIA study. *Zhizhong Ma¹, L. Zhu², A. Weisberger³, Y. Cheng², C. Liu².* ¹Peking University Third Hospital, Beijing, China, Beijing, China; ²China Novartis Institutes for Biomedical Research Co., Ltd., Shanghai, China; ³Novartis Pharmaceutical Corporation, East Hanover, NJ *CR, ✗

1544 — B0376 A Phase IV Study To Assess A Treat-And-Extend Regimen Of Aflibercept For Treatment Of Macular Edema Secondary To Central Retinal Vein Occlusion In Naïve Patients. Neuton Study. *Jose Garcia-Arumi¹, F. Gómez-Ulla².* ¹Ophthalmology, Hospital Vall deHebron, Barcelona, Spain; ²Instituto Oftalmológico Gómez-Ulla, Santiago de Compostela, Spain *CR, ✗

1545 — B0377 Factors Contributing to Persistent Macular Edema in Retinal Vein Occlusion. *Tahreem A. Mir, G. Hafiz, S. Zafar, A. W. Scott, I. E. Zimmer-Galler, A. Wenick, S. Solomon, S. A. Shah, C. Brady, C. Meyerle, A. Sodhi, S. Kherani, P. A. Campochiaro.* Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD *CR, ✗

1546 — B0378 Targeting hypoxia-inducible factor (HIF) for functional rescue of retinal vasculature in neurodegenerative disease. *Elena Ivanova^{1,2}, B. T. Sagdullaev^{1,2}.* ¹Burke Medical Research Institute, White Plains, NY; ²Weill Medical College of Cornell University, New York, NY

1547 — B0379 Case Series of Pediatric Sickle Retinopathy by Ultra-Widefield Fluorescein Angiography and OCT-Angiography Suggests Frequent Early Pathology. *Daniel A. Pahl¹, N. S. Green², M. Bhatia², M. Licursi², C. Briamonte², E. Smilow², J. S. Chang³, M. T. Lee³, R. W. Chen³.* ¹Columbia College of Physicians and Surgeons, New York, NY; ²Department of Pediatrics, Columbia University Medical Center, New York, NY; ³Department of Ophthalmology, Columbia University Medical Center, New York, NY

1548 — B0380 Bilateral Retinal Vein Occlusion. *Diana Leitner, A. Thomas, S. Fekrat.* Ophthalmology, Duke University, Durham, NC

1549 — B0381 Niacin (nicotinic acid) may reduce the risk of iris neovascularization in CRVO, and may show reversibility of effect when discontinued. *Michael W. Gaynon¹, E. Rahimy¹, Y. M. Paulus², S. Mansour³, J. L. Alexander⁴.* ¹Ophthalmology, Palo Alto Medical Foundation, Palo Alto, CA; ²Ophthalmology, University of Michigan, Ann Arbor, MI; ³Ophthalmology, Virginia Retina, Warrenton, VA; ⁴Ophthalmology, University of Maryland, Baltimore, MD ✗

1550 — B0382 Systemic Lupus Erythematosus Associated Retinopathy in India. A study of clinical presentation and treatment outcomes. Prabhat Nangia¹, V. L², J. Biswas². ¹Post Graduates, Sankara Nethralaya, Chennai, India; ²Ocular Pathology and Uveitis, Sankara Nethralaya, Chennai, India

1551 — B0383 Segmented Swept Source Optical Coherence Tomography Angiography in Coats' Disease: New Perifoveal Microvascular Changes in the Healthy Eye and Correlation with Disease Stage in the Affected One.

Katarzyna M. Chwiejczak¹, S. Biswas^{1,2}, F. Stringa¹, A. Papayannis¹, E. Tsamis^{1,3}, P. E. Stanga^{1,2}. ¹Manchester Vision Regeneration (MVR) Lab at Manchester Royal Eye Hospital & NIHR/Wellcome Trust Manchester CRF and Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester, United Kingdom; ²Division of Evolution & Genomic Sciences, School of Biological Sciences, Faculty of Biology, Medicine and Health, University of Manchester, Manchester, UK, Manchester, United Kingdom; ³Division of Pharmacy & Optometry, School of Health Sciences, Faculty of Biology, Medicine and Health, University of Manchester, Manchester, UK, Manchester, United Kingdom *CR

1552 — B0384 Risk factors of Recurrence of Macular Edema Associated with Branch Retinal Vein Occlusion after Intravitreal Bevacizumab Injection. Seong-Woo Kim, J. Yoo, J. Ahn, J. Han, J. Oh. Ophthalmology, Korea University, College of Medicine, Ansan, Korea (the Republic of)

1553 — B0385 Norrin induces expression of genes characteristic of the BRB in primary human Retinal Endothelial Cells. Wendy Dailey¹, K. P. Mitton¹, K. Drenser^{2,1}, K. Roumayah¹, M. T. Trese^{2,1}. ¹Eye Research Institute, Oakland University, Rochester, MI; ²Associated Retinal Consultants, Royal Oak, MI *CR

1554 — B0386 1 year-Real world clinical audit of aflibercept use in the management of macular edema secondary to central retinal vein occlusion at Moorfields Eye Hospital. Eleni Vrızidou, M. Eleftheriadou, F. Zacharakı, P. Addison. Medical Retina, Moorfields Eye Hospital, London, United Kingdom *CR

1555 — B0387 Spectral-domain optical coherence tomography findings in retinal vessel occlusion - A pilot study of detecting ischemia in OCT. Egbert Matthe¹, O. Furashova². ¹Department of Ophthalmology, University Hospital Carl Gustav Carus, TU Dresden, Dresden, Germany; ²Department of Ophthalmology, Klinikum Chemnitz, Chemnitz, Germany

1556 — B0388 Choroidal and retinal angiopathy in V30M hereditary transthyretin amyloidosis. Antoine Rousseau^{1,2}, C. Terrada^{3,4}, S. Touhami¹, E. Barreau^{1,2}, P. Rothschild⁴, S. Valleix², M. Errera⁴, C. Cauquil^{8,2}, A. Guiochon-Mantel^{9,2}, D. Adams^{8,2}, M. Labetoulle^{1,2}. ¹Ophthalmology, Hôpital Bicêtre, Assistance Publique-Hôpitaux de Paris, Université Paris-Sud, DHU Vision et Handicap, Le Kremlin Bicetre, France; ²Centre de Référence Neuropathies amyloïdes familiales et autres neuropathies rares, Le Kremlin Bicetre, France; ³Ophthalmology, Hôpital Lariboisière, Paris, France; ⁴Centre de Référence pour les Maladies Vasculaires Rares du Système Nerveux Central et de la Rétine (CERVCO), Paris, France; ⁵Laboratoire de Biochimie et Génétique Moléculaire, Cochin Hospital, Assistance Publique - Hôpitaux de Paris, Paris-Ouest University., Paris, France; ⁶Ophthalmology, Quinze-Vingts National Eye Center, DHU Vision & Handicaps., Paris, France; ⁷Ophthalmology, Cochin Hospital, Assistance Publique - Hôpitaux de Paris, Paris-Ouest University., Paris, France; ⁸Neurology, Hôpital Bicêtre, Assistance Publique-Hôpitaux de Paris, Université Paris-Sud, Le Kremlin Bicêtre, France; ⁹Biochimie et Génétique Moléculaire, Hôpital Bicêtre, Assistance Publique-Hôpitaux de Paris, Université Paris-Sud, Le Kremlin Bicêtre, France

1557 — B0389 Secretion of Down Syndrome Critical Region 1 Isoform4 in ischemic retinal ganglion cells displays anti-angiogenic properties via NFATc1-dependent pathway. yue xu, Y. Hu, X. Liang. Zhongshan Ophthalmic Center, Sun Yat-sen University, Guang Zhou, China

1558 — B0390 Re-injections of Ranibizumab by first presence of intraretinal fluid do not improve the final BCVA when compared with re-injections given by recurrence of macular edema in patients with BRVO. Matus Rehak¹, M. Tuis¹, A. Franke², P. M. Wiedemann¹. ¹Department of Ophthalmology, University of Leipzig, Leipzig, Germany; ²Zentrum für klinische Studien, University of Leipzig, Leipzig, Germany *CR, ✎

1559 — B0391 Impact of baseline retinal nonperfusion on best corrected visual acuity in eyes with central retinal vein occlusion: post hoc analyses of COPERNICUS and GALILEO. David M. Brown¹, Y. Ogura², F. Boscia³, F. G. Holz⁴, J. Korobelnik⁵, J. Heier⁶, K. D. Rittenhouse⁷, F. Asmus⁸, C. Ahlers⁸, F. Hiemeyer⁸, C. Lu⁷, R. Vitt⁹, N. Saroj⁹, N. Feltgen¹⁰. ¹Retina Consultants of Houston, Houston, TX; ²Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan; ³University of Sassari, Sassari, Italy; ⁴University of Bonn, Bonn, Germany; ⁵CHU de Bordeaux, Bordeaux, France; ⁶Ophthalmic Consultants of Boston, Boston, MA; ⁷Bayer Pharmaceuticals, Whippany, NJ; ⁸Bayer Pharmaceuticals, Berlin, Germany; ⁹Regeneron Pharmaceuticals, Tarrytown, NY; ¹⁰University of Göttingen, Göttingen, Germany *CR, ✎

1560 — B0392 A Modified Treat and Extend Approach for the Treatment of Retinal Vein Occlusion with Ranibizumab. Mariana Rossi Thorell, T. Aslam, T. Saddik, S. Mahmood, R. Chhabra, K. Balaskas. Manchester Royal Eye Hospital, Manchester, United Kingdom

1561 — B0393 Aflibercept 2mg (0.05mL) for the treatment of visual impairment due to macular oedema secondary to Central Retinal Vein Occlusion; does it really help? MARCO M. ISAC, S. Manvikar, P. Severn, S. Pushpoth. Ophthalmology, James Cook University Hospital NHS FT, Middlesbrough, United Kingdom

Ballroom 2

Monday, May 08, 2017 11:00 AM-12:45 PM

Cornea / Immunology/Microbiology

225 Barrier function of the ocular surface - Minisymposium

This minisymposium focuses on the primary function of the ocular surface, that is, the barrier function. The session includes morphological, biological, and immunological characteristics of the barrier function. The speakers will talk about how barrier functions are regulated, and their impairments are related to the development of major ocular surface diseases such as dry eye, infection, and allergy.

Moderators: Ilene K. Gipson and Stephen C. Pflugfelder

1562 — 11:00 Welcome and Introduction. Jun Shimazaki. Department of Ophthalmology, Tokyo Dental College, Ichikawa, Japan

1563 — 11:02 Welcome and Introduction. Thomas A. Ferguson. Ophthal & Vis Sciences, Washington University, St Louis, MO *CR

1564 — 11:03 Ocular surface glycoalkal barrier function. Pablo Argueso. Schepens Eye Research Institute and Massachusetts Eye and Ear, Harvard Medical School, Boston, MA

1565 — 11:20 Barrier function in dry eye diseases. Stephen C. Pflugfelder. Ophthal-Ocular Surf Ctr, Baylor College of Medicine, Houston, TX *CR

1566 — 11:37 Protection of the ocular surface barrier. M Elizabeth Fini. USC Institute for Genetic Medicine, University of Southern California, Los Angeles, CA; Proteris Biotech, Inc., Pasadena, CA *CR

1567 — 11:54 Ocular Surface inflammation is regulated by innate immunity. Mayumi Ueta. Department of Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan

1568 — 12:11 Microbial infections at the ocular surface. Eric Pearlman. Ophthalmology and Visual Sciences, University of California, Irvine, CA

1569 — 12:28 Allergic disease and ocular surface barrier. Andrea Leonardi. Neuroscience, Ophthalmology, University of Padua, Padova, Italy *CR

Ballroom 1

Monday, May 08, 2017 11:00 AM-12:45 PM

Biochemistry/Molecular Biology

226 Gene therapies

Moderators: Robert E. MacLaren and Shannon E. Boye

1570 — 11:00 C3 Transferase Gene Therapy for Neuroprotection and Optic Nerve Regeneration. Margaret E. McDougal, C. Gutekunst, R. E. Gross. Emory University School of Medicine, Atlanta, GA

1571 — 11:15 Gene therapy of Alström syndrome's retinitis pigmentosa with multiple AAV vectors. Patrizia Tornabene¹, P. Tiberi¹, R. Minopoli¹, A. Auricchio^{1,2}. ¹Telethon Institute of Genetics and Medicine (TIGEM), POZZUOLI, Italy; ²Department of Translational Medicine, University of Naples Federico II, Napoli, Italy

1572 — 11:30 A CEP290 C-terminal protein fragment rescues retinal degeneration in a mouse model of Leber Congenital Amaurosis. Suddhasil Mookherjee¹, W. Yu¹, S. Hiriyanna¹, Y. Ataeijannati¹, T. Li², A. Swaroop², Z. Wu¹. ¹Ocular Gene Therapy Core (OGTC), National Eye Institute/ National Institutes of Health, Bethesda, MD; ²NNRL, National Eye Institute/ National Institutes of Health, Bethesda, MD

1573 — 11:45 Codon optimized RPGR leads to improved stability and rescue with AAV8 gene therapy in X-linked retinitis pigmentosa. M Dominik Fischer^{2,1}, M. E. McClements², C. Martinez-Fernandez de la Camar², J. Bellingrath^{2,1}, D. Dauletbekov^{2,1}, S. C. Ramsden³, D. G. Hickey², A. R. Barnard², R. E. MacLaren^{2,4}. ¹Centre for Ophthalmology, University of Tübingen, Tübingen, Germany; ²Nuffield Laboratory of Ophthalmology, Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; ³Centre for Genomic Medicine, Central Manchester University Hospitals NHS Foundation Trust, Manchester Academic Health Sciences Centre, Manchester, United Kingdom; ⁴Oxford Eye Hospital, Oxford University Hospitals NHS Trust, The John Radcliffe Hospital, Oxford, United Kingdom *CR

1574 — 12:00 Gene therapy refutes non-autonomous rod cell death in a preclinical model of retinitis pigmentosa. Susanne F. Koch¹, J. Duong², C. Hsu¹, Y. Tsai¹, C. Lin³, S. Tsang^{1,3}. ¹Ophthalmology, Columbia University, New York, NY; ²Biostatistics, Columbia University, New York, NY; ³Herbert Irving Comprehensive Cancer Center, Columbia University, New York, NY

1575 — 12:15 Master Modifier Nr2e3 Rescues Disease and Promotes Retina Homeostasis in Multiple Models of RP. Neena B. Haider¹, A. Olivares¹, K. Flattery¹, Y. Han¹, J. Capri¹, M. M. DeAngelis². ¹Dept of Ophthalmology, Schepens Eye Research Inst/MEEI/Harvard Medical School, Boston, MA; ²Ophthalmology, Moran Eye Center, University of Utah, Salt Lake City, UT *CR

1576 — 12:30 The combined administration of the two products encoded by the nucleoredoxin-like-I gene stabilizes vision in a mouse model of retinitis pigmentosa. Thierry D. Leveillard¹, E. Clerin¹, N. M. Maamri¹, Y. Yang¹, G. Millet-Puel¹, F. Blond¹, D. Dalkara¹, A. Van Dorsselaer², J. Sahel¹. ¹Institut De La Vision, Paris, France; ²University of Strasbourg, Strasbourg, France

Ballroom 3

Monday, May 08, 2017 11:00 AM-12:45 PM

Retina

227 AMD imaging I

Moderator: Stephen R. Russell

1577 — 11:00 Adaptive-Optics (AO) Optical Coherence Tomography (OCT) imaging of the photoreceptor (PR) layer in early and advanced dry age-related macular degeneration (AMD) in clinical routine. Andreas Pollreis¹, M. Salas², S. Sacu¹, M. Baratsits¹, W. Drexler², M. Pircher², U. Schmidt-Erfurth¹. ¹Ophthalmology, Medical University Vienna, Vienna, Austria; ²Center for Medical Physics & Biomedical Engineering, Medical University Vienna, Vienna, Austria

1578 — 11:15 Analysis of Polypoidal Choroidal Vasculopathy Using Swept Source Optical Coherence Tomography Angiography with Variable Interscan Time Analysis. Carlos A. Moreira Neto^{1,2}, C. B. Rebhun¹, S. B. Ploner³, E. M. Moultr³, E. A. Novais², A. Alibhai¹, J. Schottenhamml³, R. Louzada¹, N. Waheed¹, A. J. Witkin¹, C. R. Baumal¹, J. S. Duker¹, J. G. Fujimoto³, D. Ferrara¹. ¹Ophthalmology, Tufts University, Boston, MA; ²Ophthalmology, Universidade Federal de Sao Paulo, Sao Paulo, Brazil; ³Department of Electrical Engineering and Computer Science, and Research Laboratory of Electronics, Massachusetts Institute of Technology, Boston, MA *CR

1579 — 11:30 A localization-based analysis of dynamic drusen development in age-related macular degeneration. Magdalena Baratsits, F. G. Schlanitz, H. Bogunovic, S. Sacu, M. Karantonis, A. Montuoro, U. Schmidt-Erfurth. Department of Ophthalmology, Medical University of Vienna, Vienna, Austria *CR, X

1580 — 11:45 Combining flood and multimodal scanning adaptive optics imaging in age-related macular degeneration. *Kate Grieve^{1,2}, J. A. Sahel^{2,3}, M. Benchaboune⁴, S. Mohand-Saïd⁴, C. Chaumette¹, S. Mrejen¹, K. Gocho⁵, J. Amaudruz², S. Meimon^{1,6}, M. Paques^{1,2}.* ¹PARIS group, Clinical Investigation Center 1423, Quinze-Vingts National Ophthalmology Hospital, Paris, France; ²Vision Institute, Quinze-Vingts National Ophthalmology Hospital, Paris, France; ³Department of Ophthalmology, The University of Pittsburgh School of Medicine, Pittsburgh, PA; ⁴Clinical Investigation Center 1423, Quinze-Vingts National Ophthalmology Hospital, Paris, France; ⁵Department of Ophthalmology, Nippon Medical University, Chiba Hokusoh Hospital, Inzai, Japan; ⁶ONERA The French Aerospace Lab, Paris, France *CR, ✗

1581 — 12:00 Assessment of Retinal Vascular Geometry (RVG) role in patients with neovascular Age Related Macular Degeneration (nAMD) participating in IVAN study. *Maged S. Habib¹, B. Al Diri², L. Scott³, C. Rogers³, B. C. Reeves³, U. Chakravarthy⁴, D. H. Steel¹.* ¹Ophthalmology, Sunderland Eye Infirmary, Sunderland, United Kingdom; ²Computer Science, Lincoln University, Lincoln, United Kingdom; ³Clinical Trials and Evaluation Unit, University of Bristol, Bristol, United Kingdom; ⁴Institute for Health Sciences, Queen's University, Belfast, United Kingdom

1582 — 12:15 Comparison of Fundus quantitative Autofluorescence (qAF) Analysis on Heidelberg Eye Explorer (HEYEX) and IGOR Pro QuantAF Software. *Ryan Larochelle, J. M. Agee, M. Ahmad, N. Topilow, S. Ayoub, N. Tracer, T. Smith.* New York University School of Medicine, New York, NY

Ballroom 4

Monday, May 08, 2017 11:00 AM-12:45 PM

Glaucoma

228 Imaging Posterior Segment and Progression

Moderators: *Jean-Claude Mwanza and Kouros Nouri-Mahdavi*

1583 — 11:00 Baseline SD-OCT Structural Measurements and Prediction of Glaucoma Progression. *Ramin Daneshvar^{1,2}, A. Yarmohammadi³, R. Alizadeh¹, S. Henry¹, J. Caprioli¹, K. Nouri-Mahdavi¹.* ¹Stein Eye Institute, University of California, Los Angeles, Los Angeles, CA; ²Eye Research Center, Mashhad University of Medical Sciences, Mashhad, Iran (the Islamic Republic of); ³Hamilton Glaucoma Center, Shiley Eye Institute, San Diego, CA *CR

1584 — 11:15 The Impact of Normal Aging and Definitions of Progression on Detecting Retinal Nerve Fiber Layer Changes in Optical Coherence Tomography Imaging. *Luke J. Saunders¹, Z. Wu¹, L. M. Zangwill¹, F. B. Daga¹, J. Crowston², R. N. Weinreb¹, F. Medeiros¹.* ¹Ophthalmology, University of California San Diego, San Diego, CA; ²Ophthalmology Eye and Ear Hospital, The University of Melbourne, Melbourne, VIC, Australia *CR

1585 — 11:30 The African Descent and Glaucoma Evaluation Study (ADAGES): Racial differences in rate of change of SD-OCT measured minimum rim width and retinal nerve fiber layer thickness. *Christopher Bowd¹, L. M. Zangwill¹, C. A. Girkin², J. M. Liebmann³, R. N. Weinreb¹, A. Belghith¹.* ¹Hamilton Glaucoma Center, Shiley Eye Institute, Department of Ophthalmology, University of California, San Diego, La Jolla, CA; ²Department of Ophthalmology, University of Alabama, Birmingham, Birmingham, AL; ³Columbia University Medical Center, Columbia University, New York, NY *CR, ✗

1586 — 11:45 Comparison of Glaucoma Progression Detection by Optical Coherence Tomography and Visual Field. *Anna Dastiridou¹, X. Zhang², B. A. Francis¹, O. Tan², R. Varma³, D. S. Greenfield⁴, J. S. Schuman³, D. Huang².* ¹Doheny Eye Institute, Los Angeles, CA; ²Casey Eye Institute, Oregon Health & Science University, Portland, OR; ³Ophthalmology, University of Southern California Keck School of Medicine, Los Angeles, CA; ⁴Bascom Palmer Eye Institute, University of Miami, Miami, FL; ⁵Ophthalmology, University of Pittsburgh Medical Center, Pittsburgh, PA *CR, ✗

1587 — 12:00 Serial changes in lamina cribrosa depth and neuroretinal parameters in glaucoma. Impact of choroidal thickness. *Jayme R. Vianna, V. R. Lanoe, J. Quach, G. Sharpe, D. Hutchison, A. C. Belliveau, L. M. Shuba, M. T. Nicolela, B. C. Chauhan.* Department of Ophthalmology, Dalhousie University, Halifax, NS, Canada *CR

1588 — 12:15 Rates of Local Retinal Nerve Fiber Layer (RNFL) Thinning before and after Disc Hemorrhage (DH) in Glaucoma Patients. *Tadamichi Akagi^{1,2}, L. M. Zangwill¹, L. J. Saunders¹, A. Yarmohammadi¹, P. C. Manalastas¹, M. Suh^{1,3}, F. Medeiros¹, C. A. Girkin⁴, J. M. Liebmann³, R. N. Weinreb¹.* ¹Hamilton Glaucoma Center, Shiley Eye Institute, Department of Ophthalmology, University of California, San Diego, San Diego, CA; ²Department of Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine, Kyoto, Japan; ³Ophthalmology, Haeundae Paik Hospital, Inje University, Busan, Korea (the Republic of); ⁴School of Medicine, University of Alabama, Birmingham, AL; ⁵Bernard and Shirlee Brown Glaucoma Research Laboratory, Harkness Eye Institute, Columbia University Medical Center, New York, NY *CR

1589 — 12:30 Optic nerve head rim tissue thins more rapidly than peripapillary retinal nerve fiber layer tissue in early glaucoma. *Brad Fortune¹, J. Reynaud¹, H. Yang¹, P. Boey², S. Demirel¹, C. F. Burgoyne¹, S. K. Gardiner¹.* ¹Discoveries in Sight Research Labs, Devers Eye Institute, Legacy Health, Portland, OR; ²Glaucoma Service, Singapore National Eye Centre, Singapore, Singapore *CR

Hall G

Monday, May 08, 2017 11:00 AM-12:45 PM

Retina

229 Vitreoretinal interface and retinal detachment

Moderator: *Jennifer I. Lim*

1590 — 11:00 Effect of Vitreomacular Adhesion on Treatment Outcomes in the Ranibizumab for Edema of the macula in Diabetes-3 (READ-3) Study -Month 24 Results. *Mohammad A. Sadiq¹, M. Hassan¹, R. Afridi¹, M. S. Halim¹, D. V. Do^{1,2}, Q. D. Nguyen^{1,2}, Y. J. Sepah^{1,2}.* ¹Ophthalmology, Byers Eye Institute - Stanford University, Palo Alto, CA; ²Ocular Imaging Research and Reading Center, Menlo Park, CA *CR

1591 — 11:15 Evaluation of Visual Acuity and Acute Retinal Changes Following Intravitreal Injection of Ocriplasmin. *Dhruvesh Patel¹, A. Shah², A. Melchioris³, D. G. Miller³.* ¹Ophthalmology, Northeast Ohio Medical University, Akron, OH; ²Kettering Medical Center, Kettering, OH; ³Retina Associates of Cleveland, Cleveland, OH

1592 — 11:30 Cost Evaluation of Pneumatic Vitreolysis in Treatment for Vitreomacular Adhesion. *Gabriel M. Gordon, R. L. Avery.* Research, California Retina Consultants, Santa Barbara, CA *CR

1593 — 11:45 Iron role in retinal detachment and neuroprotective effects of transferrin. *Emilie Picard^{1,2}, A. Daruich⁴, Q. LeRouzig^{1,2}, L. Jonet^{1,2}, M. Naud^{1,2}, L. Kowalczyk⁴, A. Thomas³, N. Turck³, T. J. wolfensberger⁴, A. Moulin⁴, J. Pournaras⁴, Y. Courtois^{1,2}, F. F. Behar-Cohen^{1,4}.* ¹Centre de Recherche des Cordeliers UMRS1138, INSERM, Paris, France; ²CRC UMRS1138, University of Paris 6 and 5, Paris, France; ³Unit of Toxicology, CURML, Geneva University Hospitals, Geneva, Switzerland; ⁴Department of Ophthalmology, University of Lausanne; Jules-Gonin Eye Hospital; Fondation Asile des aveugles, Lausanne, Switzerland; ⁵Department of Human Protein Science, Geneva University, Geneva, Switzerland

Monday Papers/
Minisymposium
11:00 am – 12:45 pm

1594 — 12:00 Retinal ischemia limits visual recovery in rhegmatogenous retinal detachment. Junyeop Lee¹, J. Ahn¹, J. Jeon¹, M. Sagong¹, J. Son¹, S. Cha¹, Y. Yoon². ¹Department of Ophthalmology, Yeungnam University, Daegu, Korea (the Republic of); ²Department of Ophthalmology, Asan Medical Center, Seoul, Korea (the Republic of)

1595 — 12:15 A mathematical model of posterior vitreous detachment and generation of vitreoretinal tractions. Rodolfo Repetto¹, F. Di Michele², A. Tatone². ¹Department of Civil, Chemical and Environmental Engineering, University of Genoa, Genoa, Italy; ²Department of Information Engineering, Computer Science and Mathematics, University of L'Aquila, L'Aquila, Italy

Room 301

Monday, May 08, 2017 11:00 AM-12:45 PM

Glaucoma

230 IOP Measurement and Characterization I

Moderators: Arthur J. Sit and Michael Sullivan-Mee

1596 — 11:00 Association between Glaucoma Progression and Intraocular Pressure Measurements Over Time. Bianca Nicoletta Susanna^{1,2}, C. Susanna^{1,2}, F. B. Daga², A. Diniz-Filho², L. M. Zangwill², R. N. Weinreb², F. Medeiros². ¹Faculdade de Medicina do ABC (FMABC), São paulo, Brazil; ²Ophthalmology, UCSD, San Diego, CA *CR

1597 — 11:15 Goldmann applanation tonometer error relative to true intracameral intraocular pressure *in vitro* and *in vivo*. Sean J. McCafferty. Ophthalmology, University of Arizona, Tucson, AZ *CR, ✕

1598 — 11:30 Testing and Validation of a New IOP Telemetry Sensor Suitable for Implantation Directly into the Anterior Chamber. J Crawford C. Downs, C. A. Girkin, B. C. Samuels. Ophthalmology, University of Alabama at Birmingham, Birmingham, AL

1599 — 11:45 Chloral hydrate sedation has a negligible impact on intraocular pressure (IOP) in infants and young children. David S. Friedman^{1,2}, M. Karaoui³, V. Varadaraj¹, K. Hamweyah⁴, M. Wilson¹, L. Ali Aljasim⁴, B. Munoz¹, M. E. Collins¹. ¹Ophthalmology, Johns Hopkins Wilmer Eye Inst, Dana Center, Baltimore, MD; ²International Relations and Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ³Pediatrics, King Khaled Eye Specialists Hospital, Riyadh, Saudi Arabia; ⁴Ophthalmology, King Khaled Eye Specialists Hospital, Riyadh, Saudi Arabia ✕

1600 — 12:00 Determining Neuronal Elements of IOP Regulation Using Mice. Alexander D. Kokini^{1,2}, K. Kizhatil¹, S. John^{1,2}. ¹The Jackson Laboratory, Bar Harbor, ME; ²The Howard Hughes Medical Institute, Chevy Chase, MD

1601 — 12:15 Exoenzyme C3 transferaselowered IOP in rats. Xiyang Liu¹, J. Tan¹, Y. Wang¹, N. Fan¹, P. L. Kaufman², N. Wang³. ¹Shenzhen Eye Hospital, Shenzhen, China; ²Department of Ophthalmology & Visual Science, University of Wisconsin-Madison, Madison, WI; ³Tongren Hospital, the Capital University of Medicine, Beijing, China

1602 — 12:30 Stimulation of Hypothalamic Orexin Neurons using DREADD Technology Increases Intraocular Pressure. Brian C. Samuels¹, N. Hammes², C. Bernabe², L. Federici², A. Molosh³, S. Bhatnagar⁴, A. Shekhar³, P. Johnson². ¹Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ²Anatomy and Cellular Biology, Indiana University School of Medicine, Indianapolis, IN; ³Psychiatry, Indiana University School of Medicine, Indianapolis, IN; ⁴Anesthesiology and Critical Care, University of Pennsylvania School of Medicine, Philadelphia, PA *CR

Room 307

Monday, May 08, 2017 11:00 AM-12:45 PM

Retinal Cell Biology

231 RPE metabolism, autophagy and cell death

Moderators: Kai Kaarniranta and Goldis Malek

1603 — 11:00 An essential role of the sigma-1 receptor in mitophagy and autophagosome-lysosome fusion. Huan Yang, T. Mavlyutov, L. Guo. McPherson Eye Research Institute, University of Wisconsin, Madison, WI

1604 — 11:15 Metabolic alterations caused by dysregulation of mitochondrial dynamics in RPE cells. Wei-Hua Lee¹, V. Bhute², S. Lewis¹, H. Higuchi¹, S. Ikeda^{1,3}, S. P. Palecek², A. Ikeda^{1,3}. ¹Medical Genetics, University of Wisconsin-Madison, Madison, WI; ²Chemical and Biological Engineering, University of Wisconsin-Madison, Madison, WI; ³McPherson Eye Research Institute, Madison, WI

1605 — 11:30 Pink1 deficiency induces Nrf2 dependent EMT and metabolic dysfunction in RPE cells. Sayantan Datta¹, M. D. Cano¹, K. Ito², H. Sesaki², J. T. Handa¹. ¹Ophthalmology, Johns Hopkins School of Medicine, Baltimore, MD; ²Cell Biology, Johns Hopkins Medicine, Baltimore, MD

1606 — 11:45 Targeting Thyroid Hormone Signaling to Protect Retinal Pigment Epithelium from Oxidative Stress. Hongwei Ma, F. Yang, M. Butler, X. Ding. The Department of Cell Biology, Univ of Oklahoma Health Sci Ctr, Oklahoma City, OK

1607 — 12:00 Amyloid precursor protein synthesis, processing, and secretion in retinal pigmented epithelial cells: Effects of hypoxia. Philip Mzyk, J. Harned, S. Nagar, M. C. McGahan. Molecular Biomedical Sciences, North Carolina State University, Raleigh, NC

1608 — 12:15 Chloroquine-induced Retinal Toxicity In Vitro and In Vivo. Dhanesh Amarnani^{1,2}, E. Kim^{1,2}, P. A. D'Amore^{1,2}, L. A. Kim^{1,2}. ¹Ophthalmology, Massachusetts Eye and Ear, Boston, MA; ²Schepens Eye Research Institute, Boston, MA

Room 308

Monday, May 08, 2017 11:00 AM-12:45 PM

Visual Neuroscience

232 Ganglion cells

Moderators: Paul R. Martin and Maureen A. McCall

1609 — 11:00 Amacrine Cell-Ganglion Cell Gap Junctional Coupling, but not Ganglion Cell-Ganglion Cell Coupling, Underlies Long Range Interactions in the Retina. Kaushambi Roy, S. A. Bloomfield. Biological and Vision Sciences, SUNY, College of Optometry, Clifton, NJ

1610 — 11:15 Elevated ambient pressure modulates AMPA receptor expression in retinal ganglion cells. Scott A. Nawy, A. L. Cahill. Department of Ophthalmology and Visual Sciences, University of Nebraska Medical Center, Omaha, NE

1611 — 11:30 Two Photon, Label-free Imaging of Mitochondrial Dysfunction in Retinal Ganglion Cells. Jasmine S. Yung, H. K. Mak, H. Ng, X. Cao, C. K. Leung. Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong *CR

1612 — 11:45 A peculiar distribution pattern of retinal ganglion cells in the giant panda (*Ailuropoda melanoleuca*). Wenyao Wang¹, C. Wang³, Y. Zhou¹, R. Wei³, Y. Nan¹, L. Deng³, J. Gao¹, C. Zhang², D. Li³, M. Pu¹. ¹Anatomy/Embryology, Peking University, Beijing, China; ²Peking University Third Hospital, Beijing, China; ³China Conservation and Research Center for the Giant Panda (CCRCGP), Chengdu, China

1613 — 12:00 Chromatic and achromatic response properties of blue-on cells in marmoset lateral geniculate nucleus. Paul R. Martin¹, C. Eiber¹, A. Pietersen¹, N. Zeater¹, S. Solomon². ¹Save Sight Institute, University of Sydney, Sydney, NSW, Australia; ²University College, London, United Kingdom

1614 — 12:15 Properties of retinogeniculate synapses of intrinsically photosensitive retinal ganglion cells. Ryan T. Maloney, S. Cruikshank, D. M. Berson. Neuroscience, Brown University, Box GL-N, RI

1615 — 12:30 Developmental mechanisms for establishing functional non-image-forming visual circuits. Onkar S. Dhande, A. H. Phan, T. A. Seabrook, P. L. Nguyen, J. T. Wang, A. Huberman. Neurobiology, Stanford University, Stanford, CA

Room 309

Monday, May 08, 2017 11:00 AM-12:45 PM

Clinical/Epidemiologic Research

233 Improving Eye Care Delivery

Moderator: Lisa J. Keay

1616 — 11:00 The Extent to Which Medicare Beneficiaries Receive Eye Care Services Exclusively By Ophthalmologists or Optometrists - A Comparison of All 50 States. Michael Huvard, D. Sanders, C. Andrews, M. Shah, J. D. Stein. Ophthalmology, Kellogg Eye Center/ University of Michigan, Ann Arbor, MI

1617 — 11:15 Evaluating the Role of A Comprehensive Eye Exam When Joining Medicare. Emily W. Gower^{2,1}, D. S. Friedman⁴, C. Greven³, D. J. Lee⁵, B. L. Lam⁵, A. D. Henderson⁴, C. Chen⁵, C. Owsley⁶, G. McGwin⁶, Z. Keenum⁶, J. A. Haller^{7,8}, A. P. Murchison^{7,8}, T. Horan⁸, E. Shiuey^{7,8}. ¹Epidemiology and Prevention, Wake Forest Health Sciences, Winston-salem, NC; ²Epidemiology, University of North Carolina at Chapel Hill, Chapel Hill, NC; ³Ophthalmology, Wake Forest School of Medicine, Winston Salem, NC; ⁴Wilmer Eye Institute, Johns Hopkins School of Medicine, Baltimore, MD; ⁵Bascom Palmer Eye Institute, Miami, FL; ⁶Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ⁷Wills Eye Institute, Philadelphia, PA; ⁸Sidney Kimmel Medical College, Philadelphia, PA

1618 — 11:30 Telemedicine in Long-term Care of Glaucoma Patients. Jamie Odden¹, M. Schornack², Z. Bingying³, C. Choo², S. M. Shah², G. Stalboerger², J. Bennett², C. Khanna². ¹Medical School, University of North Dakota, Fargo, ND; ²Ophthalmology, Mayo Clinic, Rochester, MN

1619 — 11:45 Costs of a Community-Based Glaucoma Detection Program: Analysis of the Philadelphia Glaucoma Detection and Treatment Project. Laura Pizzi¹, M. Waisbourd², L. A. Hark⁴, K. M. Prioli³, L. Katz⁵. ¹Center for Health Outcomes, Policy, and Economics, Rutgers University, Piscataway, NJ; ²Ophthalmology Division, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; ³Thomas Jefferson University, Philadelphia, PA; ⁴Research, Wills Eye Hospital, Philadelphia, PA; ⁵Glaucoma, Wills Eye Hospital, Philadelphia, PA

1620 — 12:00 Deciding where to access cataract surgery: a discrete choice experiment in Australia. Lisa J. Keay⁵, V. Q. Do⁵, A. Palagyi², P. J. McCluskey¹, A. J. White^{2,4}, N. Carni⁴, F. Stapleton³, T. Laba⁵. ¹Save Sight Institute, University of Sydney, Sydney, NSW, Australia; ²Ophthalmology, The University of Sydney, Sydney, NSW, Australia; ³School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia; ⁴The Westmead Institute for Medical Research, University of Sydney, Sydney, NSW, Australia; ⁵The George Institute for Global Health, The University of Sydney, Sydney, NSW, Australia

1621 — 12:15 The changing face of the Canadian ophthalmology workforce: an analysis of practice patterns and associations over two decades. Tina Felfeli, Y. Jin, Y. M. Buys. Ophthalmology and Vision Sciences, Faculty of Medicine, University of Toronto, Toronto, ON, Canada

1622 — 12:30 Study of the Uptake of Low Vision Rehabilitation Services: Examining the Magnitude and Characteristics of Service Utilization. Judith E. Goldstein, B. K. Swenor. Ophthalmology, Johns Hopkins University, Baltimore, MD

Room 310

Monday, May 08, 2017 11:00 AM-12:45 PM

Immunology/Microbiology

234 Immunological influences on AMD

Moderator: Douglas A. Jabs

1623 — 11:00 Incidence of Age-Related Macular Degeneration in Patients with the Acquired Immune Deficiency Syndrome. Douglas A. Jabs^{1,2}, M. L. Van Natta², R. P. Danis³, J. Pak³, P. Hunt⁴. ¹Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY; ²Epidemiology, The Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD; ³Ophthalmology, University of Wisconsin School of Medicine and Public Health, Madison, WI; ⁴Medicine, University of California San Francisco School of Medicine, San Francisco, CA

1624 — 11:15 Retinal monocyte-derived complement, not systemically derived complement contributes to the early onset of focal retinal degeneration. Haihan Jiao¹, R. Natoli^{1,2}, N. Fernando¹, T. Racic¹, J. Chu-Tan¹, K. Valter^{1,2}, M. Rutar¹, J. Provis^{1,2}. ¹John Curtin School of Medical Research, Australian National University, Canberra, ACT, Australia; ²Australian National University Medical School, Canberra, ACT, Australia

1625 — 11:30 Deletion of complement factor H is associated with accumulation of subretinal Iba-1-positive cells and retinal degeneration in aged mice. Sha-Mei Liao, N. Buchanan, J. Demirs, B. Leehy, C. Lewis, J. Yang, V. Davis, N. V. Rangaswamy, M. Crowley, K. Anderson, C. E. Bigelow, T. P. Dryja, B. D. Jaffee. Ophthalmology, Novartis, Cambridge, MA *CR

1626 — 11:45 Plasma level of lipocalin-2 is increased in neovascular age-related macular degeneration, particularly in patients with macular fibrosis. Nan Yang¹, J. Lechner¹, R. E. Hogg², L. Toth¹, G. Silvestri³, U. Chakravarthy², M. Chen¹, H. Xu¹. ¹Queen's university Belfast, Center for experimental medicine, Belfast, United Kingdom; ²Queen's university Belfast, Institute for Health Sciences, Belfast, United Kingdom; ³Royal Hospital, Belfast, United Kingdom

1627 — 12:00 Interleukin 33 attenuates choroidal neovascularization by activating mast cells. Sofia Theodoropoulou¹, D. A. Copland¹, J. Liu¹, J. Wu¹, A. D. Dick^{1,2}. ¹Academic Unit of Ophthalmology, University of Bristol, Bristol, United Kingdom; ²University College London - Institute of Ophthalmology, London, United Kingdom

1628 — 12:15 Pro-Angiogenic Mechanism of Activated Macrophages from Patients with Age-related Macular Degeneration. Shira Levi, M. Grunin, S. Elbaz-Hayoun, B. Rinsky, I. Chowers. Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel

Room 316

Monday, May 08, 2017 11:00 AM-12:45 PM

Visual Psychophysics/Physiological Optics / Clinical/Epidemiologic Research / Glaucoma / Low Vision / Multidisciplinary Ophthalmic Imaging / Retinal Cell Biology / Retina / Visual Neuroscience

235 Applications of adaptive optics for retinal imaging and visual function testing - Minisymposium

New applications of adaptive optics are emerging for in vivo probing of retinal structure and function. The concept of adaptive optics will be explained for a wide variety of techniques, followed by several applications made possible by this technology. Examples include two photon imaging to visualize RPE and other cells, OCT to quantify photoreceptor and choriocapillaris structure, examination of retinal function, cone distributions, single particle blood velocity, ganglion cells, and the relationship between cone structure and function in inherited retinal diseases. These unprecedented views into the retina allow new thinking about the microcircuitry and metabolic support of local retina. The benefits include the potential for earlier and more accurate detection of pathology and more rapid assessment of the outcomes of treatment.

Moderators: Ann E. Elsner and Thomas W. Raasch

— 11:00 **Introduction**

1629 — 11:03 Principles of adaptive optics and imaging two-photon excited fluorescence in living retinas. *Jennifer J. Hunter.* Flaum Eye Institute, University of Rochester, Rochester, NY; Center for Visual Science, University of Rochester, Rochester, NY *CR

1630 — 11:25 AO-OCT quantification of structure and physiology of the outer retina. *Donald T. Miller.* School of Optometry, Indiana University, Bloomington, IN *CR

1631 — 11:41 Cone-targeted psychophysics in the trichromatic cone mosaic using adaptive optics. *William S. Tuten.* Psychology/Ophthalmology, University of Pennsylvania, Narberth, PA

1632 — 11:57 Multiply scattered light imaging of the human retinal vasculature and blood flow in health and disease. *Stephen A. Burns.* School of Optometry, Indiana University, Bloomington, IN *CR

1633 — 12:13 Imaging individual retinal ganglion cell layer neurons in the living eye. *Ethan A. Rossi.* Department of Ophthalmology, University of Pittsburgh School of Medicine, Pittsburgh, PA *CR

1634 — 12:29 The relationship between cone structure and function in inherited retinal diseases. *Jacque L. Duncan.* Ophthalmology, University of California, San Francisco, San Francisco, CA

Room 324

Monday, May 08, 2017 11:00 AM-12:45 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Glaucoma / Low Vision / Retinal Cell Biology

236 Optical coherence tomography in pediatric neuro-ophthalmology - Minisymposium

Optical coherence tomography (OCT) has revolutionized the diagnosis and treatment of adults with retinal and optic nerve diseases but until recently has not been readily available for use in children. Hand-held OCT now provides the possibility of imaging the retina and optic nerve head in infants and children from birth onwards. This minisymposium seeks to provide an overview of what we can currently achieve using hand-held OCT for the diagnosis and monitoring of pediatric neuro-ophthalmology cases. It also explores the contribution that hand-held OCT makes, improving our understanding of neuro-ophthalmological diseases in childhood.

Moderators: Irene Gottlob and Frank A. Proudlock

1635 — 11:00 Introduction and challenges. *Frank A. Proudlock.* Ophthalmology, University of Leicester, Leicester, United Kingdom

1636 — 11:10 Abnormal foveal development. *Irene Gottlob.* Department of Neuroscience, Psychology and Behaviour, University of Leicester, Leicester, United Kingdom

1637 — 11:28 Monitoring optic pathway gliomas. *Robert Avery.* University of Pennsylvania, Santa Barbara, DE

1638 — 11:46 Optic neuropathy in children with primary glaucoma. *Anastasia Pilat.* Ophthalmology group, University of Leicester, Leicester, United Kingdom

1639 — 12:04 Normative database in children: Children are not small adults. *Mays El-Dairi.* pediatric and neuro-ophthalmology, Duke University, Durham, NC; Duke reading center, Durham, NC *CR

1640 — 12:22 Retinal changes in children with cerebral malaria. *Jack Gormley.* University of Liverpool, Liverpool, United Kingdom; University of Leicester, Leicester, United Kingdom

— 12:40 **Discussion**

Exhibit/Poster Hall A0072-A0131

Monday, May 08, 2017 11:00 AM-12:45 PM

Multidisciplinary Ophthalmic Imaging Group

237 Clinical applications of OCT angiography*Moderators: Toco Y. Chui and Alfredo Dubra*

1641 — A0072 Optical Coherence Tomography Angiography (OCTA): Morphological variations in naïve-choroidal neovascularization after intravitreal treatment (IVT) with antiVEGF. *Simona Altimari¹, C. Vulcano², A. Labate³, E. Sterbini¹, M. Giubilei¹.* ¹Ophthalmology, Colferro Hospital, Roma, Italy; ²Ophthalmology, Crotone Hospital, Crotone, Italy

1642 — A0073 Comparison of reflectivity signal obtained by Enface OCT and OCT Angiography in cystoid macular edema. *Roberta Farci¹, F. Coscas², A. Sellam², G. J. Coscas², M. Fossarello¹, E. Souied², G. Diaz³.* ¹Ophthalmology, University of Cagliari, Cagliari, Italy; ²Eye Clinic Department, Hopital Intercommunal, Créteil, France; ³Biomedical Science Department, University of Cagliari, Cagliari, Italy

1643 — A0074 Quantification of flow at baseline and follow-up in uveitic and non-age-related macular degeneration choroidal neovascular membranes (CNVM) using Optical Coherence Tomography-Angiography (OCT-A). *Tomas Burke, E. Carreno, C. Bailey, R. W. Lee, A. D. Dick, A. H. Ross.* Ophthalmology, Bristol Eye Hospital, Briatol, United Kingdom

1644 — A0075 Pseudophakic cystoid macular edema imaged by Optical Coherence Tomography Angiography. *Aude Couturier^{1,2}, D. Chetrit¹, S. Bonnin¹, V. Mane¹, A. Gaudric¹, R. Tadayoni^{1,2}.* ¹Ophthalmology, Hopital Lariboisiere, Paris, France; ²UPMC UMRS968, Institut de la Vision, Paris, France

1645 — A0076 Optical Coherence Tomography Angiography In Central Serous Chorioretinopathy Treated With Eplerenone Or Photodynamic Therapy. *Alessandro Rabiolo, I. Zucchiatti, A. marchese, G. Baldin, R. Sacconi, D. Montorio, M. Cicinelli, L. Querques, G. Querques, F. Bandello.* Department of Ophthalmology, San Raffaele Scientific Institute, Milan, Italy *CR

1646 — A0077 Retinal vascular density evaluated using Optical Coherence Tomography Angiography - a novel technique. *Isaac Chay^{1,2}, C. S. Tan^{1,2}.* ¹National Healthcare Group Eye Institute, Tan Tock Seng Hospital, Singapore, Singapore; ²Fundus Image Reading Center, National Healthcare Group Eye Institute, Singapore, Singapore

1647 — A0078 Perfused Vessel Density of Peripapillary Capillaries vs. Major Vessels in Primary Open Angle Glaucoma (POAG) Using OCT Angiography. *Shelley Mo^{1,2}, B. Cortes², T. Y. Chui², R. B. Rosen².* ¹Icahn School of Medicine at Mount Sinai, New York, NY; ²Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY *CR

1648 — A0079 The Association Between Macula and Optic Nerve Head Optical Coherence Tomography Angiography (OCT-A) Vessel Densities in Glaucoma, Glaucoma Suspect and Healthy Eyes. *Patricia Isabel C. Manalastas¹, L. M. Zangwill¹, L. J. Saunders¹, F. B. Daga¹, M. Christopher¹, A. Yarmohammadi¹, T. Akagi^{1,3}, T. Shoji^{1,4}, R. C. Pentead¹, M. Suh^{1,2}, F. Medeiros¹, R. N. Weinreb¹.* ¹Ophthalmology, University of California, San Diego, San Diego, CA; ²Ophthalmology, Haeundae Paik Hospital, Inje University, Busan, Korea (the Republic of); ³Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine, Kyoto, Japan; ⁴Ophthalmology, Saitama Medical University, Iruma, Japan *CR, ✗

1649 — A0080 Heidelberg Engineering Optical Coherence Tomography Angiography Analysis of Macular Flow Density in Primary Open-Angle Glaucoma and Healthy Patients. *Amelie Pielen, P. Glusa, C. Framme, R. Kromer.* University Eye Hospital, Hannover Medical School, Hannover, Germany

1650 — A0081 OCT angiography evaluation of peripapillary vessel density in eyes treated with plaque radiotherapy for uveal melanoma. *Audra Miller¹, Y. Jia¹, L. Liu¹, C. Binder², D. Huang¹, A. Hung², C. R. Thomas², D. J. Wilson¹, A. Skalet¹.* ¹Casey Eye Institute, Oregon Health & Science University, Portland, OR; ²Department of Radiation Medicine, Oregon Health & Science University, Portland, OR *CR

1651 — A0082 OCT-Angiography Quantification of Peripapillary Retinal Vessel Density In Myopes with and Without Tilted Discs and Emmetropes. *Rudrani Banik^{1,2}, S. Raouf^{1,3}, D. Fell^{1,3}, N. K. Scripsema^{1,2}, S. B. Dave¹, P. M. Garcia¹.* ¹Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ²Ophthalmology, Icahn School of Medicine of Mount Sinai, New York, NY; ³Stonybrook School of Medicine, Stonybrook, NY

1652 — A0083 Optical coherence tomography angiography parameters in diabetic patients with no diabetic retinopathy. *Amit Meshi, Q. You, D. G. Bartsch, L. J. Saunders, T. Lin, R. Gaber, I. Kilic, W. R. Freeman.* Shiley Eye Institute, University of California San Diego, San Diego, CA

1653 — A0084 Quantitative spectral-domain optical coherence tomography angiography (OCTA) of Diabetic Retinopathy (DR) Severity. *Tai-Chi Lin¹, P. Gogte², N. Palejwala³, A. Shahidzadeh¹, S. Itty³, M. S. Humayun¹, A. A. Moshfeghi¹, H. Ameri¹, Z. Chu¹, R. K. Wang¹, J. D. Wolfe², P. U. Dugel³, A. H. Kashani¹.* ¹Ophthalmology, USC Roski Eye Institute, Los Angeles, CA; ²Oakland University Department of Ophthalmology, Associated Retinal Consultants, Royal Oak, MI; ³Retinal Consultants of Arizona, Phoenix, AZ; ⁴Biomedical Engineering, University of Washington, Seattle, WA *CR

1654 — A0085 Agreement between OCT-Leakage and Fluorescein Angiography to identify sites of alteration of the Blood-Retinal Barrier in Diabetes. *Dalila G. Alves¹, T. Santos¹, I. Marques^{1,2}, C. A. Neves¹, M. Soares^{1,2}, C. Lobo^{1,3}, J. G. Cunha-Vaz^{1,3}.* ¹AIBILI - Association for Innovation and Biomedical Research on Light and Image, Coimbra, Portugal; ²Ophthalmology Department, Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal; ³Faculty of Medicine of the University of Coimbra, Coimbra, Portugal *CR, ✗

1655 — A0086 Ischemic region detection using Optical Coherence Tomography Angiography. *Lin An, A. Fard, M. K. Durbin.* Clinical and Application Department, Carl Zeiss Meditec, Walnut Creek, CA *CR

1656 — A0087 Effectiveness of en face spectral domain optical coherence tomography for detection of diabetic macular edema. *Nathan Cutler, A. Shahlaee, M. K. Adam, J. Hsu.* Retina Service, Wills Eye Hospital, Philadelphia, PA

1657 — A0088 Diabetic Choroidopathy: choroidal vessel density and volume in diabetic retinopathy with swept-source optical coherence tomography. *Jay Wang¹, I. Lains^{1,2}, J. Providencia^{2,3}, G. Armstrong¹, K. E. Talcott¹, P. Gil^{2,3}, J. Gil^{2,3}, J. Marques^{2,3}, J. Figueira^{2,3}, D. Husain¹, I. K. Kim¹, J. W. Miller¹, R. Silva^{2,3}, J. B. Miller¹.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Faculty of Medicine, University of Coimbra, Coimbra, Portugal; ³Association for Innovation and Biomedical Research on Light, Coimbra, Portugal *CR

1658 — A0089 Anatomical Location-Specific Normative Quantification of Macular Nonperfusion in Diabetic Retinopathy using Optical Coherence Tomography Angiography (OCTA). *Richard B. Rosen^{1,2}, B. Krawitz^{1,2}, E. Philips^{3,1}, R. Baviera¹, S. Mo^{1,2}, R. Weitzl¹, J. Carroll³, T. Chui^{1,2}.* ¹Ophthalmology, New York Eye & Ear Infirmary, New York, NY; ²Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY; ³Ophthalmology, Medical College of Wisconsin, Milwaukee, WI *CR

1659 — A0090 Diabetic retino-choroidopathy: automated morphofunctional assessment.

Marco Lupidi^{1,2}, C. Cagini¹, F. Coscas², F. TITO¹, M. Nicolo³, F. Cardillo Piccolino⁴, G. J. Coscas². ¹Biomedical and Surgical Sciences, Eye Clinic, University of Perugia, Perugia, Italy; ²Odeon Ophthalmology Center, Paris, France; ³Di.N.O.G.Mi, Clinica Oculistica, Università di Genova, Genova, Italy; ⁴The Macula Onlus Foundation, Genova, Italy *CR

1660 — A0091 Evaluation of microaneurysms in diabetic retinopathy using different types of optical coherence tomography angiography.

Akihiro Ishibazawa, T. Mase, K. Shimizu, Y. Song, A. Yoshida. Ophthalmology, Asahikawa Medical University, Asahikawa, Japan *CR

1661 — A0092 Spatial pattern of retinal capillary dropout in diabetic retinopathy: evaluation using OCT angiography.

Yoshihiro Kaizu¹, S. Nakao¹, T. Hayami², M. Yamaguchi¹, I. Wada¹, K. Fujiwara¹, S. Yoshida¹, T. Ishibashi¹, K. Sonoda¹. ¹Ophthalmology, Kyushu University, Fukuoka, Japan; ²Intelligent Mechanical Systems, Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan

1662 — A0093 Relationship between internal reflectivity of diabetic microaneurysms on SD-OCT and detection on OCT Angiography.

Daniele De Geronimo¹, M. Parravano¹, F. Scarinci¹, L. Querques², G. Virgili³, J. Simonetti⁴, M. Varano¹, F. Bandello², G. Querques². ¹Medical Retina Unit, G.B.Bietti Foundation, Rome, Italy; ²Department of Ophthalmology, University Vita-Salute, IRCCS San Raffaele, Milan, Italy; ³Azienda Ospedaliero-Universitaria Careggi, Firenze, Italy; ⁴Department of Ophthalmology, Feinberg School of Medicine, Northwestern University, Chicago, IL

1663 — A0094 Quantification of changes in foveal capillary architecture caused by idiopathic epiretinal membrane using OCT-Angiography.

Pieter Nelis, F. Alten, C. R. Clemens, P. Heiduschka, N. Eter. Department of Ophthalmology, University of Muenster Medical Center, Muenster, Germany *CR

1664 — A0095 Abnormalities in Superficial and Deep Capillary Plexus of Fellow Eye of Patients Affected by Idiopathic Epiretinal Membrane in Controlateral Eye. Andrea M. Coppe, G. Lapucci, M. Gilardi, R. Gattegna, P. Cosimi, G. Ripandelli. Ophthalmology, GB Foundation Study Ophth IRCCS, Rome, Italy**1665 — A0096 Segmented Swept Source OCT Angiography Assessment of the Foveal Avascular Zone Ratio in Ultra Wide-Field Imaged Non-Proliferative and Proliferative Diabetic Retinopathy: New Biomarker of Prognosis.**

Francesco Stringa¹, E. Tsamis^{1,2}, S. Ch'ng¹, G. Bento¹, Y. D'Souza¹, A. Jalil¹, P. Stanga^{1,3}. ¹Manchester Vision Regeneration (MVR) Lab at NIHR/Wellcome Trust Manchester Clinical Research Facility and Manchester Royal Eye Hospital, Manchester Academic Health Science Centre, Central Manchester University Hospital NHS Foundation Trust, Manchester, United Kingdom; ²Division of Pharmacy & Optometry, School of Health Sciences, Faculty of Biology, Medicine & Health, Manchester Academic Health Science Centre, University of Manchester, Manchester, United Kingdom; ³Division of Evolution & Genomic Sciences, School of Biological Sciences, Faculty of Biology, Medicine and Health, Manchester Academic Health Science Centre, University of Manchester, Manchester, United Kingdom *CR

1666 — A0097 Evaluation of foveal avascular zone in diabetic patients with or without macular edema by swept source optical coherence tomography angiography.

Don-Il Ham, S. Kim, M. Kong. Samsung Medical Center, Ophthal, Sungkyunkwan Univ Sch of Med, Seoul, Korea (the Republic of)

1667 — A0098 Optical Coherence Tomography Angiography (OCTA) demonstrates enlarged foveal avascular zone and decreased macular vessel density in patients with migraine with aura.

Melinda Chang^{1,2}, N. Phasukkijwatana¹, S. Pineles¹, M. Rahimi¹, D. Sarraf¹, M. Johnston³, A. Charles³, A. Arnold¹. ¹Ophthalmology, Jules Stein Eye Institute, Los Angeles, CA; ²Doheny Eye Institute, Los Angeles, CA; ³Neurology, UCLA, Los Angeles, CA

1668 — A0099 Swept-Source OCT-Angiography of the Anomalous Foveal Avascular Zone.

Collier Jiang¹, N. Choudhry^{2,3}. ¹Faculty of Medicine, University of Toronto, Toronto, ON, Canada; ²Herzig Eye Institute, Toronto, ON, Canada; ³Department of Ophthalmology & Vision Sciences, University of Toronto, Toronto, ON, Canada *CR

1669 — A0100 Repeatability of FAZ Area and Vessel Density Analysis with Projection Artifacts Removal on Optical Coherence Tomography Angiography (OCT-A) in Normal, Glaucoma and Retina Eyes.

Yulia Wolfson, Y. Hsiao, J. Tian, K. A. Soules, B. K. Jang, Q. Zhou. Optovue, Inc., Fremont, CA *CR

1670 — A0101 Evaluation of the foveal avascular zone in children with type 1 diabetes using optical coherence tomography with angiography (OCTA).

Kim Duong^{1,2}, M. Shah², R. Ragam², B. Szirth². ¹SUNY College of Optometry, Springfield, VA; ²Rutgers New Jersey Medical School, New Brunswick, NJ

1671 — A0102 Difference of foveal avascular zone of normal eye in three different OCT angiography machines. Hideki Shihara, S. Sonoda, N. Kakiuchi, H. Terasaki, T. Yamashita, T. Sakamoto. Kagoshima University, Kagoshima city, Japan**1672 — A0103 Optical coherence tomography angiography analysis of the foveal avascular zone: evaluation and measurement of reproducibility and reliability in different settings.**

Alessandro Arrigo¹, C. La Spina¹, A. Carnevali^{1,2}, A. marchese¹, R. Sacconi¹, A. Rabiolo¹, L. Querques¹, M. Cicinelli¹, G. Querques¹, F. Bandello¹. ¹Department of Ophthalmology, IRCCS San Raffaele Scientific Institute, University Vita-Salute San Raffaele, Milan, Italy, Milan, Italy; ²Department of Ophthalmology, University of Magna Graecia, Catanzaro, Italy, Catanzaro, Italy *CR

1673 — A0104 Optical Coherence Tomography Angiography for Evaluation of the Foveal Avascular Zone in Diabetic Retinopathy.

Yu-Qiang Soh, D. Ting, T. Wong, I. Yeo, G. C. Cheung, G. S. Tan. Singapore National Eye Centre, Singapore, Singapore

1674 — A0105 Fractal dimension analysis of parafoveal microvascular anatomy using optical coherence tomography angiography in two machines.

Kareem Sioufi¹, A. Shahlaee², E. T. Say¹, S. Ferenczy¹, J. Hsu², C. L. Shields¹. ¹Oncology Service, Wills Eye Hospital, Philadelphia, PA; ²Retina Service, Wills Eye Hospital, Philadelphia, PA

1675 — A0106 Refinement of fractal analysis methodology of swept-source optical coherence tomography angiography images of normal eyes.

Nitish Mehta¹, S. Zahid¹, B. Q. Chiu¹, S. Bhardwaj¹, E. Tsui¹, E. Young¹, J. A. Young¹, J. J. Jung². ¹Ophthalmology, New York University, New York, NY; ²East Bay Retina Consultants, Inc, Oakland, CA

1676 — A0107 Quantitative OCT-Angiography in Optic Disc Pit.

Netan Choudhry^{2,1}, B. Turco¹, J. Golding¹. ¹Herzig Eye Institute, Toronto, ON, Canada; ²Ophthalmology & Vision Sciences, University of Toronto, Toronto, ON, Canada

1677 — A0108 Microvasculature changes in macular region in glaucomatous eyes using optical coherence tomography-based angiography (OCTA).

Chieh-Li Chen^{1,2}, P. Nobrega², J. C. Wen², R. C. Mudumba², S. Menda², M. A. Johnstone², P. P. Chen², R. K. Wang^{1,2}. ¹Department of Bioengineering, University of Washington, Seattle, WA; ²Department of Ophthalmology, University of Washington, Seattle, WA *CR

1678 — A0109 Optical Coherence Tomography Angiography in Glaucoma.

Jeffrey Ma, P. L. Nesper, A. Anchala, A. A. Fawzi. Ophthalmology, Northwestern University, Chicago, IL

- 1679 — A0110 Automatic classification of sickle cell retinopathy using quantitative features in optical coherence tomography angiography.** Minhaj Nur Alam¹, D. Thapa¹, J. I. Lim², D. Cao², X. Yao^{1,2}. ¹Department of Bioengineering, University of Illinois at Chicago, Chicago, IL; ²Department of Ophthalmology and Visual Science, University of Illinois at Chicago, Chicago, IL
- 1680 — A0111 Spectral-Domain Optical Coherence Tomography and Optical Coherence Tomography Angiography in Sickle Cell Retinopathy.** Laura Dell'Arti¹, L. Riva¹, A. Invernizzi², A. Aretti¹, G. Barteselli³, E. Benatti¹, C. Mainetti¹, E. Tabacchi¹, F. Viola¹. ¹Università degli Studi di Milano, Milan, Italy; ²Eye Clinic, Luigi Sacco Hospital, Milan, Italy; ³Genentech, Inc, San Francisco, CA *CR
- 1681 — A0112 Analysis of the foveal microvasculature in sickle cell disease using optical coherence tomography angiography.** azzeddine Mokrane, F. Fajnkuchen, L. Qu Knafo, A. Giocanti. Ophthalmology department, Avicenne Hospital, Bobigny, France
- 1682 — A0113 Assessment of Macular Perfusion in Multiple Evanescent White Dot Syndrome Using Optical Coherence Tomography Angiography.** Abtin Shahlaee¹, J. Sridhar^{2,1}, N. Bagheri^{2,1}, W. Samara¹, J. P. Dunn¹, S. Mehta¹. ¹Retina Service, Wills Eye Hospital, Philadelphia, PA; ²Retina, Bascom Palmer Eye Institute, Miami, FL
- 1683 — A0114 OCT angiography - new insights into an Ocular Syphilis outbreak in Brazil.** Isabel M. Borelli, C. Zett Lobos, G. Costa de Andrade, C. Muccioli. Ophthalmology, Universidade Federal de São Paulo, São Paulo, Brazil
- 1684 — A0115 Optical Coherence Tomography Angiographic Findings in Patients with Posterior Uveitis.** Ching J. Chen, J. Burnham, M. Olson. Department of Ophthalmology, Univ of Mississippi Med Center, Jackson, MS *CR
- 1685 — A0116 Optical Coherence Tomography Angiography in Pars Planitis.** Daniela Meizner, V. Soberon, G. Salcedo Villanueva. Asociación para Evitar la Ceguera, Mexico, Mexico
- 1686 — A0117 Assessment Of Subclinical Microvascular Flow Characteristics In Aneurysmal Retinal Vasculitis Using Optical Coherence Tomography Angiography.** J Emanuel Carvalho, D. S. Grewal, D. Thomas. Medical Retina, Moorfields Eye Hospital, London, United Kingdom
- 1687 — A0118 Optical Coherence Tomography Angiography in Serpiginous Choroiditis.** Daniela Montorio^{1,2}, E. Miserocchi¹, G. Modorati¹, S. Mercuri¹, A. Rabiolo¹, R. Sacconi^{1,3}, A. Carnevali^{1,4}, L. Querques¹, G. Querques¹, F. Bandello¹. ¹Department of Ophthalmology, IRCCS San Raffaele Scientific Institute, University Vita-Salute San Raffaele, Milan, Italy, Milan, Italy; ²Eye Clinic, Department of Neurosciences, Reproductive Sciences and Dentistry., University of Naples Federico II, Napoli, Italy; ³Department of Ophthalmology, University of Verona, University hospital of Verona, Verona, Italy., Verona, Italy; ⁴Department of Ophthalmology, University of "Magna Graecia", Catanzaro, Italy., Catanzaro, Italy *CR
- 1688 — A0119 OCT angiography findings in Autosomal Dominant Drusen patients.** Giulia Caminiti, R. Serra, C. Iovino, E. Peiretti. Eye Clinic, University Of Cagliari, Cagliari, Italy
- 1689 — A0120 Follow-up of patients with PCV in CSCR treated with PDT or IVT of ANTI-VEGF; better ICGA or OCT-A?** Enrico Peiretti, C. IOVINO, R. Serra, G. Caminiti. Odontostomatol & Surgical Science, Azienda Ospedaliera universitaria S. Giovanni di D, Cagliari, Italy
- 1690 — A0121 High Correlation between OCTA and OCT Measurements in Patients with Optic Atrophy.** Ali Shariati¹, Y. Shen², Z. Chu³, M. Powers¹, R. K. Wang³, Y. J. Liao¹. ¹Ophthalmology, Stanford School of Medicine, Stanford, CA; ²Wuhan University, Wuhan, China; ³Bioengineering, Washington University, Seattle, WA
- 1691 — A0122 Optical Coherence Tomography Angiography (OCTA) after Plaque and Proton Beam Radiotherapy for Uveal Melanoma.** Edward L. Randerson¹, C. Warren¹, R. E. Linderman¹, M. R. Strampe^{1,4}, I. Sparks³, H. Russell¹, K. McKenney¹, J. Carroll^{1,2}, W. Wirostko¹. ¹Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI; ²Cell Biology, Neurobiology, and Anatomy, Medical College of Wisconsin, Milwaukee, WI; ³Radiation Oncology, Medical College of Wisconsin, Milwaukee, WI; ⁴University of Minnesota Medical School, Minneapolis, MN *CR
- 1692 — A0123 Intra- and Peripapillary Capillary Density After Plaque Radiotherapy for Choroidal Melanoma: Analysis of Eyes Without Radiation Papillopathy.** Jason L. Chien, K. Sioufi, E. T. Say, C. L. Shields. Ocular Oncology Service, Wills Eye Hospital, Philadelphia, PA
- 1693 — A0124 Swept-source Optical Coherence Tomography Angiography features of Choroidal Nevmelanocytic lesions.** Konstantinos Balaskas^{1,3}, M. S. Sagoo^{2,5}, N. Giannakopoulos¹, T. Cole⁴, J. Gray⁶, Z. Ali¹. ¹Medical Retina, Manchester Royal Eye Hospital, Manchester, United Kingdom; ²Ocular Oncology, Retinoblastoma & Medical Retina, Moorfields Eye Hospital & Barts Health NHS Trust, London, UK, London, United Kingdom; ³School of Medicine, University of Manchester, Manchester, United Kingdom; ⁴Topcon GB, Manchester, United Kingdom; ⁵UCL, Institute of Ophthalmology, London, United Kingdom; ⁶Ocular Imaging and Angiography, Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester, United Kingdom *CR
- 1694 — A0125 Swept source optical coherence tomography angiography in choroidal melanoma.** Marco Pellegrini, F. Corvi, V. Ravera, G. Staurenghi. Eye Clinic, Department of Biomedical and Clinical Sciences "Luigi Sacco", Luigi Sacco Hospital, University of Milan, Italy, Milan, Italy *CR
- 1695 — A0126 Identification of the Location of the Retinal Capillary Layers in Healthy Eyes.** Torcato Santos¹, M. Soares², J. G. Cunha-Vaz³. ¹CNTM, Association for Innovation and Biomedical Research on Light and Image, Coimbra, Portugal; ²CEC, Association for Innovation and Biomedical Research on Light and Image, Coimbra, Portugal; ³Association for Innovation and Biomedical Research on Light and Image, Coimbra, Portugal *CR
- 1696 — A0127 Comparison of vascular valuations between different OCTA instruments.** Yuichiro Ishida, K. tsuboi, M. Kamei. Aichi Medical University, Kakamigahara, Japan
- 1697 — A0128 Comparing measurements of the superficial vasculature using Optovue AngioVue and Zeiss Angioplex.** Rachel E. Linderman¹, H. Russell¹, S. Jacobo¹, J. Carroll^{1,2}. ¹Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI; ²Cell Biology, Neurobiology, & Anatomy, Medical College of Wisconsin, Milwaukee, WI *CR
- 1698 — A0129 Swept Source OCT Angiography of Polypoidal Choroidal Vasculopathy using Boundary Layer Specific Segmentation.** Gregory Stein, F. Zheng, A. Q. Tran, J. R. Dias, E. Motulsky, G. Gregori, P. J. Rosenfeld. Ophthalmology, University of Miami, Bascom Palmer Eye Institute, Miami Beach, FL *CR
- 1699 — A0130 Repeatability and reproducibility of RNFL microvasculature quantification using ZEISS AngioPlex™ OCT Angiography.** Yuan Liu, A. Fard, H. Bagherinia, M. K. Durbin, J. Straub. R & D, Carl Zeiss Meditec, Inc., Dublin, CA *CR

1700 — A0131 Comparison between wide angle OCT angiography and ultra-wide field fluorescein angiography on the detection of non-perfusion area. Osamu Sawada, Y. Ichiyama, Y. Ito, M. Kakinoki, T. Sawada, Y. Saishin, M. Ohji. Ophthalmology, Shiga University of Medical Science, Otsu, Japan *CR

Exhibit/Poster Hall A0179-A0200

Monday, May 08, 2017 11:00 AM-12:45 PM

Lens

238 Lens Development and Molecular Cell Biology

Moderator: Michael L. Robinson

1701 — A0179 FGF2-mediated induction of microRNA29c and its regulation of Tropomyosin. Eri Kubo¹, S. Shibata¹, T. Shibata¹, N. Tanimura¹, D. P. Singh², H. Sasaki¹. ¹Dept of Ophthalmology, Kanazawa Medical University, Ishikawa, Japan; ²Department of Ophthalmology and Visual Sciences, University of Nebraska Medical Center, Omaha, NE

1702 — A0180 Tpm knockdown suppresses epithelial mesenchymal transition of lens epithelial cells. Tepei Shibata¹, S. Shibata¹, H. Sasaki¹, D. P. Singh², E. Kiyokawa³, M. Ikawa⁴, Y. Ishigaki⁵, E. Kubo¹. ¹Department of Ophthalmology, Kanazawa Medical University, Kahoku, Japan; ²Ophthalmology and Visual Sciences, University of Nebraska Medical Center, Omaha, NE; ³Oncogenic Pathology, Kanazawa Medical University, Ishikawa, Japan; ⁴Osaka University, Osaka, Japan; ⁵Medical Research Institute, Kanazawa Medical University, Ishikawa, Japan *CR

1703 — A0181 Effects of proteoglycan decorin on lens epithelial cells. Shinsuke Shibata, N. Shibata, T. Shibata, N. Tanimura, H. Sasaki, E. Kubo. Ophthalmology, Kanazawa Medical University, Ishikawa, Japan

1704 — A0182 Role of the Mab21 Genes in Lens Epithelial Cells. Zhaoxia Huang^{1,2}, L. Wang^{1,2}, X. Hu^{1,2}, J. W. Gigantelli¹, Q. D. Nguyen¹, D. W. Li^{1,2}. ¹Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE; ²College of Life Sciences, Hunan Normal University, Changsha, China

1705 — A0183 Celestrol Suppressed Proliferation of LECs through suppressing the PI3K/Akt, p38MAPK and SAPK/JNK signaling pathways. Wang Liping, S. Huang, B. Chen, X. Lu, J. Chen, Y. Liu. Zhongshan Ophthalmic Center, Guangzhou, China

1706 — A0184 Aquaporin-0 modulates normal shape of gap junction-associated ball-and-socket domains which display distinct patterns in mouse and monkey lenses. Woo-Kuen Lo, S. Biswas, A. Deleveaux, L. Brako. Neurobiology, Morehouse School of Medicine, Atlanta, GA

1707 — A0185 SUMOylation Inhibits E151K Vimentin Function by Interfering with Its Polymerization. Ling Wang^{1,2}, X. Gong², Z. Huang^{1,2}, Q. Nie², J. W. Gigantelli¹, Q. D. Nguyen¹, D. W. Li^{1,2}. ¹Ophthalmology, University of Nebraska Medical Center, Omaha, NE; ²College of Life Sciences, Hunan Normal University, Changsha, China

1708 — A0186 Sall1 transcription factor is essential for mouse lens fiber maturation. Sumiko Watanabe, Y. Baba. Molecular & Developmental Biol, Univ of Tokyo, Inst Med Science, Tokyo, Japan

1709 — A0187 Lens Fiber Cell Migration and Morphogenesis Depends on N-cadherin Regulation. Caitlin Logan¹, S. Rajakaruna¹, C. Bowen¹, G. Radice¹, M. L. Robinson², A. Menko¹. ¹Pathology Anatomy and Cell Biology, Thomas Jefferson University, Philadelphia, PA; ²Miami University, Oxford, OH

1710 — A0188 A Critical Role for Microtubules in Lens Morphogenesis Through Regulation of Myosin-II Activation. Caitlin Bowen, C. Logan, A. Menko. Pathology Anatomy and Cell Biology, Thomas Jefferson University, Philadelphia, PA

1711 — A0189 Conditional Deficiency of Ankyrin-B Impairs Lens Growth and Transparency in Mice. Rupalatha Maddala¹, V. G. Bennett^{3,4}, V. Rao^{1,2}. ¹Ophthalmology, Duke University School of Medicine, Durham, NC; ²Pharmacology and Cancer Biology, Duke University School of Medicine, Durham, NC; ³Biochemistry, Cell Biology & Neurobiology, Duke University School of Medicine, Durham, NC; ⁴HHMI Investigator, Duke University School of Medicine, Durham, NC

1712 — A0190 A role for the PI3K regulator PIK3IP1 in signaling the autophagy-dependent removal of organelles during lens development. Rifah Gheyas¹, L. A. Brennan², M. Kantorow², A. Menko¹. ¹Cell Biology, Anatomy, and Pathology, Thomas Jefferson University, Philadelphia, PA; ²Florida Atlantic University, Boca Raton, PA

1713 — A0191 Protein Serine/Threonine Phosphatases Dephosphorylate CREB at S133 and Regulates Lens Differentiation, Apoptosis and Anastasis. David W. Li^{1,2}, L. Wang², X. Hu¹, Z. Huang¹, J. W. Gigantelli¹, Q. D. Nguyen¹. ¹Ophthalmology, University of Nebraska Medical Center, Omaha, NE; ²The State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center of SUN Yat-Sen University, Guangzhou, China

1714 — A0192 Transcriptional regulation and function of Gata3 in lens differentiation. Elena Martynova¹, Q. Xie¹, M. Emerson², P. Overbeek³, A. Cvekl¹. ¹Ophthalmology and visual sciences, Albert Einstein College of Medicine, New York, NY; ²Department of Biology, The City College of New York, New York, NY; ³Neuroscience, Baylor College of Medicine, Houston, TX

1715 — A0193 Demonstration of Quadruplex DNA in fixed normal ocular lens tissues: cell differentiation and cell death studies. Maryam Y. Rabbani¹, C. E. Gagna^{1,2}, S. Sawyer¹, N. Raza¹, S. Shah¹, P. Lambert², W. Lambert^{2,3}, A. Desai¹. ¹Life Sciences, NYIT, Old Westbury, NY; ²Pathology & Laboratory Medicine, Rutgers-New Jersey Medical School, Newark, NJ; ³Medicine (Dermatology), Rutgers-New Jersey Medical School, Newark, NJ

1716 — A0194 Single-cell Gene Expression: Analysis of Individual Fiber Cells and the Lens Phenotype. Suraj P. Bhat^{1,2}, R. K. Gangalum¹, D. Mock¹. ¹Ophthalmology, Stein Eye Institute UCLA, Los Angeles, CA; ²Molecular Biology Institute & Brain Research Institute, UCLA, Los Angeles, CA

1717 — A0195 RNA-seq based identification of long non-coding RNAs (lncRNAs) in early lens development. Deepti Anand¹, A. Kakrana^{2,3}, A. D. Siddam¹, I. Saadi¹, S. Lachke^{1,2}. ¹Biological Sciences, University of Delaware, Newark, DE; ²Center for Bioinformatics and Computational Biology, University of Delaware, Newark, DE; ³Delaware Biotechnology Institute, University of Delaware, Newark, DE; ⁴University of Kansas Medical Center, Department of Anatomy and Cell Biology, Kansas City, KS

1718 — A0196 Expression and functional studies of miRNAs in lens development. Peipei Qi¹, T. V. Hoang¹, B. Wagner¹, L. Liu¹, A. Subramanian¹, P. A. Tsonis², C. Liang¹, M. L. Robinson¹. ¹Biology, Miami University, Oxford, OH; ²Department of Biology, University of Dayton, Dayton, OH

1719 — A0197 Investigating the Proteome of the ocular lens at multiple developmental time points through mass spectrometry-based protein sequencing. Shahid Y. Khan¹, M. Ali¹, C. Na², A. Pandey², S. Hackett¹, S. Riazuddin^{1,2}. ¹The Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Mckusick-Nathans Institute of Genetic Medicine, Johns Hopkins University School of Medicine, Baltimore, MD

1720 — A0198 Investigation of mRNA and protein targets of the RNA-binding protein Celf1 in mouse lens development. Sandeep Aryal¹, A. D. Siddam¹, C. Gautier-Courteille³, L. Paillard³, S. Lachke^{1,2}. ¹Department of Biological Sciences, University of Delaware, Newark, DE; ²Center for Bioinformatics and Computational Biology, University of Delaware, Newark, DE; ³Institut de Genetique et Developpement de Rennes, Universite de Rennes, Rennes, France

1721 — A0199 Identification of RNA targets and protein binding partners of Tdrd7 in the mouse lens. Salma Al Saai¹, H. W. McDonald³, K. Schey³, S. Lachke^{1,2}. ¹Biological Sciences, University of Delaware, Newark, DE; ²Center for Bioinformatics and Computational Biology, University of Delaware, Newark, DE; ³Department of Biochemistry, Vanderbilt University School of Medicine, Nashville, TN

1722 — A0200 Tob1 and Tob2 mark distinct RNA processing granules in differentiating lens fibre cells. *Robbert De Jongh³, R. Perez³, M. Familiari¹, G. Martinez³, F. J. Lovicu², G. Hime³.*
¹Zoology, University of Melbourne, Parkville, VIC, Australia; ²Anatomy & Histology, University of Sydney, Sydney, VIC, Australia; ³Anatomy & Neuroscience, University of Melbourne, Parkville, VIC, Australia

Exhibit/Poster Hall A0201-A0213

Monday, May 08, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology

239 Embryology and morphogenesis of ocular structures

Moderator: Xiaoying Zhu

1723 — A0201 A role of Prickle 1 in crosstalking between ocular tissues and its adnexa. *Chunqiao Liu, D. Guo, Z. Yuan, H. Ouyang, Y. Liu.* Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

1724 — A0202 Glutathione is Required for Ocular Surface Development. *Ying Chen¹, N. Apostolopoulos¹, D. Orlicky², D. M. Anderson³, K. L. Schey³, D. Thompson², R. A. Lang⁴, V. Vasilou¹.*
¹Yale University, New Haven, CT; ²University of Colorado, Aurora, CO; ³Vanderbilt University, Nashville, TN; ⁴University of Cincinnati Children's Hospital, Cincinnati, OH

1725 — A0203 Microphthalmia with multiple ocular abnormalities in 11 horses: a novel syndrome. *Jessica Fragola, L. Teixeira.* Veterinary Medicine, University of Wisconsin, Madison, Madison, WI

1726 — A0204 Noninvasive monitoring of embryonic chick eye development in ovo using 7 Tesla MRI. *Oliver Stachs¹, R. Klose¹, T. Lindner², F. Streckenbach¹, T. Stahnke¹, S. Hadlich³, J. Kühn³, R. F. Guthoff¹, A. Wree⁴, A. Neumann¹, M. Frank⁵, S. Langner³.*
¹Department of Ophthalmology, University of Rostock, Rostock, Germany; ²Core Facility Multimodal Small Animal Imaging, University of Rostock, Rostock, Germany; ³Institute for Diagnostic Radiology and Neuroradiology, University of Greifswald, Greifswald, Germany; ⁴Institute of Anatomy, University of Rostock, Rostock, Germany; ⁵Medical Biology and Electron Microscopy Centre, University of Rostock, Rostock, Germany

1727 — A0205 Characterization of a knockout *pitx2* zebrafish model. *Kathryn E. Hendee^{1,2}, E. Sorokina², S. Muheisen², E. Semina^{2,1}.*
¹Cell Biology, Neurobiology, and Anatomy, Medical College of Wisconsin, Milwaukee, WI; ²Pediatrics, Medical College of Wisconsin, Milwaukee, WI

1728 — A0206 Migratory neural crest cells provide crucial extracellular matrix factors to regulate optic cup morphogenesis. *Kristen Kwan, C. Bryan.* Human Genetics, University of Utah, Salt Lake City, UT

1729 — A0207 Determining the roles of MAB21L2 during normal eye development and how mutations result in eye developmental defects. *Natalie N. Gath^{1,2}, J. M. Gross¹.*
¹Ophthalmology, University of Pittsburgh School of Medicine, Pittsburgh, PA; ²Cellular and Molecular Biology, University of Texas at Austin, Austin, TX

1730 — A0208 Abnormal Development and Differentiation of the Pericocular Mesenchyme in AP-2 β Neural Crest Cell Knockout Mice. *Monica Akula¹, V. Martino¹, T. Williams², J. A. West-Mays¹.*
¹Pathology and Molecular Medicine, McMaster University, Toronto, ON, Canada; ²Molecular Biology, University of Colorado, Denver, CO

1731 — A0209 Retinoic acid regulates collagen alpha chains associated with Sticklers syndrome in the zebrafish cranial neural crest. *Antionette L. Williams.* Ophthalmology and Visual Sciences, University of Michigan Kellogg Eye Center, Ann Arbor, MI

1732 — A0210 Retinoic acid maintains the structure and function of aqueous outflow pathways in the adult zebrafish eye. *Bahaar Chawla, W. Swain, B. L. Bohnsack.* Ophthalmology and Visual Science, University of Michigan Health System, Ann Arbor, MI

1733 — A0211 Retinal neuroepithelium-derived BMP4 is dispensable for anterior and posterior ocular development. *Rebecca L. Rausch^{1,2}, A. Kiernan^{1,2}, R. T. Libby^{1,2}.*
¹Ophthalmology, University of Rochester, Rochester, NY; ²Flaum Eye Institute, University of Rochester, Rochester, NY

1734 — A0212 Distribution Defects of PI(4,5)P₂ in Primary Cilium of Lowe Syndrome Cells. *Na Luo^{1,2}, E. Song¹, J. A. Alvarado¹, Y. Sun^{1,2}.*
¹Ophthalmology, Indiana University, Indianapolis, IN; ²Roudebush Veterans Administration, Indianapolis, IN

1735 — A0213 A CRISPR/Cas9-mediated Screen of Candidate Genes in the Regulation of Optic Fissure Closure. *Jenny Chen¹, S. Dutta¹, B. Carrington², R. Sood², B. P. Brooks¹.*
¹National Eye Institute/National Institutes of Health, Bethesda, MD; ²National Human Genome Research Institute/National Institutes of Health, Bethesda, MD

Exhibit/Poster Hall A0214-A0223

Monday, May 08, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology

240 Optic and extraocular anatomy and function

Moderator: Vivian Choh

1736 — A0214 Elastin Fibers Are Oriented Suitably for Uniform Composite Properties of the Human Optic Nerve Sheath (ONS). *Alan Le¹, A. Baig¹, A. Shin¹, V. Poukens¹, J. L. Demer².*
¹Ophthalmology, University of California, Los Angeles, Los Angeles, CA; ²Ophthalmology, Stein Eye Institute, UCLA, Los Angeles, CA

1737 — A0215 Intrinsic and Pial Connective Tissue Content of Human Retrobulbar Optic Nerve (ON). *Nasima Khan, A. Le, A. Baig, V. Poukens, J. L. Demer.* UCLA, Los Angeles, CA

1738 — A0216 Age-Related, Bilaminar Hypertrophy and Elastosis of the Human Optic Nerve Sheath (ONS). *Ayesha Baig, A. Le, A. Shin, V. Poukens, N. Long, J. L. Demer.* UCLA, Woodland Hills, CA

1739 — A0217 Modifying chondroitin sulfate proteoglycans enhances retinal ganglion cell axon regeneration in the mouse optic nerve. *Craig Pearson^{1,2}, H. M. Geller², K. R. Martin¹.*
¹Clinical Neurosciences, University of Cambridge, Cambridge, United Kingdom; ²NHLBI, National Institutes of Health, Bethesda, MD

1740 — A0218 Subdural infusion of kynurenic acid causes myelin loss in chicken optic nerves. *Akshay Gurdita¹, J. M. Kwiecien^{2,3}, V. Choh¹.*
¹School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada; ²Pathology and Molecular Medicine, McMaster University, Hamilton, ON, Canada; ³Clinical Pathomorphology, Medical University of Lublin, Lublin, Poland *CR

1741 — A0219 A potential neuroprotective role for meningotheial cells. *Albert Neutzner¹, C. Hemion¹, E. Meyer¹, C. Kohler¹, H. P. Scholl², P. Meyer², H. E. Killer³.*
¹Department Biomedicine, University Hospital Basel, Basel, Switzerland; ²University Hospital Basel, Basel, Switzerland; ³Kantonsspital Aarau, Aarau, Switzerland

1742 — A0220 Beta amyloid peptides accumulation induces the over expression of TSPO translocator in optic nerve, visual cortex and in the retina in Alzheimer's disease and aging model. *LUIS F F. HERNANDEZ¹, A. Torres¹, M. Perez¹, E. Gorostieta², M. Catorce³, G. Acero³, G. Gevorkian³, R. Zamora¹, H. Quiroz¹.*
¹RESEARCH, APEC, Mexico, Mexico; ²Neuroscience division, IFC-UNAM, Mexico, Mexico; ³Immunology, IIB-UNAM, Mexico, Mexico

Monday Posters
11:00 am – 12:45 pm

1743 — A0221 The loss of S1P transporter spinster homolog 2 (Spns2) impairs morphogenesis of eyelids and meibomian glands in mice. Tomoya Morii¹, T. Sumioka¹, M. Miyajima², N. mochizuki³, S. Saika¹. ¹ophthalmology, wakayama medical university, Wakayama, Japan; ²Laboratory Animal Center, wakayama medical university, Wakayama, Japan; ³Department of Cell Biology, National Cerebral and Cardiovascular Center Research Institute, Osaka, Japan

1744 — A0222 Ethnic variation in bony orbital anatomy and its implications on decompression surgery. Sunny Shen^{1,2}, A. Kumaran³, A. Chan³, K. Yong¹. ¹Oculoplastic Department, Singapore National Eye Centre, Singapore, Singapore; ²Singapore Eye Research Institute, Singapore, Singapore; ³Singapore National Eye Centre, Singapore, Singapore

1745 — A0223 The Evaluation of Bony Nasolacrimal Duct in Asian with Primary Acquired Nasolacrimal Duct Obstruction. Byeong Jae Son. ophthalmology, Kyungpook national university hospital, Daegu, Korea (the Republic of)

Exhibit/Poster Hall A0357-A0380

Monday, May 08, 2017 11:00 AM-12:45 PM

Retinal Cell Biology

241 Ganglion Cells: Development, axotomy, trauma

Moderators: Wenbo Zhang and Tiffany M. Schmidt

1746 — A0357 Melanopsin expression is dynamically regulated during retinal development. Katelyn Noronha, J. A. Lucas, T. M. Schmidt. Northwestern University, Evanston, IL

1747 — A0358 Characterization of ipRGCs during mouse retinal development. Jasmine A. Lucas, T. M. Schmidt. Neurobiology, Northwestern University, Evanston, IL

1748 — A0359 Homer 1 protein isoforms differentially control the intracellular calcium signaling and viability of retinal neurons. Peter Koulen. Ophthal/Vision Research Ctr, University of Missouri-Kansas City, Kansas City, MO; Basic Medical Science, University of Missouri - Kansas City, School of Medicine, Kansas City, MO

1749 — A0360 Combining Dre and Cre recombination to identify and study mouse Retinal Ganglion Cell Types. Tudor C. Badea, N. Parmhans, E. Nguyen, K. Chuang. RCDGU/N-NRL, National Eye Institute, Bethesda, MD

1750 — A0361 Retinal ganglion cell death is attenuated by a PI3K activating synthetic peptide. Enrique J. De La Rosa¹, A. M. Hernandez-Pinto¹, M. Marchena², J. M. San-Martin², P. Fernandez³, F. de Pablo¹, M. Morales³. ¹Cell & Molecular Medicine, Centro de Investigaciones Biologicas, Madrid, Spain; ²ProRetina Therapeutics, Noain, Spain; ³Neuroscience Institute, UAB, Barcelona, Spain; ⁴Sciences, UNED, Madrid, Spain *CR

1751 — A0362 α A-crystallins attenuate endoplasmic reticulum (ER) stress in retinal neurons but not in glia. Anne Ruebsam, A. M. Myers, P. E. Fort. Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI

1752 — A0363 AAV2-GRP78-mediated gene therapy prevents retinal neuronal injury via downregulation of Tau oligomers. Wei Liu^{1,2}, Y. Ha¹, S. Zhu¹, H. Liu³, N. Azhar¹, J. Gerson⁴, M. Motamedi³, R. Kaye⁴, W. Zhang^{1,5}. ¹Ophthalmology, University of Texas Medical Branch, Galveston, TX; ²ophthalmology, Wuhan Union hospital, Wuhan, China; ³Center for Biomedical Engineering, University of Texas Medical Branch, Galveston, TX; ⁴Mitchell Center for Neurodegenerative Diseases, University of Texas Medical Branch, Galveston, TX; ⁵Department of Neuroscience and Cell Biology, University of Texas Medical Branch, Galveston, TX

1753 — A0364 Neuroprotective efficacy of topical ocular delivery of trabodenosin in a rodent model of anterior ischemic optic neuropathy. Cadmus C. Rich¹, D. Albers¹, R. Fawcett², Y. Guo², Z. Mehrabyan², R. Baumgartner¹, S. L. Bernstein². ¹Ophthalmology, Inotek Pharmaceuticals, Chelmsford, MA; ²Ophthalmology, University of Maryland School of Medicine, Baltimore, MD *CR

1754 — A0365 Extracellular vesicles purified from porcine vitreous positively regulate retinal ganglion cell axon survival and growth. Yolandi van der Merwe^{1,2}, A. Faus^{2,3}, B. Leonard^{2,3}, M. Curtis^{2,4}, A. Kandakatta^{2,3}, K. C. Chan^{1,2}, M. Stekete^{2,4}. ¹Department of Bioengineering, University of Pittsburgh, Pittsburgh, PA; ²Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ³McGowan Institute for Regenerative Medicine, University of Pittsburgh, Pittsburgh, PA; ⁴Center for Neuroscience, University of Pittsburgh, Pittsburgh, PA

1755 — A0366 Wnt signaling promotes retinal ganglion cell survival and axonal regeneration in mouse models of optic nerve injury. Amit Patel¹, K. Park², A. Hackam². ¹Ophthalmology, University of California San Diego, San Diego, CA; ²Bascom Palmer Eye Institute, University of Miami, Miami, FL

1756 — A0367 Inhibition of Primary Cilia Resorption Increases Retinal Ganglion Cell Survival After Axotomy. Brian Choi, P. M. D'Onofrio, P. D. Koeberle. Surgery, University of Toronto, Toronto, ON, Canada

1757 — A0368 ERK1/2 Induces RGC Degeneration via Necroptosis Following Optic Nerve Axotomy and Crush. Philippe M. D'Onofrio^{1,2}, B. Choi^{1,2}, P. D. Koeberle^{1,2}. ¹Department of Rehabilitation Science, University of Toronto, Toronto, ON, Canada; ²Surgery, University of Toronto, Toronto, ON, Canada

1758 — A0369 Primary blast overpressure causes pathological changes on retina and optic nerve in a rat model. J. David Rios¹, S. Becera², J. Babineaux¹, P. Johnson¹, P. Edsall¹, W. Elliott¹, N. Wienandt², A. W. Brown², B. Lund¹. ¹Ocular Trauma Research Task Area, U.S. Army Institute of Surgical Research, JBSA Fort Sam Houston, TX 78234-7767, Burlington, MA; ²Comparative Pathology Support Task Area, U.S. Army Institute of Surgical Research, JBSA Fort Sam Houston, TX 78234-7767, San Antonio, TX

1759 — A0370 Necroptosis is responsible for RGC but not photoreceptor degeneration after blunt ocular trauma. Chloe N. Thomas¹, A. Thompson¹, A. Logan^{1,2}, R. J. Blanch^{1,2}, Z. Ahmed¹. ¹Neuroscience and Ophthalmology, Institute of Inflammation and Ageing, University of Birmingham, Edgbaston, Birmingham, United Kingdom; ²University Hospitals Birmingham, NIHR Surgical Reconstruction and Microbiology Centre, Birmingham, United Kingdom

1760 — A0371 Arginase 2 deletion prevents optic nerve crush-induced retinal degeneration. Ruth B. Caldwell^{2,1}, Z. Xu^{2,1}, S. Narayanan^{2,1}, T. Lemtalsi^{2,1}, C. Patel¹, E. Shosha¹, W. Caldwell¹. ¹Vascular Biology Center, Medical College of Georgia, Augusta, GA; ²VA Medical Center, Augusta, GA; ³Pharmacology & Toxicology, Medical College of Georgia, Augusta, GA

1761 — A0372 Retinal microgliosis, functional sequelae, and traumatic brain injury (TBI) in an impact concussion mouse model. Lee E. Goldstein^{1,4}, O. Minaeva^{1,2}, M. W. Wojnarowicz¹, J. A. Moncaster¹, A. M. Fisher^{1,4}, E. S. Franz^{1,4}, I. Arellano², R. D. Ferguson⁷, M. Mujat⁷, B. R. Huber^{5,6}, A. B. Fulton^{2,3}, D. G. Hunter^{2,3}, J. D. Akula^{2,3}. ¹Molecular Aging and Development Laboratory, Boston University School of Medicine, Boston, MA; ²Dept. of Ophthalmology, Boston Children's Hospital, Boston, MA; ³Dept. of Ophthalmology, Harvard Medical School, Boston, MA; ⁴College of Engineering, Boston University, Boston, MA; ⁵Boston University School of Medicine, Boston, MA; ⁶VA Boston Healthcare System, Boston, MA; ⁷Biomedical Optics, Physical Sciences, Inc, Andover, MA *CR

1762 — A0373 Closed globe trauma activates sterile inflammation in the retina. Adrienne Clark, A. Bernardo, T. S. Rex. Vanderbilt Eye Institute, Vanderbilt University Medical Center, Nashville, TN

1763 — A0374 Long-term functional and structural consequences of primary blast injury to the eye. *Cara T. Motz¹, R. S. Allen¹, A. Feola^{2,1}, K. Chesler², R. Haider¹, S. Ramachandra Rao³, L. Skelton⁴, S. J. Fliesler^{3,4}, M. T. Pardue^{1,2}.* ¹Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center, Atlanta, GA; ²Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA; ³Ophthalmology, Biochemistry, & Neuroscience Program, SUNY-University at Buffalo, Buffalo, NY; ⁴Research Service, VA Western NY Healthcare System, Buffalo, NY

1764 — A0375 Neuroprotective effect of enriched environment on experimental optic neuritis. *Marcos Luis Aranda, M. Gonzalez Fleitas, H. Dieguez, M. Keller Sarmiento, M. Chianelli, P. Sande, D. Dorfman, R. E. Rosenstein.* Human Biochem/Sch of Med, University of Buenos Aires, Buenos Aires, Argentina

1765 — A0376 Single molecule fluorescent in situ hybridization in the mouse retina. *Michael Thomsen¹, M. Viswanathan¹, S. Hattar^{1,2}.* ¹Biology, Johns Hopkins University, Baltimore, MD; ²Neuroscience, Johns Hopkins University, Baltimore, MD

1766 — A0377 Overturning the role of Math5 in Retinal Ganglion Cell Specification. *Justin Brodie-Kommit¹, H. Shi², F. Wu¹, T. M. Schmidt³, X. Mu⁴, J. H. Singer², S. Hattar^{1,5}.* ¹Biology, Johns Hopkins University, Baltimore, MD; ²Biology, University of Maryland, College Park, College Park, MD; ³Neurobiology, Northwestern University, Evanston, IL; ⁴Ophthalmology, University at Buffalo, Buffalo, NY; ⁵Neuroscience, Johns Hopkins School of Medicine, Baltimore, MD

1767 — A0378 Roles of Tbr1 in retinal ganglion cell subtype formation. *Chai-An Mao¹, Y. Long¹, C. Whitaker¹, L. Tian¹, H. Liu², P. Pan¹, T. C. Badea³, J. Parker-Thornburg⁴, W. H. Klein², S. L. Mills¹, S. C. Massey¹.* ¹Ophthalmology & Visual Science, U.T. Health Science Center Houston, Houston, TX; ²Rice University, Houston, TX; ³NEI/NIH, Bethesda, MD; ⁴Genetics, The University of Texas MD Anderson Cancer Center, Houston, TX; ⁵Systems Biology, The University of Texas MD Anderson Cancer Center, Houston, TX

1768 — A0379 Neural Cell Degeneration in Human Retinas May Explain Visual Dysfunction in Parkinson Disease. *Isabel Ortuño Lizarán¹, G. Serrano², D. Walker³, T. G. Beach², N. Cuenca¹.* ¹Physiology, Genetics and Microbiology, University of Alicante, San Vicente del Raspeig, Spain; ²Banner Sun Health Research Institute, Sun City, AZ; ³Arizona State University, Tempe, AZ

1769 — A0380 Down Stream Targets in the OA1 Signaling Cascade Critical for Retinal Axon Navigation. *Sonia Guha, D. B. Farber.* Ophthalmology, Stein Eye Institute, UCLA, Los Angeles, CA

Exhibit/Poster Hall A0410-A0421

Monday, May 08, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology
242 Retinoblastoma: Basic/Translational

Moderators: Paula Schaiquevich and Laura Asnaghi

1770 — A0410 Pre-clinical Model of Retinoblastoma Vitreous Seeds. *Andrew S. Irvine¹, Z. K. Goldsmith¹, R. Brennan^{1,2}, M. W. Wilson^{1,3}, V. M. Morales^{1,4}.* ¹Ophthalmology, Hamilton Eye Institute, UTHSC, Memphis, TN; ²Oncology, St. Jude Childrens Research Hospital, Memphis, TN; ³Surgery, St. Jude Childrens Research Hospital, Memphis, TN; ⁴Microbiology, Immunology and Biochemistry, UTHSC, Memphis, TN

1771 — A0411 An Orthotopic Transplantation Model of Retinoblastoma in Beagles Mimicking Vitreous Seeds: A Novel Gateway for Investigation of Anticancer Drugs. *Dong Hyun Jo³, J. Kim^{2,3}, C. Cho^{2,1}, Y. Yu^{2,4}, J. Kim^{2,1}.* ¹Department of Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea (the Republic of); ²Fight against Angiogenesis-Related Blindness (FARB) Laboratory, Clinical Research Institute, Seoul National University Hospital, Seoul, Korea (the Republic of); ³Tumor Microenvironment Research Center, Global Core Research Center, Seoul National University, Seoul, Korea (the Republic of); ⁴Department of Ophthalmology, Seoul National University College of Medicine, Seoul, Korea (the Republic of)

1772 — A0412 Chick Embryo CAM model of Retinoblastoma. *Geeta K. Vemuganti¹, R. M. Nair¹, S. G¹, N. RVL¹, S. Kaliki^{2,3}.* ¹School of Medical Sciences, University of Hyderabad, Hyderabad, India; ²The Operation Eyesight Universal Institute for Eye Cancer, L V Prasad Eye Institute, Hyderabad, India; ³Ophthalmic Pathology Laboratory, L V Prasad Eye Institute, Hyderabad, India

1773 — A0413 The human retinoblastoma WERI-Rb1 cell line as an in vitro model for photoreceptor-specific AAV transgene expression. *Cristina Martinez-Fernandez de la Camar¹, M. I. Patricio^{1,2}, M. E. McClements¹, A. R. Barnard^{1,2}, R. E. MacLaren^{1,2}.* ¹Nuffield Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; ²John Radcliffe Hospital, Oxford Eye Hospital, Oxford University Hospitals NHS Trust, Oxford, United Kingdom *CR

1774 — A0414 A non-cytotoxic compound blocks angiogenesis and decreases tumor burden in the TAG-RB retinoblastoma mouse. *Timothy W. Corson, C. Briggs, R. S. Sulaiman, A. Mahoui, K. Sishitla, M. Shadmand.* Ophthalmology, Indiana University School of Medicine, Indianapolis, IN *CR

1775 — A0415 Effect of the pre-treatment with the radioprotector ortho-phospho-L-tyrosine (pTyr) in a xenograft retinoblastoma mouse model. *Alexander V. Tschulakow¹, H. Rodemann², S. M. Huber³, M. Rittgarn¹, D. Klumpp³, B. Steegen³, U. Schraermeyer¹, S. Julien-Schraermeyer¹.* ¹Division of Experimental Vitreoretinal Surgery, Center of Ophthalmology, Tuebingen, Germany; ²Division of Radiobiology & Molecular Environmental Research, Department of Radiation Oncology, University Hospital, Tuebingen, Germany; ³Department of Radiation Oncology, University Hospital, Tuebingen, Germany

1776 — A0416 HER2 expression in retinoblastoma: a potential therapeutic target? *David C. Sousa^{1,2}, P. Zoroquiain³, E. Esposito³, M. E. Orellana⁴, B. Duarte Moron de Andrade², M. N. Burnier³.* ¹Ophthalmology, Hospital de Santa Maria, Lisboa, Portugal; ²Centro de Estudos Ciências da Visão, Universidade de Lisboa, Lisboa, Portugal; ³McGill University Ocular Pathology Laboratory, MUHC, Montreal, QC, Canada; ⁴Instituto Anatomopatológico ‘Dr. José A. O’Daly’, Universidad Central de Venezuela, Caracas, Venezuela, Bolivarian Republic of

1777 — A0417 HER2 immunoreactivity and drug targeting in human retinoblastoma. *Gail M. Seigel^{1,2}, P. Mendoza³, E. Szalai³, D. K. Shah^{4,2}, H. E. Grossniklaus³.* ¹Center for Hearing and Deafness, University at Buffalo, Buffalo, NY; ²SUNY Eye Institute, Buffalo, NY; ³Ophthalmology, Emory University, Atlanta, GA; ⁴Pharmaceutical Sciences, University at Buffalo, Buffalo, NY

1778 — A0418 The PDGF-PDGFR Signaling Pathway Regulates AKT Cell Survival and NF-κB anti-apoptotic effects in Retinoblastoma. *Matthew W. Wilson^{1,2}, Z. K. Goldsmith¹, W. Coppess¹, K. Yuan¹, M. Ritter¹, A. Irvine¹, R. Brennan³, V. M. Morales^{1,4}.* ¹Ophthalm/Hamilton Eye Int, Univ of Tennessee Health Sci Ctr, Memphis, TN; ²Surgery and Pathology, St Jude Children’s Research Hospital, Memphis, TN; ³Oncology, St Jude Children’s Research Hospital, Memphis, TN; ⁴Microbiology, Immunology and Biochemistry, University of Tennessee Health Science Center, Memphis, TN

1779 — A0419 Inhibition of PDGFR-β Decreases Pro-Survival Signaling of Retinoblastoma in vitro. *Madison Ritter¹, W. Coppess¹, Z. K. Goldsmith¹, R. Brennan^{2,1}, M. W. Wilson^{1,3}, V. M. Morales^{1,4}.* ¹Ophthalmology, Hamilton Eye Institute, UTHSC, Memphis, TN; ²Oncology, St. Jude Childrens Research Hospital, Memphis, TN; ³Surgery, St. Jude Childrens Research Hospital, Memphis, TN; ⁴Microbiology, Immunology and Biochemistry, UTHSC, Memphis, TN

1780 — A0420 The impact of disruption of PDGF-PDGFR- β signaling on VEGF-VEGFR signaling in retinoblastoma. *William Coppess¹, Z. K. Goldsmith¹, M. Ritter¹, K. Yuan¹, A. S. Irvine¹, R. Brennan^{1,2}, M. W. Wilson^{1,3}, V. M. Morales^{1,4}.* ¹Ophthalmology, University of Tennessee Health Science Center, Memphis, TN; ²Oncology, St. Jude Children's Research Hospital, Memphis, TN; ³Surgery, St. Jude Children's Research Hospital, Memphis, TN; ⁴Microbiology, Immunology, and Biochemistry, University of Tennessee Health Science Center, Memphis, TN

1781 — A0421 The effects of inhibition of PDGFR- β in retinal endothelial cells within the retinoblastoma tumor microenvironment. *Zachary K. Goldsmith¹, W. Coppess¹, K. Yuan¹, A. S. Irvine¹, R. Brennan^{1,2}, M. W. Wilson^{1,3}, V. M. Morales^{1,4}.* ¹Ophthalmology, University of Tennessee Health Science Center, Germantown, TN; ²Oncology, St. Jude Children's Research Hospital, Memphis, TN; ³Surgery, St. Jude Children's Research Hospital, Memphis, TN; ⁴Microbiology, Immunology, and Biochemistry, University of Tennessee Health Science Center, Memphis, TN

Exhibit/Poster Hall A0422-A0442

Monday, May 08, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology

243 Tumors - Inside and around the eye, I

Moderators: Jacob Pe'er and Maria M. Campos

1782 — A0422 Ocular manifestations of hyperviscosity syndrome in dogs. *Gillian C. Shaw, R. R. Dubielzig, L. B. Teixeira.* COPLOW, University of Wisconsin School of Veterinary Medicine, Madison, WI

1783 — A0423 Juxtapapillary Retinal Hemangiomas Treated Surgically: Long-Term Evolution Of A Case Series. *Álvaro Fernández-Vega González.* Retina, Barraquer Ophthalmology Center, Oviedo, Spain

1784 — A0424 Elevated Choroidal Thickness and Central Serous Chorioretinopathy in the Fellow Eye of Patients with Circumscribed Choroidal Hemangioma. *Daniel Gologorsky¹, R. Jain², D. M. Brown^{2,4}, M. E. Bretana², E. Kegley², M. Singer², A. C. Scheffler^{2,4}.* ¹Bascom Palmer Eye Institute, Miami, FL; ²Retina Consultants of Houston, Houston, TX; ³Medical Center Ophthalmology Associates, San Antonio, TX; ⁴Blanton Eye Institute, Houston Methodist Hospital, Houston, TX *CR

1785 — A0425 Depth localization and treatment follow-up of a juxtapapillary retinal capillary hemangioma with optical coherence tomography angiography: a case report. *Lisette M. Smid¹, K. van Overdam², J. De Jong¹, V. Davidoiu^{1,3}, J. F. De Boer³, K. A. Vermeer¹, M. E. Van Velthoven².* ¹Rotterdam Ophthalmic Institute, Rotterdam Eye Hospital, Rotterdam, Netherlands; ²Rotterdam Eye Hospital, Rotterdam, Netherlands; ³Institute for Lasers, Life and Biophotonics, VU University, Amsterdam, Netherlands *CR

1786 — A0426 Choroidal Osteoma in the Pediatric Population. *Alice Y. Zhang, M. E. Aronow.* Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

1787 — A0427 Leaky Choroidal Nevi: A Clinical, Imaging and Therapeutic Analysis. *Shahar Frenkel, G. A. Gutiérrez-Vargas, J. Pe'er.* Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel

1788 — A0428 Correlation between radiologic differential diagnosis and final histopathologic diagnosis in biopsy-proven adult orbital tumors. *Alexander Knezevic¹, H. B. Heymann¹, J. C. Heymann², P. Bryar¹.* ¹Ophthalmology, Northwestern University, Chicago, IL; ²Radiology, University of Texas Medical Branch, Galveston, TX

1789 — A0429 A Sticky Situation. *Christine E. Greer, J. Berry.* Ophthalmology, University of Southern California, Pasadena, CA

1790 — A0430 Evaluation of somatic mutations of KRAS, NRAS, and BRAF in Japanese patients with lacrimal gland epithelial tumors. *Jun Ominato¹, T. Oyama², H. Cho², T. Fukuchi², A. Sato¹, Y. Ajioka¹.* ¹Division of Molecular and Diagnostic Pathology, Graduate School of Medical and Dental Sciences, Niigata University, Niigata, Japan; ²Division of Ophthalmology and Visual Science, Graduate School of Medical and Dental Sciences, Niigata University, Niigata, Japan

1791 — A0431 Anatomic distribution of IgG4-related disease in chronic orbital inflammatory lesions. *David Kuo^{1,2}, J. Tsao^{1,2}, R. Alameddine², C. Di Loreto³, A. Ko², J. Rong², V. Snyder², D. Kikkawa², B. Korn², J. Lin^{2,3}.* ¹University of California San Diego, School of Medicine, San Diego, CA; ²Department of Ophthalmology, Shiley Eye Institute, University of California San Diego, San Diego, CA; ³Department of Pathology, Division of Neuropathology, University of California San Diego, San Diego, CA

1792 — A0432 Genetic alterations in IgG4-related ophthalmic disease identified using next-generation sequencing. *Marina Ogawa, Y. Usui, N. Yamakawa, K. Umazume, K. Tsubota, R. Nemoto, H. Goto.* Ophthalmology, Tokyo Medical University Hospital, Tokyo, Japan

1793 — A0433 IgG4-Positive Ocular Adnexal Mucosa-Associated Lymphoid Tissue Lymphoma and Idiopathic Orbital Inflammation. *Hee-Bae Ahn, W. Ryu, Y. Kwon, S. Kim.* Ophthalmology, Dong-A University hospital, Busan, Korea (the Republic of)

1794 — A0434 IgG4-Related orbital disease (ROD): Epidemiology in an ophthalmologic reference center in Mexico. *Carlos Navar¹, E. feria².* ¹oculoplastica, asociación para evitar la ceguera en mexico, Mexico City, Mexico; ²retina, asociación para evitar la ceguera en mexico, Mexico City, Mexico

1795 — A0435 IgG4-Related Disease Presenting as Bilateral Lacrimal Gland Enlargement in a Patient with a 24-Year History of Undiagnosed Systemic Illness. *Christopher Hampton¹, K. Durran², J. Suchecki³, S. D. Hudnall¹, D. Waitzman^{3,4}.* ¹University of Connecticut School of Medicine, Farmington, CT; ²Department of Pathology, Yale School of Medicine, New Haven, CT; ³Department of Ophthalmology, University of Connecticut School of Medicine, Farmington, CT; ⁴Department of Neurology, University of Connecticut School of Medicine, Farmington, CT

1796 — A0436 Hemophagocytic lymphohistiocytosis in adults with intraocular involvement: Clinicopathologic features of 3 cases. *Adelita Vizcaino², C. Eberhart¹, F. Rodriguez¹.* ¹Department of Pathology and Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, MD; ²Department of Pathology, Johns Hopkins University School of Medicine, Baltimore, MD

1797 — A0437 Ophthalmic Findings of Rosai-Dorfman Disease: A Review of 8 Cases. *Michael B. Choi, J. Pulido, D. R. Salomao, W. M. Smith, J. Garrity.* Ophthalmology, Mayo Clinic, Rochester, MN

1798 — A0438 Detection of herpesviridae and presence of multiple co-infections in lymphoproliferative disorders of the ocular adnexa by comprehensive polymerase chain reaction assay. *Yoshihiko Usui¹, S. Sugita², H. Takase³, S. Ueda¹, K. Umazume¹, T. Kezuka¹, H. Goto¹.* ¹Ophthalmology, Tokyo Medical Univ Hospital, Shinjuku-ku, Japan; ²Laboratory for Retinal Regeneration, RIKEN Center for Developmental Biology, Kobe, Japan; ³Tokyo Medical and Dental University, Tokyo, Japan

1799 — A0439 Ocular adnexal lymphoma: an 11-year retrospective study of different subtypes and their clinical implications. *Patrick T. Logan, D. Miyamoto, Y. Althnayan, D. Alolayet, J. Mulla, M. N. Burnier.* Pathology, MUHC-McGill University Ocular Pathology Laboratory, Montreal, Canada, Montreal, QC, Canada

1800 — A0440 The Use of Intravitreal Methotrexate for Treating Vitreoretinal Lymphoma. *Jacob Pe'er, R. Kaufman, S. Frenkel.* Ophthalmology, Hadassah-Hebrew Univ Med Ctr, Jerusalem, Israel

1801 — A0441 Optic Nerve Lymphoma: Addressing Limitations Of An Active Intervention. *Rohan B. Singh, P. Ichhpujani, S. Thakur.* Ophthalmology, Government Medical College & Hospital, Chandigarh, Chandigarh, India

1802 — A0442 Review of Clinical and Histopathological Features of Solitary Fibrous Tumor. *Ryo Baba, K. Umazume, S. Ueda, H. Goto.* Ophthalmology, Tokyo Medical University, Shinjyukuku, Japan

Exhibit/Poster Hall B0136-B0165

Monday, May 08, 2017 11:00 AM-12:45 PM

Lens

244 Cataract Surgery Procedures

1803 — B0136 Full shape crystalline lens quantification from 3-D OCT images and its application to predict the post-operative IOL position. *Eduardo Martinez-Enriquez¹, P. Perez-Merino¹, M. Sun¹, S. Durán-Poveda², I. Jiménez-Alfaro², S. Marcos¹.* ¹Instituto de Óptica (CSIC), Madrid, Spain; ²Fundación Jiménez Díaz, Madrid, Spain *CR

1804 — B0137 Assessment of pseudophakic macular oedema in diabetics using macular optical coherence tomography - a prospective cohort study. *Lin Lu¹, M. Wakefield², S. W. Ch'ng³, C. Knapp¹.* ¹Ophthalmology Department, Lincoln County Hospital, Leicester, United Kingdom; ²Ophthalmology, Leicester Royal Infirmary, Leicester, United Kingdom; ³Ophthalmology, Manchester Royal Eye Hospital, Manchester, United Kingdom

1805 — B0138 Persistence of Induced Corneal Astigmatism after Suture Removal. *Sunit K. Misra, J. Paul, P. Callas.* Robert Larner College of medicine, Burlington, VT

1806 — B0139 Changes in Corneal Thickness Following Two Different Techniques of Nucleofractis in Resident Cataract Surgery. *Filbert Nguyen¹, A. Trace², L. Moore¹, D. Garcia-Zalishnak¹, F. Gross¹.* ¹Ophthalmology, EVMS, Norfolk, VA; ²Radiology, EVMS, Norfolk, VA

1807 — B0140 Corneal steep meridian measurement integrated in a Femtosecond Laser Cataract System. *David Dewey, S. Elezaby, S. Kasthurirangan, T. Miller, N. Bareket.* R&D, Abbott Medical Optics, Milpitas, CA *CR

1808 — B0141 Using a femtosecond laser to overcome corneal edema during lens capsulotomy. *Geraint P. Williams^{1,2}, B. L. George¹, Y. Wong³, G. Yam¹, M. Ang², S. Tay⁴, J. Mehta¹.* ¹Tissue Engineering and Stem Cell Group, Singapore Eye Research Institute, Singapore, Singapore; ²Corneal and External Eye Disease Service, Singapore National Eye Centre, Singapore, Singapore; ³Biomechanics Laboratory, Singapore General Hospital, Singapore, Singapore; ⁴Department of Hand Surgery, Singapore General Hospital, Singapore, Singapore *CR

1809 — B0142 Evaluation of anterior chamber depth and removal properties of different sodium hyaluronate based solutions for OVD applications; emphasis on effect of cohesiveness. *Marcus Jansson, A. Norlin Weissenrieder, M. Lundqvist.* R&D, Abbott Medical Optics AB, Uppsala, Sweden *CR

1810 — B0143 Video Recording and Light Intensity Analysis during Cataract Surgery Simulated from the Patient's Perspective. *Spencer Fuller, H. Fukukoka, N. A. Afshari.* Shiley Eye Institute - University of California San Diego, La Jolla, CA

1811 — B0144 Comparison of intraoperative time using Femtosecond Laser Assisted Cataract Surgery (FLACS) versus conventional phacoemulsification. *Syed A. Karim¹, S. Ong¹, O. Saeedi¹, A. Betancourt², L. Chang¹, B. Spagnolo², A. Hammer².* ¹Ophthalmology, University of Maryland, Baltimore, MD; ²BW Eye, Glen Burnie, MD

1812 — B0145 Robot-assisted simulated cataract surgery. *CHAMMAS Jimmy², P. Becmeur², A. Sauer², D. Gaucher², P. Liverneaux², J. Marescaux^{2,1}, D. Mutter², T. Bourcier².* ¹IRCAD, Strasbourg, France; ²Hôpitaux universitaires de Strasbourg, Strasbourg, France

1814 — B0147 Comparison of femtosecond-laser assisted cataract surgery to conventional phacoemulsification cataract surgery. *Fares A. Alsaleh, Y. J. Daoud.* Wilmer Eye Institute, Baltimore, MD ✗

1815 — B0148 Comparison of efficacy and safety of 45° versus 30° balanced phaco tip in torsional phacoemulsification. *Kaori Morii¹, S. Miura¹, K. Sawada¹, Y. Otsuka¹, H. Kubotani¹, F. Taketani², R. Fujiwara¹.* ¹Ophthalmology, Asagiri-Hospital, Akashi, Japan; ²Hyogo Prefectural Amagasaki General Medical Center, Amagasaki, Japan

1816 — B0149 Manual Small Incision Cataract Surgery (MSICS) under topical, incisional site sub-conjunctival 2% and intracameral 1% lignocaine anesthesia - an ongoing pilot study. *Sushant Wagley¹, M. Correia², A. Kreis³, N. Verma⁴, M. Sharma².* ¹Hurley Medical Center, Flint, MI; ²East Timor Eye Program, Dili, Timor-Leste; ³Cabinet Ophtalmologique De La Planta, Sion, Switzerland; ⁴Ophthalmology, University of Tasmania, Hobart, TAS, Australia

1817 — B0150 Comparison of phacoemulsification energy used in Femtosecond Laser Assisted Cataract Surgery (FLACS) and conventional phacoemulsification. *Sharon Ong¹, S. Karim¹, L. Chang¹, A. Betancourt², B. Spagnolo², A. Hammer², O. Saeedi¹.* ¹University of Maryland School of Medicine, Potomac, MD; ²Baltimore Washington Eye Center, Glen Burnie, MD

1818 — B0151 Evaluation of the Macular Thickness after the Accomplishment of the Capsulotomy with Nd: Yag Laser Stratified by Total and Per Pulse Energy. *Mayara Martins Abrahao, L. Pinheiro Teixeira, D. Borges de Andrade Mendanha, M. martins cortez vilar, N. Abrahao Filho, J. J. Nassaralla.* Oftalmologia, Instituto de olhos De Goiania, Goiania, Brazil ✗

1819 — B0152 The Effect of Intraoperative Wavefront Aberrometry on Surgical Decision Making. *Alexandros Pappas¹, M. Adi², N. Martin².* ¹Ophthalmology, Howard University Hospital, Washington, DC; ²Ophthalmology, Washington Eye Physicians & Surgeons, Chevy Chase, MD

1820 — B0153 Combined femtosecond laser assisted cataract surgery with the Catalys® system (Abbott, Abbott Park, IL) and vitrectomy. *Brian Lee, P. Drayna, S. R. Montezuma.* UMN, Minneapolis, MN

1821 — B0154 Outcomes in cataract surgery using ReSure® Sealant for the intraoperative management of clear corneal incisions: Results from a registry evaluation for pre-specified adverse ocular events. *Deepa Mulani¹, R. Malhotra², Y. Chu³, M. Jackson⁴, K. Jong⁸, C. Matossian⁵, N. Peters⁶, I. Singh⁹, J. Solomon¹⁰, N. Tekwani⁷, T. R. Walters¹¹, E. Ankerud¹, J. Metzinger¹, N. Rissman¹, J. H. Talamo¹.* ¹Ocular Therapeutix, Bedford, MA; ²Ophthalmology Associates, St. Louis, MO; ³Chu Vision Institute, Bloomington, MN; ⁴Jacksoneye, Lake Villa, IL; ⁵Matossian Eye Associates, Doylestown, PA; ⁶Eyesight Ophthalmic Services, PA, Somersworth, NH; ⁷Tekwani Vision Center, St. Louis, MO; ⁸Houston Eye Associates, Houston, TX; ⁹The Eye Center of Racine & Kenosha, Racine, WI; ¹⁰Bowie Vision Institute, Bowie, MD; ¹¹Keystone Research Ltd., Austin, TX *CR, ✗

1822 — B0155 The Ocular Safety, Tolerability, and Efficacy of Once Daily and Twice Daily 0.075% Bromfenac Ophthalmic Solution (Formulated in DuraSite®) in Patients Post Cataract Surgery. *Afshin Shafiee¹, J. Hutcheson², L. Bowman³, K. Hosseini².* ¹Preclinical Research & Development, InSite Vision, Alameda, CA; ²Clinical, InSite Vision Inc., Alameda, CA; ³Development, InSite Vision Inc., Alameda, CA *CR, ✗

1823 — B0156 Subconjunctival dexamethasone for the prevention of cystoid macular oedema in routine cataract surgery: a randomised, controlled trial. *Enis D. Kocak¹, A. J. Hall^{1,2}, D. van der Straaten¹.* ¹Department of Ophthalmology, The Alfred Hospital, Melbourne, VIC, Australia; ²Department of Surgery, Monash University, Melbourne, VIC, Australia ✗

1824 — B0157 Comparison Alpha-Blockers and their Association with Rates of ‘Complex’ Cataract Surgery among Resident Surgeons. *Caleb Story¹, B. Menke^{2,3}, M. Durkin⁴, B. Markowitz^{2,3}, A. Woldorf³, S. M. Iverson^{2,3}.* ¹University of South Carolina School of Medicine, Columbia, SC; ²Ophthalmology, Palmetto Health, Columbia, SC; ³Ophthalmology, Dorn Veterans Administration, Columbia, SC; ⁴Biostatistics, Palmetto Health, Columbia, SC

1825 — B0158 Results of a Phase 3, Randomized, Double-Masked, Vehicle Controlled Study (Phase 3c) Evaluating the Safety and Efficacy of DEXTENZA™ (dexamethasone insert) 0.4 mg for the Treatment of Ocular Inflammation and Pain after Cataract Surgery. *Jonathan H. Talamo¹, S. L. Tyson², S. Bafna³, G. P. Joseph⁴, D. F. Goldberg⁵, J. J. Jones⁶, M. P. Jones¹⁰, J. K. Kim¹¹, J. B. Martel⁸, M. L. Nordlund¹², I. K. Piovantetti⁷, I. Singh⁶, J. Metzinger¹, D. Mulani¹.* ¹Ocular Therapeutix, Bedford, MA; ²SurgiCenter of Vineland, Vineland, NJ; ³Cleveland Eye Clinic, Elyria, OH; ⁴Ophthalmology Consultants, St. Louis, MO; ⁵Wolstan & Goldberg Eye Associates, Torrance, CA; ⁶The Eye Centers of Racine & Kenosha, Racine, WI; ⁷Centro Oftalmico Metropolitan, San Juan, PR; ⁸Martel Eye Medical Group, Rancho Cordova, CA; ⁹Jones Eye Clinic, Sioux City, IA; ¹⁰Quantum Vision Centers, Belleville, IL; ¹¹Hull Eye and Surgery Center, Lancaster, CA; ¹²Cincinnati Eye Institute, Cincinnati, OH *CR, ✗

1826 — B0159 DEXTENZA™ (extended release dexamethasone) 0.4 mg vs. Placebo for the Treatment of Ocular Pain after Cataract Surgery: Results of Three Phase 3 Studies. *Swati Sane¹, S. Bafna², J. P. Berdahl³, M. Endl⁴, J. P. Gira⁵, E. Protzko⁶, I. Singh⁷, S. L. Tyson⁸, T. R. Walters⁹, G. Wortz¹⁰, J. Metzinger¹, D. Mulani¹, J. H. Talamo¹.* ¹Ocular Therapeutix, Bedford, MA; ²Cleveland Eye Clinic, Elyria, OH; ³Vance Thompson Vision, Sioux Falls, SD; ⁴Fichte, Endl & Elmer Eyecare, Amherst, NY; ⁵Ophthalmology Consultants, St. Louis, MO; ⁶Seidenberg Protzko Eye Associates, Havre de Grace, MD; ⁷The Eye Centers of Racine & Kenosha, Racine, WI; ⁸SurgiCenter of Vineland, Vineland, NJ; ⁹Keystone Research, Ltd., Austin, TX; ¹⁰Koffler Vision Group, Lexington, KY *CR, ✗

1827 — B0160 Dropless Cataract Surgery with Pars Plana Intravitreal Trimoxi Use - An Outcomes Analysis. *Bronson LeClair¹, M. E. Rauser², E. Yoon².* ¹School of Medicine, Loma Linda University, Loma Linda, CA; ²Loma Linda Eye Institute, Loma Linda, CA

1828 — B0161 Unplanned Initiation of Postoperative Topical Medications after Intravitreal Antibiotic-Steroid Injection during Cataract Surgery. *Zeeshan Haq¹, K. Riaz².* ¹University of Chicago Pritzker School of Medicine, Chicago, IL; ²Department of Ophthalmology and Visual Science, The University of Chicago, Chicago, IL

1829 — B0162 Omidria® versus Epinephrine: A Retrospective Review of Intraoperative Maintenance of Mydriasis. *Joshua Nunn¹, S. Sudhakar², I. U. Scott¹, S. Pantanelli¹.* ¹Ophthalmology, Penn State Hershey Medical Center, Hershey, PA; ²Penn State Hershey Medical Center, Hershey, PA

1830 — B0163 Prospective Comparison of Intracameral Phenylephrine/Ketorolac (Omidria®) to Intracameral Epinephrine With Respect to Pupil Size During Phacoemulsification Cataract Surgery. *Zachary C. Landis¹, S. Sudhakar², J. Nunn¹, I. U. Scott¹, S. Pantanelli¹.* ¹Penn State Eye Center, Hershey, PA; ²Penn State College of Medicine, Hershey, PA ✗

1831 — B0164 Incidence of Cystoid Macular Edema after Intracameral Vancomycin in Cataract Surgery. *Mona Adeli, T. Mauger.* Ophthalmology, The Ohio State University, Columbus, OH

1832 — B0165 The role of Intracameral Moxifloxacin for Prophylaxis of Postoperative Endophthalmitis. *Milad Modabber¹, S. A. Arshinoff².* ¹Ophthalmology, McGill University, Montreal, QC, Canada; ²Ophthalmology, University of Toronto, Toronto, ON, Canada

Exhibit/Poster Hall B0276-B0296

Monday, May 08, 2017 11:00 AM-12:45 PM

Genetics Group

245 Genetics of macular degeneration

Moderator: Wolfgang Baehr

1833 — B0276 Rare Variant Pathway Analysis in the Age-Related Eye Disease Study 2. *Alexandra Pietraszkiewicz¹, F. Van Asten^{3,1}, A. Kwong², R. Ratnapriya¹, G. Abecasis², A. Swaroop¹, E. Chew³.* ¹Neurobiology, Neurodegeneration and Repair Laboratory, National Eye Institute, NIH, Bethesda, MD; ²Biostatistics and Center for Statistical Genetics, University of Michigan, Ann Arbor, MI; ³Epidemiology & Clinical Applications, National Eye Institute, NIH, Bethesda, MD ✗

1834 — B0277 Whole-Genome Association Study of Age-Related Macular Degeneration in the Israeli Population. *Itay Chowers¹, G. Beykin¹, E. Rahman², R. Schweiger², L. Tiosano¹, S. Khatib¹, S. Levi¹, B. Rinsky¹, S. Carmi³, E. Halperin⁴, M. Grunin¹.* ¹Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel; ²Molecular Microbiology and Biotechnology, Tel-Aviv University, Tel Aviv, Israel; ³Public Health, Hadassah-Hebrew University Medical Center, Jerusalem, Israel; ⁴Computer Science and Department of Anesthesiology and Perioperative Medicine, University of California, Los Angeles, Los Angeles, CA

1835 — B0278 Contribution of AMD risk variants to the genetic architecture of choroidal thickness in the Amish. *Nicole Restrepo¹, Y. Song¹, R. Laux¹, L. D. Adams², D. Fuzzell¹, L. J. Caywood², V. Horst³, T. MacKay³, D. Dana³, M. G. Nittala⁴, S. R. Sadda^{4,5}, W. K. Scott⁶, D. Stambolian³, M. A. Pericak-Vance², J. L. Haines¹.* ¹Epidemiology & Biostatistics, Case Western Reserve University, SHAKER HEIGHTS, OH; ²Hussman Institute for Human Genomics, University of Miami Miller School of Medicine, Miami, FL; ³Ophthalmology and Genetics, University of Pennsylvania, Philadelphia, PA; ⁴Doheny Image Reading Center, Doheny Eye Institute, Los Angeles, CA; ⁵Ophthalmology, University of California, Los Angeles, CA

1836 — B0279 Genome Wide Association Analysis for Sub Retinal Drusenoid Deposits. *Gala Beykin, M. Grunin, S. Levi, B. Rinsky, S. Elbaz-Hayoun, I. Chowers.* Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel

1837 — B0280 Frequency of the C3 Gly102 risk variant is higher in AMD patients with Geographic Atrophy compared to patients with Vascular Pigment Epithelial Detachment. *Clement K. Chan^{1,2}, P. Abraham³, A. D. Hafner³, L. T. Perlee⁴.* ¹Southern California Desert Retina Consultants, Palm Desert, CA; ²Ophthalmology, Loma Linda Eye Institute, Loma Linda University, Loma Linda, CA; ³Retina, Black Hills Regional Eye Institute, Rapid City, SD; ⁴Clinical Sciences, Ophthalmology, Regeneron, Tarrytown, NY *CR, ✗

1838 — B0281 Genetics of large pigment epithelial detachment in neovascular age related macular degeneration highlights the role of Complement alternative pathway in this particular phenotype. *Alexandra Mouallem³, R. Blanco-Garavito³, F. Richard¹, C. Jung², E. Souied³.* ¹INSERM774, Université de Lille Nord de France, INSERM774 Institut Pasteur de Lille, Lille, France; ²Centre de recherche Clinique-Centre de Ressources Biologiques, Hôpital Intercommunal de Creteil, Créteil, France; ³Ophthalmology department, Hôpital Intercommunal de Creteil, Creteil, France

1839 — B0282 Impact of protective variants in *PELI3* and near *CTRB1* on progression to advanced stages of age-related macular degeneration and genetic risk prediction models.

Johanna M. Seddon^{1,2}, R. E. Silver², B. Rosner³.
¹Department of Ophthalmology, Tufts University School of Medicine, Boston, MA; ²Ophthalmic Epidemiology and Genetics Service, Tufts Medical Center, Boston, MA; ³Channing Division of Network Medicine, Harvard Medical School, Boston, MA *CR

1840 — B0283 Identification of a Novel Variant Associated with anti-VEGF Response in Age-related Macular Degeneration Using Exome Chip Analysis.

Michelle Grunin¹, L. Lorés-Motta², M. Riaz^{3,8}, J. Corominas², A. J. Richardson^{3,8}, S. Fauser⁴, R. H. Guymer^{3,8}, E. de Jong⁷, I. M. Heid⁹, C. C. Hoyng⁷, A. J. Lotery⁵, P. Mitchell⁶, P. N. Baird^{3,8}, A. I. Den Hollander^{7,2}, I. Chowers¹.
¹Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel; ²Human Genetics, Radboud university medical centre, Nijmegen, Netherlands; ³Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, East Melbourne, VIC, Australia; ⁴Ophthalmology, University Hospital of Cologne, Cologne, Germany; ⁵Clinical and Experimental Sciences, Faculty of Medicine, University of Southampton, Southampton, United Kingdom; ⁶Centre for Vision Research, Department of Ophthalmology and Westmead Millennium Institute for Medical Research, University of Sydney, Sydney, NSW, Australia; ⁷Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical centre, Nijmegen, Netherlands; ⁸Ophthalmology, Department of Surgery, University of Melbourne, Melbourne, VIC, Australia; ⁹Genetic Epidemiology, University of Regensburg, Regensburg, Germany

1841 — B0284 Forward genetics: searching for novel genes essential to retinal development and function.

Bogale Aredo¹, Y. Ding¹, X. Zhong², C. X. Wang¹, B. Beutler³, R. Ufret-Vincenty¹.
¹Ophthalmology, UT Southwestern Medical Center, Dallas, TX; ²Ophthalmology, The First Affiliated Hospital of Guangxi Medical University, Nanning, China; ³Center for the Genetics of Host Defense, UT Southwestern Medical Center, Dallas, TX

1842 — B0285 Mutations in *MERTK* are not associated with age-related macular degeneration.

Hasenin Al-kharsan¹, A. Kwong², M. A. Grassi^{3,4}.
¹Pritzker School of Medicine, University of Chicago, Chicago, IL; ²Center for Statistical Genetics, The University of Michigan, Ann Arbor, MI; ³Grassi Retina, Naperville, IL; ⁴Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL

1843 — B0286 Methylation profiles in age-related macular degeneration.

Elisa van Leeuwen¹, J. Colijn¹, A. Uitterlinden^{2,3}, J. van Meurs³, A. Hofman², J. R. Vingerling⁴, C. Klaver^{1,5}.
¹Department of Ophthalmology and Epidemiology, Erasmus MC, Rotterdam, Netherlands; ²Department of Epidemiology, Erasmus MC, Rotterdam, Netherlands; ³Department of Internal Medicine, Erasmus MC, Rotterdam, Netherlands; ⁴Department of Ophthalmology, Erasmus MC, Rotterdam, Netherlands; ⁵Department of Ophthalmology, Radboud Medical Center, Nijmegen, Netherlands

1844 — B0287 Transcriptional and DNA methylation changes during aging in rod photoreceptors.

Ximena Corso Diaz¹, F. Van Asten¹, T. Cogliati¹, J. J. Barb², N. Gotoh¹, M. Brooks¹, A. Swaroop¹.
¹NNRL, National Eye Institute, NIH, Bethesda, MD; ²Mathematical and Statistical Computing Laboratory, Center for Information Technology, NIH, Bethesda, MD

1845 — B0288 Differences in epigenetic age of ocular tissue and the implications for eye disease.

Alex W. Hewitt^{1,2}, V. Singh³, V. Januar³, A. Sexton-Oates³, J. E. Craig⁴, R. Saffery³.
¹Department of Ophthalmology, Centre for Eye Research Australia, Sandy Bay, TAS, Australia; ²Menzies Institute for Medical Research, University of Tasmania, Hobart, TAS, Australia; ³Cancer and Disease Epigenetics, Murdoch Childrens Research Institute, Melbourne, VIC, Australia; ⁴Department of Ophthalmology, Flinders University of South Australia, Adelaide, SA, Australia

1846 — B0289 Epigenetic modifications and regulation of matrix metalloproteinase-9 in the development of diabetic retinopathy.

Arul Joseph Duraisamy, R. A. Kowluru. Kresge Eye Institute, Wayne State University School of Medicine, Detroit, MI

1847 — B0290 Genetic variations in coding region of vascular endothelial growth factor (VEGF) and risk of diabetic retinopathy: A primary case-control study.

Dhara Jajal¹, A. Panchari², K. Kalia^{2,1}.
¹Department of Biosciences, Sardar Patel University, Vallabh vidyanagar, India; ²National Institute of Pharmaceutical Education & Research (NIPER - Ahmedabad), Gandhinagar, India

1848 — B0291 The rs4712527 Polymorphism In The CDKAL1 Gene, As A Protective Predictor Of Proliferative Diabetic Retinopathy Development In Type 2 Diabetic Patients.

Jose D. Luna Pinto¹, P. Yang², A. Sein¹, L. Gramajo¹, E. Aucar¹, G. Marquez¹, C. P. Juarez¹, D. M. Beltramo³, N. W. Soria².
¹Ophthalmology, Ctr Privado de Ojos Romagosa-Fndtn VER, Mendiolaza, Argentina; ²Cátedra de Biotecnología, Facultad de Ciencias Químicas, Universidad Católica de Córdoba. Unidad Asociada al CONICET: Área de Cs. Agrarias, Ingeniería, Cs. Biológicas., Cordoba, Argentina; ³Centro de Excelencia en Productos y Procesos (CEPROCOR) Pabellón CEPROCOR, SantaMaría de Punilla,, Cordoba, Argentina

1849 — B0292 Single human retinal pigment epithelial (hRPE) cell analysis under oxidative stress reveals differential expression of pro-inflammatory and apoptosis related genes.

Aram Asatryan, M. I. Kautzmann, J. Heap, N. G. Bazan. Neuroscience, LSUHSC, New Orleans, LA

1850 — B0293 Differential Expression Analysis of Gene and Transcript Abundance for Single Cell RNA-Seq Data using STAR and HISAT Aligners.

Julius Ngwa¹, R. Wojciechowski^{3,2}, D. J. Zack², T. Beaty³, I. Ruczinski¹.
¹Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ²Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ³Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

1851 — B0294 New evidence for enrichment of metabolic, signaling, and inflammatory pathways in age-related macular degeneration.

Andrea R. Wakszunski¹, J. Cooke Bailey², M. A. Pericak-Vance³, W. K. Scott³, J. L. Haines^{2,4}.
¹Department of Genetics and Genome Sciences, Case Western Reserve University, Cleveland, OH; ²Department of Epidemiology and Biostatistics, Case Western Reserve University, Cleveland, OH; ³Husman Institute for Human Genomics, University of Miami, Miami, FL; ⁴Institute for Computational Biology, Case Western Reserve University, Cleveland, OH

1852 — B0295 Identification of a macaque model of neuronal ceroid lipofuscinosis.

Martha Neuringer^{1,2}, L. Renner¹, T. J. McGill¹, J. Stoddard¹, M. E. Pennesi², L. Colgin¹, R. Ducore¹, R. Zweig¹, I. Tagge¹, S. Peterson¹, A. Lewis¹, B. Ferguson¹.
¹Oregon National Primate Research Center, Oregon Health & Science University, Beaverton, OR; ²Casey Eye Institute, Portland, OR

1853 — B0296 Characterization and Genetic Analysis of Cynomolgus Monkeys with Hereditary Macular Drusen.

Akiko Suga¹, M. Nakayama¹, Z. Chi¹, A. Mizota², N. Shimozawa³, K. Yoshitake¹, T. Iwata¹.
¹National Institute of Sensory Organs, National Hospital Organization, Tokyo, Japan; ²Department of Ophthalmology, Teikyo University School of Medicine, Tokyo, Japan; ³Tsukuba Primate Research Center, National Institute of Biomedical Innovation, Tsukuba, Japan; ⁴Laboratory of Neurovascular Biology, The Eye Hospital of Wenzhou Medical University, Wenzhou, China

Exhibit/Poster Hall B0326-B0361

Monday, May 08, 2017 11:00 AM-12:45 PM

Retina

246 Clinical retinal imaging 1

1854 — B0326 Optical Coherence Tomography Angiography Features of Choroidal Neovascularization Associated with Choroidal Nevus. Federico Corvi², M. Pellegrini², E. T. Say¹, C. L. Shields¹, G. Staurengi². ¹Ocular Oncology Service, Wills Eye Hospital, Thomas Jefferson University, Philadelphia, PA; ²Department of Biomedical and Clinical Science “Luigi Sacco”, Eye Clinic, Sacco Hospital, University of Milan, Milan, Italy *CR

1855 — B0327 Multimodal imaging characteristics of solitary idiopathic choroiditis in 26 cases. R Joel Welch, T. Surakiatchanukul, C. L. Shields. Ocular Oncology Service, Wills Eye Hospital, Philadelphia, PA

1856 — B0328 A comparison of morphological changes seen on en-face wide-field OCT imaging to short-wavelength fundus autofluorescence imaging in Stargardt disease. Vivienne C. Greenstein¹, J. Nunez², K. Schurch¹, W. Lee¹, J. Reynaud³, B. Fortune³, R. Allikmets^{1,4}, D. Hood^{2,1}. ¹Ophthalmology, Columbia University Med Center, New York, NY; ²Psychology, Columbia University, New York, NY; ³Devers Eye Institute, Portland, OR; ⁴Pathology & Cell Biology, Columbia University, New York, NY *CR

1857 — B0329 Does fluorescein angiography add value in the management of suspected choroidal neovascularization? Prashant Parekh, J. C. Folk, S. R. Russell, E. Sohn, M. D. Abramoff. Department of Ophthalmology, University of Iowa, Iowa City, IA *CR

1858 — B0330 An evaluation of central and peripheral features of diabetic retinopathy(DR) using optical coherence tomography angiography(OCT A) and wide angle fluorescein angiography (FA). Radha Das¹, I. N. Despotovic², S. Dang², C. B. Rebhun², A. Alibhai², H. Mcatamney³, U. Chakravarthy¹, N. Waheed². ¹Center for Public health, Queens University, Belfast, Belfast, United Kingdom; ²New England Eye Centre, Tufts Medical center, Boston, MA; ³Belfast health and social care trust, Belfast, United Kingdom *CR

1859 — B0331 Multimodal imaging of choroidal lesions in disseminated Mycobacterium chimaera infection. Sandrine A. Zweifel¹, P. Hasler², P. Maloca², D. Barthelmes¹, R. Rüesch³, C. Böni¹. ¹Department of Ophthalmology, University Hospital Zurich, Zurich, Switzerland; ²Department of Ophthalmology, University of Basle, Basel, Switzerland; ³Department of Ophthalmology, Cantonal Hospital St. Gallen, St. Gallen, Switzerland

1860 — B0332 Features of Retinal Hyperreflective Foci by Spectral Domain Optical Coherence Tomography and Optical Coherence Tomography Angiography in Patients with Nonproliferative Diabetic Retinopathy With and Without Macular Edema. Stephanie J. Weiss, R. S. McGuire, W. Li. Drexel University College of Medicine, Philadelphia, PA

1861 — B0333 Acute Macular Angiographic Changes with Intravitreal Injections. Alexander Barash, R. B. Rosen. Ophthalmology - Retina, New York Eye and Ear Infirmary, New York, NY *CR

1862 — B0334 Non-Mydriatic Retina Evaluation with Macular OCT and Ultra-Widefield Fundus Photography in Pregnant or Nursing Patients. Alexander Port, R. Singh, D. Kornberg, A. Orlin, D. J. D’Amico, M. P. Gupta, S. Kiss. Ophthalmology, Weill Cornell Medicine, New York, NY *CR

1863 — B0335 Choroidal structural changes in tubercular multifocal serpiginoid choroiditis. Madhuri Akella¹, A. Agarwal¹, R. Agrawal^{2,3}, N. Khandelwal², A. Invernizzi¹, K. Aggarwal¹, A. Sharma⁵, R. Singh¹, R. Bansal¹, N. Singh¹, V. Gupta¹. ¹Advanced Eye Centre, Chandigarh, India; ²National Healthcare Group Eye Institute, Tan Tock Seng Hospital, Singapore, Singapore; ³Singapore National Eye Institute, Singapore National Eye Centre, Singapore, Singapore; ⁴Eye clinic, Department of Biomedical and Clinical Science, Luigi Sacco Hospital, University of Milan, Milan, Italy; ⁵Department of Internal Medicine Division of Rheumatology, PGIMER, Chandigarh, India

1864 — B0336 The Advanced Retina Imaging Network Hub Online Tools for OCT Innovation. Alexandre R. Tumlinson, F. Rahman, S. Magazzeni, P. Pochendorfer, N. Shemonski. R&D, Carl Zeiss Meditec, Dublin, CA *CR

1865 — B0337 Quantifying Microvascular Abnormalities with Increasing Disease Severity in Diabetes Mellitus. Philipp K. Roberts^{1,2}, P. L. Nesper², A. Onishi², H. Chai³, L. Liu³, A. A. Fawzi². ¹Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria; ²Ophthalmology, Northwestern University, Feinberg School of Medicine, Chicago, IL; ³Department of Preventive Medicine, Northwestern University, Feinberg School of Medicine, Chicago, IL

1866 — B0338 Algorithmic Analysis of Vitreous Hyperreflective Foci in OCT Scans of Patients with Uveitis as a Correlate of Inflammation and Visual Acuity. Edward Korot^{1,2}, V. Dedania², T. Jayasundera², G. M. Comer², D. A. Antonetti². ¹Beaumont Eye Institute, Royal Oak, MI; ²University of Michigan Kellogg Eye Center, Ann Arbor, MI

1867 — B0339 Comparison Of Non-Mydriatic Fundus Imaging Methods For Screening Of Retinal Pathology In An Internal Medicine Practice. Mehreen Adhi¹, F. Q. Silva², R. Lang³, R. Seballos³, R. Suko³, S. Feinleib³, R. P. Singh². ¹Ophthalmology, University of Louisville School of Medicine, Louisville, KY; ²Ophthalmology, Cleveland Clinic Foundation, Cleveland, OH; ³Cleveland Clinic Foundation, Cleveland, OH *CR

1868 — B0340 New Fundus Camera for pediatric screening. Sergio Zaccaria Scalinci³, M. Arianna¹, M. Mariangela², M. Noemi³, L. Scorolli¹. ¹Poliambulatorio S. Lucia, Bologna, Italy; ²Centro ipovisione e riabilitazione visiva U.I.C.I., Ascoli Piceno, Italy; ³Centro Ipovisione E Riabilitazione Visiva S. Orsola, Bologna, Italy

1870 — B0342 Downgaze-Induced Vitreous Chamber Elongation in Highly Myopic Eyes with Staphyloma as Gauged by Magnetic Resonance Imaging. Dan Chun¹, J. Grinband², S. Chang¹, L. Yannuzzi^{3,1}, K. Freund^{3,1}, Q. V. Hoang^{1,4}. ¹Ophthalmology, Columbia University Medical Center, New York, NY; ²Radiology, Columbia University Medical Center, New York, NY; ³Vitreous Retina Macula Consultants of New York, New York, NY; ⁴Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore

1871 — B0343 Quantitative analysis of choriocapillaris in uveitic and normal subjects with SS-OCT Angiography. Zhongdi Chu¹, K. L. Pepple², R. K. Wang^{1,2}. ¹Bioengineering, University of Washington, Seattle, WA; ²Ophthalmology, University of Washington, Seattle, WA *CR

1872 — B0344 Optical coherence tomography angiography characteristics of eyes in patients with history of diabetes mellitus or hypertension and absence of retinopathy on clinical examination. Alia Durrani, S. Patel. Vitreoretinal surgery, Vanderbilt Eye Institute, Nashville, TN

1873 — B0345 Effects of Spectral-Domain Optical Coherence Tomography Image Quality Degradation on Retinal Nerve Fiber Layer and Macular Thickness Measurements in Normal Individuals. Benjamin Chaon, L. Eldweik, M. S. Lee. Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN

1874 — B0346 Choroidal Thickness in Smokers Compared to Non-smokers by Enhanced Depth Imaging Optical Coherence Tomography. Jared J. Murray¹, Y. Wang², R. J. White¹, K. Firl¹, T. Tran¹, A. Feng¹, S. R. Montezuma². ¹University of Minnesota Medical School, Minneapolis, MN; ²Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN

1875 — B0347 Polarization sensitive optical coherence tomographic documentation of choroidal melanin loss in chronic Vogt-Koyanagi-Harada disease. Masahiro Miura^{1,2}, S. Makita^{3,2}, Y. Yasuno³, R. Tsukahara^{1,2}, Y. Usui², N. A. Rao⁴, Y. Ikuno⁵, S. Uematsu⁶, T. Agawa^{1,2}, T. Iwasaki^{1,2}, H. Goto². ¹Dept of Ophthalmology, Tokyo Med Univ, Ibaraki Med Ctr, Inashiki, Japan; ²Dept of Ophthalmology, Tokyo Medical University, Tokyo, Japan; ³COG Univ of Tsukuba, Tsukuba, Japan; ⁴Dept of Ophthalmology, University of Southern California, Los Angeles, CA; ⁵Ikuno eye center, Osaka, Japan; ⁶Dept of Ophthalmology, Osaka University Graduate School of Medicine, Suita, Japan *CR

1876 — B0348 Inflammatory choroidal neovascularization imaged by optical coherence tomography - angiography. Eleonore Diwo, F. Coscas, C. Fardeau, N. MASSAMBA, B. Bodaghi. 75013, Pitie Salpetriere Hospital, PARIS, France

1877 — B0349 Photoreceptor cell injury detected with SD-OCT and fundus autofluorescence in the initial stage of Vogt-Koyanagi-Harada disease. Ruilin Zhu^{1,2}, J. Zhang^{1,2}, L. Yang^{1,2}. ¹Department of Ophthalmology, Peking University First Hospital, Beijing, China; ²Key Laboratory of Vision Loss and Restoration, Ministry of Education, Beijing, China

1878 — B0350 Comparison of pre-operative and intraoperative imaging of epiretinal membranes. Jennifer Marie-Louise¹, R. Thouvenin¹, E. Philippakis¹, S. Gatoussi², A. COUTURIER¹, R. Tadayoni¹. ¹Ophthalmology, Hôpital Lariboisière, Université Paris Diderot-Sorbonne Paris Cité, Paris, France; ²Ophthalmology, Hôpital Pellegrin, Bordeaux, France

1879 — B0351 Biomarkers of diabetic retinopathy based on dynamic fluorescein angiography. Jennifer J. Kang-Mieler¹, S. Hu¹, C. Y. Cheung², L. Horvath¹, M. Poklar¹, D. S. Ng², F. Tang², W. YIP², W. F. Mieler³, K. Tichauer¹. ¹Biomedical Engineering, Illinois Institute of Technology, Chicago, IL; ²Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong; ³Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL

1880 — B0352 Challenges in Grading of Diabetic Retinopathy using Non-mydratric Wide-field Imaging. Daniel Rock¹, L. Marahrens¹, T. Ziemssen², M. Leitritz¹, C. Lucien³, F. Ziemssen¹. ¹Eberhard Karls University, Centre for Ophthalmology, Tübingen, Germany; ²University Hospital Carl Gustav Carus Dresden, Department of Neurology, Dresden, Germany; ³Reutlingen University, School of Informatics, Reutlingen, Germany *CR

1881 — B0353 Presumed cytooid bodies and retinal ganglion cell apoptosis imaged in vivo by AOSLO in cotton wool spots (CWS). Thomas Gast, C. A. Clark, T. Luo, S. A. Burns. Optometry, Indiana University, Bloomington, IN

1882 — B0354 Evaluation of Choroidal Nevi with Swept-Source Optical Coherence Tomography. Cindy Ung, I. Lains, R. L. Woods, A. M. Lane, D. Husain, J. W. Miller, E. S. Gragoudas, I. K. Kim, J. B. Miller. Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA *CR

1883 — B0355 Prevalence of Outer Retinal Atrophy in Idiopathic Multifocal Choroiditis Associated with Persistent Fundus Hyperautofluorescence. Talia R. Kaden¹, R. Dolz-Marco^{2,3}, C. Bala^{2,4}, K. Freund^{2,3}, L. Yannuzzi^{2,3}. ¹Ophthalmology, New York University, New York, NY; ²Vitreous Retina Macula Consultants of New York, New York, NY; ³The LuEsther T. Mertz Retinal Research Center, Manhattan Eye, Ear and Throat Hospital, New York, NY, New York, NY; ⁴Centre for Ophthalmology and Visual Sciences, University of Western Australia, Perth, WA, Australia *CR

1884 — B0356 Investigating correspondence between markers of glycemic control and retinal ganglion cell layer thickness in an African population. Akshar Abbott¹, D. Valent¹, L. S. Mabundo², M. Ricks², A. Sumner², E. Chew¹. ¹National Eye Institute, National Institutes of Health, Morgantown, WV; ²National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health, Bethesda, MD

1885 — B0357 Swept-source optical coherence tomography angiography findings in uveitis: Novel biomarkers for disease activity? Robert P. Finger, M. Wintergerst, F. G. Holz. Ophthalmology, University of Bonn, Bonn, Germany *CR

1886 — B0358 Comparison of Parapapillary Autofluorescence and Retinal Nerve Fiber Thickness in Emmetropic and High Myopic Eyes. Teresa Tee^{1,2}, L. Gopal³, I. J. Murray², I. Y. Leung^{1,2}. ¹School of Chemical and Life Sciences, Singapore Polytechnic, Singapore, Singapore; ²University of Manchester, Manchester, United Kingdom; ³Ophthalmology and Vision Sciences, Khoo Teck Puat Hospital, Singapore, Singapore

1887 — B0359 Normative Assessment of Outer Retinal Metrics Utilizing Ellipsoid Zone Mapping. Neeley A. Dukles, S. arepalli, P. M. Kaiser, A. Watts, J. Reese, S. K. Srivastava, J. Ehlers. Cole Eye Institute, Cleveland Clinic, Cleveland, OH *CR

1888 — B0360 Comparative Evaluation of Review Strategies for Detection of Vascular Abnormalities on Optical Coherence Tomography Angiography in the AVATAR Study. Amy S. Babiuch, M. Khan, M. Hu, P. K. Kaiser, S. K. Srivastava, R. P. Singh, A. Watts, J. Reese, J. Ehlers. Cole Eye Institute, Cleveland Clinic, Cleveland, OH *CR

1889 — B0361 En Face OCT Analysis to Assess the Spectrum of Perivenular Ischemia and PAMM in Retinal Vascular Occlusion. Ananda Kalevar^{1,8}, K. G. Falavarjani^{2,3}, N. Phasukkijwatana^{2,4}, E. Cunningham^{1,8}, R. McDonald¹, R. Dolz-Marco⁹, P. Roberts⁵, I. Tsui², R. B. Rosen⁶, K. Freund⁷, S. R. Sadda², L. M. Jampol⁷, D. Sarraf¹⁰. ¹West Coast Retina Medical Group, San Francisco, CA; ²David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA; ³Eye Research Center, Rassoul Akram Hospital, Iran University of Medical Sciences, Tehran, Iran (the Islamic Republic of); ⁴Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand; ⁵Medical University of Vienna, Vienna, Austria; ⁶New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ⁷Feinberg School of Medicine, Northwestern University, Chicago, IL; ⁸California Pacific Medical Center, San Francisco, CA; ⁹Vitreous Retina Macula Consultants of New York, New York, NY; ¹⁰Greater Los Angeles VA Healthcare Center, Los Angeles, CA

Exhibit/Poster Hall B0394-B0425

Monday, May 08, 2017 11:00 AM-12:45 PM

Retina

247 Diabetic macular edema and anti-VEGF therapy

Moderator: David M. Brown

1890 — B0394 Efficacy and safety of ranibizumab in diabetic macular edema: real life study. Linda Hrarat, F. Fajnkuchen, V. sarda, M. boubaya, T. grenet, C. gilles, A. Giocanti. Avicenne, Paris, France

1891 — B0395 Conversion to aflibercept for diabetic macular edema unresponsive to ranibizumab and/or intravitreal dexamethasone implant. Antoine Herbaut, L. Qu Knafo, A. Giocanti Auregan, F. Fajnkuchen. 93000, Avicenne hospital of Bobigny, Paris, France

1892 — B0396 Early responses of anti-vascular endothelial growth factor therapy on diabetic macular edema for predicting its reactivity. Masahiko Sugimoto, Y. Tenma, R. Miyata, M. Kondo. Ophthalmology, Mie University School of Medicine, Tsu, Japan *CR, ♂

1893 — B0397 The effect of anti-VEGF therapy on oxygen saturation and diameters of retinal vessels in patients with diabetic macular edema. Lisa Ramm, D. Sandner, D. Burkert, R. P. Stodmeister, N. Terai, L. E. Pillunat. Ophthalmology, Univ. Hospital Carl Gustav Carus, TU Dresden, Dresden, Germany *CR

1894 — B0398 OCT-Leakage for quantification and location of fluid in Diabetic Macular Edema. Response to anti-VEGF treatment. *Ana Rita Santos^{1,2}, T. Santos³, D. G. Alves⁴, R. Silva^{5,6}, J. Figueira^{5,6}, J. G. Cunha-Vaz⁷.* ¹CEC, AIBILI, Coimbra, Portugal; ²School of Allied Health Technologies, Polytechnic Institute of Porto, Porto, Portugal; ³CNTM, AIBILI, Coimbra, Portugal; ⁴4C, AIBILI, Coimbra, Portugal; ⁵Ophthalmology Department, Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal; ⁶Faculty of Medicine, University of Coimbra, Coimbra, Portugal; ⁷AIBILI, Coimbra, Portugal *CR

1895 — B0399 Short-term vision gains at 12 weeks correlate with long-term vision gains at 2 years - Results from the BEVORDEX randomized clinical trial of bevacizumab versus dexamethasone implants for diabetic macular edema. *Hemal Mehta^{1,2}, S. Fraser-Bell³, V. Nguyen², M. C. Gillies².* ¹Ophthalmology, Royal Free London NHS Foundation Trust, London, United Kingdom; ²Macular Research Group, Save Sight Institute, University of Sydney, Sydney, NSW, Australia *CR, ✗

1896 — B0400 Hyperreflective foci predict treatment response to bevacizumab in patients with diabetic macular edema. *Vivian Schreur¹, L. Altay², F. Van Asten¹, J. Groenewoud³, J. Klevering¹, C. C. Hoyng¹, E. de Jong¹.* ¹Department of Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center, Nijmegen, Netherlands; ²Department of Ophthalmology, University Hospital of Cologne, Cologne, Germany; ³Department of Health Evidence, Radboud University Medical Center, Nijmegen, Netherlands

1897 — B0401 Analysis of the factors influencing additional intravitreal bevacizumab injection against diabetic macular edema. *Joseph Kim, H. Chin.* Inha University Hospital, Incheon, Korea (the Republic of)

1898 — B0402 VEGF-Mediated Activation of Intracellular Signaling in Human Retinal Endothelial Cells is a Very Sharp and Switch-like Dose Response. *Kenneth P. Mitton¹, W. Dailey¹, A. N. Knapp^{1,2}, P. F. Chen^{1,2}, R. Miller¹, M. Cheng¹, B. Metcalf¹, Q. Tompkins¹, E. Guzman¹, J. Felisky¹, M. Deshpande¹.* ¹Eye Research Institute, Oakland University, Rochester, MI; ²OUWB School of Medicine, Oakland University, Rochester, MI

1899 — B0403 Real life experience of combined fixed-dosing and Treat and Extend protocols for the treatment of Diabetic Macular Oedema (DMO) with Anti-Vascular Endothelial Growth Factors (VEGF) agents. *Karim El-Assal, A. Stubbing-Moore, C. Geenen, D. Yarma, A. Kotagiri, J. Smith, D. H. Steel, M. S. Habib.* Sunderland Eye Infirmary, Sunderland, United Kingdom

1900 — B0404 Long-term outcomes of anti-VEGF treatment for diabetic macular edema in a real-world clinical setting. *Emilia Maggio, A. Polito, M. Sartore, G. Pertile.* Ophthalmology, Sacrocuore Hospital, Verona, Italy

1901 — B0405 Predictors of response to intravitreal bevacizumab for the treatment of diabetic macula edema; preliminary results of a retrospective case series. *Ebony Liu¹, G. Kaidonis¹, S. Lake¹, K. P. Burdon¹, J. E. Craig¹.* ¹Flinders University, Adelaide, SA, Australia; ²University of Tasmania, Hobart, TAS, Australia

1902 — B0406 Reflectivity of the retinal cystoid space and visual outcome after intravitreal ranibizumab injection in diabetic macular edema. *Norihiro Nagai^{2,1}, M. Suzuki^{2,1}, T. Kurihara¹, M. Kamoshita^{2,1}, H. Sonobe¹, S. Minami¹, H. Shinoda¹, K. Tsubota¹, Y. Ozawa^{2,1}.* ¹Ophthalmology, Keio University, Tokyo, Japan; ²Laboratory of Retinal Cell Biology, Keio University, School of Medicine, Tokyo, Japan ✗

1903 — B0407 Influence of the vitreomacular interface on the course of diabetic macular edema after treatment with intravitreal anti-vascular endothelial growth factor injections. *Sandra Gomez Sanchez¹, X. Valldeperas¹, M. Esteve², B. Oller-Sales³.* ¹Ophthalmology, Hospital Universitari Germans Trias i Pujol, ARENYS DE MAR, Spain; ²Preventive Medicine, Hospital Universitari Germans Trias i Pujol, Barcelona, Spain; ³Surgery, Hospital Universitari Germans Trias i Pujol, Barcelona, Spain ✗

1904 — B0408 Dependency of BCVA and ranibizumab treatment frequency of DME patients in a real-life setting (OCEAN study). *Focke Ziemssen¹, J. Voegeler⁵, S. Schmitz-Valckenberg², G. Spital⁴, S. Liakopoulos³.* ¹Center of Ophthalmology, University Tuebingen, Tuebingen, Germany; ²University Eye Hospital, Bonn, Germany; ³Cologne Image Reading Center, Department of Ophthalmology, University Hospital of Cologne, Cologne, Germany; ⁴Department of Ophthalmology, St. Franziskus-Hospital, Muenster, Germany; ⁵Novartis, Nuernberg, Germany *CR, ✗

1905 — B0409 Multivalent Conjugation to Hyaluronic Acid Increases the Intravitreal Residence Time of Anti-VEGF Antibodies. *Wesley M. Jackson¹, L. Brier¹, M. Mahomed¹, R. Lamy², M. F. Chan².* ¹Valitor, Inc., Berkeley, CA; ²Ophthalmology, UCSF, San Francisco, CA *CR

1906 — B0410 Persistent diabetic macular edema after 6 months of anti-VEGF therapy is associated with diminished long-term improvement in vision: a post-hoc analysis of Protocol I. *Scott M. Whitcup¹, J. Campbell², A. Loewenstein³, P. U. Dugel⁴, N. Holekamp⁵, S. Kiss⁶, A. J. Augustin⁷, V. Shih², J. Lai², C. C. Wykoff⁸, S. R. Sadda⁹.* ¹Whitecap Biosciences, Mission Viejo, CA; ²Allergan plc, Irvine, CA; ³Tel-Aviv Medical Center, Tel Aviv, Israel; ⁴Retinal Consultants of Arizona, Phoenix, AZ; ⁵Pepose Vision Institute & Washington University, Chesterfield, MO; ⁶Weill Cornell Medical College, New York, NY; ⁷Städtisches Klinikum, Kalsruhe, Germany; ⁸Retina Consultants of Houston, Houston, TX; ⁹Doheny Eye Institute, Los Angeles, CA *CR

1907 — B0411 Impact of Cataract Surgery on Visual and Anatomic Outcomes in Patients treated for Diabetic Macular Edema (DME) in the VISTA and VIVID Trials. *Andrew A. Moshfeghi.* Vitreoretinal Surgery & Diseases, Univ of Southern California, Los Angeles, CA *CR, ✗

1908 — B0412 Compliance and adherence of patients with diabetic macular edema to intravitreal Anti-VEGF therapy. *Maximilian Weiß¹, T. Herold¹, R. Schumann¹, R. Liegl¹, M. Müller¹, A. Babenko¹, M. Rottmann², J. Schiefelbein¹, S. Priglinger¹, K. U. Kortuem¹.* ¹University eye hospital munich, Munich, Germany; ²IBE Munich, Munich, Germany *CR

1909 — B0413 The use of fluocinolone acetonide implant(ILUVIEN) in patients with diabetic macular edema(DME) previously treated with dexamethasone intravitreal implant(OZURDEX) - Efficacy and safety outcomes from clinical practice in Glasgow,Scotland. *Sridevi Rajasekaran¹, U. Mulla¹, S. Drummond², M. Gavin³, W. Wykes⁴.* ¹Ophthalmology, New Victoria Hospital, Glasgow, United Kingdom; ²Ophthalmology, Glasgow Royal Infirmary, Glasgow, United Kingdom; ³Ophthalmology, Gartnavel General Hospital, Glasgow, United Kingdom; ⁴Ophthalmology, Queen Elizabeth University Hospital, Glasgow, United Kingdom *CR

1910 — B0414 Dexamethasone Implant (Ozurdex) For Diabetic Macular Edema In Naïve Compared To Refractory Cases: A Retrospective 24 Months Study. *Matias Iglicki¹, D. Zur², C. Colutta³, I. Lains⁵, H. P. Negri³.* ¹University of Buenos Aires, City of Buenos Aires, Argentina; ²Division of Ophthalmology, Sourasky Medical Center, Sackler Faculty of Medicine, TEL AVIV, Israel; ³Ophthalmology, Diagnostic Ophthalmology center, Buenos Aires, Argentina; ⁴Ophthalmology, Institute of Ophthalmology, Buenos aires, Argentina; ⁵Massachusetts Eye and Ear, Harvard Medical School, Boston, MA

1911 — B0415 Diabetic macular edema treated with ranibizumab in a large single center unselected population of 566 diabetic patients with a 2-4 year follow-up. *Delila Hodzic-Hadzibegovic^{1,2}, B. Sander¹, T. Monberg¹, M. Larsen^{1,2}, H. Lund-Andersen^{1,2}.* ¹Departement of Ophthalmology, Rigshospitalet, Copenhagen, Denmark, Kobenhavn S, Denmark; ²Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark *CR

1912 — B0416 Intravitreal Ranibizumab Treatment of Diabetic Macular Edema in Combination with Focal Laser Photocoagulation under Individualised Treatment Scheme. *Jan Ernest, K. Manethova.* Ophthalmology, Military University Hospital Prague, Prague, Czech Republic

1913 — B0417 Assessment of pre-trial bevacizumab response in the REACT study: A prospective comparative dosing trial of ranibizumab in eyes previously treated with bevacizumab. *sruthi arepalli, S. K. Srivastava, R. P. Singh, A. Yuan, J. E. Sears, J. Reese, S. Laura, J. Ehlers.* Ophthalmology, Cole Eye Institute, Cleveland, OH *CR, ✕

1914 — B0418 Real life gender related differences in patients with diabetic macular edema treated with ranibizumab. *Johannes Schiefelbein¹, C. Kern¹, M. Müller¹, D. Jeliakova¹, M. Weib¹, S. Priglinger¹, K. U. Kortuem^{1,2}.* ¹Dept. of Ophthalmology, Ludwig-Maximilians-University, Munich, Germany; ²Moorfields Eye Hospital, London, United Kingdom *CR

1915 — B0419 Real-world outcomes with ranibizumab 0.5 mg treatment in French patients with visual impairment due to diabetic macular edema: 12-month results from the 36-month BOREAL-DME study. *Catherine P. Creuzot Garcher¹, P. Massin², L. KODJIKIAN³, J. Girmens⁴, C. DelCourt⁵, F. Fajnkuchen⁶, A. Glacet⁷, P. Guillausseau⁸, A. Derveloy⁹, L. FINZI¹⁰, P. Blin¹⁰, B. Team¹⁰.* ¹Ophthalmology, University Hospital, Dijon, France; ²Ophthalmology, Hôpital Lariboisière, Paris, France; ³Ophthalmology, Hôpital de la Croix Rousse, Lyon, France; ⁴Ophthalmology, CHNO des Quinze-Vingts, Paris, France; ⁵Inserm U1219-Bordeaux Population Health Research Center, University of Bordeaux, Bordeaux, France; ⁶Ophthalmology, Hôpital Avicenne, Bobigny, Bobigny, France; ⁷Ophthalmology, Centre Hospitalier Intercommunal de Créteil, Créteil, France; ⁸Internal Medicine, Hôpital Lariboisière, Paris, France; ⁹Novartis Pharma SAS, Rueil-Malmaison, Malmaison, France; ¹⁰Medical Pharmacology Dept., Medical Pharmacology department CIC Bordeaux CIC1401, Bordeaux, Bordeaux, France *CR

1916 — B0420 Differences in the characteristics of subjects achieving complete or partial resolution of diabetic macular edema in the READ-3 Study. *Muhammad S. Halim¹, R. Afridi¹, M. Hassan¹, M. A. Sadiq¹, D. V. Do^{1,2}, Q. D. Nguyen^{1,2}, Y. J. Sepah^{1,2}.* ¹Ophthalmology, Byers Eye Institute, Stanford University, Palo Alto, CA; ²Ocular Imaging Research and Reading Center, Menlo Park, CA *CR

1917 — B0421 The use of intravitreal bevacizumab in the initial treatment of diabetic macular edema (DME) in a resident lead clinic in a county hospital, and comparative cost saving compared to other anti VEGF therapies. *Mansoor Mughal, S. Langevin, P. Cetina, K. Garff, J. Alexander, S. Xavier, R. Lopez, M. Morcos.* Ophthalmology, Nassau University Medical Center, East Meadow, NY

1918 — B0422 Loss of follow-up in patients with diabetic macular edema (DME) after prior intravitreal anti-vascular endothelial growth factor (VEGF) injections. *Xinxiao Gao, A. Obeid, A. Ho, J. Hsu.* Retina Service, Wills Eye Hospital, Philadelphia, PA *CR

1919 — B0423 Real world use of aflibercept in treatment of diabetic macular oedema. *Orla McNally¹, M. Williams^{2,1}.* ¹Ophthalmology, Belfast Health and Social Care Trust, Belfast, United Kingdom; ²Queen's University of Belfast, Centre for Medical Education, Belfast, United Kingdom

1920 — B0424 Differences in Visual and Anatomical Response to Intravitreal Ranibizumab Therapy Between Unilateral vs. Bilateral Treated Eyes in Diabetic Macular Edema. *Umit U. Inan, S. INAN, K. YIGIT.* Ophthalmology, Kocatepe University, Afyon, Turkey

1921 — B0425 Evaluate of visual acuity in patients with diabetic macular edema treated with different anti-VEGF. *Leonardo Pinheiro Teixeira, M. Martins Abrahao, J. J. Nassaralla.* Instituto de Olhos de Goiania, Teresina, Brazil ✕

Exhibit/Poster Hall B0426-B0450

Monday, May 08, 2017 11:00 AM-12:45 PM

Retina

248 AMD therapies (excluding anti-VEGF)

1922 — B0426 Mineralocorticoid Antagonists As Adjuncts In Neovascular Age-Related Macular Degeneration. *Niket Todi¹, K. Kapoor^{1,2}, A. Wagner^{1,2}.* ¹Eastern Virginia Medical School, Vienna, VA; ²Wagner Macula and Retina Center, Virginia Beach, VA

1923 — B0427 αB crystallin peptide recombinantly fused with elastin-like polypeptides protects retina from NaIO₃-induced RPE atrophy. *Parameswaran G. Sreekumar¹, Z. Li², W. Wang², C. Spee³, J. A. MacKay², D. R. Hinton^{3,4}, R. Kannan¹.* ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Pharmacology and Pharmaceutical Sciences, University of Southern California, Los Angeles, CA; ³USC Roski Eye Institute, Keck School of Medicine of the University of Southern California, Los Angeles, CA; ⁴Pathology, Keck School of Medicine of the University of Southern California, Los Angeles, CA

1924 — B0428 Brimonidine Drug Delivery System (DDS) Generation 1 in patients with geographic atrophy: Post-hoc analysis of a phase 2 study. *Baruch D. Kuppermann¹, S. S. Patel², D. S. Boyer³, A. J. Augustin⁴, W. R. Freeman⁵, T. Kim⁶, K. Kern⁶, F. J. Lopez⁶, S. Schneider⁶.* ¹Gavin Herbert Eye Institute, UCI Dept of Ophthalmology, University of California Irvine, Irvine, CA; ²West Texas Retina, Abilene, TX; ³Retina-Vitreous Associates Medical Group, Los Angeles, CA; ⁴Städtisches Klinikum, Karlsruhe, Germany; ⁵University of California San Diego School of Medicine, San Diego, CA; ⁶Allergan plc, Irvine, CA *CR, ✕

1925 — B0429 Therapeutic Effects of PPARα Agonist on Experimental Neovascular Age-Related Macular Degeneration. *Fangfang Qiu, H. Matlock, Q. Chen, Y. Du, K. Zhou, J. Ma.* Physiology, The University of Oklahoma Health Sciences Center, Oklahoma, OK

1926 — B0430 Aquaporin-1: a potential target for age-related macular degeneration. *Raj Patil^{1,2}, C. Wei³, Q. Tan³, B. Parikh³, B. Qiu³, V. A. Barathi^{1,2}, X. Wang^{3,4}, T. Wong^{2,5}.* ¹Singapore Eye Research Institute, Singapore, Singapore; ²Ophthalmology & Visual Sciences, DUKE-NUS Medical School, Singapore, Singapore; ³Institute of Molecular and Cell Biology, A*STAR, Singapore, Singapore; ⁴Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, Singapore; ⁵Singapore National Eye Center, Singapore, Singapore

1927 — B0431 Characterization of anti-angiogenic properties of histone deacetylase (HDAC) inhibitor from marine bacteria in human retinal vascular endothelial cells. *Wei Cheng¹, Q. Tan¹, R. Patil^{2,4}, W. Hunziker¹, H. Luesch^{3,5}, T. Wong^{2,4}, W. Hong¹.* ¹SIPRAD, Institute of Molecular and Cell Biology, Singapore, Singapore; ²Retina, Singapore Eye Research Institute, Singapore, Singapore; ³Oceanyx Pharmaceuticals, Alachua, FL; ⁴Ophthalmology & Visuals Sciences ACP, Duke NUS Medical School, Singapore, Singapore; ⁵College of Pharmacy, University of Florida, Gainesville, FL *CR

1928 — B0432 Office-based t-PA assisted pneumatic displacement of submacular hemorrhage secondary to neovascular age-related macular degeneration (ARMD): A comparative study of newly-converted, treatment-naïve eyes vs. eyes with anti-VEGF therapy prior to presentation. *Santosh P. Bhaskarabhatla¹, H. F. Fine^{1,2}, D. Mantopoulos¹, D. B. Roth^{1,2}, N. Chinsky^{1,2}, S. P. Shah^{1,2}.* ¹Department of Ophthalmology, Robert Wood Johnson Medical School, Rutgers University, Woodland Park, NJ; ²NJ Retina, New Brunswick, NJ *CR

1929 — B0433 Development of SERP1 and SERP2 anti-inflammatory serpins from Myxoma virus for use in gene therapy for ocular inflammation. *Virginia White¹, S. Ambadapadi², M. Amontree¹, B. M. Bowman³, C. J. Ildefonso³, A. Lucas², D. McFadden¹, A. S. Lewin¹.* ¹Molecular Genetics & Microbiology, University of Florida, Gainesville, FL; ²Medicine, University of Florida College of Medicine, Gainesville, FL; ³Ophthalmology, University of Florida College of Medicine, Gainesville, FL

1930 — B0434 Evaluation of outer retinal tubulations in eyes switched from intravitreal ranibizumab to aflibercept for treatment of exudative age-related macular degeneration. *Nathalie Massamba.* Paris, Pitie Salpetriere Hospital, Paris, France

1931 — B0435 Adjunctive Indocyanine Green Angiography-Directed Verteporfin Photodynamic Therapy for the Treatment of Persistent Disease Activity in Neovascular AMD. Priyatham S. Mettu, M. J. Allingham, P. Nicholas, S. W. Cousins. Ophthalmology / Duke Eye Center, Duke University School of Medicine, Durham, NC *CR, ✕

1932 — B0436 Novel collagen peptide inhibits choroidal neovascularization in mouse model of Wet AMD. Byul-Nim Ahn¹, D. Hur^{1,3}, S. Kim¹, Y. Shin¹, J. Yang^{1,2}. ¹T2B infrastructure Center for Ocular Disease, Inje University Busan Paik Hospital, Busan, Korea (the Republic of); ²Department of Ophthalmology, Inje University College of Medicine, Busan, Korea (the Republic of); ³Anatomy and Cell Biology, Inje University College of Medicine, Busan, Korea (the Republic of)

1933 — B0437 Cytochrome P450 monooxygenase lipid metabolites regulate choroidal neovascularization in the eye: contribution of the soluble epoxide hydrolase. Kip M. Connor^{1,2}, S. Inafuku^{1,2}, C. Kim^{1,2}, D. Husain^{1,2}, J. W. Miller^{1,2}, E. Hasegawa^{1,2}. ¹Ophthalmology, Harvard Medical School, Boston, MA; ²Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA *CR

1934 — B0438 Intravitreal RTPA injection for macular hemorrhage: long term follow up. Isabella D'Agostino, S. Bochicchio, M. G. Cereda, G. Staurenghi. Biomedical and Clinacal Science "Luigi Sacco", Sacco Hospital Eye clinic, Milan, Italy *CR

1935 — B0439 TIMP3 Aggregates in Endothelial Cells Expressing Sorsby Fundus Dystrophy Associated TIMP3 Mutations is Regulated by Glycosylation. Jian H. Qi. Ophthalmic Research-ColeEye Inst, Cole Eye Institute, Cleveland, OH

1936 — B0440 Pneumatic displacement of submacular hemorrhage: single surgeon consecutive case series. Robert Wirthlin, H. R. Jones. Spokane Eye Clinic, Spokane, WA

1937 — B0441 Evaluation of the advanced antagonist of Retinol-Binding Protein 4 in animal models of bisretinoid and retinaldehyde toxicity. Konstantin Petrukhin, B. Racz. Department of Ophthalmology, Columbia University, New York, NY *CR

1938 — B0442 Reduction of Bruchs Membrane (BrM) Thickness after Pulsed Laser Irradiation in Apolipoprotein (Apo) E Knock Out Mice. Elisabeth Richert¹, J. Tode¹, A. Kletner¹, S. O. Koinzer¹, R. Brinkmann², J. Hillenkamp^{1,3}, R. Lucius⁴, J. Roeder¹. ¹Department of Ophthalmology, University of Kiel, Kiel, Germany; ²Medical Laser Center, Lübeck, Germany; ³Department of Ophthalmology, University of Würzburg, Würzburg, Germany; ⁴Anatomical Institute, University of Kiel, Kiel, Germany

1939 — B0443 Aryl hydrocarbon receptor (AhR) activation decreases severity of laser-induced choroidal neovascular lesions (CNV). Mayur Choudhary¹, S. H. Safe³, G. Malek^{1,2}. ¹Department of Ophthalmology, Duke University School of Medicine, Durham, NC; ²Department of Pathology, Duke University School of Medicine, Durham, NC; ³Veterinary Medicine and Biomedical Sciences, Texas A&M University, College Station, TX

1940 — B0444 Evaluating the efficacy of treatment with an LXR agonist on the pathogenesis of early AMD. Faryan Tayyari¹, M. Choudhary¹, P. Tontonoz³, J. T. Handa², G. Malek¹. ¹Ophthalmology, Duke University School of Medicine, Durham, NC; ²Ophthalmology, Wilmer Eye Institute, Johns Hopkins, Baltimore, MD; ³Pathology, UCLA, Los Angeles, CA

1941 — B0445 Indocyanine Green Angiography-Directed Verteporfin Photodynamic Therapy for Treatment of Serous Pigment Epithelium Detachments in Neovascular Age-Related Macular Degeneration. Sumeet Jindal, S. W. Cousins, P. S. Mettu. Ophthalmology / Duke Eye Center, Duke University School of Medicine, Durham, NC *CR

1942 — B0446 Systemic dendrimer-based combination therapies for AMD. Kannan Rangaramanujam, S. Kambhampati, I. A. Bhutto, G. A. Luty. Center for Nanomedicine/Ophthalmology, Wilmer Eye Institute, Baltimore, MD *CR

1943 — B0447 Integrin peptide inhibitor for the treatment of intermediate Age Related Macular Degeneration. Hugo Quiroz-Mercado¹, J. Guerrero-Naranjo², R. Gonzalez-Salinas¹, L. Hernandez-Zimbron¹, R. Zamora¹, R. Guillias-Cañizo¹, L. Ochoa-De la Paz¹, L. Karageozian³, V. Karageozian³, L. Kutscher³, J. Y. Park³, H. Karageozian³. ¹Research Department, Asociación para Evitar la Ceguera en México I.A.P., Mexico City, Mexico; ²Retina, Asociación para Evitar la Ceguera en México I.A.P., Mexico City, Mexico; ³Allegro Ophthalmics LLC, San Juan Capistrano, CA *CR

1944 — B0448 Treatment of refractory pigment epithelial detachment secondary to exudative age-related macular degeneration. Andres Gonzalez, G. S. Khurshid. Ophthalmology, University of Florida, Gainesville, FL

1945 — B0449 Progression of Geographic Atrophy in Patients with Wet Age-Related Macular Degeneration Undergoing Anti-VEGF Therapy. aseel hamoud bedan², S. Younis^{2,1}, M. Kurumthottal^{2,1}, A. Goodluck^{2,1}, E. Yang^{2,1}, C. Quijano^{2,1}. ¹Medical Retina, Western Eye Hospital, Dublin, Ireland; ²Western Eye Hospital, London, United Kingdom

1946 — B0450 Effect of Chronic Intraocular Erythropoietin on Measurements of Vision in Eyes with Geographic Atrophy Secondary to Age-Related Macular Degeneration. Stephen H. Sinclair. Ophthalmology, Drexel University School of Medicine, Media, PA *CR, ✕

Exhibit/Poster Hall B0451-B0484

Monday, May 08, 2017 11:00 AM-12:45 PM

Physiology/Pharmacology

249 AMD: New drugs, delivery systems

Moderator: Antonio Longo

1947 — B0451 Nutritional Supplementation Inhibits the Increase in Serum Malondialdehyde in Patients with Wet Age-related Macular Degeneration. Kei Takayama, T. Matsuura, H. Kaneko, H. Fukukita, K. Kataoka, Y. Nagasaka, T. Tsunekawa, Y. Ito, H. Terasaki. Department of Ophthalmology, Nagoya University Graduate School of Medicine, Nagoya, Japan

1948 — B0452 Targeting Transforming Growth Factor beta 2 (TGF-β2) mRNA with ISTH0036 as Novel Therapeutic Intervention in Neovascular Ocular Disease. Katja Wosikowski¹, I. van Hoven³, J. Puranen², L. de Groef³, A. Haapaniemi², J. Sergeys³, S. Kaja², G. Kalesnykas², L. K. Moons³, M. Janicot¹. ¹Preclinical Research and Development, Isarna Therapeutics, Munich, Germany; ²Experimentica, Kuopio, Finland; ³Biology Department, Zoological Institute, KU Leuven, Leuven, Belgium *CR

1949 — B0453 Biodegradable polymeric microparticles allow sustained durability of a multimodal anti-angiogenic peptide to treat neovascular age-related macular degeneration. Jayoung Kim¹, R. Formica², R. Shmueli^{1,3}, A. Mirando¹, N. B. Pandey^{1,3}, A. S. Popel^{1,3}, P. A. Campochiaro², J. J. Green^{1,3}. ¹Biomedical Engineering, Johns Hopkins University, Baltimore, MD; ²Ophthalmology, Johns Hopkins Wilmer Eye Institute, Baltimore, MD; ³AsclepiX Therapeutics, Baltimore, MD *CR

1950 — B0454 Activation of Liver X Receptor α Protects Amyloid β₁₋₄₀ Induced Inflammatory and Senescent Responses in Human Retinal Pigment Epithelial Cells. Bo Lei^{2,1}, B. Dai¹, H. Peng¹. ¹Ophthalmology, 1st Hosp Chongqing Med Univ, Chongqing, China; ²Henan Eye Hospital, Henan Eye Institute, Zhengzhou, China

- 1951 — B0455 Novel Glycosylated VEGF Decoy Receptor Fusion Protein, VEGF-Grab3 showed superior anti-angiogenic efficacy to Aflibercept (Eylea): a potential therapeutic agent for exudative Age-related macular degeneration (AMD).** Hye kyoung Hong¹, E. Lim², N. Ryoo¹, S. Park¹, Y. Na¹, J. Chung³, H. Kim², K. Park¹, S. Woo¹. ¹Department of Ophthalmology, Seoul National University College of Medicine, Seoul National University Bundang, Seongnam-si, Korea (the Republic of); ²Graduate School of Medical Science and Engineering, Korea Advanced Institute of Science and Technology, Daejeon, Korea (the Republic of); ³Department of Clinical Pharmacology and Therapeutics, Seoul National University College of Medicine, Seoul National University Bundang, Seongnam-si, Korea (the Republic of)
- 1952 — B0456 Systemic Pharmacodynamic Efficacy of a Complement Factor B Antisense Oligonucleotide in Preclinical and Phase 1 Clinical Studies.** Michael McCaleb¹, T. R. Grossman¹, P. Adamson², S. Henry¹, R. S. Geary¹, S. G. Hughes¹, B. P. Monia¹. ¹Ionis Pharmaceuticals, Carlsbad, CA; ²GlaxoSmithKline, Stevenage, United Kingdom *CR, ✗
- 1953 — B0457 Assessing the usability of the ranibizumab 0.5 mg prefilled syringe (PFS) by healthcare professionals in the US.** Andrew N. Antoszyk¹, C. W. Baker², H. Cummings³, J. Calzada⁴, J. So⁵, C. Quezada-Ruiz⁵, Z. Haskova⁵. ¹Retina, Charlotte EEN&T Associates, Charlotte, NC; ²Paducah Retinal Center, Paducah, KY; ³Southeastern Retina Associates, Kingsport, TN; ⁴Charles Retina Institute, Germantown, TN; ⁵Genentech, Inc., San Francisco, CA *CR, ✗
- 1954 — B0458 Elamipretide Protects RPE and Improves Mitochondrial Function in Models of AMD.** Rebecca Kappahn¹, M. Terluk¹, M. Ebeling¹, M. Pierson¹, K. Mar¹, H. Gong¹, S. Monetzuma¹, Y. Le², T. Shirasawa³, T. Shimizu⁴, D. A. Ferrington¹. ¹Ophthalmology, University of Minnesota, Minneapolis, MN; ²Endocrinology and Diabetes, Oklahoma University, Oklahoma City, OK; ³Juntendo University, Tokyo, Japan; ⁴Chiba University, Chiba, Japan *CR
- 1955 — B0459 Phase inversion-based *in situ* forming ocular implants for sustained drug delivery.** Farhan Alshammari, I. Tekko, R. Donnelly, R. Thakur. School of Pharmacy, Queen's University Belfast, Belfast, United Kingdom
- 1956 — B0460 Tolerability of a 6 month Sustained Hydrogel Delivery System for Tyrosine Kinase Inhibitors in Dutch Belted Rabbits.** Peter K. Jarrett, R. F. Elhayek, T. Jarrett, Z. Lattrell, M. McGrath, S. Takach, J. H. Talamo, A. Sawhney. Ocular Therapeutix, Lexington, MA *CR
- 1957 — B0461 Soluble Epoxide Hydrolase Is a Therapeutic Target for Choroidal Neovascularization.** Rania S. Sulaiman¹, M. Heo², S. Lee², S. Seo², T. W. Corson¹. ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²College of Pharmacy, Gachon University, Incheon, Korea (the Republic of)
- 1958 — B0462 Best Practices for Querying Electronic Ophthalmology Health Records for Potential Clinical Trial Participants.** Katarzyna Brodowska¹, M. Rostamizadeh¹, D. Weiss², L. J. Singerman². ¹Ophthalmology, Case Western University, Seven Hills, OH; ²Retina Associates of Cleveland, Cleveland, OH *CR
- 1959 — B0463 Abicipar pegol in neovascular age-related macular degeneration (nAMD): comparability between Japanese and non-Japanese patients, and treatment effects on polypoidal choroidal vasculopathy (PCV) and non-PCV patients.** Derek Kunimoto¹, M. Ohji², R. K. Maturi³, T. Sekiryu⁴, Y. Wang⁵, G. Pan⁵, X. Li⁵, S. Schneider⁵. ¹Retinal Consultants of Arizona, Mesa, AZ; ²Shiga University of Medical Science, Shiga, Japan; ³Midwest Eye Institute, Indianapolis, IN; ⁴Fukushima Medical University Hospital, Fukushima, Japan; ⁵Allergan plc, Irvine, CA *CR, ✗
- 1960 — B0464 Brimonidine drug delivery system (Brimo DDS Generation 1) slows the growth of retinal pigment epithelial hypofluorescence following regional blue light irradiation in a nonhuman primate (NHP) model of geographic atrophy (GA).** Corine Ghosn, A. Almazan, S. Decker, J. A. Burke. Allergan plc, Irvine, CA *CR
- 1961 — B0465 Anti-angiogenic effects of DS-7080a anti-ROBO4 monoclonal antibody, in a monkey model of LASER-induced choroidal neovascularization.** Tatsuya Inoue¹, Y. Isumi², S. Hayashi², K. Fusegawa², Y. Yoshigae², T. Sato². ¹Pain & Neuroscience Laboratories, Daiichi Sankyo Co., Ltd., Tokyo, Japan; ²Daiichi Sankyo Co., Ltd., Tokyo, Japan *CR
- 1962 — B0466 In vitro characterization of anti-angiogenic effects of DS-7080a, a novel anti-human ROBO4 monoclonal antibody.** Yoshitaka Isumi¹, T. Inoue², S. Hayashi¹, C. Yoshimura³, J. Hasegawa³, T. Sato², T. Agatsuma¹. ¹Biologics & Immuno-Oncology Laboratories, Daiichi Sankyo Co., Ltd., Tokyo, Japan; ²Pain & Neuroscience Laboratories, Daiichi Sankyo Co., Ltd., Tokyo, Japan; ³Modality Research Laboratories, Daiichi Sankyo Co., Ltd., Tokyo, Japan *CR
- 1963 — B0467 In Vitro Reconstructed Human Corneal Tissue Model: Applications to Dry Eye and Ophthalmic Drug Delivery.** Yulia Kaluzhny¹, M. W. Kinuthia¹, A. M. Gremiligianni², T. Truong¹, P. Hayden¹, M. Klausner¹. ¹MatTek Corporation, Ashland, MA; ²Laboratory of Analytical Chemistry, University of Athens, Athens, Greece *CR
- 1964 — B0468 Rat Primary Cells transfected with PEDF using the *Sleeping Beauty* Transposon system are effective in reducing the proangiogenic status in choroidal neovascularization.** Sergio Recalde^{1,7}, M. Hernandez^{1,7}, P. Fernandez^{1,7}, L. Garcia-Garcia^{1,7}, J. R. Rodriguez^{2,7}, J. Bezunarte^{1,7}, M. Moreno^{1,7}, I. Belza¹, C. Marie⁶, D. Scherman⁶, Z. Izsvák⁵, S. Johnen⁴, G. Thumann³, A. Garcia-Layana^{1,7}. ¹Experimental Ophthalmology laboratory, Universidad de Navarra, Pamplona, Spain; ²Cell Therapy Area. Division of cancer, Center of Applied Medical Research (CIMA), Pamplona, Spain; ³département des neurosciences clinique, service d'Ophtalmologie, Hôpitaux Universitaires de Genève, Genève, Switzerland; ⁴Department of Ophthalmology, University Hospital RWTH Aachen, Aachen, Germany; ⁵Molecular Medicine in the Helmholtz Society, Max Delbrück Center, Berlin, Germany; ⁶Unité de Technologies Chimiques et Biologiques pour la Santé, INSERM U1022 - CNRS UMR8258, Paris, France; ⁷IDISNA, Navarra Institute for Health Research, Pamplona, Spain *CR
- 1965 — B0469 3-Deoxyanthocyanidins protect efficiently RPE cells and photoreceptors against A2E-mediated phototoxicity.** Pierre Dilda¹, L. Lesage², L. Guibout¹, E. Brazhnikova², C. Balducci¹, A. Foucault¹, J. A. Sahel², S. Veillet¹, R. Lafont¹, V. Fontaine². ¹Biophysit, Paris, France; ²Institut de la Vision, Paris, France *CR
- 1966 — B0470 Optimisation of potent SRPK1 inhibitors through modelling of permeability properties required for trans-scleral eye drop delivery.** Jennifer Batson^{1,2}, H. Toop³, E. Stewart^{1,2}, J. Daubney^{1,2}, J. Morris^{3,1}, D. O. Bates^{1,2}. ¹Exonate Ltd, Cambridge, United Kingdom; ²School of Medicine, University of Nottingham, Nottingham, United Kingdom; ³Chemistry, University of New South Wales, Sydney, NSW, Australia *CR
- 1967 — B0471 ROCK Inhibitors AR-13324 and AR-13154(S) Block Choroidal Angiogenesis and Protect the Barrier Function of Retinal Pigment Epithelium.** Jindong Ding, K. Carbajal, C. Koczcynski, C. Lin. Aerie Pharmaceuticals, Inc., Durham, NC *CR
- 1968 — B0472 Efficacy of a 6 month Sustained Hydrogel Delivery System for Tyrosine Kinase Inhibitors in a VEGF Induced Retinal Leakage Model.** Rami F. Elhayek, T. Jarrett, Z. Lattrell, S. Takach, P. K. Jarrett, M. McGrath, J. H. Talamo, A. Sawhney. R&D, Ocular Therapeutix, Bedford, MA *CR
- 1969 — B0473 Identification of Retinal Pigment Epithelial Cell-Targeting Peptide Ligands for Ocular Drug Delivery using One-Bead One-Compound Combinatorial Libraries.** Eric Tieu¹, W. Xiao², P. Zhang², S. Manna², R. J. Zawadzki², E. N. Pugh², K. Lam², G. Yui¹. ¹Ophthalmology, University of California, Davis, Davis, CA; ²University of California, Davis, Sacramento, CA *CR

1970 — B0474 Novel Auto-regenerative Antioxidant Significantly Attenuates Pathologic Choroidal Neovascularization in Wet AMD Model. Zongchao Han^{1,2}, R. Mitra¹, R. Gao¹, M. Zheng¹, M. Wu¹, K. Wang¹, S. Chavala³, M. Vayns⁴, A. Smirnov⁴, T. Smirnova⁴. ¹Ophthalmology, University of North Carolina at Chapel Hill, Chapel Hill, NC; ²Carolina Institute for NanoMedicine, University of North Carolina at Chapel Hill, Chapel Hill, NC; ³Eye Research Institute, University of North Texas Health Science Center, Fort Worth, TX; ⁴Chemistry, North Carolina State University, Raleigh, NC

1971 — B0475 Prediction of duration of C3 inhibition with APL-2 in human eyes using a PK/PD binding model. Matthias Machacek¹, P. Deschatelets², R. Kim², P. Johnson³, F. Grossi². ¹LYO-X GmbH, Allschwil, Switzerland; ²Apellis Pharmaceuticals, Inc., Crestwood, KY; ³Pharma Solutions GmbH, Bülach, Switzerland *CR

1972 — B0476 Extended release of intravitreal flurbiprofen from a novel thermosensitive hydrogel. Blazaki Styliani^{1,2}, K. Pachis³, I. Naoumidis², M. Tzatzarakis⁴, M. K. Tsilimbaris^{1,2}, S. Antimisiaris³. ¹University of Crete Medical School, Ophthalmology, Heraklion, Greece; ²Laboratory of Optics and Vision, University of Crete Medical School, Heraklion, Greece; ³Department of Pharmacy, Laboratory of Pharmaceutical Technology, University of Patras, Patra, Greece; ⁴Center of Toxicology Science & Research, Medical School, Heraklion, Greece

1973 — B0477 In vivo evaluation of hyaluronic acid based in situ hydrogel for prolonged release of Avastin in monkey. Yu Yu¹, X. Lin², Q. Wang², M. He², Y. Chau¹. ¹HKUST, Hong Kong, Hong Kong; ²Zhongshan Ophthalmic Center, Guangzhou, China *CR

1974 — B0478 Ocular metabolism and melanin binding properties of sunitinib, a dual VEGFR/PDGFR inhibitor, that can safely prolong its efficacy for the treatment of wet AMD. Ward Peterson¹, C. Crean², R. Lappin³, J. Kays¹, Y. Yu¹, M. Yang¹, J. Cleland¹. ¹Graybug Vision, Inc, Redwood City, CA; ²Chatham Biopharma Consulting, Pittsboro, NC; ³AIT Bioscience, Indianapolis, IN *CR

1975 — B0479 A topical VEGF inhibitor optimized for ocular indications. Stephen H. Poor¹, C. Adams¹, C. E. Bigelow¹, D. Long¹, P. Yao², E. Fassbender¹, S. Shen¹, J. Chastain³, Y. Qiu¹, B. D. Jaffee¹. ¹Ophthalmology, Novartis, Cambridge, MA; ²Novartis, DMPK, Ft Worth, TX; ³DMPK, Novartis, Cambridge, MA *CR

1976 — B0480 Finite-element design of a carboxymethylated hyaluronic acid (CMHA-S) ocular bandage. Jourdan Colter¹, N. Cady², B. Mann³, B. M. Wirosko^{3,4}, B. Coats¹. ¹Department of Mechanical Engineering, University of Utah, Salt Lake City, UT; ²Colleges of Nanoscale Science and Engineering, SUNY Polytechnic Institute, Albany, NY; ³EyeGate Pharma, Waltham, MA; ⁴Department of Ophthalmology and Visual Sciences, University of Utah, Salt Lake City, UT *CR

1977 — B0481 Therapeutic Potential of Sustained Delivery of AR-13154(S) in an Animal Model of Proliferative Diabetic Retinopathy. Kevin Carbajal, J. Ding, M. Weksler, L. Moore, C. Koczyński, C. Lin. Pharmacology, Aerie Pharmaceuticals, Durham, NC *CR

1978 — B0482 Allosteric modulator of microtubule end-binding protein-3 blocks laser-induced choroidal neovascularization. Yulia A. Komarova¹, M. Sanders², Y. Sun¹, V. H. Guaiquil³, A. B. Malik¹, M. Rosenblatt⁴. ¹Pharmacology, University of Illinois at Chicago, Chicago, IL; ²Laurel Therapeutics, Inc, Burlingame, CA; ³Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ⁴Department of Ophthalmology & Visual Sciences, University of Illinois at Chicago, Chicago, IL *CR

1979 — B0483 Taxifolin protects retinal pigment epithelium cells against oxidative stress induced apoptosis. Xiaobin Xie^{1,2}, Y. Tang^{1,2}. ¹Eye Hospital of Chinese Medical Science, Beijing, China; ²Post-doctoral Research Station affiliated to the Chinese Academy of Chinese Medical Sciences, Beijing, China

1980 — B0484 Tolerability of a Shape Changing Intravitreal Hydrogel Depot. Arthur Driscoll, C. D. Blizzard, J. H. Talamo, P. K. Jarrett, R. F. Elhayek, T. Jarrett, Z. Lattrell, M. McGrath, S. Takach, A. Sawhney. Ocular Therapeutix, Bedford, MA *CR

Exhibit/Poster Hall B0485-B0499

Monday, May 08, 2017 11:00 AM-12:45 PM

Retinal Cell Biology

250 AMD-*Novel therapies*

Moderators: Sarah Doyle and Kaustabh Ghosh

1981 — B0485 Safety and efficiency of CRISPR-Cas9 gene editing in the retinal pigment epithelium. Mark E. Kleinman, S. K. Dubey, K. Jung, J. Roney, D. Lou, J. Brown, K. Mohan. Ophthalmology & Visual Sci, Univ of Kentucky, Lexington, KY

1982 — B0486 The protective effect of OCX063 on reducing neovascularization and lesion size in a mouse model of choroidal neovascularization. Erica L. Fletcher¹, A. A. Brandli¹, R. Kong², F. Khong^{2,3}, D. J. Kelly^{2,3}. ¹Dept Anatomy/Neuroscience, University of Melbourne, Parkville, VIC, Australia; ²Department of Medicine, The University of Melbourne, Fitzroy, VIC, Australia; ³Occurr Pty Ltd, Melbourne, VIC, Australia *CR

1983 — B0487 Towards an experimental stem cell-based therapy for Age-related Macular Degeneration. Céline Koster¹, G. Hajmoussa¹, A. Bennis^{1,2}, R. Schlingemann^{1,3}, J. van Meurs⁴, F. Verbraak⁵, T. Smit⁶, J. ten Brink¹, A. ten Asbroek¹, V. Heine^{2,7}, A. Bergen^{1,5}. ¹Clinical Genetics, AMC, Amsterdam, Netherlands; ²Pediatrics, VUmc, Amsterdam, Netherlands; ³Ophthalmology, AMC, Amsterdam, Netherlands; ⁴Rotterdam Eye Hospital, Rotterdam, Netherlands; ⁵Ophthalmology, AMC/VUmc, Amsterdam, Netherlands; ⁶Anatomy, Embryology and Physiology, AMC, Amsterdam, Netherlands; ⁷Complex trait genetics, Vrije Universiteit, Amsterdam, Netherlands

1984 — B0488 Pharmacokinetics of a 6 month Sustained Hydrogel Delivery System for Tyrosine Kinase Inhibitors in Dutch Belted Rabbits. Tim Jarrett, R. F. Elhayek, Z. Lattrell, M. McGrath, S. Takach, P. K. Jarrett, J. H. Talamo, A. Sawhney. Ocular Therapeutix, Bedford, MA *CR

1985 — B0489 Longevinex® Observed to Improve AMD Clinical Dark Adaptation. Stuart P. Richer^{1,2}, L. J. Ulanski^{1,2}, A. Bhandari³, N. Popenko³. ¹Eye Clinic 112E, Capt James Lovell Fed Hlth Care Facility, North Chicago, IL; ²Eye & Ear Infirmary, University of Illinois, Chicago, IL; ³Family Medicine, RFUMS / Chicago Medical School, North Chicago, IL *CR

1986 — B0490 Modelling Of Transplantation Of Retinal Pigment Epithelium In The Form Of Multicellular Microaggregates In Vitro. Ilya Popov, D. Ostrovsky, M. Khubetsova, S. Borzenok. The Center of Fundamental Ophthalmology, The S. Fyodorov Eye Microsurgery Federal State Institution, Moscow, Russian Federation

1987 — B0491 Neutralization of IFNAR1 prevents histone deacetylase inhibitor induced retinal pigment epithelium cell death. kyung sik jung, K. Mohan, S. Prajapati, S. K. Dubey, D. Lou, J. Roney, J. Brown, M. E. Kleinman. Ophthalmology, University of Kentucky, Lexington, KY

1988 — B0492 Efficacy Of A New Food Supplement In A Murine Model Of Atrophic AMD. Dario Rusciano¹, M. Balestra², M. Dal Monte³, M. Cammalleri³, F. Locri³, P. Bagnoli³. ¹Scientific Department, Sooft Spa, Roma, Italy; ²Marketing, Sooft SpA, Rome, Italy; ³University of Pisa, Pisa, Italy *CR

1989 — B0493 CRB-1 rd8 Mutation Influences the Extent of AMD-like Retinal Alterations in NRF2 Knock Out Mice and Favors CNV Formation. *Jan Tode, E. Richert, A. Klettner, C. C. von der Burchard, S. O. Koinzer, J. Roider.* Ophthalmology, Christian-Albrechts-University Kiel, Kiel, Germany

1990 — B0494 Evaluation of Aflibercept in a Laser-Induced Model of Choroidal Neovascularization in Pigs. *David Culp¹, S. R. Patel², B. C. Gilger^{3,1}.* ¹Powered Research, LLC, Research Triangle Park, NC; ²Clearside Biomedical, Alpharetta, GA; ³Clinical Sciences, North Carolina State University, Raleigh, NC *CR

1991 — B0495 IND-enabling preclinical toxicity and tumorigenicity studies for AMD-patient's iPSC-derived RPE in immunocompromised rats. *Vladimir Khristov, A. Maminishkis, B. Jha, S. S. Miller, K. Bharti.* National Eye Institute, National Institutes of Health, Washington, DC

1992 — B0496 Human iPSC-RPE cell transplant in a swine laser-injury model mitigates progressive visual functionality decline. *Aaron Rising, Y. Li, V. Khristov, B. Jha, H. Qian, M. M. Campos, A. Maminishkis, J. Amaral, S. S. Miller, K. Bharti.* National Eye Institute, National Institutes of Health, Bethesda, MD

1993 — B0497 Validation and characterization of a chronic model of retinal leakage in the Dutch Belted Rabbit using DL-AAA. *Jeffrey A. Jamison.* Ophthy-DS, Inc, Kalamazoo, MI *CR

1994 — B0498 Effects of apolipoprotein A-I mimetic peptide 4F on human RPE cells. *Max Brinkmann, E. Dietrich, F. Köhler, S. Grisanti, M. Rudolf, M. Ranjbar.* Augenklinik, Augenklinik Uni Lübeck, Lübeck, Germany

1995 — B0499 Activation of Nrf2 signaling in retinal pigment epithelium cells by small molecule-regulatable approaches. *Khiem Vu, J. Hulleman.* Ophthalmology, University of Texas Southwestern Medical Center, Dallas, TX

Room 308

Monday, May 08, 2017 1:00 PM-2:30 PM

Low Vision Group

251 LV Group: Reading with low vision: What we know and need to know

The ability to read is an integral task of daily life. People read for their work, for pleasure, for medication management and for managing their finances and personal mail to name just a few. Many patients with low vision experience difficulties with reading. In fact, the number one rehabilitation goal of patients presenting to a low vision clinic is to improve their ability to read. While previous research into reading has increased our understanding of the visual factors that affect reading, there are still important aspects about reading that remain to be addressed. Speakers will describe what low vision research has taught us about the factors that affect reading performance, novel strategies that aim to improve reading ability and new research that needs to be performed to address some of the key gaps in our understanding of reading in people with low vision.

Moderators: Chris Dickinson and Aurelie Calabrese

— 1:00 Presentation of the Oberdorfer Award in Low Vision

— 1:05 Understanding perceptual factors limiting reading speed in people with visual field defects. *MiYoung Kwon*. Department of Ophthalmology, University of Alabama at Birmingham, Birmingham, AL

— 1:25 Assessing reading performance: Beyond short-duration out loud reading. *Pradeep Ramulu*. Ophthalmology, Johns Hopkins University, Baltimore, MD

— 1:45 Reading in Children with Low Vision: Impact and Options Available. *Vijaya K. Gothwal*. Brien Holden Eye Research Centre - Patient Reported Outcomes and Meera and L B Deshpande Centre for Sight Enhancement, L V Prasad Eye Institute, Hyderabad, India

— 2:05 Future directions for low vision reading research: Building the evidence base - Presented by the 2017 Recipient of the Oberdorfer Award in Low Vision Research. *Gary Rubin*. Institute of Ophthalmology, UCL, London, United Kingdom; Moorfields Eye Hospital, London, United Kingdom

— 2:25 Q & A

Room 310

Monday, May 08, 2017 1:00 PM-2:30 PM

252 Novel models and trends for accelerating applied ophthalmic product discovery and development

This workshop will describe and discuss recent trends and collaboration models that facilitate and/or expedite advancement of technology from the benchtop to the patient. Speakers will share their experience with innovative collaborations and provide a critical assessment of the pros and cons based on personal experience. Presentations will focus on industry/academic collaborations, private foundations and patient advocacy and will be followed by a panel addressing questions from the audience. This workshop will build on last year's workshop: Starting a company to develop a product. Funding choices and challenges for the ophthalmic startup.

Moderators: Marina Mesquida, Susan Orr and Naj Sharif

— 1:00 Introduction

— 1:05 Long-term collaborations between ophthalmic-product companies and academia. *Naveed Shams*. Santen Inc., Danville, CA *CR

— 1:20 Long-term collaborations between ophthalmic-product companies and academia: The perspective at Johns Hopkins University. *Peter McDonnell*. Ophthalmology, Johns Hopkins University, Baltimore, MD *CR

— 1:35 Experience of an investigator/entrepreneur with the Johnson and Johnson J-Labs. *Shelley Boyd*. Ophthalmology, Univ of Toronto, Toronto, ON, Canada; Ophthalmology, St Michael's Hospital, Toronto, ON, Canada *CR

— 1:50 Boosting Translational Research and Clinical Development for Promising inherited Retinal Disease Therapies. *Patricia Zilliox*. Clinical Research Institute, Foundation Fighting Blindness, Columbia, MD

— 2:05 How patient and public involvement is influencing the relevancy of modern healthcare. *Karen Bonstein*. NIHR Moorfields Biomedical Research Centre, Moorfields Eye Hospital, London, United Kingdom

— 2:10 How patient and public involvement is influencing the relevancy of modern healthcare. *Andrew Skilton*. NIHR Moorfields Biomedical Research Centre, London, United Kingdom; Genetics, UCL Institute of Ophthalmology, London, United Kingdom

— 2:15 How patient and public involvement is influencing the relevancy of modern healthcare. *Annie Folkard*. Birdshot Uveitis Society, London, United Kingdom

— 2:20 Question and Answer

Room 314

Monday, May 08, 2017 1:00 PM-2:30 PM

253 A global perspective on diversity: Challenges and opportunity

The Diversity Initiatives Committee works to promote diversity within ARVO. This workshop will focus on under-represented minority/women in leadership position in the world (USA, Europe, Asia, etc.). Five speakers will represent diversity within the ARVO membership.

Moderators: Gianluca Tosini and Manbir Nagra

— 1:00 Introduction & Welcome

— 1:05 Addressing Bias in Science and Academia: Challenges and Opportunities. *Eve Higginbotham*. Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; Senior Fellow and Vice Dean, Leonard Davis Institute, University of Pennsylvania, Philadelphia, PA

— 1:25 How to attract under-represented minority to science? *Nicolas G. Bazan*. Ophthal & Neuroscience, LSU Health Science, New Orleans, LA

— 1:45 Women in Leadership. On the receiving end: perspectives and experiences from the UK. *Shahina Pardhan*. Vision and Eye Research Unit (VERU), Anglia Ruskin University, Cambridge, United Kingdom

— 2:05 Women in Leadership: perspective from Australia. *Justine Smith*. Flinders University, Adelaide, SA, Australia

— 2:25 Conclusion

Room 316

Monday, May 08, 2017 1:00 PM-2:30 PM

254 NEI extramural roundtable: Meet NEI extramural staff and learn about the latest updates on the extramural grant programs, policies, and initiatives

This workshop is organized by the NEI Division of Extramural Research (DER) staff as an interactive outreach format, to provide the community with the latest updates on the research programs, new initiatives, and changes in policies that will impact funding. Currently funded investigators and new applicants will have the opportunity to query NEI staff regarding future directions in vision research and meet the DER staff to learn about the NIH grants submission, review, and funding processes. The session will include a brief presentation on new policies and procedures, frequently asked questions, followed by breakout groups for questions and discussion with NEI Extramural Science Programs, Extramural Activities and Grants Management staff. Attendees will be able to move among tables.

Moderator: Michael A. Steinmetz

— 1:00 **Introduction**

— 1:15 **Latest updates on the Extramural grant programs, policies and initiatives.** *Michael A. Steinmetz.* Division of Extramural Science Programs, National Eye Institute, Bethesda, MD

— 1:40 **Frequently Asked Questions from NEI Grantees and Applicants.** *Grace L. Shen.* Division of Extramural Science Programs, National Eye Institute, Bethesda, MD

— 2:05 **Q & A**

Room 328

Monday, May 08, 2017 1:00 PM-2:30 PM

255 China-ARVO networking forum

This is the 12th Annual China-ARVO Networking Forum. The workshop provides a platform for vision researchers from China, the USA and other countries to interact, discuss and exchange knowledge in the field of vision research and ophthalmology and to promote collaboration among the scientists. Speakers include leading ophthalmic researchers from China and the USA. Topics will align with the 2017 ARVO “Global Connections in Vision Research” theme that will show the advanced researches in major blindness eye diseases.

Moderators: David R. Hinton, Ningli Wang and K. Sheng Lim

— 1:00 **Open Remarks**

— 1:05 **Trials in glycemia, fenofibrate and blood pressure (ACCORD...Actions to Control Cardiovascular Risk in Diabetes Eye Study).** *Emily Chew.* Epidemiology & Clinical Applications, National Eye Institute, Bethesda, MD ✂

— 1:15 **CSF (Cerebrospinal Fluid) in clinical practice or Intracranial pressure and optic nerve damage?** *Ningli Wang.* Ophthalmology, Beijing Tongren Eye Center, Beijing, China

— 1:25 **Changes in lacrimal gland protein secretion in autoimmune-mediated dry eye disease.** *Sarah Hamm-Alvarez.* Ophthalmology, USC Roski Eye Institute, Los Angeles, CA; Pharmacology and Pharmaceutical Sciences, USC School of Pharmacy, Los Angeles, CA

— 1:35 **Rethinking of the pathogenesis of polypoidal choroidal vasculopathy.** *Youxin Chen.* Dept. of Ophthalmology, Peking Union Medical College Hospital, Beijing, China

— 1:45 **The mechanism of the suppression of experimental fungal keratitis by HDAC inhibitors.** *Xiaohua Li.* Henan Eye Institute, Henan Eye Hospital, Henan Provincial People's Hospital, Zhengzhou University People's Hospital, Zhengzhou, China

— 1:55 **Subretinal transplantation of hESC-RPE: Clinical trial in the treatment of wet Age-related Macular Degeneration (wAMD) - one year follow-up.** *Zhengqin Yin.* Southwest Hospital/Southwest Eye Hospital, Third Military Medical University, Chongqing, China ✂

— 2:05 **Cone photoreceptor circuitry and development.** *Wei Li.* Section of Retinal Neurobiology, National Eye Institute, Bethesda, MD

— 2:15 **Open Discussion**

— 2:22 **OCAVER Awards**

Ballroom 1

Monday, May 08, 2017 1:00 PM-2:30 PM

Cornea / Anatomy and Pathology/Oncology / Glaucoma / Physiology/Pharmacology / Retinal Cell Biology / Retina

256 Nanotechnology for Imaging the Eye - SIG

The purpose of this session is to present recent findings related to biology, physiology, and pathology of the eye based on tools of nanotechnology. Speakers will share their nanotechnology tools and expertise for the benefit of the ARVO community at large.

Moderators: Uday B. Kompella, Thomas A. Fuchsluger and Terete Borrás

none. *Uday B. Kompella.* Pharmaceutical Sciences & Ophthalmology, University of Colorado Denver, Aurora, CO

none. *Thomas A. Fuchsluger.* Dept. of Ophthalmology, Friedrich-Alexander-University, Erlangen, Germany

none. *Terete Borrás.* University of North Carolina, Chapel Hill, NC

What Can Nanotechnology Do for Biology? *Milan Mrksich.* McCormick Schhol of Engineering, Northwestern University, Chicago, IL

Potential applications of nanotechnology in immunoimaging and neuroimaging of the eye. *Pedram Hamrah.* NEEC, Tufts Medical Center, Tufts University, Boston, MA

Nanoscale Modulators of Membrane Receptors: The Multidisciplinary Challenge. *David R. Pepperberg.* Univ of Illinois at Chicago, Chicago, IL

Functionalized iron oxide nanoparticles for imaging rhodopsin degeneration in vivo. *Philip Liu.* Mass General Hospital, Martinos Center for Biomedical Imaging, Harvard Medical School, Boston, MA

Quantum dots and nanoparticles to trace ocular lymphatic drainage in vivo. *Yeni H. Yucel.* Univ of Toronto/St Michael Hosp, Toronto, ON, Canada

Ballroom 3

Monday, May 08, 2017 1:00 PM-2:30 PM

Retinal Cell Biology / Anatomy and Pathology/ Oncology / Biochemistry/Molecular Biology / Immunology/Microbiology / Physiology/ Pharmacology / Retina

257 The RPE-Photoreceptor Nexus: the Good, the Bad and the Ugly - SIG

The SIG will focus on communication between the retinal pigment epithelium and photoreceptors in retinal health and disease. Panelists will discuss mechanisms that regulate metabolic coupling between RPE and photoreceptors, and how disease-causing mutations, complement activation and extracellular vesicles can modulate this crosstalk to the benefit or the detriment of the retina.

Moderator: Aparna Lakkaraju

Introduction: Modes of RPE-photoreceptor communication. *Aparna Lakkaraju.* Ophthalmology & Visual Sciences, University of Wisconsin-Madison, Madison, WI

Metabolic coupling between RPE and photoreceptors. *Nancy J. Philp.* University of Pennsylvania, Philadelphia, PA

Retinal effects of modulating RPE energy metabolism. *Douglas Vollrath.* Stanford University, Palo Alto, CA

Phagosomes from Stargardt-3 photoreceptors have motility problems. *David S. Williams.* UCLA, Los Angeles, CA

Monday – Workshops/SIGs

Mitochondrial homeostasis in RPE cells in health and disease. *Baerbel Rohrer.* Medical University of South Carolina, Charleston, SC

Room 301

Monday, May 08, 2017 1:00 PM-2:30 PM

Retinal Cell Biology / Biochemistry/Molecular Biology / Glaucoma / Physiology/Pharmacology / Retina

258 Targeting Mitochondrial Dysfunction in Retinal and Optic Nerve Disease - SIG

Mitochondrial dysfunction and oxidative damage are pivotal in the pathogenesis and progression of retinal and optic nerve disease. Treatment strategies designed to target mitochondrial dysfunction and ameliorate retinal disease will be discussed.

Moderator: Janis T. Eells

Protecting the Mitochondria as a Therapeutic Strategy for dry Age-Related Macular Degeneration. *Deborah A. Ferrington.* Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN *CR

Enhancement of Mitochondrial Function in the Treatment of Glaucoma. *Neville Osborne.* Department of Clinical Neurosciences, Oxford University, Oxford, United Kingdom

Mitochondria, miRNA and Retinal Degeneration - Understanding Mechanisms to Find Treatments. *Krisztina Valter.* Anatomy, Australian National University, Canberra, ACT, Australia

Strategies for the Protection of Injured or Diseased Retina. *Renu A. Kowluru.* Anatomy and Cell Biology, Wayne State University, Detroit, MI

Mitochondrial Rescue by Photobiomodulation in Retinal Aging and Disease. *Glen Jeffery.* Neuroscience, University College London, London, United Kingdom

Room 307

Monday, May 08, 2017 1:00 PM-2:30 PM

Cornea / Immunology/Microbiology / Lens / Retinal Cell Biology / Retina

259 TGF beta signal transductions in ocular health and disease - SIG

This SIG will discuss TGF beta signals, immunomodulatory mechanisms, fibrosis related changes, and potentially important therapeutic small molecule inhibitors of relevance to the eye, and of interest to the CO, RE and the IM scientific sections.

Moderator: Shukti Chakravarti

TGF beta signal transductions keratoconus and other connective tissue diseases. *Shukti Chakravarti.* Johns Hopkins University, Baltimore, MD

Inhibition of development of laser-induced choroidal neovascularization with suppression of infiltration of macrophages in Smad3-null mice. *Shizuya Saika.* Wakayama Medical University, Wakayama, Japan

Inhibition of development of laser-induced choroidal neovascularization with suppression of infiltration of macrophages in Smad3-null mice. *Hiroki Imanishi.* Wakayama Medical University, Wakayama, Japan

TGF beta, Tregs and ocular health. *Stephen C. Pflugfelder.* Baylor College of Medicine, Houston, TX *CR

Keratoconus and TGF beta signaling. *James D. Zieske.* Harvard Medical School, Boston, MA

Role of epithelial-mesenchymal transition in proliferative vitreoretinopathy. *Shigeo Tamiya.* University of Louisville, Louisville, KY

Role of epithelial-mesenchymal transition in proliferative vitreoretinopathy. *Henry J. Kaplan.* University of Louisville, Louisville, KY

Room 324

Monday, May 08, 2017 1:00 PM-2:30 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Genetics / Retinal Cell Biology / Retina / Visual Psychophysics/Physiological Optics

260 Controversies in Albinism: Why is Their Vision Poor and How Do We Fix It? - SIG

Controversy surrounds the cause of vision loss in albinism limiting the development of new therapies. The SIG will debate the importance and time-course of visual pathway abnormalities arising in albinism and where future treatments can be targeted.

Moderators: Murray Brilliant and Frank A. Proudlock

Organizer: Frank A. Proudlock. Ulverscroft Eye Unit, University of Leicester, Leicester, United Kingdom

Organizer: Arlene V. Drack. Carver College of Medicine, University of Iowa, Iowa City, IA

Organizer: Joseph Carroll. Eye Institute, Medical College of Wisconsin, Milwaukee, WI

Introduction and controversies. *Frank A. Proudlock.* Ulverscroft Eye Unit, University of Leicester, Leicester, United Kingdom

Limitations on Vision in Albinism. *Joseph Carroll.* Eye Institute, Medical College of Wisconsin, Milwaukee, WI

Electroretinography in albinism and strategies for developing new therapies. *Arlene V. Drack.* Carver College of Medicine, University of Iowa, Iowa City, IA

When do we need to intervene to improve vision in albinism? *Helena Lee.* Clinical and Experimental Sciences, Faculty of Medicine, University of Southampton, Southampton, United Kingdom

Can pharmacologic treatment improve vision in albinism? *Brian P. Brooks.* Ophthalmic Genetics and Visual Function, National Eye Institute, Bethesda, MD

Ballroom 2

Monday, May 08, 2017 2:30 PM-3:45 PM

261 Update on Treatments for Diabetic Retinopathy: Clinically Relevant Results from the Diabetic Retinopathy Clinical Research Network (DRCR.net)

The Diabetic Retinopathy Clinical Research Network (DRCR.net) has several completed and ongoing clinical trials evaluating treatments for diabetic retinopathy and diabetic macular edema. This session will provide results from 4 DRCR.net clinical studies. ClinicalTrials.gov: NCT00444600, NCT01489189, NCT01627249

Moderator: Adam R. Glassman

— 2:30 **Introduction**

1995a — 2:35 Overview of Primary Clinical Trial Results (Protocol S and Protocol T). *Adam R. Glassman.* Jaeb Center for Health Research, Tampa, FL

1995b — 2:45 Secondary Analysis from a Diabetic Retinopathy Clinical Research Network Randomized Clinical Trial. *Lee M. Jampol.* Ophthalmology, Northwestern University, Chicago, IL

1995c — 2:55 Exploratory Analysis of Diabetic Retinopathy Improvement or Worsening Through 2 Years in a Randomized Clinical Trial Comparing Aflibercept, Bevacizumab, and Ranibizumab. *John A. Wells.* Ophthalmology, Palmetto Retina Center, West Columbia, SC

1995d — 3:05 Factors Associated with Worsening Proliferative Diabetic Retinopathy in Eyes Treated with Panretinal Photocoagulation or Ranibizumab. *Jeffrey G. Gross.* Carolina Retina Center, Columbia, SC *CR

1995e — 3:15 Persistent Macular Thickening Following Intravitreal Aflibercept, Bevacizumab, or Ranibizumab for Center-Involved Diabetic Macular Edema with Vision Impairment. *Neil Bressler.* Ophthalmology, Wilmer Eye Institute, Baltimore, MD *CR

1995f — 3:25 Plasma VEGF Concentrations after Intravitreal Anti-VEGF Therapy for Diabetic Macular Edema. *Lee M. Jampol.* Ophthalmology, Northwestern University, Chicago, IL

1995g — 3:35 Comparison of Diabetic Retinopathy Severity Grading on 7-Field Images with Severity Grading on UWF Images: Baseline Factors. *Jennifer K. Sun.* Beetham Eye Inst & Eye Rsch Sec, Joslin Diabetes Center, Boston, MA *CR

Monday – All Posters

Exhibit/Poster Hall

Monday, May 08, 2017 2:45 PM-3:45 PM

262 All Posters and Networking

All presenters will be a their posters.

Monday All Posters
2:45 pm – 3:45 pm

Ballroom 2

Monday, May 08, 2017 3:45 PM-5:30 PM

Cornea

263 Corneal Development and Repair**Moderators: Darlene A. Dartt and Ursula Schlotzer-Schrehard****1996 — 3:45 Eye Field Differentiation and Generation of Corneal Organoids from Human Induced Pluripotent Stem Cells.** PRAVEEN JOSEPH SUSAIMANICKAM¹, S. Maddileti¹, S. Boyinpally², R. Naik³, M. Naik⁴, D. Mishra^{2,5}, G. Reddy³, V. S. Sangwan^{1,3}, I. Mariappan^{1,3}.¹Sudhakar and Sreekanth Ravi Stem Cell Biology Laboratory, Prof. Brien Holden Eye Research Centre, Hyderabad Eye Research Foundation, L.V. Prasad Eye Institute, Hyderabad, India; ²Ophthalmic Pathology Laboratory, L.V. Prasad Eye Institute, Hyderabad, India; ³National Institute of Nutrition, Hyderabad, India; ⁴Department of Ophthalmic Plastic and Facial Aesthetic Surgery, L.V. Prasad Eye Institute, Hyderabad, India; ⁵Tej Kohli Cornea Institute, Centre for Ocular Regeneration, L.V. Prasad Eye Institute, Hyderabad, India**1997 — 4:00 Anterior Segment Dysgenesis (ASD) disorders in a ciliopathy mouse model.** Carlo Iomini, L. Grisanti, Q. Liu. Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY**1998 — 4:15 Chick corneal morphogenesis: A new role for keratocytes.** Elena Koudouna^{2,1}, E. Mikula², D. J. Brown², R. D. Young¹, C. Knupp¹, A. J. Quantock¹, J. Jester². ¹School of Optometry and Vision Sciences, Cardiff University, Cardiff, United Kingdom; ²Gavin Herbert Eye Institute, University of California Irvine, Irvine, CA**1999 — 4:30 Using template anisotropy to optimize the structure and function of corneal stromal substitutes.** Ricardo M. Gouveia¹, E. González-Andrades², J. Cardona³, A. Ionescu³, M. Alaminos², M. González-Andrades^{4,5}, C. J. Connon¹. ¹Institute of Genetic Medicine, Newcastle University, Newcastle-upon-Tyne, United Kingdom; ²Faculty of Medicine and Dentistry, University of Granada, Granada, Spain; ³Department of Optics, University of Granada, Granada, Spain; ⁴Schepens Eye Research Institute, Boston, MA; ⁵Department of Ophthalmology, Harvard Medical School, Boston, MA**2000 — 4:45 Alterations in cornea sensory nerves with aging and in response to injury in mice lacking the heparan sulfate proteoglycan syndecan-1.** Mary Ann Stepp, S. Pal-Ghosh, G. Tadvalkar. Anatomy & Regenerative Biology, George Washington University, Washington, DC**2001 — 5:00 A Novel Vimentin Probe Illuminates Mitochondrial Dynamics.** Paola Bargagna-Mohan¹, S. Keshipeddy², D. Wright², R. Mohan¹. ¹Neuroscience, University of Connecticut, Farmington, CT; ²Pharmaceutical Sciences, University of Connecticut, Storrs, CT *CR**2002 — 5:15 An oxygen-specific optical “electrode” (optrode) directly measures oxygen uptake and reveals its dynamics at ocular surface.** Li Ma¹, F. Ferreira¹, B. Reid¹, M. Zhao^{1,2}. ¹Department of Dermatology, University of California Davis, Sacramento, CA; ²Department of Ophthalmology, University of California Davis, Sacramento, CA

Ballroom 1

Monday, May 08, 2017 3:45 PM-5:30 PM

Multidisciplinary Ophthalmic Imaging Group

264 Biomarkers based on vasculature Imaging**Moderators: Bernhard Baumann, Richard B. Rosen and Mona K. Garvin****2003 — 3:45 Metrics of tissue oxygenation in the retina using adaptive optics and OCT-A technology.** Matthew S. Muller¹, A. E. Elsner², E. Arthur², K. Sapoznik², J. A. Papay², S. A. Burns². ¹Aeon Imaging, LLC, Bloomington, IN; ²School of Optometry, Indiana University, Bloomington, IN *CR**2004 — 4:00 Optical coherence tomography angiography of the correlation between radial peripapillary capillary density and retinal nerve fiber layer thickness in healthy eyes.** JIE WANG, J. Simonett, X. Hua, L. Liu, T. S. Hwang, D. Huang, Y. Jia. Casey Eye Institute, Portland, OR *CR**2005 — 4:15 Diabetic Retinal Microaneurysm (MA) Perfusion Analysis Based on Computational Fluid Modeling and Adaptive Optics Scanning Laser Ophthalmoscopy (AOSLO).** Yang Lu¹, M. O. Bernabeu², O. Abu Qamar¹, K. Sampani¹, L. P. Aiello^{1,3}, J. K. Sun^{1,3}. ¹Beetham Eye Institute, Joslin Diabetes Center, Boston, MA; ²Centre for Medical Informatics, Usher Institute, University of Edinburgh, Edinburgh, United Kingdom; ³Department of Ophthalmology, Harvard Medical School, Boston, MA *CR**2006 — 4:30 Peripapillary Perfused Vessel Density of Major Vessels and Capillaries in Normal Tension Glaucoma.** Barbara Cortes¹, S. Mo^{2,1}, T. Y. Chui¹, R. B. Rosen¹. ¹Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, Brooklyn, NY; ²Icahn School of Medicine at Mount Sinai, New York, NY *CR**2007 — 4:45 Automated Quantification of Nonperfusion in 3 Vascular Plexuses with Projection-Resolved Optical Coherence Tomography in Diabetic Eyes.** Thomas S. Hwang¹, A. M. Hagag¹, M. Zhang¹, A. K. Smith², D. J. Wilson¹, D. Huang¹, Y. Jia¹. ¹Ophthalmology, Casey Eye Institute, Oregon Health and Science University, Portland, OR; ²Georgetown University School of Medicine, Washington, DC *CR**2008 — 5:00 Parallel Variable Interscan Time Analysis (VISTA) OCTA and en Face Doppler OCT of Optic Disc and Peripapillary Vasculature.** ByungKun Lee¹, E. M. Moulit¹, S. B. Ploner², Y. alibhai³, C. B. Rebhun³, C. Moreira³, L. Husvogt⁴, A. K. Maier², G. Wollstein⁴, J. S. Schuman⁴, N. Waheed³, J. S. Duker³, J. G. Fujimoto¹. ¹Department of Electrical Engineering and Computer Science/Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA; ²Pattern Recognition Lab, Friedrich-Alexander University Erlangen-Nuremberg, Erlangen, Germany; ³New England Eye Center, Tufts Medical Center, Boston, MA; ⁴Department of Ophthalmology, New York University, New York, NY *CR**2009 — 5:15 Retinal Capillary Fractal Dimension and Early Diabetic Retinopathy in a Type 2 Diabetes Using Optical Coherence Tomography Angiography.** Qingkai Ma¹, Q. Chen¹, F. Tan¹, C. Wu², Y. Li¹, M. Shen¹, F. Lu¹. ¹School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China; ²Endocrinology department, The Second Affiliated Hospital & Yuying Children's Hospital of Wenzhou Medical University, Wenzhou, Zhejiang, China, Wenzhou, China

Ballroom 3

Monday, May 08, 2017 3:45 PM-5:30 PM

Retina

265 Inherited retinal diseases and mactel**Moderators: Mark E. Pennesi and Rachel M. Huckfeldt****2010 — 3:45 Natural History of Inherited Retinal Disease (IRD) in Patients with Mutations in the Retinal Pigment Epithelial 65 Protein (RPE65) or Lecithin:Retinol Acyltransferase (LRAT) Genes.** Robert K. Koenekoop. McGill Ocular Genetics Laboratory, McGill University Health Centre, Montreal, QC, Canada *CR, ✗**2011 — 4:00 The Effect Of Vitamin A On Progression Of Retinitis Pigmentosa Is Not Determined By The Underlying Genetic Cause Of Disease.** Eric A. Pierce, K. M. Bujakowska, E. Place, D. Navarro-Gomez, M. Maher, C. Weigel-DFranco, J. Comander. Ocular Genomics Institute, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Boston, MA ✗

2012 — 4:15 RPGR-associated retinal dystrophies: a longitudinal study. *Mays Talib¹, M. J. van Schooneveld², J. Wijnholds¹, N. Schalijs-Delfos¹, R. Florjijn³, I. Van Den Born⁹, F. P. Cremers⁸, A. A. Thiadens⁷, C. C. Hoyng⁶, C. Klaver^{5,6}, A. Bergen^{3,4}, C. J. Boon^{1,2}.*
¹Ophthalmology, Leiden University Medical Center, Leiden, Netherlands; ²Ophthalmology, Academic Medical Center, Amsterdam, Netherlands; ³Clinical Genetics, Academic Medical Center, Amsterdam, Netherlands; ⁴The Netherlands Institute for Neuroscience (NIN-KNAW), Amsterdam, Netherlands; ⁵Ophthalmology and Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands; ⁶Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands; ⁷Ophthalmology, Erasmus Medical Center, Rotterdam, Netherlands; ⁸Human Genetics and Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center, Nijmegen, Netherlands; ⁹The Rotterdam Eye Hospital, Rotterdam, Netherlands

2013 — 4:30 Progression of Atrophic Lesions Determined by Fundus Autofluorescence: The Natural History of the Progression of Atrophy secondary to Stargardt Disease (ProgStar) Study. *Rupert W. Strauss^{1,2}, X. Kong³, A. Ho⁴, A. Jha⁴, M. Michaelides¹, A. V. Cideciyan⁵, J. A. Sahel^{6,7}, D. G. Birch⁸, A. H. Hariri⁸, S. R. Sadda^{4,9}, S. West³, H. P. Scholl^{10,11}.*
¹Moorfields Eye Hosp & Inst of Ophthal UCL, London, United Kingdom; ²Ophthalmology, Johannes Kepler University & Medical University Graz, Linz, Austria; ³DANA Center for preventive ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ⁴Doheny Eye Institute, Los Angeles, CA; ⁵Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ⁶Institut de la Vision, Paris, France; ⁷Ophthalmology, UPMC Medical Center, Pittsburgh, PA; ⁸Retina Foundation of the Southwest, Dallas, TX; ⁹UCLA David Geffen School of Medicine, Los Angeles, CA; ¹⁰Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ¹¹Department of Ophthalmology, University of Basel, Basel, Switzerland *CR, ✗

2014 — 4:45 Insensitive short-term clinical trial endpoint in Stargardt disease: progression of best-corrected visual acuity. *Sanne K. Verbakel¹, S. Lambertus¹, N. Bax¹, D. Valkenburg¹, R. van Huet¹, J. Groenewoud², C. C. Hoyng¹.*
¹Department of Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center, Nijmegen, Netherlands; ²Department for Health Evidence, Radboud university medical center, Nijmegen, Netherlands *CR

2015 — 5:00 Sex steroids and macular telangiectasia type 2. *Simone Mueller¹, J. Allam², C. Bundzek², T. E. Clemons⁴, F. G. Holz¹, P. Charbel Issa^{1,3}.*
¹Department of Ophthalmology, University of Bonn, Bonn, Germany; ²Department of Dermatology/Andrology Unit, University of Bonn, Bonn, Germany; ³Oxford Eye Hospital, University of Oxford, Oxford, United Kingdom; ⁴The Emmes Corporation, Rockville, MD *CR

2016 — 5:15 Penetrance Estimation of Macular Telangiectasia Type 2 (MacTel) from Families in Utah and Idaho. *Cecilio Ronquillo, P. S. Bernstein.* Department of Ophthalmology, John A. Moran Eye Center, University of Utah, Salt Lake City, UT

Ballroom 4

Monday, May 08, 2017 3:45 PM-5:30 PM

Glaucoma

266 Neurodegeneration

Moderators: Tatjana C. Jakobs and Rebecca M. Sappington

2017 — 3:45 Early mitochondrial fragmentation in retinal endothelial cells and vascular dysfunction in ocular hypertension glaucoma. *Jorge Luis Cueva Vargas¹, Y. Ito¹, A. M. Wilson², C. Vande Velde¹, P. Sapieha², A. Di Polo¹.*
¹Neuroscience, University of Montreal Hospital Research Center, Montreal, QC, Canada; ²Ophthalmology, Maisonneuve-Rosemont Hospital Research Center, Montreal, QC, Canada

2018 — 4:00 Altered potassium homeostasis in glaucoma and significance for retinal ganglion cell health. *Rachel Fischer², R. Lazarenko¹, Q. Zhang¹, R. M. Sappington^{1,3}.*
¹Department of Pharmacology, Vanderbilt University, Nashville, TN; ²Vanderbilt Pharmacology Graduate Program, Vanderbilt University, Nashville, TN; ³Vanderbilt Eye Institute, Vanderbilt University Medical Center, Nashville, TN

2019 — 4:15 Loss of OFF vs. ON bipolar cell axon terminals in an experimental model of glaucoma. *Yvonne Ou¹, R. Jo¹, L. Della Santina².*
¹Ophthalmology, University of California, San Francisco, San Francisco, CA; ²University of Pisa, Pisa, Italy

2020 — 4:30 Characterizing longitudinal in vivo changes of RGC dendrites after injury. *Delaney C. Henderson², J. Gobran², B. C. Chauhan^{2,1}.*
¹Ophthalmology and Visual Sciences, Dalhousie University, Halifax, NS, Canada; ²Physiology and Biophysics, Dalhousie University, Halifax, NS, Canada *CR

2021 — 4:45 Destructive neuroinflammation triggered by activation of the NLRP3 inflammasome in the glaucomatous optic nerve head. *Meredith S. Gregory-Ksander¹, F. Fei^{1,2}, A. Krishnan¹, T. Tzeng³, D. Subramanian¹, D. Golenbock³, A. Marshak-Rothstein⁴, B. Ksander¹.*
¹Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary/HMS, Boston, MA; ²Ophthalmology, Fourth Military Medical University, Xian, Shannxi Province, China; ³Infectious Diseases and Immunology, University of Massachusetts Medical School, Worcester, MA; ⁴Medicine, University of Massachusetts Medical School, Worcester, MA

2022 — 5:00 Functional deficits in early progression in glaucoma involve redistribution of astrocyte processes and diminished optic nerve glycogen. *Melissa Cooper^{2,1}, J. W. Collyer¹, S. Pasini¹, D. J. Calkins¹.*
¹Ophthalmology and Visual Sciences, Vanderbilt University, Nashville, TN; ²Neuroscience, Vanderbilt University, Nashville, TN

2023 — 5:15 Optic Nerve Head Astrocyte Response to Elevated Intraocular Pressure does not Require Viable Retinal Ganglion Cell Axons. *Lauren Davis, W. O. Cepurna, D. C. Lozano, T. E. Choe, E. C. Johnson, J. C. Morrison, S. Tehrani.* Ophthalmology, Oregon Health & Science University, Portland, OR

Hall G

Monday, May 08, 2017 3:45 PM-5:30 PM

Retina

267 Diabetic macular edema clinical and anti-VEGF research

Moderator: Charles C. Wyckoff

2024 — 3:45 A Clinico-Pathological Study of the Structural and Functional Changes to the Retina and Optic Nerve following anti-VEGF Treatments for Diabetic Macular Edema. *Richard Filek^{1,2}, P. Hooper², T. G. Sheidow², J. R. Gonder², S. Chakrabarti¹, C. M. Hutnik².*
¹Pathology and Laboratory Medicine, Western University, London, ON, Canada; ²Ophthalmology, St. Joseph's Health Care London, London, ON, Canada ✗

2025 — 4:00 Real World U.S. Outcomes of Anti-VEGF Therapy in Diabetic Macular Edema. *Thomas A. Ciulla¹, D. F. Williams².*
¹Retina, Midwest Eye Institute, Indianapolis, IN; ²Vitreoretinal Surgery PA, Minneapolis, MN *CR

2026 — 4:15 OCT biomarkers predictive for visual acuity in patients with diabetic macular edema. Bianca S Gerendas¹, X. Hu¹, A. Kaider², A. Montuoro¹, A. Sadeghipour³, S. M. Waldstein³, U. Schmidt-Erfurth¹. ¹Vienna Reading Center and OPTIMA Study group, Department of Ophthalmology, Medical University of Vienna, Vienna, Austria; ²Center for Medical Statistics, Informatics and Intelligent Systems, Medical University of Vienna, Vienna, Austria; ³OPTIMA Study group, Department of Ophthalmology, Medical University of Vienna, Vienna, Austria *CR, ✗

2027 — 4:30 Pretreatment levels of vitreous protein biomarkers correlate with visual acuity outcome in response to intravitreal triamcinolone in Diabetic Macular Edema. Bert M. Glaser^{1,2}, N. Takahashi², M. S. Katz¹. ¹The National Retina Institute, Towson, MD; ²Ocular Proteomics, LLC, Towson, MD

2028 — 4:45 Optical Coherence Tomography (OCT) Screening at Diabetes Visits Increases Retina Referral for Patients with Diabetic Macular Edema (DME). Jennifer K. Sun^{1,2}, R. Weinstock³, M. Warren⁴, M. Twahirwa⁵, J. I. Barzilay⁶, M. K. Mohan⁷, T. E. Clemons⁸. ¹Beetham Eye Institute, Joslin Diabetes Center, Boston, MA; ²Ophthalmology, Harvard Medical School, Boston, MA; ³Clinical Research Unit and Joslin Diabetes Center, SUNY Upstate Medical University, Syracuse, NY; ⁴Physicians East, Greenville, NC; ⁵Joslin Diabetes Center Affiliate, Doctors Hospital at Renaissance, Edinburg, TX; ⁶Kaiser Permanente of Georgia, Duluth, GA; ⁷Doctors Community Hospital, Lanham, MD; ⁸EMMES, Rockville, MD *CR, ✗

2029 — 5:00 Topline results from prospective, double-masked, placebo controlled phase 2b clinical study evaluating Luminat[®] in patients with diabetic macular edema. Peter K. Kaiser¹, D. S. Boyer², P. A. Campochiaro³, J. Heier⁴, J. Kornfield⁵, B. D. Kuppermann⁶, H. Quiroz-Mercado⁷, L. Karageozian⁸, L. Kutscher⁸, M. Karpus⁸, J. Y. Park⁸, H. L. Karageozian⁸, V. Karageozian⁸. ¹Division of Ophthalmology, Cole Eye Institute, Whippany, NJ; ²Retina Vitreous Assoc Med Group, Los Angeles, CA; ³Johns Hopkins Wilmer Eye Inst, Baltimore, MD; ⁴Ophthalmic Consultants of Boston, Boston, MA; ⁵Caltech, Pasadena, CA; ⁶Gavin Herbert Eye Institute, Irvine, CA; ⁷Department of Ophthalmology, University of Colorado, Aurora, CO; ⁸Allegro Ophthalmics, LLC, San Juan Capistrano, CA *CR, ✗

Room 301

Monday, May 08, 2017 3:45 PM-5:30 PM

Physiology/Pharmacology

268 Retina

Moderators: Antonio Longo, Caterina Gagliano and Stefano Gandolfi

2030 — 3:45 Real-time measurements of vascular permeability in the mouse eye using vitreous fluorophotometry. Richard Foxton, A. Jayagopal, N. Colé. Pharma Research and Early Development, Ophthalmology Discovery and Biomarkers, Roche Innovation Center Basel, Hoffmann-La Roche Ltd, Basel, Switzerland *CR

2031 — 4:00 A phloroglucinol-DHA derivative protects against light-induced retinal degeneration in an Abca4-deficient mouse model. Philippe Brabet¹, A. Cubizolle^{2,1}, C. Crauste³, L. Guillou¹, A. Bonnefont¹, J. Vercauteren³, T. Durand³, C. P. Hamel¹. ¹Institut for Neurosciences of Montpellier, Inserm, Montpellier, France; ²EMERCell, Montpellier, France; ³UMR5247-CNRS-UM ENSCM, IBMM, Montpellier, France; ⁴U1183, Inserm, Montpellier, France *CR

2032 — 4:15 Pharmacokinetics of intravitreal indomethacin. Miltiadis K. Tsilimbaris^{1,2}, S. Blazaki^{1,2}, A. Stratidakis^{3,2}, I. Naoumidí², C. Tsatsanis⁴, M. Tzatzarakis³, A. Tsatsakis³. ¹Ophthalmology, University of Crete Medical School, Heraklion, Greece; ²Laboratory of Optics and Vision, University of Crete Medical School, Heraklion, Greece; ³Center of Toxicology Science & Research, University of Crete Medical School, Heraklion, Greece; ⁴Department of Clinical Chemistry-Biochemistry, University of Crete, Medical School, Heraklion, Greece

2033 — 4:30 Exploring the neural mechanisms of perceptual rod-cone flicker cancellation. William Grimes, A. Songco-aguas, F. Rieke. Physiology and Biophysics, University of Washington, Seattle, WA

2034 — 4:45 Antagonism of P2Y12 Receptor by Ticagrelor Leads to Acidification of Lysosomes in Retinal Pigmented Epithelial (RPE) Cells from ABCA4^{-/-} Mice. Wennan Lu¹, A. M. Laties³, L. Carlsson⁴, C. H. Mitchell^{1,2}. ¹Anatomy & Cell Biology, Univ of Pennsylvania, Philadelphia, PA; ²Physiology, Univ of Pennsylvania, Philadelphia, PA; ³Ophthalmology, University of Pennsylvania, Philadelphia, PA; ⁴AstraZeneca, Mölndal, Sweden *CR

2035 — 5:00 Effects of HIV/AIDS and anti-retroviral treatment on retinal blood vessel diameters. Patrick De Boever^{1,2}, F. Everson³, T. S. Nawrot², F. Essop³, H. Kessler⁴, N. Machele³, E. Stelzl⁴, G. Walz³, I. Webster³, C. Westercott³, N. Goswami⁴, H. Strijdom³. ¹Vito, Mol, Belgium; ²Hasselt University, Diepenbeek, Belgium; ³Stellenbosch University, Cape Town, South Africa; ⁴Medical University Graz, Graz, Austria

2036 — 5:15 Retinal Morphology And Function In Patients With Diabetes Type 1 Without Retinopathy. Antonio Longo, C. Gagliano, A. Russo, R. Amato, T. Avitabile, R. Fazio, G. Malaguarnera, S. Ficili, C. Rapisarda, M. Reibaldi. Eye Clinic, University of Catania, Catania, Italy

Room 307

Monday, May 08, 2017 3:45 PM-5:30 PM

Lens

269 Cataractogenesis I

Moderators: Vincent M. Monnier and Kevin L. Schey

2037 — 3:45 Radiation Cataract in Chernobyl Voles. Norman J. Kleiman¹, A. Lavrinenko², K. Kivisaari³, Z. Boratynski⁵, L. Dauer⁴, T. Mappes³, T. Mousseau². ¹Environmental Health Sciences, Columbia University, New York, NY; ²Biological Sciences, University of South Carolina, Columbia, SC; ³Biological and Environmental Science, University of Jyväskylä, Jyväskylä, Finland; ⁴Memorial Sloan Kettering Cancer Center, New York, NY; ⁵Research Center in Biodiversity and Genetic Resources, University of Porto, Porto, Portugal

2038 — 4:00 Deletion of GLUT1 in mouse lens epithelium leads to cataract formation. Aditi Swarup¹, A. Bravo-Nuevo², J. Soto^{3,4}, E. Abel^{3,4}, B. A. Bell⁵, N. Peachey^{5,6}, P. G. FitzGerald⁷, N. J. Philp². ¹Cell Biology and Regenerative Medicine, Thomas Jefferson University, Philadelphia, PA; ²Pathology, Anatomy and Cell Biology, Thomas Jefferson University, Philadelphia, PA; ³Fraternal Order of Eagles Diabetes Research Center, University of Iowa, Iowa City, IA; ⁴Endocrinology and Metabolism, Carver College of Medicine, University of Iowa, Iowa City, IA; ⁵Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ⁶Louis Stokes Cleveland VA Medical Center, Cleveland, OH; ⁷Cell Biology and Human Anatomy, U.C. Davis, Davis, CA

2039 — 4:15 Transcriptome analysis of the cataract-prone GSH-depleted LEGSKO mouse lens reveals adaptations and EMT-like response. Jeremy Whitson¹, Z. WEI¹, X. Zhang³, M. Medvedovic³, V. M. Monnier^{1,2}, X. Fan¹. ¹Pathology, Case Western Reserve University, Cleveland, OH; ²Biochemistry, Case Western Reserve University, Cleveland, OH; ³University of Cincinnati, Cincinnati, OH

Monday Papers/
Minisymposium
3:45 pm – 5:30 pm

2040 — 4:30 Long non-coding RNA H19 regulates human lens epithelial cells function: implication in the pathogenesis of age-related nuclear cataract. *Xin Liu, C. Liu, K. Shan, S. Zhang, Y. Lu, B. Yan, Y. Luo.* Ophthalmology, Eye and ENT hospital of Fudan University, Shanghai, China

2041 — 4:45 The up-regulation of N-Cadherin by Pax6 in age-related cataract lenses. *Dan Li, J. Xu.* Ophthalmology, Eye & ENT Hospital of Fudan University, Shanghai, China

2042 — 5:00 Investigating the role of pexophagy in the development of the ocular lens and cataractogenesis. *Muhammad Ali¹, S. Y. Khan¹, F. Kabir¹, S. Riazuddin^{2,3}, J. Hejtmancik⁴, S. Riazuddin^{1,5}.* ¹The Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²National Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, Pakistan; ³National Centre for Genetic Diseases, Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad, Pakistan; ⁴Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health, Bethesda, MD; ⁵McKusick-Nathans Institute of Genetic Medicine, Johns Hopkins University School of Medicine, Baltimore, MD

2043 — 5:15 Dysregulation of canonical Wnt signaling may result in aniridia fibrosis syndrome (AFS). *Yichen Wang¹, Y. Wang¹, C. D. Riemann², M. K. Duncan¹.* ¹Biological Sciences, University of Delaware, Newark, DE; ²Cincinnati Eye Institute, Cincinnati, OH

Room 308

Monday, May 08, 2017 3:45 PM-5:30 PM

Low Vision Group**270 The Impact of Low Vision on Mobility****Moderators: Carrie E. Huising and Joanne Wood**

2044 — 3:45 Gait changes across lighting conditions in persons with glaucoma. *Aleksandra Mihailovic¹, D. S. Friedman¹, S. West¹, L. Gitlin², P. Ramulu¹.* ¹Glaucoma Center for Excellence, Johns Hopkins University/Wilmer Eye Institute, Baltimore, MD; ²School of Nursing/Johns Hopkins University, Baltimore, MD

2045 — 4:00 Poor balance, visual field damage and falls in glaucoma. *Regina de Luna, A. Mihailovic, D. S. Friedman, S. West, L. Gitlin, P. Ramulu.* Wilmer Eye Institute, Johns Hopkins, Baltimore, MD

2046 — 4:15 Assessing Low Vision Patients' Perceived Ability to Cross Streets Safely. *Shirin E. Hassan.* School of Optometry, Indiana University, Bloomington, IN

2047 — 4:30 Visual risk factors for motor vehicle collision (MVC) involvement 3 years later: a population-based study. *Carrie E. Huising¹, G. McGwin¹, J. Wood², C. Owsley¹.* ¹Department of Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ²Queensland University of Technology, Brisbane, QLD, Australia

2048 — 4:45 The Impact of Glaucoma Visual Field Severity and Self-perceived Visual Disabilities on Driving Cessation and Driving Difficulty. *Alex Tam¹, G. E. Trope¹, Y. M. Buys¹, Y. Yang¹, C. Shen¹, Y. Jin^{1,2}.* ¹Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada; ²Dalla Lana School of Public Health, Toronto, ON, Canada

2049 — 5:00 Latent variable model for visual function in low vision. *Robert W. Massof.* Ophthalmology, Johns Hopkins Wilmer Eye Inst, Baltimore, MD *CR

Room 314

Monday, May 08, 2017 3:45 PM-5:30 PM

Biochemistry/Molecular Biology**271 Molecular and biochemical mechanisms in retinal disorders****Moderators: Rob W. Collin and Wolfgang Baehr**

2050 — 3:45 Rapid, high throughput vision analysis of candidate genes in zebrafish. *Diane C. Slusarski.* Biology, University of Iowa, Iowa City, IA; Wynn Institute for Vision Research, Iowa City, IA

2051 — 4:00 Deciphering the molecular network surrounding ZNF408 in the regulation of retinal angiogenesis. *Dyah W. Karjosukarso^{1,2}, S. H. van Gestel^{1,3}, J. Qu^{1,3}, E. N. Kouwenhoven^{1,3}, L. Duijkers^{1,2}, H. Zhou^{1,3}, R. W. Collin^{1,2}.* ¹Human Genetics, Radboudumc, Nijmegen, Netherlands; ²Donders Institute for Brain, Cognition, and Behaviour, Nijmegen, Netherlands; ³Molecular Developmental Biology, Faculty of Science, Radboud University, Nijmegen, Netherlands

2052 — 4:15 Bardet-Biedl syndrome-8 (BBS8) is essential for morphogenesis of photoreceptor outer segments. *Tanya Dilan¹, R. Singh², T. Saravanan², A. F. Goldberg³, V. Ramamurthy^{2,1}.* ¹Biochemistry, West Virginia University, Morgantown, WV; ²Eye Institute, West Virginia University, Morgantown, WV; ³Eye Research Institute, Oakland University, Rochester, MI

2053 — 4:30 Congenital knock-out of transition zone protein BBS5 reveals cone-rod dystrophy with protein mislocalization. *Katie Bales¹, M. J. Croyle², B. K. Yoder², A. K. Gross^{1,2}.* ¹Optometry and Vision Science, University of Alabama, Birmingham, AL; ²Cell, Developmental and Integrative Biology, University of Alabama at Birmingham, Birmingham, AL

2054 — 4:45 Upregulation of myopia-related genes in the Interphotoreceptor retinoid-binding protein (IRBP) knockout (KO) mouse model. *Shanu Markand¹, M. A. Chrenek¹, P. Priyadarshani¹, J. H. Boatright^{1,2}, J. M. Nickerson¹.* ¹Ophthalmology, Emory University, Decatur, GA; ²Rehab Center of Excellence, Atlanta VA Medical Center, Decatur, GA

2055 — 5:00 De-regulated cilia and UPS genes among canine RPGRIP1 mutants with absent cone ERG. *Gautami Das¹, M. Brooks², A. Boleda², A. Swaroop², G. D. Aguirre¹, K. Miyadera¹.* ¹School of Vet Medicine, University of Pennsylvania, Philadelphia, PA; ²National Eye Institute, NIH, Bethesda, MD

2056 — 5:15 ARL3-GTP and its GEF ARL13b regulate photoreceptor transition zone formation. *Wolfgang Baehr¹, C. Hanke-Gogokhia¹, H. Zhang², J. M. Frederick¹.* ¹Ophthal & Vis Sci Lab #S6881, Univ of Utah Sch of Med, Salt Lake City, UT; ²The Institute of Laboratory Medicine, Hospital of University of Electronic Science and Technology of China and Sichuan Provincial People's Hospital, The Sichuan Provincial Key Laboratory for Human Disease Gene Study, Chengdu, China

Room 316

Monday, May 08, 2017 3:45 PM-5:30 PM

Visual Psychophysics/Physiological Optics**272 Mechanisms of accommodation****Moderators: Norberto Lopez-Gil and Atanu Ghosh**

2057 — 3:45 There is more to accommodation than simply maximizing retinal image contrast. *Philip B. Kruger^{1,2}, I. Marin-Franch^{3,4}, A. Del Águila-Carrasco^{3,4}, P. Bernal-Molina^{3,4}, J. Esteve-Taboada^{3,4}, R. Montés-Micó^{3,4}, N. Lopez-Gil^{2,4}.* ¹State College of Optometry, State University of New York, New York, NY; ²Faculty of Optics and Optometry, University of Murcia, Murcia, Spain; ³Department of Optics and Optometry and Visual Sciences, University of Valencia, Valencia, Spain; ⁴Interuniversity Laboratory for Research in Vision and Optometry, Mixed group, UVEG-UMU, Valencia-Murcia, Spain

2058 — 4:00 Abnormal Effective Threshold to Blur in Graduate Students with Clinical Accommodative Disorders. *Chunning Liu¹, C. Chase¹, E. Borsting², L. R. Stark², S. A. Drew³, A. Escobar⁴.* ¹College of Optometry, Western University of Health Sciences, Pomona, CA; ²Southern California College of Optometry at Marshall B. Ketchum University, Fullerton, CA; ³California State University Northridge, Northridge, CA; ⁴Coastline Community College, Fountain Valley, CA

2059 — 4:15 Crystalline lens position dynamics during mixed saccadic/convergence eye movements. *Consuelo Robles¹, P. M. Prieto¹, J. Mompeán¹, J. Tabernero², P. Artal¹.* ¹Laboratorio de Optica, University of Murcia, Murcia, Spain; ²Vision and Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom

2060 — 4:30 Spherical aberration of the eye during accommodation in downward gaze over time in emmetropes and myopes. *Atanu Ghosh, M. J. Collins, S. A. Read, B. A. Davis.* Queensland University of Technology, Brisbane, QLD, Australia

2061 — 4:45 Relationship between ciliary muscle and accommodative response across age groups. *Irene Siso-Fuertes¹, D. Andrade de Jesus², H. Radhakrishnan¹.* ¹Division of Pharmacy and Optometry, The University of Manchester, Manchester, United Kingdom; ²Biomedical Engineering, Wroclaw University of Science and Technology, Wroclaw, Poland

2062 — 5:00 How do changes in scleral stiffness with age affect ciliary muscle function in accommodation? *Katherine Knaus¹, A. Hipsley², S. Blemker¹.* ¹Biomedical Engineering, University of Virginia, Charlottesville, VA; ²AceVision, Akron, OH *CR

2063 — 5:15 Extended depth OCT imaging and biometry of the eye during accommodation as a function of subject posture. *Marco Ruggeri¹, Y. Chang^{1,2}, S. Williams^{1,2}, F. Cabot¹, G. Gregori³, F. Manns^{1,2}, J. A. Parel^{1,4}.* ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL; ³Quantitative Imaging Group, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴Brien Holden Vision Institute and Vision Cooperative Research Centre, Sydney, NSW, Australia *CR

Room 321

Monday, May 08, 2017 3:45 PM-5:30 PM

Cornea

273 Corneal immunology and neuropathy

Moderators: Pedram Hamrah and Juana Gallar

2064 — 3:45 Corneal proteoglycan lumican modulates lipid rafts and innate immunity. *George Maiti¹, J. Frikeche¹, Y. Jeong¹, S. Chakravarti^{2,1}.* ¹Medicine, Johns Hopkins University School Of Medicine, Baltimore, MD; ²Ophthalmology, Johns Hopkins University School Of Medicine, Baltimore, MD

2065 — 4:00 Corneal Epithelium-derived Thrombospondin-1 Regulates Dendritic Cell Maturation in Dry Eye Disease. *William Foulsham¹, X. tan^{2,1}, Y. Chen¹, A. Amouzegar¹, Y. Liu², S. Chauhan¹, R. Dana¹.* ¹Schepens Eye Research Institute, Boston, MA; ²Zhongshan Ophthalmic Center, Guangzhou, China

2066 — 4:15 The upregulation of cytokines, chemokines, and growth factors during diet-induced corneal degeneration and recovery in a mouse model. *Aubrey Hargrave¹, M. Chintalapati², C. Lema¹, C. W. Smith², A. R. Burns¹.* ¹College of Optometry, University of Houston, Houston, TX; ²Pediatric-Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX

2067 — 4:30 A rat model of corneal reinnervation using nerve grafts and transfers from the contralateral face. *Joseph Catapano, K. Antonyshyn, J. Zhang, G. H. Borschel.* Department of Surgery, University of Toronto, Toronto, ON, Canada

2068 — 4:45 The Role of Corneal Plasmacytoid Dendritic Cells in Immune Sensitization after Corneal Transplantation. *Maryam Tahvildari¹, H. Moein^{1,2}, A. Jamali^{1,2}, M. J. Lopez^{1,2}, D. L. Harris^{1,2}, R. Dana¹, P. Hamrah^{1,2}.* ¹Massachusetts Eye and Ear Infirmary, Boston, MA; ²Center for Translational Ocular Immunology and Cornea Service, New England Eye Center and Department of Ophthalmology, Tufts Medical Center, Boston, MA

2069 — 5:00 The Effect of Mesenchymal stromal cells on macrophage immunophenotype. *Ali R. Djalilian¹, J. A. Kink², J. Hamouie¹, A. Tadepalli¹, I. Putra¹, X. Shen¹, H. Hashemi¹, P. Hematti², M. Eslani¹.* ¹Ophthalmology, Univ of Illinois at Chicago, Chicago, IL; ²Hematology/Oncology, Medicine, University of Wisconsin-Madison, Madison, WI

2070 — 5:15 Decreased Cornea Sensation and Loss of Corneal Nerves after Chronic Hyperglycemia is Reversible with Combination Therapy Consisting of Menhaden Oil, α -Lipoic Acid and Enalapril. *Mark Yorek, R. Kardon.* Internal Medicine, University of Iowa and Iowa City VA Medical Center, Iowa City, IA

Exhibit/Poster Hall A0132-A0159

Monday, May 08, 2017 3:45 PM-5:30 PM

Glaucoma**274 Imaging: Anterior Segment****Moderators: Deepa Kasaragod and Rene M. Werkmeister**

2071 — A0132 Pseudoexfoliation and Pigmentary Glaucoma - Overlap Syndrome. *Petja I. Vassileva, Y. Kirilova.* Eye Department, University Eye Hospital “Prof. Pashev”, Sofia, Bulgaria

2072 — A0133 Bubble-Free Gonioscopy? *Frederick M. Kapetansky.* Ophthalmology, Ohio State University, Columbus, OH

2073 — A0134 Improved clustering and quantification of color information in images obtained by the 360-degree automatic gonioscopy. *Masaki Tanito^{1,2}, S. Pajaro³, A. De Giusti³.* ¹Ophthalmology, Matsue Red Cross Hospital, Matsue, Japan; ²Ophthalmology, Shimane University Faculty of Medicine, Izumo, Japan; ³NIDEK Technologies Srl, Albignasego, Italy *CR

2074 — A0135 Anterior Optical Coherence Tomography in Children with Primary Congenital Glaucoma. *Sonal Shah¹, A. Pilat¹, R. Purohit¹, V. Sheeth¹, J. Abbo², I. Gottlob¹.* ¹Ophthalmology, University of Leicester, Leicester, United Kingdom; ²Ophthalmology, Birmingham Children’s Hospital, Birmingham, United Kingdom

2075 — A0136 In vivo imaging and characterization of Schlemm’s canal in response to ocular hypertension. *Meng Shi, H. Liu, L. Zhang, G. Li, J. G. Flanagan, L. Chen.* Center for Eye Disease and Development, Vision Science Program, University of California, Berkeley, Berkeley, CA

2076 — A0137 Looking into supraciliary space with anterior segment optical coherence Tomography. *Yun Suk Chung, S. Lee.* Hangil Eye Hospital, Incheon, Korea (the Republic of)

2077 — A0138 Evaluation of drainage implant tube position by anterior segment optical coherence tomography in pediatric glaucoma. *Veronica H. Yamada, C. R. Moura, N. Allemann, V. Rebouças-Santos.* UNIFESP, Sao Paulo, Brazil

2078 — A0139 Birefringent imaging of limbal region using Jones matrix optical coherence tomography. *Deepa Kasaragod¹, A. Fujita², S. Makita¹, Y. Ueno², S. Hoshi², T. Okubo², T. Oshika², Y. Yasuno¹.* ¹Institute of Applied Physics, University of Tsukuba, Tsukuba, Japan; ²Department of Ophthalmology, Faculty of Clinical Medicine, University of Tsukuba, Tsukuba, Japan *CR

2079 — A0140 Evaluation of fibrosis in filtering bleb before and after needling revision using polarization-sensitive optical coherence tomography: two case reports. *Kuniharu Tasaki¹, Y. Ueno¹, D. Kasaragod², S. Hoshi¹, A. Fujita¹, T. Okubo¹, S. Fukuda¹, Y. Yasuno², T. Oshika¹.* ¹Department of Ophthalmology, Faculty of Clinical Medicine, University of Tsukuba, Tsukuba, Japan; ²Computational Optics Group, University of Tsukuba, Tsukuba, Japan *CR

2080 — A0141 Multimodal imaging analysis in patients with transient ocular hypotony after antiglaucomatous surgery. *Artur William Caldeira Abreu Veloso, D. de Vasconcelos Santos, S. Cronemberger.* Ophthalmology, Federal University of Minas Gerais, Belo Horizonte, Brazil

2081 — A0142 Diurnal Variation in Optical Coherence Tomography Measurements of Anterior Segment Structures. *Benjamin Xu², R. C. Pentead², R. N. Weinreb¹.* ¹Ophthalmology, University of Southern California, Los Angeles, CA; ²Ophthalmology, University of San Diego, San Diego, CA *CR

2082 — A0143 Anterior Segment OCT and Specular Microscopy Study in Pediatric Patients: Normal Versus Glaucomatous Eyes. *Walid Abdallah^{3,1}, B. J. Wong^{3,1}, M. Kim², D. Contractor², M. Chen², S. S. Lee², B. J. Reiser^{3,1}.* ¹Ophthalmology, USC Roski Eye Institute, Keck School of Medicine of USC, Los Angeles, CA; ²Allergan, Inc, Irvine, CA; ³Ophthalmology, Children Hospital of Los Angeles, Los Angeles, CA *CR

2083 — A0144 360-degree measurement of anterior chamber angle dimensions in primary angle closure (PAC) with swept-source optical coherence tomography (SS-OCT). *Feihui Zheng, C. K. Leung.* Ophthalmology & Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong *CR

2084 — A0145 Influence of anterior curvature of the lens on Japanese primary angle-closure/ glaucoma patients. *Kazuhiko Mori¹, A. Miura², J. Kubo⁵, Y. Yamamoto¹, K. Yoshi², Y. Ikeda^{1,3}, M. Ueno¹, K. Imai⁴, N. Koizumi², S. Kinoshita⁶, C. Sotozono¹.* ¹Department of Ophthalmology, Kyoto Prefectural Univ of Med, Kamigyo-ku, Japan; ²Department of Mathematics and Statistics in Medical Sciences, Kyoto Prefectural Univ of Med, Kyoto, Japan; ³Oike-Ikeda Eye Clinic, Kyoto, Japan; ⁴Department for Medical Innovation and Translational Medical Science, Kyoto Prefectural Univ of Med, Kyoto, Japan; ⁵Department of Biomedical Engineering, Faculty of Life and Medical Sciences, Doshisha University, Kyotanabe, Japan; ⁶Department of Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural Univ of Med, Kyoto, Japan *CR

2085 — A0146 Reproducibility in Identifying Schwalbe’s Line on new High Definition Angle scans using Spectral Domain Optical Coherence Tomography. *Dennis Jenkins¹, Y. Shi¹, S. Pitetta¹, K. Marion¹, A. Ho¹, S. R. Sadda^{1,2}, P. Le^{1,2}, V. Chopra^{1,2}.* ¹DIRC, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, David Geffen School of Medicine, UCLA, Los Angeles, CA *CR

2086 — A0147 Automated grading of anterior segment Swept Source OCT images: A validation study for assessment of angle closure. *Natalia Porporato¹, B. Mani¹, X. Yanwu², T. A. Tun¹, S. Trikha¹, D. W. Wong², T. Aung¹.* ¹Glaucoma, Singapore Eye Research Institute, Singapore, Singapore; ²Institute for Infocomm Research, Singapore, Singapore

2087 — A0148 Iris incompressibility in Indian patients with occludable angles post laser peripheral iridotomy. *Matthew Wojcik¹, A. Pant¹, P. Gogte³, A. Stanley¹, C. Aninweze¹, S. K. Dorairaj², V. Pathak-Ray³, R. Amin¹.* ¹Biomedical Engineering, University of Akron, Akron, OH; ²Department of Ophthalmology, Mayo Clinic, Jacksonville, FL; ³LV Prasad Eye Institute, Hyderabad, India

2088 — A0149 Anterior chamber angle in aniridia with and without glaucoma. *Eitan S. Burstein¹, A. Bajwa¹, J. A. Nerby¹, R. M. Grainger², P. A. Netland¹.* ¹Ophthalmology, University of Virginia, Charlottesville, VA; ²Biology, University of Virginia, Charlottesville, VA

2089 — A0150 Using Anterior Segment Optical Coherence Tomography (ASOCT) Parameters to Determine Pupillary Block versus Plateau Iris Configurations. *Eric Crowell^{1,2}, A. Chuang¹, L. Baker², L. S. Blieden^{1,2}, N. P. Bell^{1,2}, R. M. Feldman^{1,2}.* ¹Ruiz Department of Ophthalmology and Visual Science, McGovern Medical School at The University of Texas Health Science Center at Houston, Houston, TX; ²Robert Cizik Eye Clinic, Houston, TX *CR

2090 — A0151 Individual Variation in Accommodative Change of the Iris Profile among Young Adults. *Ji C. He.* New England College of Optometry, Boston, MA

2091 — A0152 Evaluation of filtration blebs by anterior segment optical coherence tomography (AS-OCT) after conventional trabeculectomy and trabeculectomy with antifibrotic agents. *Yael Azses, C. Haro Zuno, J. Jimenez Arroyo, M. Garcia Huerta, M. Turati Acosta, F. Gil Carrasco, J. Jimenez-Roman.* Asociación para evitar la ceguera en México, Mexico City, Mexico

2092 — A0153 Anterior segment OCT predictors of intraocular pressure drop after phacoemulsification: One year follow up. *Kristin Hirabayashi, M. Masis, S. C. Lin.* Ophthalmology, University of California, San Francisco, Burlingame, CA *CR

2093 — A0154 Anterior segment parameters measured by ultrasound biomicroscopy in the subtypes of angle-closure. *Soon Young Cho¹, Y. Kim², C. Yoo³, T. Lee⁴.* ¹Ophthalmology, Dongguk University Gyeongju Hospital, Gyeongju, Korea (the Republic of); ²Ophthalmology, Korea University Kuro Hospital, Seoul, Korea (the Republic of); ³Ophthalmology, Korea University Anam Hospital, Seoul, Korea (the Republic of); ⁴Ophthalmology, Chonbuk University Hospital, Junju, Korea (the Republic of)

2094 — A0155 Anterior segment growth from infancy to early adulthood using ultrasound biomicroscopy. *Gianna Stoleru¹, A. Qureshi¹, M. A. Kaleem¹, O. Saeedi¹, W. P. Madigan², J. L. Alexander¹.* ¹University of Maryland School of Medicine, Baltimore, MD; ²Children's National Medical Center, Washington, DC

2095 — A0156 Static and dynamic biometric changes of the anterior segment after resolved traumatic hyphema, a Pentacam[®] analysis. *Abraham Olvera-Barrios¹, A. Martínez-López-Portillo¹, J. Mohamed-Noriega^{1,2}, K. Mohamed-Noriega¹, J. Mohamed¹.* ¹Ophthalmology, Faculty of Medicine and University Hospital, Universidad Autonoma de Nuevo Leon, Monterrey, Mexico; ²NIHR Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom

2096 — A0157 Evaluation of conventional aqueous outflow pathway function by fluorophotometry. *Marek Rekas¹, M. Kozera¹, M. Danielewska², K. Lewczuk¹, J. Jablonska¹, R. Iskander².* ¹Ophthalmology, Military Institute of Medicine, Warsaw, Poland; ²Department of Biomedical Engineering, Faculty of Basic Technical Problems, Wrocław University of Technology, Wrocław, Poland

2097 — A0158 In vivo imaging of human aqueous outflow and calculation of aqueous column diameter. *Tasneem Z. Khatib^{1,2}, P. A. Meyer², J. Lusthaus^{4,3}, K. R. Martin^{1,2}.* ¹Centre for Brain Repair, University of Cambridge, Cambridge, United Kingdom; ²Department of Ophthalmology, Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom; ³Discipline of Ophthalmology, The University of Sydney, Sydney, NSW, Australia; ⁴Sydney Eye Hospital Glaucoma Unit, Sydney, NSW, Australia

2098 — A0159 Iridial vasculature and pericyte morphology in different types of glaucoma. *Ramyashri S¹, A. Rao¹, P. SAHAY^{2,1}.* ¹Glaucoma, L.V.Prasad Eye Institute, Bhubaneswar, India; ²KSBT, KIIT, Bhubaneswar, India

Exhibit/Poster Hall A0160-A0178

Monday, May 08, 2017 3:45 PM-5:30 PM

Glaucoma

275 Clinical Trials and Drug Studies I

2099 — A0160 Effect of Latanoprost on Aqueous Humor Dynamics with an Objective Method of Episcleral Venous Pressure Measurement in Normal Eyes. *Arash Kazemi¹, J. W. McLaren¹, S. Lin¹, C. B. Toris^{2,3}, V. Gulati³, D. M. Reed⁴, S. E. Moroi⁵, A. J. Sit¹.* ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Ophthalmology & Visual Sciences, Case Western Reserve University, Cleveland, OH; ³Ophthalmology & Visual Sciences, University of Nebraska Medical Center, Omaha, NE; ⁴Ophthalmology & Visual Sciences, University of Michigan, Ann Arbor, MI; ⁵Ophthalmology & Visual Sciences, University of Michigan-Kellogg Eye Center, Ann Arbor, MI ✗

2100 — A0161 Efficacy and safety of fixed-dose combination brinzolamide 1%/brimonidine 0.2% as adjunctive therapy to prostaglandin analogs in patients with elevated intraocular pressure: Results from pooled analysis of two multicenter, randomized studies. *Doug Hubatsch¹, T. Realini².* ¹Novartis Pharmaceutical Corporation, Fort Worth, TX; ²Department of Ophthalmology, West Virginia University, Morgantown, WV *CR, f

2101 — A0162 Difference in intraocular pressure following involuntary switch from bimatoprost 0.03% to bimatoprost 0.01% in glaucoma patients. *Kristy Nguyen¹, K. Moussa², J. Chien³, R. L. Stamper².* ¹Chicago Medical School, Rosalind Franklin University of Medicine and Science, North Chicago, IL; ²Department of Ophthalmology, University of California, San Francisco, San Francisco, CA; ³School of Medicine and Health Sciences, George Washington University, Washington, DC

2102 — A0163 Efficacy and safety of a new preservative-free fixed combination latanoprost-timolol (T2347) for open-angle glaucoma or ocular hypertension. *Jonathan C. Clarke¹, C. Lavin-Dapena², T. Zarnowski³, N. Pfeiffer⁴, J. Nordmann⁵, I. Stalmans⁶.* ¹Glaucoma, Moorfields Eye Hospital, London, United Kingdom; ²Servicio de Oftalmología, Hospital La Paz, Madrid, Spain; ³SPSK, LUBLIN, Poland; ⁴University Medical Center, Mainz, Germany; ⁵OPHTHALMOLOGY, CHNO des Quinze-Vingts, PARIS, France; ⁶Glaucoma Unit, University Hospitals, Leuven, Belgium *CR, ✗

2103 — A0164 Efficacy and Safety of Preoperative IOP Reduction better for Preservative-free Fixed Combination of Dorzolamide/timolol Eye Drops versus Oral Acetazolamide and Dexamethasone Eye Drops for Outcome of Trabeculectomy. *Katrin Lorenz¹, J. Wasilica-Poslednik¹, K. Bell¹, G. Renieri^{2,1}, A. Keicher^{1,3}, C. Ruckes⁴, N. Pfeiffer¹, H. Thieme^{2,1}.* ¹Ophthalmology, University Medical Center Mainz, Mainz, Germany; ²University Eye Clinic, Otto-von-Guericke University Magdeburg, Magdeburg, Germany; ³Augenärzte im Basteicenter, Ulm, Germany; ⁴Interdisciplinary Center Clinical Trials Mainz, University Medical Center Mainz, Mainz, Germany ✗

2104 — A0165 Pharmacokinetics, Safety and IOP Lowering Profiles of omidenepag isopropyl, a Selective EP2 Agonist in Healthy Japanese and Caucasian Volunteers (Phase I Study). *Makoto Aihara¹, F. Lu², H. Kawata³, Y. Tanaka³, K. Yamamura⁵, R. Iwamura⁴, K. Yoneda⁴, N. Odani³, N. Shams².* ¹Ophthalmology, University of Tokyo, Bunkyo-ku, Japan; ²Santen Inc., Emeryville, CA; ³Santen Pharmaceutical Co., Ltd., Osaka, Japan; ⁴Ube Industries, Ltd., Ube, Japan; ⁵Santen Pharmaceutical Co.Ltd., Ikoma, Japan *CR, ✗

2105 — A0166 Omidenepag isopropyl, a selective EP2 agonist, shows additive intraocular pressure (IOP)-lowering effects when used concomitantly with existing anti-glaucoma drugs in animal models. *Takazumi Taniguchi¹, T. Kirihara², M. Takahashi¹, R. Iwamura³, K. Yoneda³, N. Odani², A. Shimazaki², M. Ichikawa¹, J. Zhang⁴.* ¹Santen Pharmaceutical Co., Ltd., Ikoma, Japan; ²Santen Pharmaceutical Co., Ltd., Osaka, Japan; ³Ube Industries, Ltd., Ube, Japan; ⁴Santen Inc., Emeryville, CA *CR

2106 — A0167 Repeated dosing of NCX 667, a new nitric oxide (NO) donor, retains IOP-lowering activity in animal models of glaucoma. *Elena Bastia¹, F. Impagnatiello¹, E. Ongini¹, J. B. Serle², M. V. Bergamini³.* ¹Nicox Research Institute, Bresso, Italy; ²Icahn School of Medicine at Mount Sinai, New York, NY; ³Nicox Ophthalmics, Inc, Fort Worth, TX *CR

2107 — A0168 Intraocular pressure lowering following topical (ocular) delivery of trabodenson: Effects of preservative and age in living mice. *David Albers¹, G. Li², W. K. McVicar¹, W. Stamer².* ¹Inotek Pharmaceuticals, Lexington, MA; ²Ophthalmology, Duke University, Durham, NC *CR

2108 — A0169 Extended PGA Delivery Results in Significant Drug Sparing Compared to Topical PGAs and Achieves Sustained IOP Lowering for 11 Months without Any Loss of Efficacy. *Tomas Navratil¹, J. Conley¹, R. S. Verhoeven¹, K. Blackwell¹, A. Nadkarni¹, L. Trevino¹, B. R. Yerca¹, M. Depenbusch², T. Knox³, I. Ahmad⁴, T. R. Walters³, S. L. Mansberger⁵.* ¹Envisia Therapeutics, Research Triangle Park, NC; ²Arizona Eye Center, Chandler, AZ; ³Keystone Research Ltd., Austin, TX; ⁴University of Toronto, Toronto, ON, Canada; ⁵Devers Eye Institute, Portland, OR *CR, ✗

2109 — A0170 Effectiveness and Safety of Topical Bimatoprost Insert for Primary Open-Angle Glaucoma and Ocular Hypertension Treatment.

Sebastiao Cronemberger¹, J. R. Franca², A. C. Araújo¹, F. R. Cunha¹, A. A. Faraco², A. Ferreira³, G. Foureaux³.
¹Ophthalmology, Federal Univ of Minas Gerais, Belo Horizonte, Brazil; ²Pharmacy, Federal University of Minas Gerais, Belo Horizonte, Brazil; ³Morphology, Federal University of Minas Gerais, Belo Horizonte, Brazil

2110 — A0171 Interim Analysis of Low Dose ENV515 Travoprost XR with 11 Month Duration Followed by Dose Escalation and 28 Day Efficacy Evaluation of High Dose ENV515.

Steven L. Mansberger¹, J. Conley², R. S. Verhoeven², K. Blackwell², M. Deppenbusch³, T. Knox⁴, T. R. Walters⁴, I. Ahmad⁵, B. R. Yerxa², T. Navratil².
¹Devers Eye Institute, Portland, OR; ²Envisia Therapeutics, Durham, NC; ³Arizona Eye Center, Chandler, AZ; ⁴Keystone Research Ltd, Austin, TX; ⁵University of Toronto, Toronto, ON, Canada *CR, ✗

2111 — A0172 Results of A Randomized, Double-Masked, Parallel-Arm Phase 2b Study Evaluating the Safety and Efficacy of OTX-TP (travoprost insert) Compared to Timolol Drops for the Treatment of Patients with Open-Angle Glaucoma or Ocular Hypertension.

Christine Wilson¹, K. N. Sall², S. Bafna³, J. P. Gira⁴, E. B. McLaurin⁵, E. Protzko⁶, R. Sampson⁷, N. Tekwani⁸, M. Tepedino⁹, S. Vold¹⁰, T. R. Walters¹¹, J. Metzinger¹, D. Mulani¹, J. H. Talamo¹.
¹Ocular Therapeutix, Bedford, MA; ²Sall Research Medical Center, Artesia, CA; ³Cleveland Eye Clinic, Elyria, OH; ⁴Ophthalmology Consultants, St. Louis, MO; ⁵Total Eye Care PA, Memphis, TN; ⁶Seidenberg Protzko Eye Associates, Havre de Grace, MD; ⁷Hull Eye and Surgery Center, Lancaster, CA; ⁸Tekwani Vision Center, St. Louis, MO; ⁹Cornerstone Eye Care, High Point, NC; ¹⁰Vold Vision, Fayetteville, AR; ¹¹Texan Eye Care PA, Austin, TX *CR, ✗

2112 — A0173 The Effects of Netarsudil Ophthalmic Solution on Aqueous Humor Dynamics in Humans.

Arthur J. Sit¹, A. Kazemi¹, J. W. McLaren¹, C. Kopczyński², T. G. Heah², G. D. Novack^{3,4}.
¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Aerie Pharmaceuticals, Inc, Durham, NC; ³Ophthalmology and Pharmacology, University of California Davis, Davis, CA; ⁴PharmaLogic Development, Inc., San Rafael, CA *CR, ✗

2113 — A0174 Evaluation of the XEN45 Gel Stent in Patients with Primary Angle Closure Glaucoma. *Francisco Millan¹, M. E. Reveron¹, L. Gonzalez¹, M. Siso², C. Suescum³, G. D. Novack^{3,4}, S. S. Lee⁵, V. Vera⁵.*
¹Unidad Oftalmológica de Caracas, Caracas, Venezuela, Bolivarian Republic of; ²AVAO Foundation, Baruta-Caracas, Venezuela, Bolivarian Republic of; ³PharmaLogic Development, Inc., San Rafael, CA; ⁴University of California, Davis, CA; ⁵Allergan plc, Irvine, CA *CR

2114 — A0175 The Effect of Ologen® Collagen Matrix (OCM) in Prevention of Intraocular Pressure spikes after Ahmed Glaucoma Valve Surgery (AGV-FP7): Intermediate results of a 2-Year Follow-up.

Meliza Unson, A. Yadgarov, R. Ritch, T. Y. Tai, R. Garg, N. Harizman.
 Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY ✗

2115 — A0176 Tear proteome provides basis for patient stratification after switching to a unpreserved glaucoma medication.

Antti Jylhä¹, J. Nattinen^{1,2}, U. Aapola¹, M. Nykter², R. W. Beuerman³, H. M. Uusitalo^{1,4}.
¹Ophthalmology, Medical School, University of Tampere, Tampere, Finland; ²BioMediTech, University of Tampere, Tampere, Finland; ³Singapore Eye Research Institute, Singapore, Singapore; ⁴TAYS Eye Center, Tampere University Hospital, Tampere, Finland *CR, ✗

2116 — A0177 Shared Medical Appointments in Glaucoma Management at a Tertiary Care Eye Hospital - A Randomized Trial.

Rengaraj Venkatesh¹, K. srinivasan¹, N. Sonmez³, R. Buell², K. Ramdas³.
¹Glaucoma, Aravind Eye Hospital, Pondicherry, India; ²Harvard Business School, Boston, MA; ³Deloitte Institute of Innovation & Entrepreneurship, London Business School, London, United Kingdom ✗

2117 — A0178 Association between periodontal disease and primary open angle glaucoma.

Konstantin Astafurov¹, B. Ibabao³, L. Hyman², J. Danias^{1,4}.
¹Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY; ²Wills Eye Hospital Philadelphia, Philadelphia, MD; ³SUNY Upstate Medical University, Syracuse, NY; ⁴SUNY Eye Institute, New York, NY

Exhibit/Poster Hall A0224-A0248

Monday, May 08, 2017 3:45 PM-5:30 PM

Genetics Group**276 Genetics of glaucoma**

Moderator: Pirro G. Hysi

2118 — A0224 Quality Control Analysis of Genotyping Data in the Primary Open-Angle African American Glaucoma Genetics Study.

Venkata H. Gudiseva, D. Collins, J. He, N. Khachatryan, R. Lee, L. O'Keefe, V. R. Chavali, V. Addis, A. Lehman, E. G. Miller-Ellis, P. SANKAR, J. M. O'Brien.
 Ophthalmology, University of Pennsylvania, Philadelphia, PA

2119 — A0225 Association of single nucleotide polymorphisms (SNPs) downstream of Transmembrane and Coiled-Coil Domains 1 (TMCO1) with primary open angle glaucoma (POAG) in African-Americans (AA). *Lana Verkuil, I. Danford, M. Pistilli, D. Collins, V. H. Gudiseva, B. Trachtman, J. He, M. Ramakrishnan, V. R. Chavali, J. M. O'Brien.*
 Ophthalmology, University of Pennsylvania, Philadelphia, PA

2120 — A0226 Genetic risk factors for primary open angle glaucoma in populations of African ancestry.

Michael A. Hauser^{1,2}, C. Khor², T. Aung^{9,3}, S. Akafo⁴, A. Ashaye⁵, S. Olawoye⁵, E. Jorgensen⁶, T. Hoffmann^{7,10}, N. Risch^{7,10}, R. Allingham^{8,2}.
¹Ophthalmology & Medicine, Duke Univ Medical Center, Durham, NC; ²Genome Institute of Singapore, Singapore, Singapore; ³Singapore Eye Research Institute, Singapore, Singapore; ⁴Ophthalmology, University of Ghana Medical School, Korle Bu, Ghana; ⁵Department of Ophthalmology, College of Medicine, University of Ibadan, Ibadan, Nigeria; ⁶Kaiser Permanente Division of Research, Oakland, CA; ⁷Epidemiology & Biostatistics, University of California, San Francisco, San Francisco, CA; ⁸Ophthalmology, Duke, Durham, NC; ⁹Singapore National Eye Center, Singapore, Singapore; ¹⁰Institute for Human Genetics, University of California, San Francisco, San Francisco, CA

2121 — A0227 A missense mutation in the intracellular protein kinase domain of TEK causes autosomal dominant PCG and non-ocular features. *Kristina N. Whisenhunt, S. W. Tompson, Y. S. Bradfield, S. J. Huang, N. Stangel, E. C. Higuchi, B. J. Kushner, T. L. Young.*
 Department of Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI

2122 — A0228 Digenic Inheritance and Physical Interactions of CYP1B1 and TEK in Primary Congenital Glaucoma.

Subhabrata Chakrabarti¹, M. kabra¹, S. Rath², W. Zhang², A. K. Mandal³, S. Senthil³, I. Kaur¹, H. Khanna².
¹Brien Holden Eye Research Centre, LV Prasad Eye Institute, Hyderabad, India; ²Ophthalmology and Visual Sciences, UMASS Medical School, Worcester, MA; ³Jasti V Ramanamma Children's Eye Care Centre, L.V. Prasad Eye Institute, Hyderabad, India

2123 — A0229 Whole-Exome Sequencing of Congenital Glaucoma Patients Reveals rare and Hypermorphic Variants in *GPATCH3*.

Julio Escobedo^{2,1}, J. Ferre-Fernández², J. Aroca-Aguilar^{2,1}, C. Medina-Trillo², J. Bonet-Fernández², C. Mendez-Hernandez^{3,1}, L. Morales-Fernández^{3,1}, M. Corton^{4,5}, M. Cabañero-Valera², R. Tonda⁶, M. Gut⁶, C. Ayuso^{4,5}, M. Coca-Prados^{7,8}, J. García-Feijoo^{3,1}. ¹Cooperative Research Network on Age-Related Ocular Pathology, Visual and Life Quality, Instituto de Salud Carlos III, Madrid, Spain; ²Genetcis, Castilla-La Mancha University Medical School, Albacete, Spain; ³Ophthalmology, Hospital San Carlos, Madrid, Spain/Instituto de Investigación Sanitaria del Hospital Clínico San Carlos, Madrid, Spain; ⁴Genetics, Instituto de Investigación Sanitaria-Hospital Universitario Fundación Jiménez Díaz-Universidad Autónoma de Madrid (IIS-FJD, UAM), Madrid, Spain; ⁵Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), Madrid, Spain; ⁶CNAG-CRG, Centre for Genomic Regulation (CRG), Institute of Science and Technology (BIST), Centre for Genomic Analysis (CNAG), Barcelona, Spain; ⁷Ophthalmology and Visual Science, Department of Ophthalmology and Visual Science, Yale University School of Medicine, New Haven, CT; ⁸Fundación de Investigación Oftalmológica, Instituto Oftalmológico Fernandez-Vega, Oviedo, Spain

2124 — A0230 Identification of novel variants in *CYP11B1*, *PITX2*, *FOXCI*, and *PAX6* in congenital glaucoma and anterior segment dysgenesis.

Shazia Micheal^{1,2}, S. N. Siddiqui³, S. N. Zafar³, R. Florijn⁴, H. Bikker⁴, C. J. Boon⁴, M. Khan⁵, A. I. Den Hollander^{2,5}, A. Bergen¹. ¹Clinical Genetics, Academic Medical Centre, Amsterdam, Netherlands; ²Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center, Nijmegen, Netherlands; ³Pediatric Ophthalmology, Al-Shifa Eye Trust Hospital Jhelum Road, Rawalpindi, Pakistan; ⁴Leiden University Medical Center, Leiden, Netherlands; ⁵Human Genetics, Donders Institute for Brain, Cognition and Behaviour, Radboud University Medical Center, Nijmegen, Netherlands

2125 — A0231 A new mouse model of early-onset glaucoma. Bo Chang, J. Wang, B. FitzMaurice, P. Nishina. The Jackson Laboratory, Bar Harbor, ME

2126 — A0232 Whole mitochondrial genome sequencing in Polish normal tension glaucoma patients. Tomasz Zarnowski¹, E. Kosior-Jarecka¹, A. Piotrowska², K. Tonska². ¹Chair of Ophthalmology, Medical University of Lublin, Lublin, Poland; ²Institute of Genetics and Biotechnology, Warsaw, Poland

2127 — A0233 The myocilin GLN368Stop mutation in normal tension glaucoma.

Carly Lewis^{1,2}, J. Kam^{3,2}, T. E. Scheetz^{3,2}, B. R. Roos^{3,2}, E. M. Stone^{3,2}, C. Khanna⁸, K. Kawase⁴, R. Ritch⁵, A. J. Lotery⁶, S. Sivaprasad⁹, J. Cooke Bailey¹⁰, L. R. Pasquale⁷, J. L. Wiggs⁷, Y. H. Kwon^{3,2}, W. L. Alward^{3,2}, J. Finger^{3,2}. ¹Molecular Physiology & Biophysics, University of Iowa, Iowa City, IA; ²Stephen A. Wynn Institute for Vision Research, University of Iowa, Iowa City, IA; ³Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ⁴Ophthalmology, Gifu University Graduate School of Medicine, Gifu, Japan; ⁵Einhorn Clinical Research Center, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ⁶Southampton General Hospital, Human Genetics Division, University of Southampton, Southampton, United Kingdom; ⁷Massachusetts Eye and Ear Infirmary, Harvard University, Boston, MA; ⁸Ophthalmology, Mayo Clinic, Rochester, MN; ⁹Moorfields Eye Hospital, London, United Kingdom; ¹⁰Case Western Reserve University, Cleveland, OH

2128 — A0234 A novel nonstop *MYOC* mutation in a Large Filipino Family with Juvenile-Onset Open-Angle Glaucoma.

Edward Ryan A. Collantes^{1,2}, B. Fan¹, Q. Zhang¹, T. Collantes³, M. Delfin², A. Wan¹, K. Linkroum¹, Q. Liu¹, J. L. Wiggs¹. ¹Department of Ophthalmology, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Manila Doctors Hospital, Manila, Philippines; ³University of the Philippines, Los Banos, Philippines

2129 — A0235 Pro-apoptotic TLR4 polymorphisms D299G and T399I are related to primary open angle glaucoma in Mexican population.

Ramses Rosales Diaz¹, J. Navarro-Partida², B. Alvarado-Castillo², A. B. Martinez-Rizo¹, J. B. Velazquez-Fernandez¹, A. Santos³. ¹Unidad Academica De Medicina, Universidad Autonoma De Nayarit, Tepic, Mexico; ²Centro Medico Nacional De Occidente, Instituto Mexicano Del Seguro Social, Guadalajara, Mexico; ³Division De Biotecnologia Y Salud. Campus Guadalajara, Tecnologico De Monterrey, Guadalajara, Mexico

2130 — A0236 Whole exome sequencing suggests that mutations in known glaucoma genes do not contribute to pigmentary dispersion syndrome. Baofian Fan, K. Linkroum, D. Wang, E. DelBono, J. Borchert, L. R. Pasquale, J. L. Wiggs. Department of Ophthalmology, Harvard Medical School, Massachusetts Eye & Ear Infirmary, Boston, MA

2131 — A0237 Genetic Etiology of Pigmentary Dispersion Syndrome/Pigmentary Glaucoma. Adrian A. Lahola-Chomiak¹, T. Footz¹, T. Nguyen-Phuoc¹, O. J. Lehmann^{1,2}, M. A. Walter¹. ¹Medical Genetics, University of Alberta, Edmonton, AB, Canada; ²Ophthalmology, University of Alberta, Edmonton, AB, Canada

2132 — A0238 Association of the *SIX1-SIX6* Locus with Primary Open-angle Glaucoma in Chinese and Japanese. Chi Pui Pang^{1,3}, S. Rong¹, C. K. Leung¹, N. Hashida², P. Tam¹, M. Tsujikawa², M. Zhang³, K. Nishida², L. Chen^{1,3}. ¹Ophthalmology & Visual Sciences, Chinese University of Hong Kong, Kowloon, Hong Kong; ²Department of Ophthalmology, Osaka University Medical School, Osaka, Japan; ³Joint Shantou International Eye Center of Shantou University and the Chinese University of Hong Kong, Shantou, China

2133 — A0239 Genetic analysis of glaucoma endophenotypes in a large Nepalese extended pedigree: The Jiri Eye Study. Matthew P. Johnson¹, S. Thapa², S. Laston¹, K. L. Anderson³, M. Shrestha², B. Towne⁴, J. Subedi⁵, J. Blangero¹, S. Williams-Blangero¹. ¹South Texas Diabetes & Obesity Institute, University of Texas Rio Grande Valley, Brownsville, TX; ²Tilganga Institute of Ophthalmology, Kathmandu, Nepal; ³Ophthalmology, University of Texas Health Science Center at San Antonio, San Antonio, TX; ⁴Community Health, Wright State University, Kettering, OH; ⁵Sociology & Gerontology, Miami University, Oxford, OH

2134 — A0240 Exome-wide analyses of glaucoma-related endophenotypes in 19,700 individuals. Adriana Iglesias¹, A. P. Khawaja^{3,4}, P. W. Bonnemajjer^{1,2}, A. Nag⁵, P. G. Hysi⁵, C. J. Hammond⁵, N. Amin¹, C. Klaver², P. J. Foster³, C. van Duijn¹. ¹Epidemiology, Erasmus MC, Rotterdam, Netherlands; ²Ophthalmology, Erasmus MC, Rotterdam, Netherlands; ³Institute of Ophthalmology, NIHR Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL, London, United Kingdom; ⁴Department of Public Health and Primary Care, University of Cambridge, Cambridge, United Kingdom; ⁵Department of Twin Research and Genetic Epidemiology, King's College London, London, United Kingdom

2135 — A0241 Discovery of novel loci for primary open angle glaucoma using combined extreme extreme phenotype and QTL approaches. Jamie E. Craig¹, P. Gharahkhan², A. W. Hewitt³, K. P. Burdon⁴, D. A. Mackey⁵, S. L. Graham⁶, P. R. Healey⁷, T. Zhou¹, O. Siggs¹, S. MacGregor². ¹Department of Ophthalmology, Flinders University, Walkerville, SA, Australia; ²QIMR, Brisbane, QLD, Australia; ³CERA, Melbourne, VIC, Australia; ⁴Menzies Research Institute, Hobart, TAS, Australia; ⁵LEI, Perth, WA, Australia; ⁶Macquarie University, Sydney, NSW, Australia; ⁷University of Sydney, Sydney, NSW, Australia

2136 — A0242 Evaluation of primary angle closure glaucoma susceptibility loci in primary angle closure suspects. Tin Aung^{1,2}, M. Nongpiur^{1,2}, S. A. Perera¹, T. Y. Wong², E. N. Vithana², C. Khor^{3,2}. ¹Glaucoma, Singapore National Eye Center, Singapore, Singapore; ²Singapore Eye Research Institute, Singapore, Singapore; ³Genome Institute of Singapore, Singapore, Singapore

2137 — A0243 Expression analysis of primary angle closure glaucoma (PACG) susceptibility gene *PLEKHA7* in ocular tissues of glaucoma patients and controls. Eranga N. Vithana^{1,2}, M. Lee^{1,2}, W. Shei¹, M. Nongpiur^{1,2}, C. Khor^{3,7}, T. Aung^{1,4}, W. Hunziker^{5,6}. ¹Singapore Eye Research Institute, Singapore, Singapore; ²Duke-NUS Graduate Medical School, Singapore, Singapore; ³Genome institute of Singapore, Singapore, Singapore; ⁴Glaucoma, Singapore National Eye Center, Singapore, Singapore; ⁵Institute of Molecular and Cell Biology, Singapore, Singapore; ⁶Department of Physiology, National University of Singapore, Singapore, Singapore; ⁷Department of Biochemistry, National University of Singapore, Singapore, Singapore

2138 — A0244 Characteristics of zebrafish with morpholino knockdown of SYDE2, a candidate gene for optic atrophy. John Borchert, A. Gauthier, A. Larson, J. L. Wiggs. Massachusetts Eye and Ear Infirmary, Boston, MA

2139 — A0245 Improved understanding of the disease mechanism of steroid induced glaucoma using gene editing techniques. Xiaowu Gai^{2,3}, Y. Jing^{2,1}, M. E. Sousa⁴, M. H. Farkas⁴, Q. Liu^{5,6}. ¹Department of Pathology and Laboratory Medicine, Children's Hospital Los Angeles, Los Angeles, CA; ²Center for Personalized Medicine, Children's Hospital Los Angeles, Los Angeles, CA; ³Keck School of Medicine, University of Southern California, Los Angeles, CA; ⁴Department of Ophthalmology, Jacobs School of Medicine and Biomedical Sciences, State University of New York at Buffalo, Buffalo, NY; ⁵Department of Ophthalmology, Harvard Medical School, Boston, MA; ⁶Ocular Genomics Institute, Massachusetts Eye and Ear Infirmary, Boston, MA

2140 — A0246 Genome-wide RNA-Sequencing analysis reveals a distinct fibrosis gene signature in the conjunctiva after glaucoma surgery. Cynthia Yu-Wai-Man¹, N. Owen¹, J. Lees², A. Tagalakis³, S. Hart³, A. R. Webster¹, C. A. Orengo³, P. T. Khaw¹. ¹National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ²Bioinformatics Research Group, UCL Institute of Structural and Molecular Biology, London, United Kingdom; ³Experimental and Personalised Medicine Section, UCL Institute of Child Health, London, United Kingdom

2141 — A0247 Gene Expression Profile of Trabecular Meshwork from Primary Open-Angle Glaucoma Patient by RNA-Sequencing. Mingzhi Zhang. Ophthalmology, Joint Shantou International Eye Center, Shantou, China

2142 — A0248 Differentially expressed microRNAs in the aqueous humor of patients with exfoliation glaucoma or primary open-angle glaucoma. Michelle Drewry¹, J. Kuchtey², I. Navarro³, S. Sharma⁴, W. Stamer³, A. Sharma⁴, P. Challa³, R. W. Kuchtey², Y. Liu¹. ¹Department of Cellular Biology and Anatomy, Augusta University, Augusta, GA; ²Vanderbilt Eye Institute, Vanderbilt University Medical Center, Nashville, TN; ³Department of Ophthalmology, Duke University Medical Center, Durham, NC; ⁴Center for Biotechnology and Genomic Medicine, Augusta University, Augusta, GA

Exhibit/Poster Hall A0249-A0296

Monday, May 08, 2017 3:45 PM-5:30 PM

Immunology/Microbiology

277 Uveitis: Diagnosis, Epidemiology, Quality of Life

Moderator: Peizeng Yang

2143 — A0249 Association of gut microbiome composition with Vogt Koyanagi Harada disease. Peizeng Yang, Z. Ye, N. Zhang. The First Affiliated Hospital of Chongqing Medical University, Chongqing, China

2144 — A0250 Correlation between visual function and clinical/subclinical disease activity parameters in Vogt-Koyanagi-Harada disease (VKHD). Marcelo M. Lavezzo, V. M. Sakata, E. E. Rodriguez, S. F. Abdallah, C. Morita, M. Oyamada, C. Hirata, J. H. Yamamoto. Ophthalmology, University of Sao Paulo Medical School, Sao Paulo, Brazil

2145 — A0251 Comparison of efficacy of vitrectomy and internal limiting membrane peeling for maculopathy involved in proliferative diabetic retinopathy. Hideaki Someya¹, Y. Takamura², M. Morioka², H. Yokoyama³, T. Kimura³, S. Sameshima⁴, T. Sakamoto⁴, M. Takeuchi¹. ¹Ophthalmology, National Defence Medical College, Tokorozawa, Japan; ²Ophthalmology, Fukui University, Eiheiji Yoshida, Japan; ³Ophthalmology, Hyogo College of Medicine, Nishinomiya, Japan; ⁴Ophthalmology, Kagoshima University, Kagoshima, Japan

2146 — A0252 Human Leukocyte Antigen Risk Alleles among Chinese with Cytomegalovirus Anterior Uveitis. Jay J. Siak^{1,2}, N. Yawata^{2,1}, X. Lim², K. Woon², A. Jansen¹, S. Waduthantri¹, S. Chee^{1,2}. ¹Ocular Inflammation and Immunology, Singapore National Eye Centre, Singapore, Singapore; ²Ocular Inflammation and Immunology, Singapore Eye Research Institute, Singapore, Singapore

2147 — A0253 Assessment of structure function correlation and response to treatment in uveitic cystoid macula edema using non-invasive Optical Coherence Tomography Angiography. Sophia L. Zagora¹, D. S. Grewal¹, S. Lightman^{1,2}, O. Tomkins-Netzer^{1,2}. ¹Uveitis, Moorfields Eye Hospital, North Bondi, NSW, Australia; ²Institute of Ophthalmology, UCL, England, United Kingdom

2148 — A0254 Examination of optic nerve peripapillary vasculature in uveitic disease through optical coherence tomography angiography. Preethi S. Ganapathy, F. Pichi, K. Baynes, S. K. Srivastava. Ophthalmology, Cleveland Clinic Cole Eye Institute, Cleveland, OH

2149 — A0255 Distribution of noninfectious uveitis and its complications in the four US regions using the National Inpatient Sample. Krati Chauhan¹, S. Scaife², J. T. Rosenbaum^{3,4}. ¹Rheumatology, Southern Illinois University-School of Medicine, Springfield, IL; ²Center for Clinical Research, Southern Illinois University-School of Medicine, Springfield, IL; ³Ophthalmology, Oregon Health Science University-School of Medicine, Portland, OR; ⁴Legacy Devers Eye Institute, Portland, OR

2150 — A0256 Frequency of Uveitis in the Central Tokyo area (2013-2015). Shintaro Shirahama^{1,2}, T. Kaburaki², H. Nakahara², R. Tanaka², M. Takamoto², A. Karakawa², Y. Fujino², M. Aihara². ¹Ophthalmology, JR Tokyo General Hospital, Tokyo, Japan; ²Ophthalmology, The University of Tokyo Graduate School of Medicine, Tokyo, Japan

2151 — A0257 Epidemiology of Uveitis in Metropolitan Melbourne. Colby Hart¹, E. Zhu², L. L. Lim³. ¹Alfred Health, Richmond, VIC, Australia; ²Melbourne University, Melbourne, VIC, Australia; ³Clinical Trials, Centre of Eye Research Australia, East Melbourne, VIC, Australia *CR

2152 — A0258 Coping strategies in adult patients with uveitis in Colombia. Alejandra De-La-Torre Cifuentes^{4,2}, C. López de Mesa³, L. A. Facio Lince^{4,1}, E. Criollo-Porras⁴, X. Palacios-Espinosa⁵, F. Duran⁴. ¹Immunology Department, Universidad del Rosario, Bogota, Colombia; ²Uveitis, Escuela Superior de Oftalmología-Instituto Barraquer de América, Bogotá, Colombia; ³Investigación, Escuela Superior de Oftalmología-Instituto Barraquer de América, Bogotá, Colombia; ⁴Grupo de investigación en Neurociencias, NeUROS, Universidad del Rosario, Bogotá, Colombia; ⁵Universidad del Rosario, Escuela de Medicina y Ciencias de la Salud. Grupo de investigación: Individuo, Familia y Sociedad., Bogotá, Colombia

2153 — A0259 Seasonal variation in ocular attack in Japanese patients with Behçet's disease. Takuto Sakono¹, A. Meguro¹, S. Ohno², N. Mizuki¹. ¹Ophthalmology, Yokohama City University Of Medicine, Yokohama, Japan; ²Ophthalmology, Hokkaido University of Medicine, Sapporo, Japan

- 2154 — A0260 Laboratory analysis and predictive characteristics of infectious panuveitis sampling in the Pacific Northwest.** *Kaivon Pakzad-Vaezi¹, M. Nguyen¹, C. Lee¹, A. Bryan², K. L. Peppel¹.* ¹Ophthalmology, University of Washington, Seattle, WA; ²Laboratory Medicine, University of Washington, Seattle, WA
- 2155 — A0261 Tear Proteomics in Pediatric Chronic Non-infectious Uveitis.** *Sheila T. Angeles-Han¹, S. Yeh², P. Patel², D. Duong², K. Jenkins³, S. Prahalad^{2,3}, G. N. Holland⁴.* ¹Pediatrics, Cincinnati Children's Hospital Medical Center, Cincinnati, OH; ²Emory University School of Medicine, Atlanta, GA; ³Children's Healthcare of Atlanta, Atlanta, GA; ⁴UCLA, Los Angeles, CA *CR
- 2156 — A0262 Ocular Manifestations of HIV/AIDS in Children and Adults.** *Shanti Gurung, P. Shah, P. Sharma, P. Shrestha, D. Thapa, D. Godar.* Pediatrics, Institute of Medicine, Kathmandu, Nepal
- 2157 — A0263 Risk for uveitis occurrence in juvenile idiopathic arthritis (JIA) and predictive factors for the 2-years outcome: Data from the Inception Cohort of Newly diagnosed patients with JIA (ICON-JIA) study.** *Karoline Walscheid^{1,2}, C. Tappeiner^{1,3}, J. Klotsche⁴, S. Schenck⁴, M. Niewerth⁴, I. Liedmann⁴, M. Lavric⁵, D. Foell⁵, A. Heiligenhaus^{1,2}, K. Minden⁴.* ¹Department of Ophthalmology at St. Franziskus-Hospital, Muenster, Germany; ²Department of Ophthalmology, University of Duisburg-Essen, Essen, Germany; ³Department of Ophthalmology, Inselspital, Bern University Hospital, University of Bern, Bern, Switzerland; ⁴German Rheumatism Research Center (DRFZ), Leibniz Institute, Berlin, Germany; ⁵Clinic for Pediatric Rheumatology and Immunology, University of Muenster, Muenster, Germany *CR
- 2158 — A0264 Fractal analysis in birdshot chorioretinopathy using optical coherence tomography angiography.** *Edmund Tsui¹, S. Elyashiv², C. M. Samson², S. Zahid¹, R. B. Rosen², J. A. Young¹.* ¹Ophthalmology, New York University School of Medicine, New York, NY; ²Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY *CR
- 2159 — A0265 Hypoactive endoplasmic reticulum aminopeptidase (ERAP)-1 and ERAP2 are strong risk factors for HLA-A29-associated Birdshot Uveitis.** *Jonas Kuiper.* Ophthalmology, University Medical Center Utrecht, Utrecht, Netherlands
- 2160 — A0266 Birdshot Chorioretinopathy: Disease Severity and HLA-A29 Subtype.** *Lisa Zhang, H. Nithianandan, R. Sharma, C. Gottlieb.* University of Ottawa Eye Institute, Ottawa, ON, Canada
- 2161 — A0267 Retinal Microvasculature changes in Birdshot Retinochoroiditis (BRC) detected by Optical Coherence Tomography Angiography.** *Chrysoula Koutsouki, A. L. Rees, C. Pavesio, M. C. Westcott.* Medical Retina, Moorfields Eye Hospital, London, London, United Kingdom
- 2162 — A0268 Punctate Inner Choroidopathy: a topographic study.** *Stefano Erba¹, A. Xhepa¹, A. Invernizzi^{1,2}, G. Staurenghi¹.* ¹Eye Clinic - Luigi Sacco Hospital, Sacco Hosp Univ of Milan, Milan, Italy; ²University of Sydney, Save Sight Institute, Sydney, NSW, Australia *CR
- 2163 — A0269 Health related quality of life in patients with Punctate Inner Choroidopathy (PIC).** *Archana Pradeep, S. sreekantam, R. Carmichael, S. Graves, S. Southworth, E. Damato, P. I. Murray, A. K. Denniston.* Ophthalmology, University of Birmingham, Leicester, United Kingdom
- 2164 — A0270 Two years outcomes in eyes receiving aflibercept according to fixed 2 month interval for neovascular age-related macular degeneration: observational study data** **Two years outcomes in eyes receiving aflibercept according to fixed 2 month interval for neovascular age-related macular degeneration: observational study data.** *Koji Kanda, T. Sato, M. Taguchi, H. Someya, T. Murata, M. Takeuchi.* National Defense Medical College, Tokorozawa-shi, Japan
- 2165 — A0271 Peripheral retinal and choroidal changes in anterior uveitis.** *ying chi, C. guo, L. Yang.* Ophthalmology, Peking university first hospital, Beijing, China
- 2166 — A0272 Alternation of gut microbiota composition in patients with acute anterior uveitis.** *Xinyue Huang¹, Z. Ye¹, A. Kijlstra², P. Yang¹.* ¹ophthalmology, The First Affiliated Hospital of Chongqing Medical University, Chongqing, China; ²University Eye Clinic Maastricht, Maastricht, Netherlands
- 2167 — A0273 miRNAs copy number variants confer susceptibility to Acute Anterior Uveitis (AAU) with or without Ankylosing Spondylitis (AS).** *Shengping Hou¹, A. Kijlstra², P. Yang¹.* ¹The First Affiliated Hospital of Chongqing Medical University, Chongqing, China, Chongqing, China; ²University Eye Clinic Maastricht, Maastricht, Netherlands
- 2168 — A0274 Qualitative and Automated Quantitative analysis of the Choriocapillaris on OCTA in Uveitis.** *Shilpa Kodati, M. Akanda, S. Gangaputra, H. Sen.* Laboratory of Immunology, National Eye Institute, Bethesda, MD
- 2169 — A0275 Epigenome-wide association study identifies Vogt-Koyanagi-Harada syndrome-specific methylation loci in Han Chinese.** *Liping Du, H. Yu, Y. Qiu, P. Yang.* Department of Ophthalmology, The First Affiliated Hospital of Chongqing Medical University, Chongqing, China
- 2170 — A0276 Retinoschisis in Intermediate Uveitis: clinical characteristics and outcomes.** *Marib Akanda, S. Kodati, S. Gangaputra, H. Sen.* Laboratory of Immunology, National Eye Institute, Bethesda, MD
- 2171 — A0277 Ocular Manifestations of transbronchial biopsy-proven sarcoidosis in Korean.** *Seung Yong Choi¹, J. Won¹, Y. park^{1,2}.* ¹Department Ophthalmology and Visual science, College of medicine, The Catholic university of Korea, Seoul, Korea (the Republic of); ²Catholic Institute for Visual Science, College of Medicine, The Catholic University of Korea, Seoul, Korea (the Republic of)
- 2172 — A0278 Should patients with sarcoidosis be screened for asymptomatic ocular inflammation?** *Sarah Sunshine, D. Pyatetsky, A. D. Birnbaum, D. A. Goldstein.* Ophthalmology, Northwestern University Feinberg School of Medicine, Chicago, IL *CR
- 2173 — A0279 Ocular Examinations for Uveitis in S1 Sinclair Swine in Response to HSP70_{0435A}.** *Benjamin Reiss¹, S. Hunt², S. Henning², C. S. Bouchard², C. Le Poole², V. R. Raiji¹.* ¹Ophthalmology, John H Stroger, Jr Hospital of Cook County, Chicago, IL; ²Loyola University Medical Center, Chicago, IL *CR
- 2174 — A0280 Quality of Life Outcomes from a Randomized Controlled Trial Comparing Methotrexate to Mycophenolate Mofetil for Noninfectious Uveitis.** *Katherine M. Niemeyer^{1,2}, J. A. Gonzales^{1,3}, S. R. Rathinam⁴, M. Babu⁵, R. Thundikandy⁴, A. Kanakath⁵, T. C. Porco^{1,6}, E. Browne¹, M. M. Rao¹, N. Acharya^{1,3}.* ¹F. I. Proctor Foundation, University of California, San Francisco, San Francisco, CA; ²Icahn School of Medicine at Mount Sinai, New York, NY; ³Department of Ophthalmology, University of California, San Francisco, San Francisco, CA; ⁴Aravind Eye Care System, Madurai, India; ⁵Aravind Eye Care System, Coimbatore, India; ⁶Department of Epidemiology & Biostatistics, University of California, San Francisco, San Francisco, CA *CR, ✗
- 2175 — A0281 Clinical manifestations and visual prognosis of ocular toxoplasmosis.** *Joao M. Furtado¹, S. Arruda¹, M. Simões¹, D. M. Garcia¹, M. Araújo¹, B. Vieira¹, M. W. Rodrigues¹, J. Smith².* ¹Ophthalmology, University of Sao Paulo, Ribeirao Preto, Brazil; ²Flinders University, Adelaide, SA, Australia
- 2176 — A0282 Patient specific predictions of visual acuity and inflammation in uveitis.** *Mia Klinton Grand^{1,2}, H. Putter², T. Missotten³, K. A. Vermeer¹.* ¹Rotterdam Ophthalmic Institute, Rotterdam Ophthalmic Institute, Rotterdam, Netherlands; ²Department of Medical statistics and Bioinformatics, Leiden University Medical Center, Leiden, Netherlands; ³Rotterdam Eye Hospital, Rotterdam, Netherlands
- 2177 — A0283 Necrotizing scleritis. Clinical characteristics and ethnicity.** *Carlos A. Muller Morales, M. Pedroza-Seres, D. Diarte, K. Zuñiga.* Instituto de Oftalmología Conde de Valenciana, Ciudad de Mexico, Mexico

2178 — A0284 Factors associated with uveitis among Ebola survivors in the PREVAIL III study. Allen O. Eghrari^{1,2}, B. Burkholder¹, R. Ross², K. Tawse², S. G. Pralapakorn³, C. Reilly^{3,2}, M. Fallah², M. Sneller⁴, R. Bishop⁴. ¹Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore, MD; ²Partnership for Research on Ebola Virus in Liberia, Monrovia, Liberia; ³Biostatistics, University of Minnesota, Minneapolis, MN; ⁴National Eye Institute, Bethesda, MD; ⁵Duke University, Durham, NC; ⁶National Institutes of Health, Bethesda, MD

2179 — A0285 Neuroretinitis: Causes, clinical presentation and outcomes in an ophthalmology-specialized hospital in Mexico in 9 years. Maria Fernanda Rebollo Ramirez, M. Pedroza-Seres, D. Diarte. Instituto de Oftalmología Fundación Conde de Valencianal, Mexico city, Mexico

2180 — A0286 Analysis of IL-10 in the intraocular fluids of patients with infectious uveitis. Ryosuke Matsushima, Y. Usui, T. Kezuka, K. Tsubota, A. Umazume, N. Yamakawa, Y. Wakabayashi, H. Goto. Tokyo Medical University Hospital, Tokyo, Japan

2181 — A0287 The relationship between uveitis in patients with arthritis and demographic and clinical characteristics: A population-based study. Marta Mora, S. Lin, M. Masis, T. C. Porco, C. Oldenburg. UCSF, San Francisco, CA

2182 — A0288 Perceived Stress Levels in Adult Patients with Uveitis. Rafael S. Grajewski¹, A. C. Boelke¹, C. Cursiefen¹, C. Albus², F. Vitinius², L. M. Heindl¹. ¹Ophthalmology, University Eye Clinic Cologne, Cologne, Germany; ²Department of Psychosomatic Medicine and Psychotherapy, University of Cologne, Cologne, Germany

2183 — A0289 Clinical findings in immunocompetent patients diagnosed with Ocular Syphilis. Ruben Espino Icazbalceta, A. Zermeno, D. Diarte, M. Pedroza-Seres. Instituto de Oftalmología Conde de Valenciana, México City, Mexico

2184 — A0290 Ocular Syphilis in Oregon, 2014 to 2016. Meryl Sundy¹, I. Kasarskis², S. Schafer², W. Kevin^{1,3}. ¹Ophthalmology, OHSU, Portland, OR; ²Public Health Division, Oregon Health Authority, Portland, OR; ³Infectious Disease, OHSU, Portland, OR

2185 — A0291 Association between eye diagnosis and positive syphilis test results in a sexually transmitted infection/primary care clinic population. Ann-Marie Lobo¹, L. Rusie², Y. Gao³, M. Houlberg², S. Mehta⁴. ¹Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ²Howard Brown Health, Chicago, IL; ³Biostatistics, University of Illinois at Chicago School of Public Health, Chicago, IL; ⁴Epidemiology, University of Illinois at Chicago School of Public Health, Chicago, IL

2186 — A0292 Discontinuation and Nonpublication of Interventional Clinical Trials Conducted in Uveitis Patients. Taygan Yilmaz¹, M. Cordero-Coma^{2,3}, M. E. Migliori¹. ¹Ophthalmology, Warren Alpert Medical School at Brown University, Providence, RI; ²Ophthalmology, Uveitis Unit, University Hospital of León, Leon, Spain; ³Instituto de Biomedicina (IBIOMED), Leon, Spain

2187 — A0293 Assessment of Changes in Quality of Life Among Subjects in the STOP-Uveitis Study. Lisa C. Greer¹, M. Jawed¹, K. Caldwell¹, R. Wilson¹, M. S. Halim², M. Hassan², M. A. Sadiq², R. Afridi², D. V. Do^{2,3}, Y. J. Sepah^{2,3}, Q. D. Nguyen^{2,3}. ¹Ophthalmology, University of Nebraska Medical Center, Omaha, NE; ²Byers Eye Institute, Stanford University, Palo Alto, CA; ³Ocular Imaging Research and Reading Center, Menlo Park, CA *CR

2188 — A0294 Investigating the clinical value of urine β 2-microglobulin (U β 2M) in patients with tubulointerstitial nephritis and uveitis (TINU) syndrome. Lorraine M. Provencher, A. Fairbanks, N. A. Syed. Ophthalmology, University of Iowa, Iowa City, IA

2189 — A0295 The impact of Uveitis on the course of Multiple Sclerosis (MS) in a Large MS Cohort from the Fingolimod Trials. Lyndell L. Lim^{1,2}, H. Butzkueven³, T. C. Lo¹, C. Whitford⁵, S. Ritter⁴, D. G. Silva⁴, A. J. Hall^{6,5}. ¹Centre for Eye Research Australia, University of Melbourne, East Melbourne, VIC, Australia; ²Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia; ³Neurology, Royal Melbourne Hospital, Parkville, VIC, Australia; ⁴Novartis Pharmaceuticals Corporation, East Hanover, NJ; ⁵Eye Surgery Associates, East Melbourne, VIC, Australia; ⁶Ophthalmology, Alfred Hospital, Melbourne, VIC, Australia *CR, ∇

2190 — A0296 Prevalence and incidence of uveitis in a large multiple sclerosis cohort from the fingolimod clinical trials. Tiffany C. Lo¹, D. G. Silva³, C. Whitford², S. Ritter², L. L. Lim^{1,4}, A. J. Hall⁵. ¹Centre for Eye Research Australia, The University of Melbourne, East Melbourne, VIC, Australia; ²Eye Surgery Associates, East Melbourne, VIC, Australia; ³Novartis Pharmaceuticals Corporation, East Hanover, NJ; ⁴Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia; ⁵Ophthalmology, Alfred Hospital, Melbourne, VIC, Australia *CR, ∇

Exhibit/Poster Hall A0329-A0356

Monday, May 08, 2017 3:45 PM-5:30 PM

Clinical/Epidemiologic Research

278 Visual Impairment

Moderator: Alexis G. Malkin

2191 — A0329 The OVIS Study - Visual impairment in institutionalized elderly people. Petra P. Fang¹, A. Schnetzer¹, F. Krummenauer², R. P. Finger¹, F. G. Holz¹. ¹Ophthalmology, University of Bonn, Bonn, Germany; ²Institute for Medical Biometry and Epidemiology, University of Witten-Herdecke, Witten-Herdecke, Germany *CR

2192 — A0330 Vision Status of Older Adults in Senior Living Communities: Results of an On-Site Screening Program. Brian Harrow¹, S. Sørensen², K. Nedrow¹, P. Linares¹, R. S. Ramchandran¹. ¹Ophthalmology, Flaum Eye Institute, University of Rochester Medical Center, Rochester, NY; ²Warner School for Education and Human Development, University of Rochester, Rochester, NY

2193 — A0331 The PrOVIDE Study: sample characteristics. Michael Bowen¹, B. Hancock¹, D. Edgar², R. Shah², S. Iliffe³, J. Pickett⁴, S. Buchanan⁶, M. Clarke⁵, S. Maskell⁴, S. Haque⁸, N. O'Leary⁷, J. Taylor⁵. ¹Research, The College of Optometrists, London, United Kingdom; ²City, University London, London, United Kingdom; ³University College London, London, United Kingdom; ⁴Alzheimer's Society, London, United Kingdom; ⁵Newcastle University, Newcastle-upon-Tyne, United Kingdom; ⁶The Thomas Pocklington Trust, London, United Kingdom; ⁷Trinity College Dublin, Dublin, Ireland; ⁸University of Birmingham, Birmingham, United Kingdom *CR

2194 — A0332 Main visual disorders of the geriatric patient: report of an ophthalmologic reference center in the north of Mexico. Eduardo Camacho-Martinez, J. E. Valdez, J. C. Hernandez, C. Peña-Heredia, J. Zavala, D. Loya, P. Lopez, Y. Miranda-Cepeda. Escuela de Medicina Tecnológico de Monterrey, Monterrey, Mexico

2195 — A0333 Study of the uptake of low vision rehabilitation services: Incidence and Prevalence of Low Vision among Patients Seeking Ophthalmic Care. Bonnielin K. Swenor, J. E. Goldstein. Ophthalmology, Johns Hopkins Wilmer Eye Institute, Baltimore, MD

- 2196 — A0334 First Rapid Assessment of Avoidable Blindness (RAAB) in Maldives: Prevalence and causes of blindness and cataract surgery.** Taraprasad Das^{1,2}, U. Thoufeeq³, H. Limburg⁴, M. Maitra⁵, L. Panda⁶, A. Sil⁵, F. Shabana³, J. Trevelyan², Y. Sapkota². ¹Retina Vitreous Services, LV Prasad Eye Institute, Hyderabad, India; ²International Agency for prevention of Blindness, Hyderabad, India; ³Ministry of health, Health Protection Agency, Male, Maldives; ⁴International centre for Eye health, London, United Kingdom; ⁵Netra Niramaya Niketan, Purba Medinapur, India; ⁶L V Prasad Eye Institute, Bhubaneswar, India
- 2197 — A0335 Estimated Prevalence of Visual Impairment in Sub-Saharan Africa (2015).** John H. Kempen^{1,2}, R. R. Bourne³, T. Y. Wong⁴, H. Taylor⁵, N. Tahhan^{6,7}, G. Stevens⁸, S. Resnikoff⁹, K. Pesudovs¹⁰, H. Limburg¹², J. L. Leasher¹³, J. E. Keeffe¹⁴, J. B. Jonas¹⁵, T. Braithwaite³, S. Flaxman¹⁶, K. S. Naidoo^{11,6}. ¹Ophthalmology, Massachusetts Eye and Ear Infirmary; Harvard Medical School, Boston, MA; ²Discovery Eye Center/MyungSung Christian Medical Center, Addis Ababa, Ethiopia; ³Vision & Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom; ⁴Singapore Eye Research Institute, National University of Singapore, Singapore, Singapore; ⁵Melbourne School of Populations and Global Health, University of Melbourne, Melbourne, VIC, Australia; ⁶Brien Holden Vision Institute, Sydney, NSW, Australia; ⁷School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia; ⁸Department of Information, Evidence and Research, World Health Organization, Geneva, Switzerland; ⁹International Health and Development, Geneva, Switzerland; ¹⁰NHMRC Centre for Clinical Eye Research, Flinders University, Adelaide, SA, Australia; ¹¹African Vision Research Institute, University of Kwazulu-Natal, Durban, South Africa; ¹²Health Information Services, Grootebroek, Netherlands; ¹³Nova Southeastern University, Fort Lauderdale, FL; ¹⁴L V Prasad Eye Institute, Hyderabad, India; ¹⁵Department of Ophthalmology, Medical Faculty Mannheim, Mannheim, Germany; ¹⁶Department of Statistics, University of Oxford, Oxford, United Kingdom
- 2198 — A0336 A survey of the magnitude and determinants of visual impairment in the southwest region of São Paulo state, Brazil.** Lucieni C. Ferraz¹, R. L. Meneghim², P. P. Cavinato², L. Sato², A. Galindo-Ferreiro³, R. Khandekar³, S. A. Schellini^{2,3}. ¹Hospital Estadual Bauru UNESP, Bauru, Brazil; ²Oftalmologia, Faculdade de Medicina de Botucatu - UNESP, Botucatu, Brazil; ³King Khaled Specialist Eye Hospital, Riyadh, Saudi Arabia
- 2199 — A0337 Prevalence and contribution of pterygium in visual impairment and blindness in older adults: the Brazilian Amazon Region Eye Survey (BARES).** Arthur G. Fernandes¹, A. Berezovsky¹, M. Higashi¹, J. M. Furtado^{1,2}, S. Watanabe¹, P. Morales¹, M. Cohen^{3,4}, J. Cohen^{3,4}, M. Cypell¹, C. C. Cunha^{1,7}, N. Nunes Cavascan¹, P. Sacai¹, G. Carvalho Vasconcelos^{1,6}, S. Munoz⁵, R. Belfort¹, S. R. Salomao¹. ¹Oftalmologia e Ciências Visuais, Universidade Federal de Sao Paulo, Sao Paulo, Brazil; ²Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoco, Faculdade de Medicina de Ribeirao Preto USP, Ribeirao Preto, Brazil; ³Divisao de Oftalmologia, Depto. de Cirurgia, Universidade Federal do Amazonas, Manaus, Brazil; ⁴Instituto de Olhos de Manaus, Manaus, Brazil; ⁵Salud Publica, Universidad de La Frontera, Temuco, Chile; ⁶Oftalmologia e Otorrinolaringologia, Universidade Federal de Minas Gerais UFMG, Belo Horizonte, Brazil; ⁷Hospital Bettina Ferro de Souza, Universidade Federal do Para, Belem, Brazil
- 2200 — A0338 Population-Based Assessment of Prevalence and Causes of Visual Impairment in the State of Tripura, India.** Srinivas Marmamula^{1,2}, R. C. Khanna¹. ¹GPR ICARE, L V Prasad Eye Institute, Hyderabad, India; ²LVPEI, Wellcome Trust / India Alliance Research Fellow, Hyderabad, India
- 2201 — A0339 Prevalence and causes of visual acuity impairment in preschool and school children of Londrina, Paraná, Brazil.** Fernanda S. Siqueira Anacleto¹, M. B. Silva¹, G. B. Durães², C. L. Reinert², E. Hoyama^{1,2}, T. Matsuo¹, N. Hasegawa¹. ¹Hospital de Olhos de Londrina - HOFTALON, Londrina, Brazil; ²Pontificia Universidade Católica do Paraná Campus Londrina, Londrina, Brazil
- 2202 — A0340 Multi-state Assessment of Vision Impairment and Associated Morbidity.** Dean A. VanNasdale, L. A. Jones-Jordan. Optometry, Ohio State Univ College of Optometry, Columbus, OH
- 2203 — A0341 Causes of childhood blindness and visual impairment at a low vision service in Mexico City.** Juan A. Lopez Ulloa, A. M. Beauregard Escobar. Instituto Conde de Valenciana, Mexico City, Mexico
- 2204 — A0342 Distinguishing the contribution of precision and repeatability to vision testing.** Luis A. Lesmes¹, A. K. Bittner², Z. Lu³, P. J. Bex⁴, M. Dorr⁵. ¹Adaptive Sensory Technology, San Diego, CA; ²Dept of Optometry, Nova Southeastern University, Ft. Lauderdale, FL; ³Dept of Psychology, Ohio State University, Columbus, OH; ⁴Dept of Psychology, Northeastern University, Boston, MA; ⁵Institute for Human-Machine Communication, Technische Universität München, Munich, Germany *CR
- 2205 — A0343 Correlation of Burden of Ophthalmic Diseases with Frequency of Search Engine Terms on Google Trends between 2010 and 2016.** John M. Guest, A. Goyal, N. Nassiri, B. A. Hughes, M. S. Juzych. Ophthalmology, Kresge Eye Institute - Wayne State University, Detroit, MI
- 2206 — A0344 Validation of the Total Visual acuity extraction Algorithm (TOVA) for automated extraction of visual acuity and intraocular pressure data from free text clinical records.** Doug Baughman, C. Lee, A. Y. Lee. Ophthalmology, University of Washington, Seattle, WA
- 2207 — A0345 Blood Cadmium, Lead, and Contrast Sensitivity: the Beaver Dam Offspring Study.** Adam J. Paulsen¹, C. Schubert¹, D. Nondahl¹, Y. Chen¹, D. S. Dalton¹, B. E. Klein¹, R. Klein¹, K. J. Cruickshanks^{1,2}. ¹Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI; ²Population Health Sciences, University of Wisconsin-Madison, Madison, WI
- 2208 — A0346 Vitamin D and Vision.** Dayna S. Dalton¹, C. Schubert¹, A. A. Pinto¹, B. E. Klein¹, R. Klein¹, A. J. Paulsen¹, K. J. Cruickshanks^{1,2}. ¹Ophthalmology and Visual Science, University of Wisconsin, Madison, WI; ²Population Health Sciences, University of Wisconsin, Madison, WI
- 2209 — A0347 The potential of cardiovascular risk factors for reducing visual impairment: a pooled analysis of European epidemiological studies.** Cecile DelCourt, G. Moreau, A. Cougnard-Gregoire. Universite de Bordeaux, INSERM, U1219, Bordeaux, France *CR
- 2210 — A0348 Risk factors for prevalent Visual Impairment: The Chinese American Eye Study.** Bruce Burkemper, X. Jiang, M. Torres, F. Choudhury, R. McKean-Cowdin, R. Varma. Ophthalmology, USC Roski Eye Institute, Los Angeles, CA
- 2211 — A0349 Eye Health Needs Assessment in Two Peruvian Populations.** Roy Swanson^{1,2}, S. Jelineo², H. Choi³. ¹Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²Case Western Reserve University School of Medicine, Cleveland, OH; ³Respiratory Institute, Cleveland Clinic, Cleveland, OH
- 2212 — A0350 The utilisation of eye health care services in Australia - the National Eye Health Survey.** Mohamed Dirani¹, J. R. Foreman¹, S. Keel¹, J. Xie¹, H. Taylor². ¹Ophthalmology, Centre for Eye Research Australia, Melbourne, VIC, Australia; ²Melbourne School of Population and Global Health, University of Melbourne, Melbourne, VIC, Australia

2213 — A0351 Philadelphia Telemedicine Glaucoma Detection and Follow-up Study: Comparison of Ocular Outcomes at Two Health Centers. *Joseph Okudolo^{1,2}, L. A. Hark^{1,2}, L. Katz^{1,2}, M. Acito², T. DeVirgilio², J. Molineaux², M. Mazer², J. Henderer², V. Doyle², D. Johnson², M. Divers², C. Burns², J. A. Haller^{2,1}.* ¹Sidney Kimmel Medical College, Philadelphia, PA; ²Glaucoma, Wills Eye Hospital, Philadelphia, PA ✕

2214 — A0352 Eye Diseases Among Indigenous Colombians. An Approach with Teleophthalmology. *Mary Alejandra A. Sanchez^{2,1}, J. C. Rueda^{2,1}, J. A. Paczka^{3,1}, H. R. Lopez^{2,1}, D. Rueda-Latorre², L. A. Paczka-Giorgi^{3,1}.* ¹Research and Development, Teleoftalmologia LATAM, Bucaramanga, Colombia; ²Research and Development, Teleoftalmologia Santander, Bucaramanga, Colombia; ³Research and Development, Unidad de Diagnostico Temprano del Glaucoma, Guadalajara, Mexico

2215 — A0353 Feasibility of a Screening Ocular Disease Program by Teleophthalmology in Rural Colombia, South America. *Juan Carlos C. Rueda^{1,2}, M. A. Sanchez^{1,2}, J. A. Paczka^{3,2}, H. R. Lopez^{1,2}, L. A. Paczka-Giorgi^{3,1}, D. Rueda-Latorre¹.* ¹Research and Development, Teleoftalmologia Santander, Bucaramanga, Colombia; ²Research and Development, Teleoftalmologia LATAM, Bucaramanga, Colombia; ³Research and Development, Unidad de Diagnostico Temprano del Glaucoma, Guadalajara, Colombia

2216 — A0354 Tocilizumab in patients with giant cell arteritis: analysis of new-onset and relapsing subgroups from a randomized, double-blind, placebo-controlled, phase 3 trial. *Christine Birchwood¹, K. Tuckwell², S. Dimonaco², M. Klearman¹, N. Collinson², J. Stone³.* ¹Genentech, South San Francisco, CA; ²Roche Products Ltd., Welwyn Garden City, United Kingdom; ³Massachusetts General Hospital Rheumatology Unit, Harvard Medical School, Boston, Boston, MA ✕

2217 — A0355 Botulinum toxin for the treatment of photophobia in chronic migraine patients. *Ryan Diel^{1,2}, Z. Kroeger^{1,2}, E. R. Felix^{1,3}, R. C. Levitt^{1,4}, C. D. Sarantopoulos^{1,4}, H. Sered¹, A. Galor^{1,5}.* ¹Miami Veterans Administration Medical Center, Miami, FL; ²University of Miami Miller School of Medicine, Miami, FL; ³Department of Physical Medicine and Rehabilitation, University of Miami Miller School of Medicine, Miami, FL; ⁴Department of Anesthesiology, Perioperative Medicine and Pain Management, University of Miami Miller School of Medicine, Miami, FL; ⁵Department of Ophthalmology, Bascom Palmer Eye Institute, Miami, FL

2218 — A0356 Relationship of Visual Acuity and Contrast Sensitivity to Ocular Complaints in Patients with Post-Treatment Lyme Disease Syndrome. *Alison Rebman¹, J. Aucott¹, T. Yang¹, E. Mihm¹, S. West².* ¹Medicine, Johns Hopkins University, Lutherville, MD; ²Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

Exhibit/Poster Hall A0395-A0409

Monday, May 08, 2017 3:45 PM-5:30 PM

Visual Neuroscience

279 Inner Retinal circuits

Moderators: Victoria P. Connaughton and Benjamin E. Reese

2219 — A0395 Cx36-independent rod pathways mediate visual contrast sensitivity to high temporal frequencies. *Rose Pasquale^{1,2}, Y. Umino², E. C. Solesio².* ¹Neuroscience and Physiology, SUNY Upstate Medical University, Syracuse, NY; ²Ophthalmology, Center for Vision Research, SUNY Upstate Medical University, Syracuse, NY

2220 — A0396 Inducible gene targeting in mouse retinal neurons expressing Grm6. *Yu-Jiun Chen¹, H. Shim¹, C. S. Shin¹, G. Acharya¹, C. J. Chen^{1,3}.* ¹Ophthalmology, Baylor College of Medicine, Houston, TX; ²Biochemistry and Molecular Biology, Virginia Commonwealth University, Richmond, VA; ³Biochemistry and Molecular Biology, Baylor College of Medicine, Houston, TX

2221 — A0397 Mapping the purine circuitry in the zebrafish retina. *Dillon McDevitt, S. L. Stella.* Neural and Behavioral Sciences, Penn State University College of Medicine, Hershey, PA

2222 — A0398 Zebrafish retinal ON-bipolar cells compensate for background induced sensitivity loss. *Annika Balraj^{1,2}, R. F. Nelson¹, T. Suresh³.* ¹NINDS, National Institutes of Health, Washington, DC; ²Institute of Biomedical Sciences, George Washington University, Washington, DC; ³Washington University St. Louis, St. Louis, MO

2223 — A0399 Deafferented mouse rod bipolar cells extend their dendrites and synapse with healthy photoreceptors. *Anahit Hovhannissyan¹, C. Beier², L. Daeyoung³, P. Huie^{3,4}, S. Weiser^{5,6}, D. V. Palanker^{3,4}, A. Sher¹.* ¹SCIPP, UCSC, Santa Cruz, CA; ²Electrical Engineering, UCSC, Santa Cruz, CA; ³Ophthalmology, Stanford University, Stanford, CA; ⁴Hansen Experimental Physics Laboratory, Stanford University, Stanford, CA; ⁵Biomed, UCSC, Santa Cruz, CA; ⁶Molecular, Cell and Developmental Biology, UCSC, Santa Cruz, CA

2224 — A0400 Variation in mosaic patterning in the mouse retina: from regular to random. *Patrick W. Keeley¹, J. J. Kim³, B. E. Reese^{1,2}.* ¹Neuroscience Research Institute, University of California, Santa Barbara, Santa Barbara, CA; ²Department of Psychological and Brain Sciences, University of California, Santa Barbara, Santa Barbara, CA; ³Department of Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara, Santa Barbara, CA

2225 — A0401 Spiking dopaminergic amacrine cells strongly modulate ON-cone bipolar cell surrounds and direct signaling from horizontal cells to ON-cone bipolar cells. *Stuart C. Mangel.* Dept of Neuroscience, Ohio State Univ Coll of Med, Columbus, OH

2226 — A0402 Developmental endocrine disruption alters adult visually-guided behaviors in the Zebrafish. *Cassie J. Gould, C. J. Saldanha, V. P. Connaughton.* Biology, American University, Washington, DC

2227 — A0403 Determining the localization of Tubulin Polymerization Promoting Protein TPPP/p25 in the mice and human retina: effect of zinc supplementation. *Robert G. Tripon^{1,2}, J. Oláh³, T. Nasir¹, L. Csincsik^{1,4}, C. Li¹, S. Szumyogh³, H. Gong², J. M. Flinn⁶, J. Ovádi³, I. Lengyel^{1,4}.* ¹Ocular Biology and Therapeutics, University College London-Institute of Ophthalmology, London, United Kingdom; ²Department of Histology, University of Medicine and Pharmacy of Tirgu Mures, Tirgu Mures, Romania; ³Institute of Enzymology, Research Center for Natural Sciences, Hungarian Academy of Sciences, Budapest, Hungary; ⁴Centre of Experimental Medicine, The Queen's University Belfast, Belfast, United Kingdom; ⁵Department of Ophthalmology, Boston University, School of Medicine, Boston, MA; ⁶Department of Psychology, George Mason University, Fairfax, VA

2228 — A0404 Interaction of zebrafish Olfactomedin 1 with the AMPA receptor and SNARE complexes. *Naoki Nakaya, S. I. Tomarev.* National Eye Institute, Bethesda, MD

2229 — A0405 Expression of Kv11.1 in retinal ON-bipolar cells. *Catherine W. Morgans¹, G. Ren¹, T. Haley¹, W. Xiong¹, M. Borisovska¹, C. McHugh¹, M. Veruki², R. M. Duvoisin¹.* ¹Department of Physiology & Pharmacology, Oregon Health & Science Univ, Portland, OR; ²Department of Biomedicine, University of Bergen, Bergen, Norway

2230 — A0406 Orexin-B modulates GABAergic synaptic transmission on rat retinal rod bipolar cells. *Yong-Mei Zhong, G. Zhang, G. Xu, S. Weng, X. Yang.* Institutes of Brain Science, Fudan University, Shanghai, China

2231 — A0407 Head-Mounted Projection system for visual stimulation and cortical recordings as a novel method for studying natural and artificial vision in behaving animals. *Tamar Arens-Arad, N. Farah, Y. Mandel.* Faculty of Life Sciences, Optometry Track and Bar-Ilan Institute for nanotechnology and Advanced Materials (BINA), Bar Ilan University, Ramat Gan, Israel

2232 — A0408 Oscillating eye movements in *nob* mice are explained by oscillating ON-direction selective ganglion cells. Maarten Kamermans^{1,2}, K. Franssen³, G. Pangen³, M. Howlett¹, M. Holzel¹, M. A. McCall³, C. Zeewu de⁴, B. Winkelman¹. ¹Retinal Signal Processing, Netherlands Institute for Neuroscience, Amsterdam, Netherlands; ²Neurogenetics, Academic Medical Center, Amsterdam, Netherlands; ³Ophthalmology and Visual Sci., University of Louisville, Louisville, KY; ⁴Netherlands Institute for Neuroscience, Amsterdam, Netherlands

2233 — A0409 A high-threshold rod input drives retinal dopamine release in response to light. Victor Perez Fernandez, M. W. John, C. Morven. Electrophysiology, Western Sydney University, Sydney, NSW, Australia

Exhibit/Poster Hall B0001-B0023

Monday, May 08, 2017 3:45 PM-5:30 PM

Cornea

280 Lacrimal glands and Meibomian glands

Moderator: Tomo Suzuki

2234 — B0001 Chain Length and Saturation Levels of Molecular Species of Neutral Lipids in Dry Eye Patients. Jianzhong CHEN, K. K. Nichols. Optometry and Vision Science, University of Alabama at Birmingham, Birmingham, AL

2235 — B0002 Intranasal Neurostimulator Induces Morphological Changes in Meibomian Glands in Patients with Dry Eye Disease. Nicholas Pondelis^{1,2}, G. Dieckmann^{1,2}, P. Katagiri^{1,2}, A. Abbouda^{1,2}, Z. salem^{1,2}, M. Franke³, M. Senchyna⁴, P. Hamrah^{1,2}. ¹Cornea Service, New England Eye Center, Boston, MA; ²Center for Translational Ocular Immunology, Ophthalmology, Tufts Medical Center, Boston, MA; ³Research and Development, Allergan, Irvine, CA; ⁴Director, Product Enhancement, Allergan, Irvine, CA *CR

2236 — B0003 The effects of a red light technology on dry eye due to meibomian gland dysfunction. Rolando Toyos. Toyos Clinic, Germantown, TN *CR

2237 — B0004 Intense pulsed light therapy significantly relieves dry eye symptoms and improves tear film metrics in meibomian gland dysfunction through modulation of meibum quality and expressibility. Kendrick C. Shih¹, J. Chuang¹, C. Lun¹, L. Tong², J. Lai¹. ¹Department of Ophthalmology, University of Hong Kong, Hong Kong, Hong Kong; ²Singapore Eye Research Institute, Singapore, Singapore

2238 — B0005 Light Transmission Characteristics of the Meibomian Gland: What Does Meibography Detect? Ho Sik Hwang^{1,2}, Y. Xie², E. Koudouna², D. J. Brown², J. Jester². ¹Ophthalmology, Chuncheon Sacred Heart Hospital, Hallym University, Chuncheon, Korea (the Republic of); ²Gavin Herbert Eye Institute, University of California, Irvine, Irvine, CA

2239 — B0006 Morphological Meibomian Gland Changes in Experimental Dry Eye. Carolina Kunnen, R. Y. Reins, C. Lema, R. L. Redfern. The Ocular Surface Institute / College of Optometry, University of Houston, Houston, TX

2240 — B0007 Oxidative Stress Induces MAPKs Pathways Activation in Human Meibomian Gland Epithelial Cells. Yujing Yang, S. Wu, X. Cui, J. Xu. Ophthalmology, Eye&ENT Hospital of Fudan University, Shanghai, China

2241 — B0008 Lacrimal Gland Excision in Male and Female C57BL/6 Mice Causes Pain- and Anxiety-like Behavior. Neal Mecum^{1,2}, T. Denis¹, W. Bushey¹, I. D. Meng^{1,3}. ¹Center of Excellence in Neuroscience, University of New England, Old Orchard Beach, ME; ²Graduate Studies in Biomedical Sciences, University of Maine, Orono, ME; ³Department of Biomedical Sciences, College of Osteopathic Medicine, University of New England, Biddeford, ME

2242 — B0009 Effect of vasoactive intestinal peptide on lacrimal gland ductal fluid secretion in wild type and CFTR knockout mice. Edit Toth-Molnar^{1,2}, O. Berczeli¹, V. Eszter¹, Z. Rakonczay^{3,4}, P. Hegyi³, C. Ding⁵. ¹Ophthalmology, University of Szeged, Szeged, Hungary; ²Pharmacology and Pharmacotherapy, University of Szeged, Szeged, Hungary; ³First Department of Internal Medicine, University of Szeged, Szeged, Hungary; ⁴Department of Pathophysiology, University of Szeged, Szeged, Hungary; ⁵Pharmacology and Pharmaceutic Sciences, Ophthalmology, University of Southern California, Los Angeles, CA

2243 — B0010 Ocular Severity does not predict mortality or systemic severity in chronic GVHD patients. Yael Kusne¹, N. Khera², J. F. Shen². ¹University of Arizona College of Medicine, Phoenix, AZ; ²Mayo Clinic, Scottsdale, AZ

2244 — B0011 Tear film proteomics of allogenic hematopoietic stem cell transplantation. Kim David Plattner², N. Gerber-Hollbach², J. Halter¹, P. Jenoe³, S. Moes³, D. Goldblum². ¹Hematology, University Hospital of Basel, Basel, Switzerland; ²Ophthalmology, University Hospital of Basel, Basel, Switzerland; ³Biocenter, University of Basel, Basel, Switzerland

2245 — B0012 Staining, lid hyperkeratinization and blink rate: Differences between DED and MGD. Blaine Brown¹, P. Corcoran², G. W. Ousler¹, K. J. Lane², D. A. Hollander². ¹Dry Eye, Ora, Inc., Andover, MA; ²Research & Development, Ora, Inc., Andover, MA *CR

2247 — B0014 Commercial lid cleanser outperforms baby shampoo for management of blepharitis in randomized, double-masked clinical trial. Jennifer P. Craig, J. Sung, M. T. Wang, I. Cheung, T. Sherwin, S. Ismail. Ophthalmology, University of Auckland, Auckland, New Zealand *CR, ♂

2248 — B0015 Debridement-Scaling, Moist-Heat Therapy and Meibomian Gland Expression in the Treatment for Evaporative Dry Eye. Paloma Lopez, J. Valdez-Garcia, J. C. Hernandez, D. Loya. Centro Medico Zambrano Helion, Monterrey, Mexico

2249 — B0016 Topical Spironolactone in the Treatment of Meibomian Gland Dysfunction. Janell R. Johnson^{1,2}, W. Ali⁴, B. S. Wong³, M. de Jesus¹, R. W. Yee¹. ¹Cross Ophthalmology Associates, Houston, TX; ²Universidad Autónoma de Guadalajara, Guadalajara, Mexico; ³Texas Tech University Health Sciences Center, Lubbock, TX; ⁴University of Houston, Houston, TX *CR

2250 — B0017 Nanoscale Comparison of Meibum and an *In Vitro* Lipid Model. Elizabeth Drolle¹, Z. Leonenko^{2,3}, L. Subbaraman¹, L. W. Jones^{1,3}. ¹Centre for Contact Lens Research, School of Optometry & Vision Science, University of Waterloo, Waterloo, Ontario, ON, Canada; ²Department of Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; ³Department of Biology, University of Waterloo, Waterloo, ON, Canada

2251 — B0018 Lacrimal Gland Squeezing by Contraction of Myoepithelial Cell Affects Tear Secretion. Kai Jin, I. Toshihiro, Y. Izuta, S. Nakamura, K. Tsubota. Dept. Ophthalmology, Keio University, school of medicine, Tokyo, Japan

2252 — B0019 Protective effect of persimmon leaves (*Diospyros kaki*) on dry eye in an exorbital lacrimal gland excision model of mice. Chunghyun Lee¹, K. Kim^{2,3}, S. Yang^{1,4}, S. Jung^{2,3}. ¹Ophthalmology, University of Ulsan, College of Medicine, Gangneung Asan Hospital, Gangneung, Korea (the Republic of); ²Natural Products Research Center, Korea Institute of Science and Technology (KIST), Gangneung, Korea (the Republic of); ³Biological Chemistry, University of Science and Technology (UST), Daejeon, Korea (the Republic of); ⁴Ophthalmology (Casey Eye Ins.), Oregon Health & Science University, Portland, OR

2253 — B0020 In vivo dynamics of Ca²⁺-dependent myoepithelial contraction in lacrimal gland. Imada Toshihiro¹, K. Jin¹, Y. Izuta¹, S. Nakamura¹, T. Adachi², K. Tsubota¹. ¹Ophthalmology, Keio University, Sinjyuku Ku, Japan; ²Immunology, Tokyo Medical and Dental University, Tokyo, Japan

2254 — B0021 On the structure of meibum spread on saline. Peter E. King-Smith¹, K. Reuter¹, H. L. Chandler¹, C. G. Begley², R. J. Braun³.
¹Optometry, Ohio State University, Columbus, OH; ²Optometry, Indiana University, Bloomington, IN; ³Mathematical Sciences, University of Delaware, Newark, DE

2255 — B0022 Androgen suppression of proinflammatory gene expression in human meibomian gland epithelial cells. David A. Sullivan¹, Y. Liu¹, W. R. Kam¹, R. Rahimi Darabad¹, A. Sahin^{1,2}.
¹Schepens Eye Res Inst/Harvard Med School, Boston, MA; ²Eskisehir Osmangazi University Medical School, Eskisehir, Turkey

2256 — B0023 Role of adrenergic stimulation on lacrimal gland ductal fluid secretion in mice. Orsolya Berczeli¹, V. Eszter¹, M. Katona², Z. Rakonczay^{2,3}, P. Hegyi², C. Ding⁴, E. Toth-Molnar^{1,5}.
¹Department of Ophthalmology, University of Szeged, Szeged, Hungary; ²First Department of Internal Medicine, University of Szeged, Szeged, Hungary; ³Department of Pathophysiology, University of Szeged, Szeged, Hungary; ⁴Pharmacology and Pharmaceutic Sciences, Ophthalmology, University of Southern California, Los Angeles, CA; ⁵Department of Pharmacology and Pharmacotherapy, University of Szeged, Szeged, Hungary

Exhibit/Poster Hall B0211-B0226

Monday, May 08, 2017 3:45 PM-5:30 PM

Retinal Cell Biology

281 Bruch's membrane and choroid in macular disease

Moderator: Salome Murinello

2257 — B0211 Superior cervical gangliectomy induces geographic atrophy in mice. Damian Dorfman¹, H. Dieguez¹, M. Gonzalez Fleitas¹, M. Aranda¹, P. Sande¹, H. Romeo², R. E. Rosenstein¹.
¹Human Biochem/Sch of Med, University of Buenos Aires, Buenos Aires, Argentina; ²Instituto de Investigaciones Biomédicas UCA-CONICET, Pontificia Universidad Católica Argentina, Buenos Aires, Argentina

2258 — B0212 Cytokine and angiogenesis factor changes in the eye following laser induction of choroidal neovascularization in nonhuman primates. Matthew S. Lawrence¹, S. Coie², M. Goldstein², E. Furfine², A. Kurian¹, W. Hu¹, R. J. Goody¹.
¹Research, RxGen, Hamden, CT; ²Eleven Biotherapeutics, Cambridge, MA *CR

2259 — B0213 Inhibition of the chemokine receptor CXCR4 reduces pathology in a laser induced mouse model of choroidal neovascularization. xilun A. wang¹, M. Foley^{1,3}, G. Venables², E. L. Fletcher².
¹Biochemistry and Genetics, La Trobe Institute For Molecular Science, Melbourne, VIC, Australia; ²Anatomy and Neuroscience, The University of Melbourne, Melbourne, VIC, Australia; ³AdAlta Limited, Melbourne, VIC, Australia *CR

2260 — B0214 Analysis of choriocapillaris ultrastructure in macular regions of eyes obtained from patients with neovascular AMD, geographic atrophy, and pure one and ten chromosomal abnormalities. Rhonda Grebe¹, I. Mughal¹, W. Bryden¹, J. Tian¹, M. M. Edwards¹, S. McLeod¹, G. S. Hageman², G. A. Lutty¹.
¹Ophthalmology, The Wilmer Eye Institute, Baltimore, MD; ²Ophthalmology, Moran Eye Center, Steele Center for Transitional Medicine, University of Utah, Salt Lake, UT

2261 — B0215 Tissue-specific expression of alpha-2-macroglobulin by choroid endothelial cells in response to RPE-secreted factors: implications for AMD. Ignacio Benedicto¹, G. Lehmann-Mantaras¹, O. Elemento², A. Maminishkis³, S. S. Miller³, S. Rafiq⁴, E. J. Rodriguez-Boulan¹.
¹Ophthalmology, Weill Cornell Medical College, New York, NY; ²Physiology and Biophysics, Weill Cornell Medical College, New York, NY; ³Section of Epithelial and Retinal Physiology and Disease, NEI, NIH, Bethesda, MD; ⁴Genetic Medicine, Weill Cornell Medical College, New York, NY *CR

2262 — B0216 Constitutive erythropoietin receptor signaling exacerbates pathologic choroidal neovascularization in an animal model. Eric Kunz¹, C. A. Bretz¹, V. Divoky², M. Hartnett¹.
¹Ophthalmology, University of Utah, Salt Lake City, UT; ²Medicine and Dentistry Palacky University, Olomouc, Czech Republic

2263 — B0217 Geographic Atrophy (GA): Correlation Between Confocal Scanning Laser Ophthalmoscopy (SLO), Histology and Genotypic Analysis in the Region of Expanding Lesions. Vera L. Bonilha, B. A. Bell, M. E. Rayborn, J. G. Hollyfield, S. A. Hagstrom, G. Pauer.
 Ophthalmology, Cole Eye Inst/Cleveland Clin Lerner Ctr, Cleveland, OH

2264 — B0218 Hypoxia and VEGF overexpression induce the formation of labyrinth capillaries, which are described to be responsible for leakage in wet AMD. Antje K. Biesemeier¹, S. Liu¹, M. Tikhonovich¹, G. Hartmann², U. Schraermeyer¹.
¹Sect of Experimental Vitreoret Surg, Center for Ophthalmology, Tuebingen, Germany; ²Roche Pharma Research and Early Development, Neuroscience Ophthalmology and Rare Disease DTA, Basel, Switzerland *CR

2265 — B0219 Extracellular matrix nitration alters growth factor release and activates bioactive complement in human retinal pigment epithelium. Mark Fields¹, H. Bowrey², J. Gong¹, E. F. Moreira³, H. Cai¹, L. Del Priore¹.
¹Ophthalmology and Visual Science, Yale School of Medicine, New Haven, CT; ²Rutgers Brain Health Institute, The State University of New Jersey, Piscataway, NJ; ³Ophthalmology, Medical University of South Carolina, Charleston, SC

2266 — B0220 A mineralomic study of the retinal pigment epithelium-Bruch's membrane complex in human eyes with age-related macular degeneration. Matthew Pilgrim^{1,2}, A. C. Tan^{3,4}, S. Fearn⁵, E. Tsolaki⁶, S. Bertazzo⁶, I. Lengyel^{7,1}, C. Curcio⁸.
¹UCL Institute of Ophthalmology, University College London, London, United Kingdom; ²Biomaterials and Tissue Engineering, UCL Eastman Dental Institute, London, United Kingdom; ³Singapore National Eye Centre, Singapore, Singapore; ⁴Singapore Eye Research Institute, Singapore, Singapore; ⁵Department of Materials, Imperial College London, London, United Kingdom; ⁶Department of Medical Physics and Biomedical Engineering, University College London, London, United Kingdom; ⁷Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom; ⁸Department of Ophthalmology, University of Alabama at Birmingham, Birmingham, AL *CR

2267 — B0221 A Possible Role for Mast Cell-Derived Trypsin in the Pathogenesis of Geographic Atrophy. Scott McLeod, I. A. Bhatto, M. M. Edwards, M. Gedam, R. Baldeosingh, G. A. Lutty.
 Ophthalmology, Johns Hopkins School of Medicine, Washington, DC

2268 — B0222 CFH and HTRA1 genes associated with AMD in Mexican population. Antonieta Martínez-Velasco¹, A. C. Perez-Ortiz⁶, J. C. Zenteno^{2,3}, A. B. LUNA-ANGULO⁵, A. R. Villa-Romero⁷, L. Martínez-Villaseñor⁴, A. Rendon⁴, F. J. Estrada⁷.
¹Facultad de Ingeniería, Universidad Panamericana, MEXICO, Mexico; ²Department of Biochemistry, Faculty of Medicine, UNAM., MEXICO, Mexico; ³Department of Genetics and Research Unit, Institute of Ophthalmology Conde de Valenciana, Mexico, Mexico; ⁴Centre de Recherche, Institut de la Vision, PARIS, France; ⁵Department of Neuroscience, Instituto Nacional de Rehabilitación, Mexico, Mexico; ⁶School of Public Health, Yale University, New Haven, CT; ⁷Escuela de Medicina, Universidad Panamericana, Mexico, Mexico

2269 — B0223 A valid ultrastructural rat choroidal neovascularization model developed by overexpression of VEGF. Shan Liu, A. V. Tschulakow, S. Julien-Schraermeyer, U. Schraermeyer, A. K. Biesemeier.
 Center for Ophthalmology, University Tuebingen, Tuebingen, Germany *CR

2270 — B0224 Choroidal Pericytes contribute to Subretinal Fibrosis after Laser-Induced Photocoagulation. *Xueting Luo, X. Sun.* Ophthalmology, Shanghai Jiao-Tong University, Shanghai, China

2271 — B0225 Function analysis of HTRA1 regulatory element in Patients with Exudative Age-Related Macular Degeneration. *Daisuke Iejima, T. iwata.* National Inst of Sensory Organs, Tokyo Medical Center, Meguro-ku, Japan

2272 — B0226 Hydroxyapatite induced experimental retinal degeneration in a murine model. *Elena Pipi¹, P. Ibbett¹, A. J. Lotery¹, I. Lengyel², V. Perry¹, J. Teeling¹.* ¹University of Southampton, Southampton, United Kingdom; ²Centre for Experimental Medicine, Belfast, United Kingdom; ³UCL, London, United Kingdom

Exhibit/Poster Hall B0227-B0251

Monday, May 08, 2017 3:45 PM-5:30 PM

Retinal Cell Biology

282 RPE dysfunction in macular diseases

Moderators: Kristan S. Worthington and Matthew Campbell

2273 — B0227 Outcome measures for BEST1 gene augmentation therapy: restoration of RPE-photoreceptor interface homeostasis. *Karina E. Guziewicz¹, W. A. Beltran¹, A. V. Cideciyan², V. L. Dufour¹, A. M. Komaromy³, E. McTish¹, A. S. Lewin⁴, W. W. Hauswirth^{4,5}, S. G. Jacobson², G. D. Aguirre¹.* ¹Clinical Studies, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, University of Pennsylvania, Philadelphia, PA; ³Small Animal Clinical Sciences, Michigan State University, East Lansing, MI; ⁴Molecular Genetics and Microbiology, University of Florida, Gainesville, FL; ⁵Ophthalmology, University of Florida, Gainesville, FL *CR

2274 — B0228 Insights into autosomal recessive bestrophinopathy from a disease in a dish model. *Alan D. Marmorstein, L. Bachman, B. Gilles, T. Knudsen, C. Pfannkoch, M. Hill, L. Marmorstein, J. Pulido.* Ophthalmology, Mayo Clinic, Rochester, MN *CR

2275 — B0229 Synthesis and characterization of a highly fluorescent analog of A2E. *Marcelo M. Nociari¹, H. S. Ewan², D. H. Thompson², E. J. Rodriguez-Boulan¹.* ¹Ophthalmology, Weill Cornell Medical College, New York, NY; ²Chemistry, Purdue University, West Lafayette, IN

2276 — B0230 Mutation of Fibulin-3 (efemp-1) Alters the Protein Content of ARPE-19 Exosomes. *Jeffrey Sundstrom, A. J. Barber, Y. Zhao.* Ophthalmology, Penn State Hershey Eye Center, Hershey, PA

2277 — B0231 Interactive Ca²⁺ signaling in the RPE by anaphylatoxins. *Olaf Strauss¹, K. Abdusalomova¹, C. Huber¹, B. Rohrer², C. Busch¹.* ¹Experimental Ophthalmology, Virchow-Klinikum, Berlin, Germany; ²Medical University of south Carolina, Charleston, SC

2278 — B0232 Anaphylatoxins activate Akt/PI3-kinase and FOXO1/FoxP3-signaling pathways in the retinal pigment epithelium. *Catharina Busch^{1,2}, B. Annamalai³, M. Diedrichs-Möhring⁴, G. Wildner⁴, O. Strauss¹, B. Rohrer³.* ¹Department of Ophthalmology, Charité - University Hospital Berlin, Berlin, Germany; ²Berlin Institute of Health, Berlin, Germany; ³Department of Ophthalmology, Medical University of South Carolina, Charleston, SC; ⁴Department of Ophthalmology, Section of Immunobiology, Clinic of the LMU Munich, Munich, Germany

2279 — B0233 Atorvastatin Promotes Phagocytosis and Attenuates Pro-Inflammatory Response in Human Retinal Pigment Epithelial Cells. *Bo Tian^{1,4}, A. Al Moujahed^{1,2}, P. Bouzika^{1,4}, Y. Hu¹, S. Notomi^{1,4}, P. Tsoka^{1,4}, J. W. Miller^{1,4}, H. Lin^{1,5}, D. G. Vavvas^{1,4}.* ¹Massachusetts Eye and Ear Infirmary, Boston, MA; ²Boston University School of Medicine, Boston, MA; ³Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ⁴Harvard Medical school, Boston, MA; ⁵Department of Ophthalmology & Visual Sciences, University of Massachusetts Medical School, Worcester, MA *CR

2280 — B0234 Drusen component amyloid beta promotes membrane attack complex formation on ARPE-19 via classical pathway and upregulates pro-inflammatory cytokines. *Jing Z. Cui, S. Cao, J. Gao, J. A. Matsubara.* Ophthal & Visual Sciences, University of British Columbia, Vancouver, BC, Canada

2281 — B0235 CRISPR/Cas9 gene-edited RPE cells to model early stages of AMD. *Rosario Fernandez-Godino, K. M. Bujakowska, E. A. Pierce.* Ophthalmology, Ocular Genomics Institute. Mass Eye and Ear. Harvard Medical School, Boston, MA

2282 — B0236 Metabolic impacts of cigarette smoke on the retina of complement-compromised mice. *Felix R. Vazquez-Chona¹, A. Butler¹, E. McKinnon², B. Rohrer², B. W. Jones¹.* ¹Ophthalmology, Univ of Utah, Salt Lake City, UT; ²Medical University of South Carolina, Charleston, SC

2283 — B0237 Establishment of a dry AMD disease model using hiPSC derived retinal pigment epithelium from patients with genetic predisposition. *Julien Maruotti¹, A. Bobier¹, I. Lahlah¹, C. JUNG², R. Blanco-Garavito², E. Souied², B. Onteniente¹.* ¹Phenocell, Evry, France; ²Ophthalmology, Centre Hospitalier Intercommunal Créteil, Créteil, France *CR

2284 — B0238 RPE wound healing and its association with AMD. *YingHsuan Shih, L. J. Bailey-Steinitz, M. J. Radeke, P. Coffey.* NRI, UCSB, Goleta, CA

2285 — B0239 ARPE-19: the best cell to model retinal diseases in vitro? *Audrey Leguen¹, C. Monville³, A. Balbous-Gautier¹, A. Gaillard¹, N. Leveziel^{1,2}.* ¹Laboratoire de Neurosciences Expérimentales et Cliniques, Poitiers, France; ²Ophthalmology, CHU Poitiers, Poitiers, France; ³I-STEM, EVRY, France

2286 — B0240 Statins decreases vascular epithelial growth factor (VEGF) expression in experimental age-related macular degeneration (AMD) model by down-regulation of receptor for advanced glycation end-products (RAGE). *Hiroki Tsujinaka^{1,2}, A. Itaya-Hironaka², A. Yamauchi², S. Sakuramoto-Tsuchida², M. Makino², R. Shobatake², N. Masuda¹, H. Hirai¹, S. Takasawa², N. Ogata¹.* ¹Ophthalmology, Nara Medical University, Kashihara, Japan; ²Biochemistry, Nara Medical University, Kashihara, Japan

2287 — B0241 Effect of the serine protease HtrA1 overexpression on RPE phagocytosis in an in vitro disease model. *Carolyn Trepp^{1,2}, E. Melo Herráiz³, R. Iacone³, V. Enzmann^{1,4}.* ¹Department of Ophthalmology, Inselspital Bern, Bern, Switzerland; ²Department of Clinical Research and Graduate School for Cellular and Biomedical Sciences, University of Bern, Bern, Switzerland; ³Roche Pharma Research & Early Development, Roche Innovation Center, Basel, Switzerland; ⁴Department of Clinical Research, University of Bern, Bern, Switzerland *CR

2288 — B0242 The PPAR-γ Agonist Troglitazone Protects RPE Cells from Oxidized LDL Induced NLRP3-inflammasome-Mediated Cell Death. *Ashley Mackey, G. Gnanaguru, E. Choi, D. Amarnani, P. A. D'Amore, Y. Ng.* Ophthalmology, Schepens Eye Research Institute/Mass Eye and Ear, Boston, MA

2289 — B0243 A Rat Model of RPE Atrophy Resembling Human Geographic Atrophy. *Imran A. Bhutto¹, S. Kambhampati², D. McLeod¹, M. Edwards¹, G. A. Lutty¹.* ¹Ophthalmology, Johns Hopkins Hosp Wilmer Eye Inst, Baltimore, MD; ²Biomedical Engineering, Wilmer Eye Institute, Baltimore, MD

2290 — B0244 Phagocytosis Activity is Reduced in AMD Retinal Pigment Epithelium in Vitro. *George Inana¹, C. Murat¹, W. An¹, I. Harris², J. Cao².* ¹Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²Janssen R&D, Spring House, PA *CR

2291 — B0245 Epithelial-Mesenchymal Transition (EMT) predeposition in Aged related macular degeneration (AMD) pathology with immune infiltrate - a triad interplay. *Chang Kao-Jung.* National Yang-Ming University, Taichung, Taiwan

2292 — B0246 Aging in iPSC-RPE helps understand AMD-initiating events. *Fnu Ruchi, A. George, Z. Qureshy, R. Dejene, Q. Wan, J. R. Chang, K. Bharti.* NEI, NIH, Bethesda, MD

2293 — B0247 Lipid Handling by RPE Predicts Certain Features of Age-Related Macular Degeneration. *Qitao Zhang, F. K. Presswalla, D. N. Zacks, D. A. Thompson, J. Miller.* Kellogg Eye Center, University of Michigan, Ann Arbor, MI

2294 — B0248 Deletion of Mitochondrial Antioxidant Enzyme Sod2 Induces Light-Dependent Retinal Degeneration with Aging. *Emily Brown¹, J. D. Ash¹, A. S. Lewin².* ¹Ophthalmology, University of Florida, Gainesville, FL; ²Molecular Genetics and Microbiology, University of Florida, Gainesville, FL

2295 — B0249 Photooxidative damage-induced NLRP3 inflammasome activation in eye cup organ cultures of Abca4^{-/-} mice. *Carolina Brandstetter, S. M. Kleeberger, F. G. Holz, T. U. Krohne.* Ophthalmology, University of Bonn, Bonn, Germany *CR

2296 — B0250 How genetic instability in choroideremia-specific iPSc uncovered a segregating translocation. *Nejla Erkilic¹, P. Bouret², S. Torriano¹, K. Damodar¹, C. P. Hamel¹, F. Pellestor², V. Kalatzis¹.* ¹Inserm U1051, Montpellier, France; ²CHRU, Montpellier, France

2297 — B0251 Glycemic Modulation of Age-related Macular Degeneration in Oxidatively-stressed Nrf2-null Mice. *Sheldon Rowan¹, S. Jiang¹, M. Chang¹, N. Rabbani², P. J. Thornalley², D. Smith¹, A. Taylor¹.* ¹Human Nutrition Research Center on Aging, Tufts University, Boston, MA; ²Clinical Sciences Research Laboratories, University of Warwick, Coventry, United Kingdom

Exhibit/Poster Hall B0252-B0275

Monday, May 08, 2017 3:45 PM-5:30 PM

Retina

283 AMD translational studies and choroidal neovascularization

Moderator: Jacque L. Duncan

2298 — B0252 Gene Transfer of Prolyl Hydroxylase Domain 2 Inhibits Hypoxia-inducible Angiogenesis in a Model of Choroidal Neovascularization. *Helder Andre, P. Mammadzada, A. Takei, M. Ekstöm, M. Yu, M. Aronsson, A. P. Kvanta.* Clinical Neurosciences, St Erik Eye Hospital, Stockholm, Sweden

2299 — B0253 Optimized Dual Protein/miRNA Method to Quantitate Clinical Biomarkers of Ocular Disease. *Justine J. Cunningham¹, M. Burton¹, G. Rodrigues¹, T. C. Hohman².* ¹Allergan, Irvine, CA; ²Envision, Ocean City, NJ *CR

2300 — B0254 Frequency of Human Leucocyte Antigen -A, C, B, DRB1, DQB1, and DPB1 Alleles and Haplotypes in Japanese Patients with Neovascular Age-Related Macular Degeneration. *Seiji Takagi.* Ophthalmology, Kobe City Medical Center General Hospital, Kobe, Japan

2301 — B0255 Qualification of a Multiplex Panel to Analyze Complement Proteins in Human Ocular Tissues. *Peter Baciu, M. Burton, J. Yang, J. J. Cunningham.* Biology, Allergan, Inc, Irvine, CA *CR

2302 — B0256 Differentiation of intravitreal anti-VEGF agents in cynomolgus monkeys based on systemic VEGFA, vascular growth and hemostasis. *Ingrid M. Pruimboom-Brees¹, B. Jaitner², C. Hagman², F. Bender², P. End², D. Ledieu¹, S. Cote¹, J. Boisclair¹, A. Mahl¹, D. Stiehl¹, D. Brees¹, A. Cordier¹, C. Le¹, S. Milosavljevi¹, S. Chibout¹, E. Zangvil³.* ¹Preclinical Safety, Novartis, Arlesheim, Switzerland; ²DMPK, Novartis, Basel, Switzerland; ³GMA, Retina, Novartis, Basel, Switzerland *CR

2303 — B0257 Laser-induced Choroidal Neovascularization in the Yucatan Minipig - Characterization of a Novel Model of Neovascular Age-Related Macular Degeneration. *Ryan F. Boyd¹, D. B. Snider², K. Yekkala², B. M. Geddings¹, V. J. Stevenson¹, A. Sparkes³, A. Quiambao³, D. J. Nuno³, R. Farjo³, T. S. Vihtelic¹, J. T. Bartoe¹.* ¹Ophthalmology Services, MPI Research, Inc, Mattawan, MI; ²Anatomic Pathology, MPI Research, Inc, Mattawan, MI; ³EyeCRO, Oklahoma City, OK

2304 — B0258 Synergistic attenuation of choroidal neovascularization by dietary intake of ω-3 long-chain polyunsaturated fatty acids and lutein in mice. *Ryoji Yanai¹, S. Chen¹, S. Uchi¹, T. Nanri², K. Kimura¹.* ¹Ophthalmology, Yamaguchi Univ Grad Sch of Med, Ube City, Japan; ²Santen Pharmaceutical Co., LTD., Osaka, Japan *CR

2305 — B0259 Altered levels of aqueous humour soluble factors are associated with therapy-mediated resolution of macular edema in patients with Choroidal Neovascular Membranes. *Santosh G. Gadde¹, P. Chevour², S. Sinha¹, R. Shetty³, S. Sethu², A. Ghosh².* ¹Vitreo Retina, Narayana Nethralaya, Bangalore, India; ²Grow Lab, Narayana Nethralaya, Bangalore, India; ³Cornea And Refractive Surgery, Narayana Nethralaya, Bangalore, India

2306 — B0260 Subretinal Lipid Hydroperoxide Induced-Oxidative Stress and Retinal Degeneration Results in a Rat Model of Age-Related Macular Degeneration. *Soo-Young Kim, S. Kambhampati, I. A. Bhutto, G. A. Luttly, K. Rangaramanujam.* Center for Nanomedicine, Ophthalmology, Wilmer Eye Institute, Johns Hopkins Univ, Baltimore, MD *CR

2307 — B0261 Scaffold and Cell Engineering of Artificial Bruch's Membrane. *Montserrat Perez¹, A. Torres¹, U. Hernandez¹, C. Velasquillo², P. Silva², R. Gonzalez¹, A. M. Lopez-Colome³, E. Maldonado³, S. Soker⁴, H. Quiroz¹, L. F. HERNANDEZ¹.* ¹Association to prevent blindness, Mexico, Mexico; ²Research INR, Mexico, Mexico; ³Neuroscience IFC-UNAM, Mexico, Mexico; ⁴WFIRM, Wake, NC

2308 — B0262 Switching to aflibercept from ranibizumab in choroidal neovascularization related to angioid streaks: a multicenter real life study. *Rim Sekfali¹, G. Mimoun^{1,2}, V. Capuano¹, S. Y. Cohen^{1,3}, C. Jung⁴, O. Hassiba^{1,5}, G. Querques^{1,6}, E. Souied¹.* ¹Department of Ophthalmology, Centre Hospitalier Intercommunal de Créteil, Créteil, France; ²Centre Ophtalmologique d'Imagerie de l'Ecole militaire, Paris, France; ³Centre d'Imagerie et de Laser, Paris, France; ⁴Centre de Recherche Clinique- Centre de Ressources Biologiques, Hôpital Intercommunal de Créteil, Créteil, France; ⁵Centre Ophtalmologique OPHTA45, Montargis, France; ⁶Departement of ophthalmology, IRCCS Ospedale San Raffaele, University Vita-Salute, Milan, Italy *CR

2309 — B0263 Improving diagnostic findings with OCT angiography. *Taha Soomro, J. Talks.* Ophthalmology, Royal Victoria Infirmary, Newcastle-upon-tyne, United Kingdom *CR

2310 — B0264 Correlation of Fundus Autofluorescence and Histology of Laser-induced Choroidal Neovascularization in the Rat. *Min Zhao^{1,2}, W. Xie^{1,2}, S. Tsai², B. A. Rocke^{1,3}, T. W. Hein^{1,2}, L. Kuo^{1,2}, R. H. Rosa^{1,2}.* ¹Ophthalmic Vascular Research Program, Department of Ophthalmology, Baylor Scott & White Eye Institute, Temple, TX; ²Departments of Surgery and Medical Physiology, Texas A&M University Health Science Center, Temple, TX; ³Central Texas VA Health Care System, Temple, TX

2311 — B0265 Inhibition of Micro-Fibrillar Associated Protein 4 as a Potential Therapy Targeting Choroidal Neovascularisation in Age Related Macular Degeneration. *Andrew Benest¹, C. Allen¹, N. Ved¹, Z. Blackley¹, G. Lykke Sorensen², D. O. Bates¹.* ¹Division of Cancer and Stem Cells, University of Nottingham, Nottingham, United Kingdom; ²Department of Cancer and Inflammation Research, University of Southern Denmark, Odense, Denmark *CR

2312 — B0266 A2E-blue light induced endothelial invasion by using 3-dimensional choroidal neovascularization model. *Kyoung-pil Lee, M. Huh, J. Kim, B. Park, S. Yi, M. Kim, H. Kim.* Kyungpook National University, School of medicine, Daegu, Korea (the Republic of)

2313 — B0267 Cytochrome P450 lipid metabolites alter leukocyte kinetics in a mouse model of choroidal inflammation. *Clifford B. Kim, E. Hasegawa, S. Inafuku, D. Husain, J. W. Miller, K. M. Connor.* Ophthalmology, Harvard Medical School/Massachusetts Eye and Ear Infirmary, Boston, MA *CR

2314 — B0268 Regression of choroidal neovascularization in exudative age-related macular degeneration following postinjection endophthalmitis. *Peter Mortensen, D. Gallagher, J. N. Martel.* Ophthalmology, University of Pittsburgh Medical Center, Pittsburgh, PA

- 2315 — B0269 Clinical characteristics and treatment outcomes in Central Serous Chorioretinopathy with secondary choroidal neovascularisation.** Danilo Iannetta^{1,2}, S. Madhusudhan¹, N. V. Beare¹, I. A. Pearce¹. ¹St. Paul's Eye unit, Royal Liverpool Hospital, Liverpool, United Kingdom; ²UOSD Glaucoma, Tor Vergata University, Rome, Italy *CR
- 2316 — B0270 Establishment of a novel tissue engineered product consisting of RPE derived from human embryonic stem cells cultured on human amniotic membrane for clinical applications.** Walter Habeler^{1,2}, K. Ben M'Barek¹, A. Plancheron^{1,2}, M. Jarraya³, M. Peschanski^{1,2}, C. Monville¹. ¹I-Stem, INSERM UEVE UMR861, AFM, Corbeil-Essonnes, France; ²CECS/I-Stem, AFM, Corbeil-Essonnes, France; ³Banque de tissus humaines, Hôpital Saint Louis, Paris, France
- 2317 — B0271 In vitro testing of fibrin as a temporary support for RPE transplantation.** Jarel Gandhi, Z. Manzar, H. Schmidt, B. Gilles, T. Knudsen, M. Hill, L. Bachman, R. Iezzi, J. Pulido, A. D. Marmorstein. Ophthalmology, Mayo Clinic, Rochester, MN *CR
- 2318 — B0272 Simulated Stress on a Pigment Epithelial Detachment During an Intravitreal Injection.** Steven N. Luminais¹, S. Schaal³, A. Hadayer⁴, W. J. Foster^{2,5}. ¹Lewis Katz School of Medicine at Temple University, Philadelphia, PA; ²Department of Ophthalmology, Lewis Katz School of Medicine at Temple University, Philadelphia, PA; ³Department of Ophthalmology & Visual Sciences, University of Massachusetts Medical School, Worcester, MA; ⁴Department of Ophthalmology & Visual Sciences, University of Louisville, Louisville, KY; ⁵Department of Bioengineering, College of Engineering, Temple University, Philadelphia, PA
- 2319 — B0273 IND-enabling In vitro and In vivo Functional Authentication of AMD-patient Derived Clinical-Grade iPSC-RPE Tissue.** Kapil Bharti, V. Khristov, R. Sharma, B. Jha, A. Rising, Y. Li, C. Zhang, N. Hotaling, A. Maminishkis, J. Amaral, S. S. Miller. National Eye Institute, Bethesda, MD
- 2320 — B0274 Phase I/IIa clinical trial of human embryonic stem cell (hESC)-derived retinal pigmented epithelium (RPE, OpRegen®) transplantation in advanced dry form age-related macular degeneration (AMD): interim results.** Eyal Banin¹, Y. Hemo¹, T. Jaouni¹, D. Marks-Ohana¹, S. Stika², S. Zheleznykov¹, A. Obolensky¹, M. Gurevich², C. S. Irving², B. Reubinoff². ¹Center for Retinal and Macular Degenerations, Department of Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel; ²Cell Cure Neurosciences Ltd, Jerusalem, Israel; ³Center for Embryonic Stem Cells and the Department of Gynecology and Obstetrics, Hadassah-Hebrew University Medical Center, Jerusalem, Israel *CR, ✕
- 2321 — B0275 3-Year Interim Safety Profile of Adeno-Associated Virus Serotype 2-soluble Variant of the Vascular Endothelial Growth Factor Receptor Type 1 (AAV2-sFLT01) Administered by Intravitreal Injection in Patients with Neovascular Age-Related Macular Degeneration.** Rafael Varona³, A. Le-Halper³, P. A. Campochiaro², J. Heier⁴, P. U. Dugel⁶, M. Barsamian¹, A. Purvis⁵, M. Cabrera-Salazar⁵, C. Delacono⁵, N. Mostafa², A. Scaria⁵, R. BUGGAGE³. ¹UMass Memorial Medical Center, Hyannis, MA; ²Johns Hopkins Wilmer Eye Institute, Baltimore, MD; ³Sanofi R&D, Chilly Mazarin, France; ⁴Ophthalmic Consultants of Boston, Boston, MA; ⁵Sanofi R&D (US), Cambridge, MA; ⁶Retinal Consultants of Arizona, Phoenix, AZ *CR, ✕
- Exhibit/Poster Hall B0297-B0325
Monday, May 08, 2017 3:45 PM-5:30 PM
Retina
284 AMD Clinical Research 1
- Moderator: Itay Chowers**
- 2322 — B0297 In patients with bilateral central drusen, a one time, unioocular, peripheral retinal laser treatment over a 10 year period delayed the onset of AAMD and preserved binocular visual acuity.** Damny H. Jokl¹, T. Smith², R. Allikmets¹, S. Amarakoon³, S. Yzer³, J. van Meurs². ¹Ophthalmology, Columbia University Medical Center, Bronxville, NY; ²Ophthalmology, New York University Medical Center, New York, NY; ³Ophthalmology, Rotterdam Eye Hospital, Rotterdam, Netherlands ✕
- 2323 — B0298 Incidence and risk factors for neovascular AMD in the fellow eye in the Comparison of AMD Treatment Trials (CATT) Follow-up Study.** Maureen G. Maguire¹, W. Pan¹, J. E. Grunwald¹, E. Daniel¹, G. J. Jaffe², C. A. Toth², S. A. Hagstrom³, G. Ying¹, D. F. Martin³. ¹Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, Duke University, Durham, NC; ³Cole Eye Institute, Cleveland Clinic, Cleveland, OH *CR, ✕
- 2324 — B0299 Reliability of the MapcatSF in a Young Healthy Population.** Robert J. Donati, E. Wyles. Basic Health and Vision Sciences, Illinois College of Optometry, Chicago, IL *CR
- 2326 — B0301 Test-Retest Variability of Microperimetry in Geographic Atrophy.** Fareed Rifai¹, A. Alibhai², S. B. Hickson-Curran³, C. A. Moreira Neto², C. B. Rebhun², J. M. Seddon², E. Reiche⁴, J. S. Duker², N. Waheed². ¹University of South Alabama College of Medicine, Mobile, AL; ²New England Eye Center at Tufts Medical Center, Boston, MA; ³Janssen Pharmaceutical Companies of Johnson & Johnson, Spring House, PA *CR
- 2326a — Correlation of Low Luminance Deficits (LLD) to Scotopic Microperimetry Sensitivity (sMPS) in Subjects with Age-Related Macular Degeneration (AMD).** Karl G. Csaky, A. Munglioli. Ophthalmology, Retina Foundation of the Southwest, Dallas, TX
- 2327 — B0302 Plasma Levels of VEGF-C and Soluble VEGF Receptor-3 are Elevated in Neovascular AMD.** Gianna C. Teague¹, W. Johnson², M. Shatos¹, M. E. Baldwin³, K. Lashkari¹. ¹Schepens Eye Research Institute, Massachusetts Eye & Ear Infirmary, Boston, MA; ²Physics, Suffolk University, Boston, MA; ³Opthea Pty Ltd, South Yarra, VIC, Australia *CR
- 2328 — B0303 Systemic and Local Sources of Interferon-gamma Inducible Chemokines in The Pathogenesis of AMD.** Tyteli Turunen, M. Shatos, G. C. Teague, F. Absar, K. Lashkari. Schepens Eye Research Institute, Massachusetts Eye & Ear Infirmary, Boston, MA *CR
- 2329 — B0304 Characterization and disease progression of intermediate age-related macular degeneration in the prospective, longitudinal natural history ModiAMD Study.** Sarah Thiele¹, J. Nada², M. Pfau¹, A. Goebel¹, M. Fleckenstein¹, M. Schmid², F. G. Holz¹, S. Schmitz-Valckenberg¹. ¹Department of Ophthalmology, University of Bonn, Bonn, Germany; ²Institut für Medical Biometry, Informatics and Epidemiology, University of Bonn, Bonn, Germany *CR
- 2330 — B0305 OCT Angiography Is an Effective Non Invasive Surrogate Marker to Follow Treatment Outcome For Neovascular Age Related Macular Degeneration.** Alan J. Franklin. Retinal Specialists Institute, Mobile, AL *CR
- 2331 — B0306 A study of geographic atrophy as the footprint of choroidal neovascularization in age-related macular degeneration.** Gisela Velez. Ophthalmology, Univ of Massachusetts Med School, Worcester, MA; Central Massachusetts Retina and Uveitis Center, Worcester, MA *CR
- 2332 — B0307 Angiopoietin-like 4 Correlates with Response to Intravitreal Ranibizumab Injections in Neovascular Age-related Macular Degeneration.** Dong Ho Park^{1,2}, J. Kim², J. Shin², I. Kim². ¹Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ophthalmology, Kyungpook National Univ Hospital, Daegu, Korea (the Republic of)
- 2333 — B0308 Doc Hologram and Nurse Needle Fight Wet AMD in Time of Austerity.** Eric Newcott, H. Westwood, S. Banerjee. Ophthalmology, University Hospital of Wales, Cardiff, United Kingdom *CR
- 2334 — B0309 Association of Low Luminance Questionnaire with Objective Functional Measures in Age-related Macular Degeneration.** Atalie C. Thompson, S. Stinnett, L. Vajzovic, A. Horne, C. A. Toth, S. W. Cousins, E. M. Lad. Ophthalmology, Duke University, Durham, NC *CR, ✕

2335 — B0310 Treat-and-extend follow-up regimens for neovascular age-related macular degeneration adversely affect visual acuity in the second eye which is usually the better seeing eye. Ben J. Burton^{1,2}, T. H. Webber², A. Tufail³, A. Y. Lee⁴. ¹Ophthalmology, James Paget University Hospital, Norwich, United Kingdom; ²University of East Anglia, Norwich, United Kingdom; ³Moorfields Eye Hospital, London, United Kingdom; ⁴University of Washington, Seattle, WA *CR

2336 — B0311 The Association of Drusen in the Central Subfield (CSF) with Visual Acuity (VA) and Shape Discrimination Hyperacuity (SDH) Deficits. Yi-Zhong Wang^{1,2}, P. Mejia¹, L. Rodriguez¹, B. De La Cruz¹. ¹Retina Foundation of the Southwest, Dallas, TX; ²Ophthalmology, UT Southwestern Medical Center, Dallas, TX *CR

2337 — B0312 Risk factors for retinal scar development in the Comparison of Age-related Macular Degeneration Treatments Trials (CATT). Ebenezer Daniel¹, J. E. Grunwald¹, M. G. Maguire¹, W. Pan¹, C. A. Toth², G. J. Jaffe², D. F. Martin³, G. Ying¹. ¹Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Department of Ophthalmology, Duke University, Durham, NC; ³Department of Ophthalmology, Cole Eye Institute, Cleveland, OH *CR, ✗

2338 — B0313 Longitudinal changes in retinotopic rod function in intermediate age-related macular degeneration. Chi D. Luu^{1,2}, C. Nguyen¹, R. Fraser¹, R. Tan^{1,2}, E. Caruso¹, R. H. Guymer^{1,2}. ¹Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia; ²Department of Surgery (Ophthalmology), The University of Melbourne, Melbourne, VIC, Australia

2339 — B0314 Local variations in rod function and subretinal drusenoid deposits in patients with reticular pseudodrusen (RPD). Kelly Kiser^{1,2}, T. Daniels¹, K. G. Csaky^{1,2}, D. G. Birch^{1,2}, Y. Wang^{1,2}. ¹Retina Foundation of the Southwest, Dallas, TX; ²UT Southwestern Medical Center, Dallas, TX

2340 — B0315 SHRM as a biomarker of disease activity in classic and occult AMD subtypes. Beng Beng Ong, M. katta, C. yvon, L. Lin, N. Patel. East Kent University Hospitals Foundation Trust, Canterbury, United Kingdom *CR

2341 — B0316 A systematic approach to statistical evaluation of geographic atrophy clinical studies. Thomas Kim, A. Mitchell, J. Liu, K. Kerr, F. J. Lopez, S. Schneider. Allergan, Irvine, CA *CR, ✗

2342 — B0317 Low luminance deficit as a predictor of visual acuity changes in subjects with geographic atrophy secondary to age-related macular degeneration. John M. Koester, J. Gregory, L. Scheibler, R. Kubota. Acucela Inc., Seattle, WA *CR, ✗

2343 — B0318 Comparison of Three Baseline Measures to Predict Geographic Atrophy Progression Rate in Clinical Studies. Quoc Ho¹, M. Mackowski², K. Kerr¹, F. J. Lopez¹, S. Schneider¹. ¹Allergan plc, Irvine, CA; ²University of Southern California, Los Angeles, CA *CR

2344 — B0319 Reduced Phagocytosis as a novel pathogenic mechanism in AMD pathogenesis. Emily Caruso^{1,2}, B. Gu^{3,2}, E. L. Fletcher⁴, X. Huang³, P. Avula³, D. A. Vessey⁴, J. S. Wiley³, R. H. Guymer^{1,2}. ¹Centre For Eye Research Australia, Royal Victoria Eye and Ear Hospital, Melbourne, VIC, Australia; ²Surgery, Ophthalmology, The University of Melbourne, Melbourne, VIC, Australia; ³The Florey Institute of Neuroscience and Mental Health, Melbourne, VIC, Australia; ⁴Anatomy and Neuroscience, University of Melbourne, Melbourne, VIC, Australia

2345 — B0320 Diagnostic performance of the handheld Radial Shape Discrimination test for detecting recent onset neovascular age-related macular degeneration. Paul C. Knox¹, N. Pitrelli Vazquez^{1,2}, S. P. Harding¹, H. Heimann², G. Czanner¹. ¹Eye and Vision Science, University of Liverpool, Liverpool, United Kingdom; ²St Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom

2346 — B0321 The Charles-Bonnet Syndrome In Patients With Neovascular-Age Related Macular Degeneration - Could Proton Inhibitor Pumps Play A Role? João E. Leandro¹, J. Beato^{1,2}, A. Pedrosa¹, J. Pinheiro-Costa^{1,3}, M. Falcão^{1,2}, F. Falcão-Reis^{1,2}, Á. M. Carneiro^{1,2}. ¹Department of Ophthalmology, São João Hospital, Porto, Portugal; ²Department of Sense Organs, Faculty of Medicine, University of Porto, Porto, Portugal; ³Anatomy, Faculty of Medicine, University of Porto, Porto, Portugal

2347 — B0322 Use of a Computer-based Critical Flicker Fusion Test Discriminates between Young, Old, and Dry AMD Patients. Connie Slocum, K. J. Lane, J. D. Rodriguez, A. Shapiro, M. Abelson, D. Hollander. Ora, Inc, Andover, MA *CR

2348 — B0323 Relationship Between the Cilioretinal Artery and Subretinal Fluid in Neovascular Age-Related Macular Degeneration. Adel Ebraheem^{1,2}, A. Uji^{1,2}, M. G. Nittala^{1,2}, S. R. Sadda^{1,2}. ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, University of California - Los Angeles, Los Angeles, CA *CR

2349 — B0324 Reticular pseudodrusen drives the loss of scotopic function in intermediate age-related macular degeneration. Rose Tan^{1,2}, R. H. Guymer^{1,2}, C. D. Luu^{1,2}. ¹Macular Research, Centre for Eye Research Australia, East Melbourne, VIC, Australia; ²Department of Surgery (Ophthalmology), The University of Melbourne, East Melbourne, VIC, Australia

2350 — B0325 A functional biomarker for subclinical age-related macular degeneration (AMD). Clinton N. Sims. Association of Ophthalmology, Fort Myers, FL *CR

Exhibit/Poster Hall B0500-B0517

Monday, May 08, 2017 3:45 PM-5:30 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

285 Amblyopia I

Moderator: David G. Hunter

2351 — B0500 To compare the Optical Coherence Tomography (OCT) Parameters in Nepalese Children with Anisometric Amblyopia, and establish its Relationship with Refractive Error. Raman Prasad Sah^{1,2}, J. Shrestha², A. Sharma². ¹School of Optometry, Indiana University, Bloomington, IN; ²Department of Ophthalmology, B.P. Koirala Lions Centre for Ophthalmic Studies, Kathmandu, Nepal

2352 — B0501 Spectral Domain Optical Coherence Tomography Angiography in Children with Amblyopia. Marcela Lonngi¹, F. Velez¹, I. Tsui¹, M. Rahimi¹, N. Phasukkijwatana¹, C. Chan², M. Chang¹, D. Sarraf¹, S. Pineles¹. ¹Ophthalmology, UCLA Jules Stein Eye Institute, Los Angeles, CA; ²University of California Los Angeles, Los Angeles, CA *CR

2353 — B0502 Evaluation of macular and papillary morphometric parameters in amblyopic eyes. Anna Maffia¹, A. Verticchio Vercellin¹, R. Guagliano¹, D. Barillà¹, C. Tinelli², P. Bianchi¹, G. Milano¹. ¹Ophthalmology, University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Pavia, Italy; ²Clinical Epidemiology and Biometric Unit, IRCCS, Policlinico San Matteo, Pavia, Pavia, Italy

2354 — B0503 Macular retinal and choroidal thickness in anisometric and strabismic amblyopia using swept-source optical coherence tomography. Atsushi Miki^{1,2}, S. Araki¹, K. Goto¹, T. Yamashita², G. Takizawa¹, K. Haruishi¹, Y. Ieki¹, J. Kiryu¹, K. Yaeoda³. ¹Department of Ophthalmology, Kawasaki Medical School, Kurashiki, Japan; ²Department of Sensory Science, Kawasaki University of Medical Welfare, Kurashiki, Japan; ³Yaeoda Eye Clinic, Nagaoka, Japan

2355 — B0504 A shutter glasses controller for visual stimulation. Boris I. Gramatikov¹, I. Gramatikov², K. Simons¹, D. L. Guyton¹. ¹Ophthalmology, Johns Hopkins Wilmer Eye Inst, Baltimore, MD; ²Computer Science, Towson University, Baltimore, MD

2356 — B0505 Effectiveness of binocularity-stimulating treatment for residual amblyopia following occlusion. Haeng Jin Lee, Y. Yu, S. Kim. Ophthalmology, Seoul National University Hospital, Seoul, Korea (the Republic of)

2357 — B0506 Towards establishing a new binocular technique for amblyopia treatment using “3D” video games. *Kenneth D. Tran¹, M. M. Antonucci¹, B. Z. Li¹, D. D. Chau¹, J. K. Bui¹, H. M. Nguyen¹, E. E. Yang¹, C. V. Ngo¹, D. M. Levi^{1,2}, R. W. Li^{1,2}.* ¹School of Optometry, UC Berkeley, Berkeley, CA; ²Helen Wills Neuroscience Institute, UC Berkeley, Berkeley, CA

2358 — B0507 Pilot Data on Monitoring Objective Compliance with Intermittent Occlusion Glasses Therapy. *Jingyun Wang^{1,2}, K. Januschowski^{3,4}, C. Schramm³, D. E. Neely².* ¹Pennsylvania College of Optometry, Salus University Pennsylvania College of Optometry, Elkins Park, PA; ²Ophthalmology, Glick Eye Institute, Indianapolis, IN; ³University of Tuebingen, Tuebingen, Germany; ⁴Eye Hospital, Knappschaftsklinikum Sulzbach/Saar, Germany

2359 — B0508 Long-term visual outcome of occlusion therapy for amblyopia: a 10-year follow-up. *Aveen Kadhum¹, S. Pijnenburg², B. Janszen², B. Simonsz-Toth³, H. J. Simonsz¹, S. E. Loudon¹.* ¹Ophthalmology, Erasmus Medical Center, Rotterdam, Netherlands; ²Optometry & Orthoptics, University of Applied Sciences, Utrecht, Netherlands; ³Ophthalmology, Haaglanden Medical Center, Westeinde Hospital, The Hague, Netherlands

2360 — B0509 Preparation for the EUSCREEN Study: gathering data on vision and hearing screening programmes in 41 European countries. *Aya Sami¹, F. Sloot¹, M. Bjeloš², B. Stirn Kranjc³, M. Levin⁴, G. Greczka⁵, L. Stappaerts⁶, A. Nadarevic Vodencarevic⁷, D. Bottin⁸, S. McCullough⁹, A. Langmann¹¹, L. Welinder¹⁰, V. Sturm¹², H. J. Simonsz¹.* ¹Ophthalmology, Erasmus Medical Center, Rotterdam, Netherlands; ²University Eye Clinic Zagreb, Zagreb, Croatia; ³University Medical Centre Ljubljana, Ljubljana, Slovenia; ⁴East-Tallinn Central Hospital Eye Clinic, East-Tallinn, Estonia; ⁵Poznan University of Medical Sciences, Department of Otolaryngology, Poznan, Poland; ⁶Kind en Gezin, Brussels, Belgium; ⁷Health Center Tuzla, Tuzla, Bosnia and Herzegovina; ⁸Hospital of Bolzano, Bolzano, Italy; ⁹Ulster University, Coleraine, United Kingdom; ¹⁰Aarhus University, Dept. Clin. Medicine, Aarhus, Denmark; ¹¹Medical University Graz, Graz, Austria; ¹²Cantonal Hospital St. Gallen, St. Gallen, Switzerland

2361 — B0510 Start of EUSCREEN Study that compares cost-effectiveness of childhood vision and hearing screening programmes in all European countries and implements these in Romania and Albania. *Huibert J. Simonsz^{1,2}, F. Sloot¹, A. Sami¹, C. Vladutiu⁸, B. Qirjazi⁹, J. Carlton⁴, I. Uhlen⁶, A. M. Horwood⁷, M. Fronius⁷, H. de Koning³, H. Hoeve¹¹, M. Ghitiu¹⁰, H. Griffith⁴, E. Roshi⁹, D. Rajka¹⁰, E. Tushe⁹.* ¹Ophthalmology, EMC, Rotterdam, Netherlands; ²Netherlands Institute of Neuroscience, Amsterdam, Netherlands; ³Public Health, Erasmus Medical Center, Rotterdam, Netherlands; ⁴The University of Sheffield, Sheffield, United Kingdom; ⁵The University of Reading, Reading, United Kingdom; ⁶Karolinska Institutet, Stockholm, Sweden; ⁷Goethe University Frankfurt, Frankfurt, Germany; ⁸University of Medicine and Pharmacy UMF Cluj-Napoca, Cluj-Napoca, Romania; ⁹University of Medicine, Tirana, Albania; ¹⁰Directia de Asistenta Sociala si Medicala, Cluj-Napoca, Romania; ¹¹ENT, Erasmus Medical Center, Rotterdam, Netherlands

2362 — B0511 Visual acuity measurement at 36 months in population-wide eye screening in the Netherlands: 17-22% failure rate. *Marieke A. Telleman¹, F. Sloot¹, M. de Winter³, D. Lammers³, A. Sami¹, J. Benjamins², H. J. Simonsz¹.* ¹Ophthalmology, Erasmus Medical Center, Rotterdam, Netherlands; ²Public Health Service Icare, Meppel, Netherlands; ³Orthoptics, University of Applied Sciences Utrecht, Utrecht, Netherlands f

2363 — B0512 Referral Outcomes from a Vision Screening Program for School-Aged Children. *Marlee Silverstein³, K. Scharf⁸, E. Mayo³, L. A. Hark⁴, M. Snitzer³, M. Pond⁴, L. Siam⁴, J. Tran⁴, T. Hill-Bennett⁴, A. Rice², T. Zhan¹, J. Anhalt¹, J. Gilligan⁴, A. V. Levin⁵.* ¹Jefferson University, Philadelphia, PA; ²School District of Philadelphia, Philadelphia, PA; ³Sidney Kimmel Medical College, Philadelphia, PA; ⁴Research, Wills Eye Hospital, Philadelphia, PA; ⁵Pediatrics, Wills Eye Hospital, Philadelphia, PA

2364 — B0513 Analysis Of A Novel Method For Detection Of Vision Disorders In Children Birth To Three Years Of Age. *Gayathri Srinivasan, D. Russo, B. D. Moore.* Specialty and Advanced Care, New England College of Optometry, Boston, MA

2365 — B0514 Amblyopia and its influences on planning skills. *Heike M. Elflein¹, A. K. Schuster¹, S. Pitz¹, J. Hardt¹, S. Nickels¹, T. Münzel³, P. S. Wild³, M. E. Beute², M. Blettner⁴, K. J. Lackner⁵, N. Pfeiffer¹, J. M. Unterrainer⁶.* ¹Ophthalmology, University Medical Center, Mainz, Germany; ²Medical Psychology and Medical Sociology, Clinic for Psychosomatic Medicine and Psychotherapy, University Medical Center, Mainz, Germany; ³Cardiology I - General and Interventional of Cardiology, Angiology and Intensive Care., University Medical Center, Mainz, Germany; ⁴Institute for Medical Biostatistics, Epidemiology and Informatics, University Medical Center, Mainz, Germany; ⁵Institute for Clinical Chemistry and Laboratory Medicine, University Medical Center, Mainz, Germany; ⁶Medical Psychology and Medical Sociology, University of Freiburg, Freiburg, Germany

2366 — B0515 Visual exploration in Amblyopic patients. *Fatema F. Ghasia.* Ophthalmology and visual science, Cole Eye Institute-Cleveland Clinic, Chagrin Falls, OH

2367 — B0516 Visual acuity and early literacy at 6 - 7 years: A reduction in visual acuity is associated with decreased reading efficiency in school children. *Alison Bruce^{1,2}, B. Chambers⁴, J. Wright¹, B. T. Barrett³, M. Bloj³, T. Sheldon⁵.* ¹Bradford Institute for Health Research, Bradford, United Kingdom; ²Department of Health Sciences, University of York, York, United Kingdom; ³School of Optometry and Vision Science, University of Bradford, Bradford, United Kingdom; ⁴Institute for Effective Education, University of York, York, United Kingdom; ⁵Hull York Medical School, University of York, York, United Kingdom

2368 — B0517 The Role of Peer Support Groups in Compliance with Occlusion Therapy Among Children with Amblyopia. *Christopher Hill, M. Lofipour, J. Liechty, P. Nguyen, S. D. Kim, G. Williamson, J. L. Snow, M. Boltz, A. Soni, A. Ely.* Ophthalmology, Penn State Hershey Medical Center, Hummelstown, PA

Exhibit/Poster Hall B0518-B0554

Monday, May 08, 2017 3:45 PM-5:30 PM

Clinical/Epidemiologic Research

286 Refractive Error

Moderator: Padmaja Sankaridurg

2369 — B0518 The difference in distributive pattern of refraction between generations as the myopia prevalence increased in the young generation. *Xiaohu Ding¹, M. He^{1,2}, I. G. Morgan^{1,3}.* ¹Preventive Ophthalmology, Zhongshan Ophthalmic Center, Guangzhou, China; ²Centre for Eye Research Australia, Melbourne, WA, Australia; ³ARC Centre of Excellence in Vision Science and Research School of Biology, Canberra, VIC, Australia

2370 — B0519 Prevalence of Refractive Error and Need for Corrective Lenses in a Medically Underserved Population in Tijuana, Mexico.

Jonathan M. Ismond¹, M. A. Timmermans^{2,3}, J. L. Ubels¹, A. J. Hoogewerf^{1,3}. ¹Biology Department, Calvin College, Grand Rapids, MI; ²Biochemistry Department, Calvin College, Grand Rapids, MI; ³Public Health Program, Calvin College, Grand Rapids, MI

2371 — B0520 Prevalence of Refractive Errors in School-Aged Children in the School District of Philadelphia.

Eileen L. Mayo^{1,2}, L. A. Hark^{1,2}, E. Shiuey¹, T. Hill-Bennett¹, N. Khanna¹, M. Silverstein², J. Tran¹, S. Siraj¹, M. Pond¹, J. Donaghy¹, L. Siam¹, T. Zhan¹, A. P. Murchison^{1,2}, A. V. Levin^{3,2}. ¹Department of Research, Wills Eye Hospital, Philadelphia, PA; ²Sidney Kimmel Medical College, Thomas Jefferson University, Philadelphia, PA; ³Pediatric Ophthalmology and Ocular Genetics Service, Wills Eye Hospital, Philadelphia, PA; ⁴Division of Biostatistics, Thomas Jefferson University, Philadelphia, PA

2372 — B0521 Uncorrected Refractive Errors In Older Adults: Prevalence According To The Presence Of Age-Related Eye Disease.

Virginie Nael^{1,2}, A. Scherlen¹, C. Helmer^{2,3}, A. Angelo⁴, J. Korobelnik⁵, C. Delcourt^{2,3}. ¹R&D Life and Vision Science, Essilor International, Bordeaux, France; ²Bordeaux Population Health Research Center, Inserm U1219, Bordeaux, France; ³University of Bordeaux, ISPED, Bordeaux, France; ⁴Sorbonne University, UPMC University of Paris 06, INSERM, CNRS, Vision Institute, Paris, France; ⁵Department of Ophthalmology, University Hospital, Bordeaux, France *CR

2373 — B0522 Prevalence and associated factors of myopia in Russia. The Ufa Eye and Medical Study.

Gyulli Kazakbaeva¹, M. Bikbov¹, J. B. Jonas², F. Rinaut¹. ¹Ufa Eye Research Institute, Ufa, Russian Federation; ²Medical Faculty Mannheim, Mannheim, Germany

2374 — B0523 School Systems With A High Prevalence Of Myopia Dominate International Comparisons In Maths And Science.

Ian G. Morgan^{1,2}, A. French³, K. A. Rose³. ¹Research School of Biology, Australian National University, Canberra, ACT, Australia; ²State Key Laboratory of Ophthalmology, Sun Yatsen University, Guangzhou, China; ³Discipline of Orthoptics, Graduate School of Health, University of Technology, Sydney, Sydney, NSW, Australia

2375 — B0524 Prevalence of refractive errors in preschool and school children of Londrina, Paraná, Brazil.

Beatriz B. Silva¹, F. S. Siqueira Anacleto¹, C. L. Reinert², G. B. Durães², E. Hoyama^{1,2}, T. Matsuo¹, N. Hasegawa¹. ¹Hospital de Olhos de Londrina - HOFTALON, Londrina, Brazil; ²Pontifícia Universidade Católica do Paraná - Campus Londrina, Londrina, Brazil

2376 — B0525 Choroidal thickness and myopia in relation to physical activity during childhood.

Kristian Lundberg^{1,2}, N. Jakobsen³, A. Vestergaard^{1,2}, E. Goldschmidt⁴, T. Peto^{2,4}, N. Wedderkopp^{6,7}, M. Larsen³, J. Grauslund^{1,2}. ¹Department of Ophthalmology, Odense University Hospital, Odense C, Denmark; ²Department of Clinical Research, Faculty of Health Sciences, University of Southern Denmark, Odense, Denmark; ³Department of Ophthalmology, Rigshospitalet-Glostrup University Hospital, Copenhagen, Denmark; ⁴Queen's University Belfast, Belfast, United Kingdom; ⁵Danish Institute for Myopia Research, Vedbæk, Denmark; ⁶Research in Childhood Health, Institute for Regional Health Research, University of Southern Denmark, Odense, Denmark; ⁷Sport medicine Clinic, the Orthopedic Department, Hospital of Middelfart, Institute of Regional Health Services Research, University of Southern Denmark, Middelfart, Denmark ✗

2377 — B0526 Myopigenic activity change and its risk factors in urban students in Beijing.

Balamurali Vasudevan¹, K. J. Ciuffreda², Z. Lin³, G. Mao³, H. Zhou³, N. L. Wang⁴, Y. Liang³. ¹Vision Science, MidWestern University, Glendale, AZ; ²SUNY Optometry, New York, NY; ³Wenzhou Medical University, Wenzhou, China; ⁴Beijing Tongren Hospital, Beijing, China

2378 — B0527 Refractive status and influential factors in piano-playing children.

Huamao Miao, X. Zhou, X. Mo. Key Lab of Myopia, Ministry of Health, Department of Ophthalmology, Eye and ENT Hospital of Fudan University, Shanghai, China

2379 — B0528 Vitamin D and Myopia: A Systematic Review and Meta-analysis.

Jason C. YAM, S. Tang, T. Lau, S. Rong, L. Chen. Department of Ophthalmology and Visual Sciences, Chinese University of Hong Kong, Hong Kong, Hong Kong

2380 — B0529 Association between myopia, amount of near work with electronic devices and asthenopia in school children.

Pelsin Demir, B. Theagarayan. Medicine and Optometry, Linnaeus University, Kalmar, Sweden

2381 — B0530 High fasting serum insulin level accelerates myopia developing.

Xiaoman Li, H. Zhou, F. Lu, D. Hu. Low vision center, The Eye Hospital of Wenzhou Medical University, Wenzhou, China ✗

2382 — B0531 Vision Status and Impact of Refractive Correction on Near Visual Acuity in Older Adults from Parintins City: the Brazilian Amazon Region Eye Survey.

Cristina C. Cunha^{1,2}, A. Berezovsky¹, A. G. Fernandes¹, N. Nunes Cavascan¹, P. Sacai¹, M. Cypel¹, S. E. Watanabe¹, J. M. Furtado¹, M. Cohen¹, G. Carvalho Vasconcelos¹, J. Cohen¹, M. S. Campos¹, S. Munoz¹, R. Belfort¹, S. R. Salomao¹. ¹UNIFESP, Universidade Federal de São Paulo, Belém, Brazil; ²Hospital Bettina Ferro de Souza- Oftalmologia, Universidade Federal do Pará, Belém, Brazil

2383 — B0532 Vision Status and Impact of Refractive Correction on Distance Visual Acuity in Older Adults from Parintins City: The Brazilian Amazon Region Eye Survey.

Galton Carvalho Vasconcelos¹, A. Berezovsky², N. Nunes Cavascan², P. Sacai², A. G. Fernandes², M. Cypel², S. Watanabe², M. Cohen², C. C. Cunha³, J. M. Furtado⁴, J. Cohen², R. Belfort², S. Munoz², S. R. Salomao². ¹Ophthalmology, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; ²Departamento de Oftalmologia e Ciências Visuais, Escola Paulista de Medicina, Universidade Federal de São Paulo, São Paulo, Brazil; ³Divisão de Oftalmologia, Departamento de Cirurgia, Faculdade de Medicina, Universidade Federal do Amazonas, Manaus, Brazil; ⁴Departamento de Oftalmologia, Universidade de São Paulo, Ribeirão Preto, Brazil; ⁵Departamento de Salud Publica, Universidad de La Frontera, Temuco, Chile

2384 — B0533 Prediction Of Myopic Retinopathy (MR) By Age And Refractive Error (RE).

Noel A. Brennan, X. Cheng. R&D, Johnson & Johnson Vision Care, Inc, Jacksonville, FL *CR

2385 — B0534 Long-term effect of 7-methylxanthine on myopia progression and eye elongation.

Klaus Trier¹, D. Cui², S. Ribel-Madsen¹. ¹Clinical Research, Trier Research Laboratories, Hellerup, Denmark; ²Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China ✗

2386 — B0535 Suppressive effect of combined treatment of orthokeratology and 0.01% atropine instillation on axial length elongation in childhood myopia.

Nozomi Kinoshita¹, Y. Konno², N. Hamada³, A. Kakehashi¹. ¹Department of Ophthalmology, Saitama Medical Center, Jichi Medical University, Saitama, Japan; ²Konno Eye Clinic, Saitama, Japan; ³Omiya Hamada Eye Clinic, Saitama, Japan ✗

2387 — B0536 A three year follow-up study of atropine treatment for progressive myopia in Europeans.

Jan Roelof Polling^{1,2}, A. van der Schans¹, H. Wong¹, W. Tideman⁴, S. E. Loudon¹, C. Klaver^{1,3}. ¹Ophthalmology, Erasmus MC, Rotterdam, Netherlands; ²Department of Optometry & Orthoptics, University of Applied Sciences, Utrecht, Netherlands; ³Ophthalmology, Radboudumc, Nijmegen, Netherlands; ⁴Epidemiology, Erasmus MC, Rotterdam, Netherlands

2388 — B0537 Efficacy vs. Side Effects of Atropine in Myopia: a Meta-analysis.

Qianwen Gong^{2,1}, L. Liu^{1,3}, M. Janowski^{2,4}. ¹Optometry and Visual Science, West China Hospital/ West China School of Medicine, Sichuan University, Chengdu, China; ²Radiology and Radiological Science, Cell Engineering, Baltimore, MD; ³Ophthalmology, West China Hospital, Sichuan University, Chengdu, China; ⁴NeuroRepair, Mossakowski Medical Research Centre PAS, Warsaw, Poland

- 2389 — B0538 Binocular vision in orthokeratology contact lens wear for myopia.** *Kate Gifford¹, P. Gifford², P. L. Hendicott¹, K. L. Schmid¹.* ¹School of Optometry and Vision Science, Queensland University of Technology, Brisbane, QLD, Australia; ²School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia
- 2390 — B0539 Relative peripheral refraction and binocular vision changes in myopic orthokeratology.** *Paul Gifford¹, K. Gifford², P. L. Hendicott², K. L. Schmid².* ¹University of New South Wales, Brisbane, QLD, Australia; ²Queensland University of Technology, Kelvin Grove, QLD, Australia
- 2391 — B0540 Novel contact lenses designed to slow progress of myopia: 12 month results.** *Padmaja Sankaridurg^{1,2}, R. C. Bakaraju^{1,2}, J. Morgan¹, X. Chen³, D. Tilia^{1,2}, A. Ho^{1,2}, K. Ehrmann^{1,2}, R. Weng¹, F. Conrad¹, E. L. Smith⁴, T. J. Naduvilath¹, P. Erickson¹.* ¹Brien Holden Vision Institute, Sydney, NSW, Australia; ²School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia; ³Zhongshan Ophthalmic Centre, Guangzhou, China; ⁴College of Optometry, University of Houston, Houston, TX *CR, ✗
- 2392 — B0541 Recruitment Costs for a Randomized Clinical Trial.** *Jeffrey J. Walline¹, L. A. Jones-Jordan¹, K. J. Shaw¹, J. A. Myers¹, L. L. Cardenas², A. D. Nixon¹, D. A. Berntsen², D. O. Mutti¹.* ¹College of Optometry, Ohio State University, Columbus, OH; ²College of Optometry, University of Houston, Houston, TX *CR, ✗
- 2393 — B0542 Evaluation of a handheld, smartphone-based autorefractor in an elderly population.** *William Plum, V. Varadaraj, S. Thompson, N. Dosto, P. Gajwani, D. S. Friedman.* Glaucoma, Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD
- 2394 — B0543 Self-refraction using a simple device reliably predicts manifest refraction.** *Anvesh Annadanam¹, V. Varadaraj¹, L. Mudie¹, A. Liu², W. G. Plum¹, K. White³, M. E. Collins¹, D. S. Friedman¹.* ¹Johns Hopkins School of Medicine, Baltimore, MD; ²Swarthmore College, Swarthmore, PA; ³Johns Hopkins University, Baltimore, MD *CR
- 2395 — B0544 Pre- and postcycloplegic refractions in children and adolescents.** *Dan Zhu, D. Yang, Y. Wang.* Ophthalmology, The Affiliated Hospital of Inner Mongolia Medical, Hohhot, China
- 2396 — B0545 A two-dimensional model simulating the pupil image of eccentric photorefractive in uncorrected and corrected ametropic eyes.** *Yifei Wu, L. N. Thibos, T. Candy.* School of Optometry, Indiana University Bloomington, Bloomington, IN
- 2397 — B0546 The Potential value of Big-Data for Epidemiological Studies of Refractive Error.** *Michael Moore¹, J. Loughman¹, S. Wahl^{2,3}, A. Ohlendorf^{2,3}, D. I. Flitcroft^{4,1}.* ¹Dublin Institute of Technology, Dublin, Ireland; ²ZEISS Vision Science Lab, University Tuebingen, Tuebingen, Germany; ³Carl Zeiss Vision International GmbH, Tuebingen, Germany; ⁴Children's University Hospital Temple Street Dublin Ireland, Dublin, Ireland *CR
- 2398 — B0547 Parental Perspectives on Myopia in Beijing, China.** *Wendy F. Li¹, J. Bu², J. L. Warren³, C. Teng⁴.* ¹Yale School of Medicine, New Haven, CT; ²Ophthalmology, Peking University 3rd Hospital, Beijing, China; ³Biostatistics, Yale School of Public Health, New Haven, CT; ⁴Ophthalmology and Visual Sciences, Yale School of Medicine, New Haven, CT
- 2399 — B0548 Increase of axial length in eyes with high corneal astigmatism.** *Clair Enthoven¹, W. Tideman¹, J. Polling^{1,2}, V. J. Verhoeven^{1,4}, C. Klaver^{1,3}.* ¹Ophthalmology & Epidemiology, Erasmus MC, Rotterdam, Netherlands; ²Orthoptics & Optometry, University of Applied Sciences, Utrecht, Netherlands; ³Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands; ⁴Clinical Genetics, Erasmus MC, Rotterdam, Netherlands
- 2400 — B0549 Does optical theory predict the observed reduction of the refractive error:axial length ratio with increasing axial length?** *Fiona E. Cruickshank, N. S. Logan.* School of Life and Health Sciences, Aston University, Birmingham, United Kingdom
- 2401 — B0550 Axial length growth curves and the risk of myopia in European children and adults.** *Willem Tideman^{1,2}, J. Polling^{1,3}, V. Jaddoe², C. Williams⁴, J. A. Guggenheim³, C. Klaver^{1,2}.* ¹Ophthalmology, Erasmus Medical Centre, Rotterdam, Netherlands; ²Epidemiology, Erasmus MC, Rotterdam, Netherlands; ³Orthoptics, Hogeschool Utrecht, Utrecht, Netherlands; ⁴School of Social and Community Medicine, University of Bristol, Bristol, United Kingdom; ⁵School of Optometry & Vision Sciences, Cardiff University, Cardiff, United Kingdom
- 2402 — B0551 Perception of Global Form and Motion in Students with Bilateral Astigmatism.** *Erin M. Harvey^{1,2}, J. M. Miller^{1,2}, H. P. Apple^{1,3}, J. Twelker^{1,2}, A. L. Davis¹, T. K. Leonard-Green¹, I. Campus¹.* ¹Ophthalmology and Vision Science, University of Arizona, Tucson, AZ; ²College of Public Health, University of Arizona, Tucson, AZ; ³Apple Medical Incubator, Winter Park, FL
- 2403 — B0552 Diverse visual behavior patterns in students in the same classroom.** *Longbo Wen¹, Y. Cao¹, Y. Huang², Y. Wu², X. Li³, W. Lan¹, Z. Yang¹.* ¹Optometry, Aier School Of Ophthalmology, CSU, Changsha, China; ²Glasson Technology Co.Ltd, Hangzhou, China; ³California NanoSystems Institute, UCLA, Los Angeles, CA *CR
- 2404 — B0553 Estimated global productivity loss from myopia.** *Kovin S. Naidoo^{3,2}, T. R. Fricke¹, P. Sankaridurg^{3,1}, T. Naduvilath¹, S. Resnikoff^{3,1}, K. D. Frick⁴.* ¹School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia; ²African Vision Research Institute, Durban, South Africa; ³Brien Holden Vision Institute, Sydney, NSW, Australia; ⁴John Bloomberg School of Public Health, Baltimore, MD *CR
- 2405 — B0554 Elimination of Avoidable Blindness and Visual Impairment due to Refractive Error: Who are Our Priorities in Providing Spectacles?** *Zhuoting Zhu¹, M. He^{1,2}.* ¹Zhonshan ophthalmology center, Sun Yat-Sen University, Guangzhou, China; ²CERA, Melbourne, VIC, Australia

Exhibit/Poster Hall B0555-B0584

Monday, May 08, 2017 3:45 PM-5:30 PM

Clinical/Epidemiologic Research

287 Pediatric Eye Disease

Moderator: Xuejuan Jiang

2406 — B0555 The Child Vision Collaborative: A Vision-Screening Program in Nebraska. *Daniel Agraz^{1,3}, S. Jain², M. Gainer^{2,4}, L. Morgan², D. W. Suh^{2,3}.* ¹Medical student, University of Nebraska College of Medicine, Omaha, NE; ²Pediatric Ophthalmology and Adult Strabismus, Children's Hospital and Medical Center, Omaha, NE; ³Ophthalmology and Visual Sciences, University of Nebraska Medical Center, Omaha, NE; ⁴Creighton University, Omaha, NE

2407 — B0556 Eye examination findings in a cohort of School children in Haiti. *Erin E. Nichols^{1,2}, J. W. Pape^{3,4}, S. Marcélus¹, J. Nicotera^{3,5}, A. Chomsky¹.* ¹Ophthalmology and Visual Sciences, Vanderbilt University Medical Center, Philadelphia, PA; ²Internal Medicine, Penn Medicine, Philadelphia, PA; ³Groupe Haïtien Etude pour le Sarcome de Kaposi et les Infections Opportunistes (GHESKIO), Port-au-Prince, Haiti; ⁴Center for Global Health, Weill Cornell Medical College, New York, NY; ⁵International & Domestic Clinical Trials Consultants, Nashville, TN

2408 — B0557 Eye care needs of family shelters' residents in a Canadian city. *Fady Sedarous¹, H. Dimaras², M. Isaac², M. Lichter³, N. N. Tehrani².* ¹University of Toronto, Toronto, ON, Canada; ²The Hospital for Sick Children, Toronto, ON, Canada; ³St. Michael's Hospital, Toronto, ON, Canada

2409 — B0558 Reading speed and acuity in a cohort of 16-year-old children from the population-based Copenhagen Child Cohort 2000 Study tested with Radner Reading Chart. Poul Pedersen Laigaard^{3,2}, M. Hvidtfelt^{2,3}, I. Munch^{1,3}, M. Larsen^{2,3}. ¹Department of Ophthalmology, Roskilde Hospital, Roskilde, Denmark; ²Department of Ophthalmology, Rigshospitalet, Glostrup, Denmark; ³Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark

2410 — B0559 Student adherence and satisfaction with eyeglass usage in the Baltimore Reading and Eye Disease Study (BREDS). Megan E. Collins¹, A. Huang¹, L. Mudie¹, R. Mukherjee¹, J. Oweye¹, B. Wolf¹, R. Slavin¹, M. X. Repka¹, D. S. Friedman¹. ¹Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, MD; ²Center for Research and Reform in Education, Johns Hopkins School of Education, Baltimore, MD ✗

2411 — B0560 Trends in visual function in childhood: over a quarter century of social change in the UK. Vasiliki Bountziouka^{1,2}, P. Cumberland^{1,2}, J. Rahi^{1,3}. ¹Life Course Epidemiology and Biostatistics Section, UCL GOS Institute of Child Health, LONDON, United Kingdom; ²Ulverschroft Vision Research Group, London, United Kingdom; ³UCL Institute of Ophthalmology, London, United Kingdom

2412 — B0561 The association between visual health and mental health outcomes in children. Casey L. McBride¹, S. Bijan¹. ¹Department of Epidemiology and Biostatistics, University of South Florida, College of Public Health, Tampa, FL; ²University of South Florida, Morsani College of Medicine, Tampa, FL

2413 — B0562 The association between visual health in childhood and duration of breastfeeding. Sara Bijan¹, C. L. McBride², S. Romero³, M. Padilla¹. ¹USF Health Morsani College of Medicine, Tampa, FL; ²Department of Epidemiology & Biostatistics, USF College of Public Health, Tampa, FL; ³Department of Obstetrics & Gynecology, USF Health Morsani College of Medicine, Tampa, FL; ⁴Department of Ophthalmology, USF Health Morsani College of Medicine, Tampa, FL

2414 — B0563 Color vision discrimination in low-income school children with low birth weight. Paula Y. Sacai¹, M. S. Lapa¹, N. Nunes Cavascan¹, R. F. Puccini². ¹Departamento de Oftalmologia e Ciências Visuais, Universidade Federal de Sao Paulo, Sao Paulo, Brazil; ²Departamento de Pediatria, Universidade Federal de Sao Paulo, Sao Paulo, Brazil

2415 — B0564 The longitudinal correlation between height and axial length in non-myopia children. Yin Hu², X. Ding², M. He¹, M. He². ¹State Key Laboratory of Oncology in Southern China, Guangzhou, China; ²State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Guangzhou, China

2416 — B0565 A Modified Amblyopia Treatment Index in Beijing, China: Lessons Learned. Jennifer A. Galvin¹, J. Bu², W. F. Li¹. ¹Yale, New Haven, CT; ²Peking University 3rd Hospital, Beijing, China

2417 — B0566 Acute strabismus and diplopia in a large series of pediatric patients. Persefoni Kourti¹, A. Michos², E. Tsina¹. ¹Ophthalmology, “Aghia Sophia” Children’s Hospital, Athens, Greece; ²1st Pediatric Dept, “Aghia Sophia” Children’s Hospital, Athens, Greece

2418 — B0567 Primary tumors underlying unilateral orbital proptosis in children. Nitza Goldenberg-Cohen¹, J. Luckman², R. Omary⁴, D. Rappoport³, H. Leiba³, S. Michowiz⁵, Y. Vardizer¹, H. Toledano^{4,6}. ¹Ophthalmology, Bnai Zion Medical Center, Haifa, Israel; ²Radiology, Rabin Medical Center, Petach Tiqwa, Israel; ³Ophthalmology, Kaplan Medical Center, Rehovot, Israel; ⁴Pediatric Oncology, Schnieder Children Medical Center, Petach Tiqwa, Israel; ⁵Neurosurgery, Rabin Medical Center, Petach Tiqwa, Israel; ⁶Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel

2419 — B0568 Clinicopathological analysis of Juvenile Xanthogranuloma: A 10-year review. Rafael F. Peres, R. R. Pereira, S. Burnier, A. T. Dias, P. T. Logan, A. I. Rosen, M. N. Burnier. MUHC - McGill Ocular Pathology Laboratory, Sorocaba, Brazil

2420 — B0569 Clinicopathological analysis of juvenile patients with melanocytic lesions of the conjunctiva. Guilherme F. Barros, M. BARROS, D. C. Sousa, L. Bongiovanni, G. Naomi, M. N. Burnier. Henry C. Witelson Ocular Pathology, McGill University, Americana, Brazil

2421 — B0570 Frequency of Pediatric caruncular lesions: A 10-year clinicopathological study. Rafael R. Pereira, R. F. Peres, P. T. Logan, S. Burnier, N. Saheb, A. I. Rosen, M. N. Burnier. MUHC - McGill University Ocular Pathology Laboratory, Campinas, Brazil

2422 — B0571 Ocular lesions in the pediatric population: A 10-year retrospective, topographic histopathological study. Aaron I. Rosen^{2,1}, R. R. Pereira², R. F. Peres², P. T. Logan², J. Coblentz², M. N. Burnier^{2,1}. ¹Ophthalmology, McGill University, Montreal, QC, Canada; ²MUHC - McGill University Ocular Pathology Laboratory, Montreal, QC, Canada

2423 — B0572 Subfoveal nodule in Coats disease: towards an updated classification predicting visual prognosis. Alejandra Daruich, A. Moulin, H. V. Tran, A. Matet, F. L. Munier. Jules-Gonin Eye Hospital, University of Lausanne, Lausanne, Switzerland

2424 — B0573 Ophthalmic Abnormalities of Pai Syndrome. Emily Li, J. Galvin. Ophthalmology & Visual Science, Yale University School of Medicine, New Haven, CT

2425 — B0574 Prevalence of ophthalmic associations and complications of PHACE Syndrome. David W. Wei¹, L. Y. Chan¹, A. Pennal², E. Pope², K. Mireskandari¹. ¹Ophthalmology and Vision Sciences, Hospital for Sick Children, Toronto, ON, Canada; ²Dermatology, Hospital for Sick Children, Toronto, ON, Canada

2426 — B0575 Genotype-Phenotype Relationships in Patients with Anterior Segment Developmental Anomalies at Yale Eye Center: 1987-2016. Shagun Bhatia¹, J. Liu¹, J. McGrath², H. Zhang², J. Galvin¹. ¹Department of Ophthalmology, Yale University, New Haven, CT; ²Department of Genetics, Yale University, New Haven, CT

2427 — B0576 Patient demographic and microbiology trends in pediatric conjunctivitis. Felix V. Chen, K. M. Cavuoto. University of Miami Miller School of Medicine, Miami, FL

2428 — B0577 Clinical Characteristics of Retinal Hemorrhages in Abusive Head Trauma versus Normal Vaginal Delivery; a Potential Pathophysiology of Mechanism of Injury. Donny W. Suh, A. W. Suh, S. Kim. Department of Ophthalmology, University of Nebraska, Omaha, NE

2429 — B0578 Clinical features of confirmed abusive head trauma cases compared to Not abusive head trauma. samiksha fouzdar jain¹, L. Morgan¹, A. svec², C. SVEC², S. B. Haney³, S. albery⁴, D. Suh^{1,2}. ¹pediatric ophthalmology, children hospital and medical center, Omaha, NE; ²University of Nebraska & Medical center, Omaha, NE; ³Abuse specialist, children hospital and medical center, Omaha, NE; ⁴Radiology, children hospital and medical center, Omaha, NE

2430 — B0579 Optic Disc Topographic Analysis by Stratus OCT in Mexican children. Marissa L. Fernandez, H. Cavazos, J. Mohamed, M. Fernandez. Ophthalmology, Hospital Universitario UANL, Monterrey, N.L. México, Monterrey, Mexico

2431 — B0580 Evaluation of Potential Systemic Adverse Events Related to Fluorescein Angiography in Pediatric Patients. Ru-ik Chee¹, M. P. Gupta¹, A. Orlin¹, I. Rusu¹, S. N. Patel¹, J. Han², V. Yap⁴, K. E. Jonas⁵, M. F. Chiang⁶, R. V. Chan³. ¹Ophthalmology, Weill Cornell Medicine, New York, NY; ²Ophthalmology, Memorial Sloan Kettering Cancer Center, New York, NY; ³Anesthesia, Weill Cornell Medicine, New York, NY; ⁴Pediatrics, Weill Cornell Medicine, New York, NY; ⁵Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ⁶Ophthalmology, Casey Eye Institute, Oregon Health & Science University, Portland, OR *CR

2432 — B0581 Outcome of cataract surgery in patients treated for retinopathy of prematurity. Huy D. Nguyen¹, K. G. Yen^{1,2}. ¹Department of Ophthalmology, Baylor College of Medicine, Houston, TX; ²Department of Ophthalmology, Texas Children’s Hospital, Houston, TX

2433 — B0582 Pediatric Cataract Training, Referral, and Surgical Program in Peru.

Van C. Lansingh¹, L. Gordillo², D. Michaels¹, S. Marranzini¹, K. Eckert³. ¹LA, HelpMeSee, Querétaro, Mexico; ²Instituto Damos Vision, Lima, Peru; ³Independent Consultant, Ajijic, Mexico *CR

2434 — B0583 Comparison of adult versus pediatric ophthalmology consults at a tertiary Level 1 trauma medical center.

Jonathan Jacobs^{1,2}, B. Bielory^{1,2}, T. Wandel^{1,2}, K. Juechter^{1,2}. ¹Ophthalmology, Westchester Medical Center, Yonkers, NY; ²New York Medical College, Valhalla, NY

2435 — B0584 Emergency Department and Inpatient Pediatric Ophthalmology Consults at a Tertiary Care Children's Hospital.

Brett P. Bielory, J. Jacobs, T. Wandel, D. Rush, K. Juechter. Ophthalmology, New York Medical College, Valhalla, NY

Hall G

Monday, May 08, 2017 5:45 PM-6:30 PM

288 Proctor Award and Lecture

This award honors outstanding research in the basic or clinical sciences as applied to ophthalmology.

— 5:45 **Introduction: Geral Chader**

2436 — 5:50 From the Cage to the Bedside- Concepts and Strategies in Retinal Gene Therapy. *Gustavo D. Aguirre*. Clinical Studies, Univ of Penn Sch Veterinary Med, Philadelphia, PA

Hall G

Monday, May 08, 2017 6:45 PM-7:30 PM

289 Weisenfeld Award and Lecture

This award is presented to an individual in recognition of distinguished scholarly contributions to the clinical practice of ophthalmology.

— 6:45 **Introduction: Martine Jager**

2437 — 6:50 Macular Degeneration Epidemiology: Nature-Nurture, Lifestyle Factors, Genetic Risk and Gene-Environment Interactions. *Johanna M. Seddon*. Ophthalmology, Tufts Univ School of Medicine, Boston, MA

Tuesday
May 9, 2017

ARVO
2017
Global Connections
in Vision Research

MAY 7 – 11 | BALTIMORE

Tuesday, May 9

Room	8:30-10:15am Papers/Minisymposia	10:15-10:55am	11am-12:45pm Papers/Minisymposia	1-2:30pm Cross-Sectional Group/Workshops/SIGs	2:30-3:45	3:45-5:30pm Papers/Minisymposia	5:45-7pm
Hall G	305 Novel therapies and imaging techniques for retinal disorders — Minisymposium [RE, BI, GL, RC] #2466-2471		328 Retinal Vascular Diseases and CSCR [RE] #2959-2965			366 AMD imaging II and visual function [RE] #3398-3403	385 ARVO/Champalmaud Award Lecture
Ballroom 1	302 Angiogenesis [RC] #2445-2451		325 ER stress and the unfolded protein response in ocular health and disease — Minisymposium [BI, GL, LV, PH, RC, RE] #2940-2945	352 Global Prevalence of Blindness and Vision Impairment: Magnitude, Temporal Trends, and Projections: are we on track to meet VISION2020 and WHO Global Action Plan goals and beyond? - SIG [CL, CO, GL, RE]		363 Macular degeneration-cell biology [RC] #3378-3384	
Ballroom 2	301 Corneal Imaging and Biomechanics [CO] #2438-2444		324 Corneal dystrophies: Where do we stand? — Minisymposium [CO] #2934-2939		360 Study of Comparative Treatments for Retinal Vein Occlusion 2 (SCORE2); Primary Results #3368-3370		
Ballroom 3	303 Biomechanics I [GL] #2452-2458		326 Diabetic retinopathy clinical [RE] #2946-2951	353 Optical Coherence Tomography Guided Ophthalmic Surgery: Next-Generation Advances - SIG [MO, CO, GL, RE]		362 Corneal Tissue Engineering and Molecular Biology [CO] #3371-3377	
Ballroom 4	304 Clinical Trials and Drug Studies II [GL] #2459-2465		327 Neuroprotection [GL] #2952-2958	354 Far peripheral vision: Review vision beyond 80s, where many people don't notice if there is a loss, but some intraocular lens patients report dark shadows - SIG [VI]		364 Retinal gene therapy and stem cell transplantation [RE] #3385-3390	
Room 301			329 Retina/RPE 2 [PH] #2966-2971	355 New in vitro Models to Study AMD Pathogenesis: Step Aside ARPE19 - SIG [RC, RE]		365 Capillaries: Blood Flow, OCT Angiography [GL] #3391-3397	ARVO Annual Meeting Registration Pratt Street Lobby 7am - 6pm
Room 307	306 Lens Physiology and Biomechanics I [LE] #2472-2478					367 Intraocular pressure [PH] #3404-3409	Exhibit hours 9am - 5:30pm Exhibit Hall
Room 308	307 The Impact of Low Vision on Function and Everyday Activities [LV] #2479-2484		330 Bipolar, Horizontal and Amacrine cells [VN] #2972-2978	356 New advancements in SD-OCT assessment of neuroretinal rim and fiber layer tissue for glaucoma detection and follow-up — SIG [GL, AP, RE, MO]			NAEVR Central in the Exhibit Hall 9am - 4pm
Room 309			331 Understanding the Course and Risk Factors for Age-Related Macular Degeneration [CL] #2979-2985	348VSS at ARVO - Functional Brain Imaging in Development and Disorder		368 Beyond the retina: Central visual circuits — Minisymposium [VN] #3410-3414	9th Annual WEAVR Luncheon 1 - 2:30pm
Room 310			332 Going viral! [IM] #2986-2992	349 Chinese Ophthalmological Society Workshop: Molecular Cell Biology and Gene Therapy for Eye Diseases			Hilton Baltimore Holiday Ballroom
Room 314	308 Photoreceptors: Cell Biology, Disease and Rescue [RC] #2485-2491			350 How to discuss your animal research work with non-scientists		369 Refractive Error: Risk Factors to Intervention Studies [CL, AP] #3415-3421	
Room 316	309 Surprising human visual processes revealed with advanced techniques [VI] #2492-2498		333 Age-related changes in optics of the eye and vision - Minisymposium [VI, CO, LE, GL, LE, VN] #2993-2998	351 Clinician-scientist forum: How to become a successful clinician-scientist		370 New Insights and Animal models [GEN] #3422-3428	MIT Outstanding Poster Award Competition 1 - 2:30pm Hall B
Room 321	310 Uveal melanoma: From Clinical Trials to Molecular Mechanisms [AP, RE] #2499-2504		334 Factors affecting ocular development [AP, RC] #2999-3005				
Room 324	323 General Business Meeting			357 Mechanisms of ocular surface immunity in graft vs host disease and Sjogren syndrome - SIG [IM, CO]		372 Strabismus: Basic and Clinical [EY] #3436-3442	

Tuesday, May 9 ■ Posters

8:30–10:15am

Session Number	Session Title	Program Number	Board Number
311	Diabetic Retinopathy: Basic Mechanisms [RC, RE, MOI]	2505 - 2531	A0039 - A0065
312	Neurodegeneration and Neuroprotection [GL]	2532 - 2577	A0122 - A0167
313	Ganglion Cells and Beyond [VN]	2578 - 2600	A0168 - A0190
314	Corneal Epithelium [CO]	2601 - 2647	A0191 - A0237
315	Dry eye, Clinical [CO]	2648 - 2707	A0238 - A0297
316	Anterior segment imaging and optics [VI]	2708 - 2732	A0412 - A0436
317	Visual functions, optical cues effecting and affected by myopia [AP]	2733 - 2749	A0437 - A0453
318	Whole Genome Analysis, Genetic Screening in Retinal Dystrophies and Others [GEN]	2750 - 2790	B0077 - B0117
319	Vitreoretinal surgery [RE]	2791 - 2833	B0228 - B0270
320	Visual Fields, Vision Function, Psychophysics I [GL, LV]	2834 - 2881	B0437 - B0484
321	Diabetic Eye Disease [CL, VN]	2882 - 2917	B0528 - B0563
322	Strabismus [EY]	2918 - 2933	B0564 - B0579

11am–12:45pm

Session Number	Session Title	Program Number	Board Number
335	Cellular Metabolism of the Retina and RPE [RC, RE]	3006 - 3028	A0001 - A0023
336	Blood flow [PH]	3029 - 3043	A0024 - A0038
337	Contact Lenses [CO]	3044 - 3097	A0298 - A0351
338	Functional imaging [MOI]	3098 - 3108	B0001 - B0011
339	Innovations in imaging [MOI, RE]	3109 - 3134	B0012 - B0037
340	Biomechanics II [GL]	3135 - 3173	B0038 - B0076
341	Cataractogenesis II [LE]	3174 - 3196	B0205 - B0227
342	AMD Clinical Research 2 [RE]	3197 - 3215	B0330 - B0348
343	Retinitis pigmentosa (clinical) [RE, GEN, LV, RC]	3216 - 3263	B0349 - B0396
344	Functioning with Low Vision [LV, CL]	3264 - 3303	B0397 - B0436
345	Papilledema, IIH and Optic Nerve [EY]	3304 - 3329	B0580 - B0605
346	Retinoblastoma: Clinical [AP]	3330 - 3342	B0606 - B0618
347	Tumors: Inside and around the eye, II [AP, GEN]	3343 - 3367	B0619 - B0643

3:45–5:30pm

Session Number	Session Title	Program Number	Board Number
373	ROP: Basic mechanisms [RC]	3443 - 3465	A0066 - A0088
374	Trabecular Meshwork and Ciliary Body [GL]	3466 - 3498	A0089 - A0121
375	Corneal Imaging, Topography, and Keratoconus [CO]	3499 - 3558	A0352 - A0411
376	Ocular gene expression, proteomics and lipidomics [BI, CL]	3559 - 3574	B0118 - B0133
377	Visual cycle and phototransduction [BI]	3575 - 3586	B0134 - B0145
378	Cellular mechanisms of retinal diseases and ocular therapeutics [BI]	3587 - 3601	B0146 - B0160
379	Clinical virology [IM]	3602 - 3614	B0161 - B0173
380	Mechanisms of viral infections [IM]	3615 - 3630	B0174 - B0189
381	Lens Physiology and Biomechanics II [LE]	3631 - 3645	B0190 - B0204
382	Retinal vascular diseases II (excluding diabetes) [RE, AP]	3646 - 3679	B0271 - B0304
383	Macular diseases (non-inherited) [RE]	3680 - 3704	B0305 - B0329
384	Glaucoma [CL]	3705 - 3747	B0485 - B0527

Poster board numbers correspond to poster location in Exhibit Hall

A = Poster Area A, B = Poster Area B

1–2:30pm: MIT Outstanding Poster Award Competition (Hall B)

2:45–3:45pm: All Posters and Networking — authors will be present at poster boards

Ballroom 2

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Cornea

301 Corneal Imaging and Biomechanics*Moderators: Matthew Petroll and Michael K. Fink*

2438 — 8:30 Ultrahigh-resolution OCT imaging of the anterior eye segment. *Rene M. Werkmeister¹, S. Sapeta¹, D. Schmidl², G. Garhofer², L. Schmetterer².* ¹Med Physics and Biomed Eng, Medical University of Vienna, Vienna, Austria; ²Department of Clinical Pharmacology, Medical University of Vienna, Vienna, Austria

2439 — 8:45 The properties of the cornea based on hyperspectral imaging. *Kaleena B. Michael¹, S. B. Md Noor², J. Tschannerl², J. Ren², S. Marshall².* ¹Glasgow Centre for Ophthalmic Research, NHS Greater Glasgow and Clyde, Glasgow, United Kingdom; ²Centre for excellence in signal and imaging, University of Strathclyde, Glasgow, United Kingdom

2440 — 9:00 Noncontact Quantitative Optical Coherence Elastography of the Cornea. *Kirill Larin, M. Singh, Z. Han, S. Vantipalli, S. Aglyamov, M. D. Twa.* University of Houston, Friendswood, TX

2441 — 9:15 Polarization sensitive imaging of the human cornea using different scanning geometries. *Michael Pircher, F. Beer, A. Wartak, R. Haindl, B. Baumann, C. K. Hitzenberger.* Center for Med Phys & Biomed Eng, Medical University of Vienna, Vienna, Austria

2442 — 9:30 OCT topography: A novel, non-invasive method to analyze the Epithelium-Bowman's interface in normal and keratoconic eyes. *Rushad Shroff¹, R. Cs², M. Francis², H. Matalia¹, R. Shety¹, A. Sinha Roy².* ¹Refractive And Cornea, Narayana Nethralaya, New Delhi, India; ²IBMS, Narayana Nethralaya Foundation, Bangalore, India *CR

2443 — 9:45 Isolated elevation of intraocular pressure and its impact on ocular aberrations in healthy eyes. *Brittany Simmons¹, M. Xu^{2,1}, Q. Ji^{1,4}, A. L. Lerner^{2,3}, G. Yoon^{1,3}.* ¹Ophthalmology, Flaum Eye Institute University of Rochester, Rochester, NY; ²Department of Mechanical Engineering, University of Rochester, Rochester, NY; ³Department of Biomedical Engineering, University of Rochester, Rochester, NY; ⁴Institute of Optics, University of Rochester, Rochester, NY *CR

2444 — 10:00 In vivo confocal microscopy combined with slit lamp examination: A rapid diagnosis and therapeutic judgment methods in filamentous fungal corneal infection with culture negative patients. *Hongmin Zhang, X. Dou, K. Yang, S. Sun, L. Han, L. Wang.* Henan Eye Institute & Henan Eye Hospital, Zhengzhou, China

Ballroom 1

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

302 Angiogenesis*Moderators: Jennifer L. Wilkinson-Berka, Elia J. Duh and Sergio Li Calzi*

2445 — 8:30 Mechanisms of Repair and Remodeling of the Retinal Vasculature by Vascular Progenitor Cells in a Mouse Model of Retinopathy of Prematurity (ROP). *Sergio Li Calzi¹, L. Shaw¹, W. Shelly², X. Qi¹, J. Quigley¹, L. Moldovan¹, S. Wu³, M. Ivan³, M. E. Boulton¹, M. Yoder², M. B. Grant¹.* ¹Ophthalmology, Indiana University, Indianapolis, IN; ²Pediatrics-Neonatal Basic Research, Indiana University, Indianapolis, IN; ³Hematology/Oncology, Indiana University, Indianapolis, IN

2446 — 8:45 γ 3-Containing Laminins Regulate Retinal Arterial Morphogenesis via Dystroglycan. *Saptarshi Biswas, G. Bachay, D. D. Hunter, W. J. Brunken.* Ophthalmology, SUNY Upstate Medical University, Syracuse, NY

2447 — 9:00 Deletion of P75^{NTR} Stimulates Reparative Angiogenesis and Prevents Retinal Neovascularization in Ischemic Retinopathy: Possible contribution of TrkA receptor. *Azza B. El-Remessy^{2,3}, S. L. Elshaer¹.* ¹Clin & Experimental Therapeutics, University of Georgia, Augusta, GA; ²Augusta Biomedical Research, Augusta, GA; ³VA Medical Center, Augusta, GA

2448 — 9:15 Activation of Nrf2 suppresses inflammation and semaphorin 6A signaling in oxygen-induced retinopathy. *Yanhong Wei, J. Gong, E. J. Duh.* Ophthalmology, Johns Hopkins University, Baltimore, MD

2449 — 9:30 Foxp3⁺ Tregs are recruited to the retina to repair pathological angiogenesis. *Jennifer L. Wilkinson-Berka^{2,1}, D. M. Talia^{2,1}, D. Deliyanti^{2,1}, T. Zhu¹, M. Maxwell¹, A. Agrotis², S. Gerondakis³, M. Hibbs¹, F. Mackay⁴.* ¹Immunology, Monash University, Melbourne, VIC, Australia; ²Diabetes, Monash University, Melbourne, VIC, Australia; ³Biochemistry and Molecular Biology, Monash University, Clayton, VIC, Australia; ⁴School of Biomedical Sciences, Melbourne University, Parkville, VIC, Australia

2450 — 9:45 Glycolysis promotes retinal revascularization in a mouse model of proliferative retinopathy. *Jean-Sebastien Joyal^{1,2}, S. Pundir², J. Sung Kim², E. HECKEL³, N. Kim², P. Gaub¹.* ¹Pediatrics, Pharmacology and Ophthalmology, Université de Montreal, Montreal, QC, Canada; ²Pharmacology and Therapeutics, McGill University, Montreal, QC, Canada; ³Pharmacology, Université de Montreal, Montreal, QC, Canada

2451 — 10:00 Inflammatory signals from photoreceptor modulate pathological retinal angiogenesis via c-Fos. *Ye Sun¹, Z. Lin², C. Liu¹, Y. Gong¹, R. Liegl¹, S. Meng¹, S. Burnim¹, Z. Wang¹, J. D. Akula¹, J. Chen¹, L. E. Smith¹.* ¹Ophthalmology, Boston Children's Hosp/Harvard Med Sch, Boston, MA; ²Cardiology, Boston Children's Hospital, Boston, MA

Ballroom 3

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Glaucoma

303 Biomechanics I*Moderators: Rafael Grytz and Jonathan P. Vande Geest*

2452 — 8:30 Cell derived matrices: Inducing a simple twist of fate towards a glaucomatous phenotype. *Vijaykrishna Raghunathan^{1,2}, J. Benoit³, C. J. Murphy^{4,5}.* ¹The Ocular Surface Institute, College of Optometry, University of Houston, Houston, TX; ²Department of Basic Sciences, College of Optometry, University of Houston, Houston, TX; ³Texas Institute for Measurement, Evaluation, and Statistics, College of Optometry, University of Houston, Houston, TX; ⁴Department of Surgical & Radiological Sciences, School of Veterinary Medicine, University of California Davis, Davis, CA; ⁵Department of Ophthalmology and Vision Science, School of Medicine, University of California Davis, Davis, CA

2453 — 8:45 The influence of tonometric technology and body position on the calculation of pulsatile translaminal pressure gradient. *Cynthia J. Roberts^{2,3}, A. N. Springer¹, J. Pandya¹, R. H. Small^{1,3}, A. M. Mahmoud^{2,3}, C. Pappa², W. Bloom², G. Fleming².* ¹Anesthesiology, The Ohio State University, Columbus, OH; ²Ophthalmology & Visual Science, The Ohio State University, Columbus, OH; ³Biomedical Engineering, The Ohio State University, Columbus, OH *CR

2454 — 9:00 Factors affecting oscillatory shear stress in Schlemm's canal. *Joseph M. Sherwood¹, W. Stamer², D. R. Overby¹.* ¹Bioengineering, Imperial College London, London, United Kingdom; ²Ophthalmology, Duke University, Durham, NC

2455 — 9:15 Magnetic Resonance Imaging (MRI) Demonstrates Optic Nerve (ON) Traction During Adduction in Primary Open Angle Glaucoma (POAG) With Normal Intraocular Pressure (IOP). *Joseph L. Demer^{1,2}, R. A. Clark¹, S. Y. Suh¹, J. Giaconii¹, K. Nouri-Mahdavi¹, S. K. Law¹, L. Bonelli¹, A. Coleman¹, J. Caprioli¹.* ¹Ophthalmology, Stein Eye Inst, UCLA, Los Angeles, CA; ²Neurology, UCLA, Los Angeles, CA *CR

2456 — 9:30 Optic Nerve Head (ONH) In Vivo Biomechanics Assessed by Quantification of the IOP Fluctuations caused by the Ocular Pulse Pressure (OPP). Massimo A. Fazio^{1,2}, M. E. Clark¹, C. A. Girkin¹. ¹Ophthalmology, The University of Alabama in Birmingham, Birmingham, AL; ²Biomedical Engineering, The University of Alabama at Birmingham, Birmingham, AL

2457 — 9:45 Eye-Specific Finite Element Modeling of Human Optic Nerve Head (ONH) Biomechanics. Kapil Krishnan¹, V. Libertaux², R. Grytz¹, C. A. Girkin¹, J. C. Downs¹. ¹Department of Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ²University of Liège, Liège, Belgium

2458 — 10:00 Incorporating Realistic Anisotropic and Heterogeneous Material Properties Into Eye-Specific Multi-Scale Models of the Human Optic Nerve Head. Rafael Grytz¹, K. Krishnan¹, V. Libertaux², C. A. Girkin¹, J. C. Downs¹. ¹Department of Ophthalmology, University of Alabama, Birmingham, AL; ²University of Liège, Liège, Belgium

Ballroom 4

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Glaucoma

304 Clinical Trials and Drug Studies II

Moderators: Tony Realini and Mae O. Gordon

2459 — 8:30 Safety and Efficacy of 0.1% Nepafenac versus 1% Prednisolone acetate Eye Drops after Laser Iridotomy – A Prospective, Randomized Trial. kavitha srinivasan¹, K. Gayam¹, S. Upadhyaya¹, R. Venkatesh¹, P. Ramulu². ¹Glaucoma, Aravind Eye Hospital, Pondicherry, India; ²Wilmer Eye Institute, Baltimore, MD ✕

2460 — 8:45 Ocular Hypotensive Efficacy of Netarsudil Ophthalmic Solution 0.02% Over a 24-Hour Period: A Pilot Study. James H. Peace¹, C. Koczyński², T. G. Heah³. ¹United Medical Research Institution, Inglewood, CA; ²Research and Development, Aerie Pharmaceuticals, Durham, NC; ³Clinical Research and Medical Affairs, Aerie Pharmaceuticals, Bedminster, NJ *CR, ✕

2461 — 9:00 A double-masked, randomized, parallel study of Netarsudil Ophthalmic Solution, 0.02% QD compared to timolol maleate ophthalmic solution, 0.5% BID in patients with elevated intraocular pressure (ROCKET-4). Albert S. Khouri¹, T. Heah², C. Koczyński³, G. D. Novack^{3,4}. ¹Ophthalmology, Rutgers - New Jersey Med Sch, Newark, NJ; ²Aerie Pharmaceuticals, Inc, Bedminster, NJ; ³PharmaLogic Development, Inc, San Rafael, CA; ⁴Departments of Ophthalmology and Pharmacology, University of California, Davis, CA *CR, f

2462 — 9:15 3-month Interim Report of a Prospective 12-month Safety and Efficacy Study of Topical PG324 (Fixed Combination of Netarsudil 0.02% and Latanoprost 0.005%) Compared to the Individual Components in Subjects with Elevated Intraocular Pressure. Janet B. Serle¹, R. A. Lewis^{3,2}, C. Koczyński³, T. Heah². ¹Ophthalmology, Mount Sinai School of Medicine, New York, NY; ²Aerie, Bedminster, NJ; ³Sacramento Eye Consultants, Sacramento, CA *CR, ✕

2463 — 9:30 West Indies Glaucoma Laser Study: 12-Month Efficacy of Selective Laser Trabeculoplasty (SLT) in Afro-Caribbeans with Glaucoma. Tony Realini¹, H. Shillingford-Ricketts², D. Burt². ¹Ophthalmology, West Virginia University, Morgantown, WV; ²Harlbro Medical Center, Roseau, Dominica; ³Eye Care Saint Lucia, Castries, Saint Lucia *CR

2464 — 9:45 Risk factors for glaucoma progression in the United Kingdom Glaucoma Treatment Study (UKGTS). Panayiota Founti¹, A. Quartilho¹, C. V. Bunce^{1,2}, C. J. Dore^{1,3}, J. Mohamed-Noriega^{1,4}, D. Garway-Heath¹. ¹National Institute for Health Research Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ²Department of Primary Care & Public Health Sciences, King's College London, London School of Hygiene & Tropical Medicine, London, United Kingdom; ³Comprehensive Clinical Trials Unit, University College London, London, United Kingdom; ⁴Departamento de Oftalmología, Hospital Universitario, UANL, México, Monterrey, Mexico *CR, ✕

2465 — 10:00 Improving the Feasibility of Glaucoma Clinical Trials With Trend-Based Analysis of Visual Field Change Between Groups as an Endpoint. Zhichao Wu^{1,5}, B. C. Chauhan², D. Garway-Heath³, D. P. Crabb⁴, J. Crowston⁵, F. Medeiros¹. ¹Hamilton Glaucoma Center and Department of Ophthalmology, University of California, San Diego, La Jolla, CA; ²Department of Ophthalmology and Visual Sciences, Dalhousie University, Halifax, NS, Canada; ³National Institute for Health Research Biomedical Research Centre, Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, United Kingdom; ⁴Optometry and Visual Science, City University London, London, United Kingdom; ⁵Centre for Eye Research Australia, Royal Victoria Eye and Ear Hospital, The University of Melbourne, East Melbourne, VIC, Australia *CR

Hall G

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Retina / Biochemistry/Molecular Biology / Glaucoma / Retinal Cell Biology

305 Novel therapies and imaging techniques for retinal disorders - Minisymposium

Numerous scientific breakthroughs have allowed translational research of stem cell and gene therapy for inherited retinal disorders such as retinitis pigmentosa and atrophic AMD to develop at a rapid pace. Similarly, adaptation of OCT technology to integrated microscopic heads-up displays and non-invasive angiography are changing the way clinicians diagnose and treat patients. This minisymposium will highlight current retinal research and clinical application in 1) therapeutics: stem cell and gene therapy for inherited retinal disorders and 2) diagnostics: OCT-angiography and intra-operative OCT.

Moderators: M Elizabeth Hartnett and Makoto Inoue

2466 — 8:30 Introduction. Elliott Sohn. Retina Service, University of Iowa, Iowa City, IA; Wynn Institute for Vision Research, Iowa City, IA *CR

2467 — 8:35 Patient specific stem cell therapy for inherited retinal diseases. Budd Tucker. Ophthalmology, Stephen A. Wynn Institute for Vision Research, Iowa City, IA

2468 — 8:52 iPSC therapy for AMD. Masayo Takahashi. Laboratory for Retinal Regeneration, Riken, CDB, Kobe, Japan *CR, ✕

2469 — 9:09 Current landscape of gene therapy for inherited retinal disorders. Tim Stout. Ophthalmology, Baylor College of Medicine, Houston, TX *CR, ✕

2470 — 9:26 Applications and limitations of OCT-angiography. Nadia Waheed. Ophthalmology, Tufts University, Boston, MA; Boston Image Reading Center, Boston, MA *CR

2471 — 9:43 Intraoperative OCT: Are we ready for the future? Justis Ehlers. Cole Eye Institute-Retina Service, Cole Eye Institute, Cleveland Clinic, Cleveland, OK *CR

— 10:00 Question and Answer with Panel Discussion

Room 307

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Lens

306 Lens Physiology and Biomechanics I*Moderators: A Sue Menko and Giuliano Scarcelli*

2472 — 8:30 Multiple abnormalities precede cataracts in Cx46fs380 mice. *Eric C. Beyer¹, J. Gao², P. J. Minogue¹, L. A. Novak³, R. K. Zoltoski³, R. T. Mathias², V. M. Berthoud¹.* ¹Pediatrics, University of Chicago, Chicago, IL; ²Physiology and Biophysics, Stony Brook University, Stony Brook, NY; ³Illinois College of Optometry, Chicago, IL

2473 — 8:45 Aquaporin Zero (AQP0) Modulates Lens Gap Junction (GJ) Channel Function In The Presence Of Beaded Filaments (BFs). *Kulandaiappan Varadaraj, J. Gao, X. Sun, N. Browne, R. T. Mathias, S. S. Kumari.* Physiology and Biophysics, State University of New York, Stony Brook, NY

2474 — 9:00 Metabolomics of wild-type and Gja3 connexin mutant lenses in mice. *Xiaohua Gong, A. Kim, L. Li, C. Xia.* Vision Sci School of Optometry, University of California, Berkeley, Berkeley, CA

2475 — 9:15 Connexin Hemichannels Protect Lens Fiber Cells Against Oxidative Stress. *Jean X. Jiang, W. Shi, M. Riquelme, S. Gu.* Biochemistry, Univ of Texas Hlth Sci Ctr, San Antonio, TX

2476 — 9:30 Calcium-activated chloride currents in peripheral mouse fiber cells. *Lisa Ebihara, J. Tong.* Physiology, Rosalind Franklin University of Medicine, North Chicago, IL

2477 — 9:45 Accommodation & Presbyopia: Movements Of The Accommodative Apparatus In The Presence Of The Iris And Lens. *Mary Ann Croft¹, T. Nork¹, J. P. McDonald¹, G. A. Heatley¹, E. Luetjen-Drecoll², P. L. Kaufman^{1,3}.* ¹Ophthalmology, Univ of Wisconsin-Madison, Madison, WI; ²Anatomy, University of Erlangen e Nürnberg, Erlangen/Nürnberg, Germany; ³Wisconsin National Primate Research Center, University of Wisconsin, Madison, WI *CR

2478 — 10:00 F-actin stabilizing proteins, tropomodulin 1 and γ -tropomyosin, play diverse roles in maintaining lens cell morphology, biomechanical integrity and transparency. *Catherine Cheng, R. B. Nowak, V. M. Fowler.* Cell and Molecular Biology, The Scripps Research Institute, La Jolla, CA

Room 308

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Low Vision Group

307 The Impact of Low Vision on Function and Everyday Activities*Moderators: Bradley E. Dougherty and Walter Wittich*

2479 — 8:30 Symmetry of inherited eye disease. *Todd E. Scheetz^{2,1}, A. P. DeLuca^{2,1}, N. Tatro^{2,1}, B. P. Faga^{2,1}, D. J. Oppedal^{2,1}, M. A. Luse^{2,1}, R. G. Weleber³, E. M. Stone^{2,1}.* ¹Ophthalmology, University of Iowa, Iowa City, IA; ²Wynn Institute for Vision Research, University of Iowa, Iowa City, IA; ³Casey Eye Institute, Oregon Health & Science University, Portland, OR *CR

2480 — 8:45 Characterizing the natural history of visual function in choroideremia using microperimetry and multimodal retinal imaging. *Kanmin Xue^{1,2}, J. K. Jolly^{2,1}, T. Edwards^{2,1}, M. Groppe², R. E. MacLaren^{2,1}.* ¹Oxford Eye Hospital, Oxford University Hospitals NHS Trust, Oxford, United Kingdom; ²Nuffield Laboratory of Ophthalmology, University of Oxford, Oxford, United Kingdom *CR

2481 — 9:00 Effective dynamic range and retest-reliability of two-color dark-adapted fundus-controlled perimetry in patients with macular diseases. *Maximilian Pfau, M. Lindner, P. Mueller, J. Birtel, R. P. Finger, W. M. Harmening, M. Fleckenstein, F. G. Holz, S. Schmitz-Valckenberg.* Department of Ophthalmology, University of Bonn, Bonn, Germany *CR

2482 — 9:15 Two-Color (Red-Blue) Dark Adaptometry: Sensitivity, Specificity and Clinical Application. *Jeff C. Rabin, B. Houser, C. Talbert, R. Patel.* Optometry, UIW Rosenberg School of Optometry, San Antonio, TX

2483 — 9:30 Video Scanpath with Central Vision Loss. *Russell L. Woods^{1,2}, F. Costela^{1,2}, D. J. Rose¹, D. R. Saunders^{1,2}, S. Kajtezovic¹.* ¹Schepens Eye Research Institute, Boston, MA; ²Ophthalmology, Harvard Medical School, Boston, MA

2484 — 9:45 Viewing Video with Homonymous Hemianopia. *Francisco Costela, D. R. Saunders, S. Kajtezovic, D. J. Rose, S. S. Sheldon, R. L. Woods.* Ophthalmology, Schepens Eye Research Institute, Boston, MA *CR

Room 314

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

308 Photoreceptors: Cell Biology, Disease and Rescue*Moderators: Lina Zelinger and Steven J. Fliesler*

2485 — 8:30 Photoreceptor-specific transition zone (PSTZ), a novel sub-region of the connecting cilium (CC), is maintained by retinal ciliopathy protein SPATA7. *Rachayata Dharmat^{1,2}, A. Eblimit², Y. Li², M. Robichaux³, Z. Zhang³, F. He³, A. Jain³, G. Mardon¹, S. Jung³, T. G. Wensel³, R. Chen^{1,2}.* ¹Molecular and Human Genetics, Baylor college of medicine, Houston, TX; ²HGSC, Baylor College of Medicine, Houston, TX; ³Dept of Biochemistry, Baylor College of Medicine, Houston, TX

2486 — 8:45 Contribution of autophagy to Usher syndrome pathogenesis. *Erik de Vrieze¹, R. Slijkerman¹, M. Dona¹, S. Broekman^{1,2}, L. Heterschijt¹, T. Peters¹, H. Kremer^{1,2}, E. van Wijk¹.* ¹Otorhinolaryngology, Radboudumc, Nijmegen, Netherlands; ²Human Genetics, Radboudumc, Nijmegen, New Caledonia

2487 — 9:00 Hyperautophagy in response to protein misfolding contributes to photoreceptor cell death in Pro23His-rhodopsin mice. *Jingyu Yao¹, L. Jia¹, E. Frontera¹, N. Khan¹, D. A. Thompson^{1,2}, D. N. Zacks¹.* ¹Department of Ophthalmology & Visual Science, University of Michigan, Ann Arbor, MI; ²Department of Biological Chemistry, University of Michigan, Ann Arbor, MI

2488 — 9:15 De-novo assembly of mouse photoreceptor transcriptome identifies un-annotated lncRNAs regulated by NRL. *Lina Zelinger¹, G. Karakülah^{1,2}, V. Chaitankar¹, J. Kim^{1,3}, H. Yang¹, M. Brooks¹, A. Swaroop¹.* ¹NNRL, NIH-NEI, Bethesda, MD; ²Izmir International Biomedicine and Genome Institute (iBG-izmir), Dokuz Eylül University, Inciralti, Izmir, Turkey; ³Life Science, Chung-Ang University, Seoul, Korea (the Republic of)

2489 — 9:30 Mouse Models of Rapid and Progressive Cone Degeneration Display Key Differences in Autophagy Signaling. *Michael Butler, H. Ma, F. Yang, X. Ding.* Cell Biology, University of Oklahoma Health Sciences Center, Oklahoma City, OK

Tuesday Papers/
Minisymposium
8:30 am – 10:15 am

2490 — 9:45 Antisense Oligonucleotide-induced Skipping of *USH2A* exon13 Restores Visual Function in Zebrafish. *Erwin van Wijk^{1,2}, M. Dona^{1,3}, R. Slijkerman^{1,3}, P. Adamson^{4,5}, J. Turunen⁴, M. Kamermans⁶, S. C. Neuhaus⁷, H. van Diepen⁴.* ¹Otorhinolaryngology, Radboudumc, Nijmegen, Netherlands; ²Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands; ³Radboud Institute for Molecular Life Sciences, Nijmegen, Netherlands; ⁴ProQR Therapeutics, Leiden, Netherlands; ⁵Institute of Ophthalmology, UCL, London, United Kingdom; ⁶Retinal Signal Processing Lab, Institute for Neuroscience, Amsterdam, Netherlands; ⁷Institute for Molecular Life Sciences, University of Zürich, Zurich, Switzerland *CR

2491 — 10:00 Rescue of retinal degeneration in a rat model of Smith-Lemli-Opitz Syndrome. *Steven J. Fliesler^{1,2}, N. S. Peachey^{3,4}, N. I. Weinstock³, J. Herron⁶, K. M. Hines⁶, L. Xu⁶.* ¹Ophthalmology, Biochemistry, & Neuroscience Program, SUNY- University at Buffalo and SUNY Eye Institute, Buffalo, NY; ²Research Service, VA Western NY Healthcare System, Buffalo, NY; ³Cole Eye Institute, Cleveland Clinica Foundation, Cleveland, OH; ⁴Research Service, Louis Stokes Cleveland VA Medical Center, Cleveland, OH; ⁵Neuroscience Program, SUNY- University at Buffalo, Buffalo, NY; ⁶Medicinal Chemistry, University of Washington, Seattle, WA

Room 316

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Visual Psychophysics/Physiological Optics

309 Surprising human visual processes revealed with advanced techniques

Moderators: Stacey S. Choi and Shrikant R. Bharadwaj

2492 — 8:30 Visual acuity and optical resolution in two-photon infrared vision. *Pablo Artal¹, S. Manzanera¹, K. Komar², A. Gambin¹, M. Wojtkowski³.* ¹Laboratorio de Optica, Universidad de Murcia, Murcia, Spain; ²Faculty of Physics, Nicolaus Copernicus University, Torun, Poland; ³Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland

2493 — 8:45 Photopic spatial summation in the central retina assessed with adaptive optics. *William S. Tuten^{1,4}, R. F. Cooper^{1,4}, P. Tiruveedhula², A. Dubra³, A. Roorda², D. H. Brainard¹, J. I. Morgan^{4,5}.* ¹Psychology, University of Pennsylvania, Philadelphia, PA; ²School of Optometry and Vision Science Graduate Group, University of California, Berkeley, Berkeley, CA; ³Ophthalmology, Stanford University, Stanford, CA; ⁴Scheie Eye Institute, Ophthalmology, University of Pennsylvania, Philadelphia, PA; ⁵Center for Advanced Retinal and Ophthalmic Therapeutics, Ophthalmology, University of Pennsylvania, Philadelphia, PA *CR

2494 — 9:00 The effect of moderate myopia on rod and cone photoreceptor densities in human eyes using AO-SLO imaging. *Elaine Wells-Gray, S. S. Choi, N. Doble.* College of Optometry, Ohio State University, Columbus, OH

2495 — 9:15 Impact of Long-Term Neural Adaptation to Ocular Aberrations on Phase Perception. *John T. Pirog^{1,2}, A. Barbot³, G. Yoon^{2,1}.* ¹Institute of Optics, University of Rochester, San Antonio, TX; ²Flaum Eye Institute, University of Rochester, Rochester, NY *CR

2496 — 9:30 Neural re-adaptation to improved optical quality with customized aberration correction. *Antoine Barbot^{1,2}, R. Sabesan³, T. C. Vaz¹, D. S. Jacobs⁴, D. Tadin², K. R. Huxlin^{1,2}, G. Yoon^{1,2}.* ¹Ophthalmology, Flaum Eye Institute, Rochester, NY; ²Center for Visual Science, University of Rochester, Rochester, NY; ³Ophthalmology, University of Washington, Seattle, WA; ⁴Boston Fondation For Sight, Boston, MA *CR

2497 — 9:45 Effect of crystalline lens' aberrations on AO-simulation of IOLs in phakic eyes. *Silvestre Manzanera¹, C. M. Lago¹, L. Hervella², L. Sawides¹, E. Villegas¹, P. Artal¹.* ¹Laboratorio de Optica, University of Murcia, Murcia, Spain; ²Voptica, Murcia, Spain *CR

2498 — 10:00 Image Quality Analysis of Keratoconic Eyes Corrected with Spectacles and RGP Contact Lenses. *Shrikant R. Bharadwaj^{1,2}, V. Nilagiri^{1,2}, S. Metlapally³, C. Schor³.* ¹Prof. Brien Holden Eye Research Centre, L V Prasad Eye Institute, Hyderabad, India; ²Brien Holden Institute of Optometry and Vision Sciences, L V Prasad Eye Institute, Hyderabad, India; ³Vision Science Group, University of California Berkeley, Berkeley, CA

Room 321

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Anatomy and Pathology/Oncology

310 Uveal melanoma: From Clinical Trials to Molecular Mechanisms

Moderators: Matthew W. Wilson and Jasmine H. Francis

2499 — 8:30 Clinical course of radiation-induced choroidal tumor vasculopathy with progressive exudative retinal detachment following plaque radiotherapy for primary posterior uveal melanoma. *James J. Augsburger, C. C. Skinner, Z. M. Correa.* Ophthalmology, University of Cincinnati, Cincinnati, OH *CR

2500 — 8:45 Adipophilin expression in primary and metastatic uveal melanoma: a pilot study. *Sarah E. Coupland¹, H. Kalirai¹, P. Katopodis¹, H. Heimann^{2,1}, M. Fiorentzis^{2,1}.* ¹Molecular and Clinical Cancer Medicine, University of Liverpool, Liverpool, United Kingdom; ²LOOC, Royal Liverpool University Hospital, Liverpool, United Kingdom

2501 — 9:00 Ocular Oncology Study Consortium Report 3: Baseline clinical features and relationship to GEP Class. *Amy C. Scheffler^{1,2}, D. Berry³, M. Seider³, S. Stinnett³, P. Mruthyunjaya⁴.* ¹Ophthalmology, Retina Consultants of Houston, Houston, TX; ²Blanton Eye Institute, Houston Methodist Hospital, Houston, TX; ³Ophthalmology, Duke Eye Center, Durham, NC; ⁴Stanford Department of Ophthalmology, Byers Eye Institute, Palo Alto, CA *CR

2502 — 9:15 Molecular classification of uveal melanoma subtypes using integrative mutational and whole-genome copy number analysis. *Serdar Yavuzigitoglu^{1,2}, W. Drabarek^{1,2}, K. N. Smit^{1,2}, A. Obulkasim¹, N. van Poppelen^{1,2}, A. Koopmans¹, J. Vaarwater^{1,2}, T. Brands², B. Eussen², H. J. Dubbink³, R. Verdijk³, N. Naus¹, D. Paridaens⁴, E. Kilic¹, A. de Klein².* ¹Ophthalmology, Erasmus University Medical Center, Rotterdam, Netherlands; ²Clinical Genetics, Erasmus University Medical Center, Rotterdam, Netherlands; ³Pathology, Erasmus University Medical Center, Rotterdam, Netherlands; ⁴The Rotterdam Eye Hospital, Rotterdam, Netherlands

2503 — 9:30 Correlation of BAP1 immunoreactivity with metastasis in uveal melanoma. *Eszter Szalai¹, J. R. Wells¹, H. E. Grossniklaus^{1,2}.* ¹Department of Ophthalmology, Emory University School of Medicine, Atlanta, GA; ²Department of Pathology, Emory University School of Medicine, Atlanta, GA

2504 — 9:45 Monosomy 3 uveal melanoma cells have a unique metabolic phenotype distinct from disomy 3. *Chandrani Chattopadhyay, J. Roszik, E. Grimm, S. E. Woodman.* Melanoma Medical Oncology, UT MD Anderson Cancer Center, Houston, TX

Exhibit/Poster Hall A0039-A0065

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

311 Diabetic Retinopathy: Basic Mechanisms

Moderator: Alan W. Stitt

2505 — A0039 Hyperglycemia-driven dysregulation of Sp1 transcription factor in retinal cells. Kelly Donovan, O. Alekseev, J. Clifford. Biochemistry and Molecular Biology, Drexel University College of Medicine, Philadelphia, PA

2506 — A0040 Alterations in Circulating Leukocyte Populations in Diabetic Retinopathy. Gideon Obasanmi, N. Lavery, J. R. Hombrebueno, A. Lynch, M. Chen, D. Armstrong, N. Lois, H. Xu. Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom

2507 — A0041 Spleen as a source for myeloid cells infiltrating the diabetic retina. Eleni Beli¹, S. Li Calzi¹, Y. Duan¹, S. Caballero³, J. V. Bistik², M. B. Grant¹. ¹Ophthalmology, IUPUI, Indianapolis, IN; ²Physiology, Michigan State University, East Lansing, MI; ³Pharmacology, University of Florida, Gainesville, FL

2508 — A0042 Association between Vascular Density and Loss of Protective RAS during Early NPDR by Fractal Dimension. Krishnan Radhakrishnan¹, R. Vyas², M. Murray², D. Bryant³, Y. Duan³, M. B. Grant³, K. Chalam⁴, P. A. Parsons-Wingter². ¹Clinical Epidemiology Research Center, VA Connecticut Healthcare System, West Haven, CT; ²Ames Research Center, NASA, Moffett Field, CA; ³Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ⁴Ophthalmology, University of Florida, Jacksonville, FL

2509 — A0043 CXCL8 can increase retinal microvascular endothelial cell (hRMEC) migration rate and its receptor signals may be linked to VEGF-induced migration. Dolly A. Padovani-Claudio, Y. Zhang, J. S. Penn. Ophthalmology & Visual Sciences, Vanderbilt Eye Institute, Nashville, TN

2510 — A0044 Pdx1-mutant zebrafish develop proliferative diabetic retinopathy. Lasse D. Jensen¹, Z. Ali¹, N. S. Lagali², R. A. Kimmel³. ¹Department of Medical and Health Sciences, Linköping University, Linköping, Sweden; ²Department of Clinical and Experimental Medicine, Linköping University, Linköping, Sweden; ³Institute of Molecular Biology, University of Innsbruck, Innsbruck, Austria

2511 — A0045 Linear Discriminate Analysis for Design of High-Value Biomarkers in Proliferative Diabetic Retinopathy. Alexander Hua¹, W. Johnson², N. Nandakumar¹, G. C. Teague¹, M. E. Baldwin³, K. Lashkari¹. ¹Schepens Eye Research Institute, Boston, MA; ²Physics, Suffolk University, Boston, MA; ³Opthea Pty Ltd, South Yarra, VIC, Australia *CR

2512 — A0046 Hypoxia is essential for hyperglycemia to induce permeability and angiogenesis in retinal endothelial cells via GLUT1. Mohamed A. Al-Shabraway¹, H. M. Saleh¹, K. Elmasry¹, I. Kaddour-Dejebbar², A. Tawfik¹, A. Ibrahim¹. ¹Oral Biology/Anatomy/Ophthalmology, Dental and Medical Colleges of Georgia, Augusta University, Augusta, GA; ²Charlie Norwood VA Medical Center, Augusta, GA

2513 — A0047 Potential role of tumor-necrosis factor (TNF) in the diabetes-induced loss of platelet-endothelial cell adhesion molecule-1 (PECAM-1) from retinal endothelial cells. Norman R. Harris, R. S. Eshaq. Molecular & Cellular Physiology, LSU Health Sciences Center, Shreveport, LA

2514 — A0048 Accumulation of Acrolein-conjugated Protein in the Vitreous Fluid of Proliferative Diabetic Retinopathy. Kousuke Noda^{1,2}, M. Murata^{1,2}, W. Saito², A. Kanda^{1,2}, S. Ishida^{1,2}. ¹Laboratory of Ocular Cell Biology and Visual Science, Hokkaido University Graduate School of Medicine, Sapporo, Japan; ²Department of Ophthalmology, Hokkaido University Graduate School of Medicine, Sapporo, Japan

2515 — A0049 miR-15a/16 inhibits TGF-beta3 and SMAD2/3 signaling and maintains retinal endothelial barrier. Eun-Ah Ye, J. J. Steinle. Anatomy and Cell biology, Wayne State University, Detroit, MI

2516 — A0050 Hypoxia stimulates TNFalpha-converting enzyme activation through endoplasmic reticulum stress: implication for retinal neovascularization. Diana Gutsaeva¹, M. Thounaojam¹, S. Rajpurohit¹, W. Jahng², M. Bartoli¹. ¹Ophthalmology, Augusta University, Augusta, GA; ²American University of Nigeria, Yola, Nigeria

2517 — A0051 Upregulation of Lysyl Oxidase Pro-peptide (LOX-PP) Promotes HG-induced Apoptosis in Retinal Endothelial Cells. Dayeun Lee¹, D. Kim¹, P. C. Trackman², S. Roy¹. ¹Medicine and Ophthalmology, Boston University School of Medicine, Boston, MA; ²Molecular and Cell Biology, Boston University Henry M. Goldman School of Dental Medicine, Boston, MA

2518 — A0052 The barrier function, autophagy and inflammatory responses are similar under diabetic stimuli in retinal pigment epithelial cells derived from human induced pluripotent stem cells from the diabetic patients and the normal controls. Kati M. Juuti-Uusitalo¹, A. Klettner², E. Richert², M. Kiamehr¹, A. Koistinen³, K. Aalto-Setälä^{1,4}, K. Kaarniranta^{6,5}, H. Skottman¹. ¹Faculty of Medicine and Biosciences, University of Tampere, Tampere, Finland; ²Department of Ophthalmology, University Medical Center, University of Kiel, Kiel, Germany; ³Department of Applied Physics, University of Eastern Finland, Kuopio, Finland; ⁴Heart Hospital, Tampere University Hospital, Tampere, Finland; ⁵Department of Ophthalmology, Kuopio University Hospital, Kuopio, Finland; ⁶Department of Ophthalmology, Institute of Clinical Medicine, University of Eastern Finland, Kuopio, Finland

2519 — A0053 Signal interaction between Norrin and VEGF promotes blood-retinal barrier restoration. Monica Diaz Coranguéz¹, C. Lin¹, S. Liebnér², D. A. Antonetti¹. ¹Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ²Neurology (Edinger Institute), Johann Wolfgang Goethe University Medical School, Frankfurt, Germany

2520 — A0054 Immunoglobulin laden exosomes induce complement activation and inflammation in retinal endothelial cells in diabetes. Chao Huang. Physiology, Michigan State University, East Lansing, MI

2521 — A0055 Retinal dysfunction in early stages of Metabolic Syndrome established on a new experimental mouse model. Maria C. Paz¹, P. Barcelona¹, P. V. Subirada Caltarone¹, M. E. Ridano¹, G. A. Chiabrando¹, C. Castro², M. C. Sanchez¹. ¹Dpto. de Bioquímica Clínica, CIBICI-CONICET, Córdoba, Argentina; ²Vascular Biology, Institute of Medicine and Experimental Biology of Cuyo (IMBECU) CONICET, Mendoza, Argentina

2522 — A0056 Analysis of Sphingolipid Composition of Human Vitreous from Control and Diabetic Individuals. Lynda A. Wilmot¹, M. Stiles², T. Lyons³, N. A. Mandal^{1,4}. ¹Ophthalmology, The University of Tennessee Health Science Center, Memphis, TN; ²Ophthalmology, Oklahoma University Health Science Center, Oklahoma City, OK; ³Centre for Experimental Medicine, Queen's University Belfast, Belfast, Ireland; ⁴Anatomy and Neurobiology, The University of Tennessee Health Science Center, Memphis, TN

2523 — A0057 Glucose Effect on Cell Viability and VEGF Secretion in Retinal Endothelial Cells. Brandi S. Betts-Obregon¹, J. Buikema¹, A. T. Tsin^{1,2}. ¹Biology, University of Texas at San Antonio, San Antonio, TX; ²Biomedical Sciences, The University of Texas Rio Grande Valley School of Medicine, Edinburg, TX

Tuesday Posters
8:30 am – 10:15 am

2524 — A0058 The role of insulin in diabetic retinal homeostasis. Lilly Khamsy^{1,2}, L. Kowalczyk^{1,2}, T. Favez¹, C. Martin¹, F. F. Behar-Cohen^{1,2}. ¹HOJG, Lausanne, Switzerland; ²Ophthalmology, University of Lausanne, Lausanne, Switzerland

2525 — A0059 Development Of A Novel Approach For Assessment Of Mitochondrial Respiration In Diabetic Retina. Anand R. Saripalli^{1,2}, Y. Levitsky¹, E. Crockett¹, E. Alocilja³, J. V. Busik¹, D. Proshlyakov¹. ¹Physiology/Chemistry/Medicine, Michigan State University, East Lansing, MI; ²Molecular and Integrative Physiology, University of Michigan, Ann Arbor, MI; ³Engineering, Michigan State University, East Lansing, MI

2526 — A0060 ACE2/ACE-Imbalance in Circulating CD34⁺ Cells of Individuals with Diabetic Retinopathy. Charles A. Garcia^{1,3}, S. Joshi², J. Quiroz-Olvera³, M. Duran-Mendez³, W. A. Cantu-Delgado³, S. Gomez³, S. Bartelmez⁴, Y. Jarajapu². ¹Ophthal-Herman Eye Ctr, Univ of Texas Houston Med Sch, Houston, TX; ²Pharmaceutical Sciences, North Dakota State University, Fargo, ND; ³Retinal Vascular Center, Houston, TX; ⁴BetaStem Therapeutics, Sausalito, CA

2527 — A0061 Diabetes hinders resolution of inflammation and reestablishment of the inner blood-retinal barrier following retinal ischemia-reperfusion injury. Sumathi Shanmugam, C. Lin, D. Kong, H. Hager, D. A. Antonetti, S. F. Abcouwer. Ophthalmology and Visual Sciences, University of Michigan, Kellogg Eye Center, Ann Arbor, MI

2528 — A0062 C57BL/6JBomTac is an Ideal Mouse Model for Diabetic Retinopathy Research: Why Selecting Proper Wild-Type Control Mouse Matters in Validating Preclinical Studies of Diabetic Retinopathy. Michael DeNiro, A. AlQahtani, E. Goljan, A. AlHazmi, F. AlMohanna. King Faisal Specialist Hospital & Research Centre, Al Maather, Riyadh, Saudi Arabia

2529 — A0063 Monocytes from patients with diabetic retinopathy are characterized by increased VEGF transcription during early macrophage differentiation. Xavier Guillonnet¹, D. Rivera^{2,3}, H. Charles-Messance¹, A. Jimenez-Corona², A. Couturier¹, A. Rendon¹, J. A. Sahel¹, C. M. Eandi⁴, F. Sennlaub¹, E. O. Graue-Hernandez², Y. Garfias^{2,5}. ¹Institut de la Vision, UPMC UMRS968, Paris, France; ²Institute of Ophthalmology, Conde de Valenciana Foundation, Mexico city, Mexico; ³Centro de Atención Integral Del Paciente Con Diabetes, Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico city, Mexico; ⁴Department of Clinical Science, Eye Clinic, University of Torino, Torino, Italy; ⁵Department of Biochemistry, Universidad Nacional Autónoma de México, Faculty of Medicine, Mexico city, Mexico

2530 — A0064 Evaluation of Zucker Diabetic Fatty and ZSF1-Obese Rats as Potential Models for Diabetic Retinopathy. Margaret E. Collins, C. Kolodziej, R. Sharp, K. Anderson, P. Wells, T. Mack, C. Sprague. Toxicology, Charles River, Reno, NV *CR

2531 — A0065 Pro-inflammatory phenotypes of retinal microvascular endothelial cells and monocytes upon RAGE Activation. Faye Drawnel, D. Feenstra, K. Sokoll, G. Sipos, J. Hesselmann, A. Jayagopal. Roche Pharma Research and Early Development, F. Hoffmann-LaRoche Ltd., Basel, Switzerland *CR

Exhibit/Poster Hall A0122-A0167

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Glaucoma

312 Neurodegeneration and Neuroprotection

Moderators: Marta Agudo-Barriuso and Yvonne Ou

2532 — A0122 Effect of axonopathy on dynamics of acidic organelle in the axon of primary cultured retinal ganglion cells. Seiji Miyake¹, Y. Takihara^{1,2}, S. Yokota^{3,1}, Y. Takamura¹, M. Inatani¹. ¹Faculty of Medical Sciences, University of Fukui, Yoshida-gun, Japan; ²Cancer Science Institute of Singapore, National University of Singapore, Medical Drive, Singapore; ³Graduate School of Medicine and Faculty of Medicine, Kyoto University, Kyoto, Japan

2533 — A0123 Physiologic Electrical Fields Direct Retina Ganglion Cell Neurite Growth. Kimberly K. Gokoffski^{1,2}, X. Jia³, G. Xia³, M. Zhao². ¹Ophthalmology, USC Roski Eye Institute, Los Angeles, CA; ²Ophthalmology and Vision Sciences, UC Davis, Sacramento, CA; ³Psychiatry and Behavioral Science, University of California Davis, Sacramento, CA

2534 — A0124 Cigarette smoke extract causes injury in primary retinal ganglion cells via apoptosis and autophagy. Kwanghyun Lee, S. Hong, G. Seong, C. Kim. department of ophthalmology, Yonsei College of Medicine, Seoul, Korea (the Republic of)

2535 — A0125 Hydrogen sulfide protects retinal ganglion cells from cell death due to elevated hydrostatic pressure in vitro. Verena Prokosch-Willing¹, L. Hanhan¹, N. Pfeiffer¹, F. H. Grus¹, S. Thanos². ¹University Eye Hospital Mainz, Mainz, Germany; ²Experimental Eye Institution, Mainz, Germany

2536 — A0126 Use of Human Stem Cell-derived RGCs to Study the Mechanism of Optineurin-associated Glaucoma. Arupratan Das¹, V. Sluch², C. O. Davis³, N. Marsh-Armstrong³, D. J. Zack¹. ¹Ophthalmology, Johns Hopkins School of Medicine, Baltimore, MD; ²Molecular Biology and Genetics, Johns Hopkins School of Medicine, Baltimore, MD; ³Ophthalmology and Vision Science, University of California, Davis, CA

2537 — A0127 Abnormal RGC development and mRNA expression associated with primary open angle glaucoma patient-specific induced pluripotent stem (iPS) cells. Iqbal Ahmad¹, R. Allingham², P. Teotia¹. ¹Ophthalmology & Visual Sciences, Univ of Nebraska Medical Ctr, Omaha, NE; ²Duke Eye Center, Durham, NC

2538 — A0128 Delayed RGC death and persistent JNK activation following optic nerve injury in BAX deficient mice. Ryan Donahue, J. Grosser, M. Maes, R. W. Nickells. Department of Ophthalmology, University of Wisconsin - Madison, Madison, WI

2539 — A0129 Overexpression of histone deacetylase 3 (HDAC3) induces apoptosis in differentiated retinal neurons. Heather M. Schmitt¹, C. Schlamp¹, H. Yang², L. Guo², R. W. Nickells¹. ¹Ophthalmology, University of Wisconsin-Madison, Madison, WI; ²Surgery, UW-Madison, Madison, WI

2540 — A0130 MicroRNA-761 regulates programmed necrosis of retinal ganglion cells through targeting FADD. Bing Jiang¹, L. Xie¹, M. Mao². ¹Ophthalmology, The 2nd Xiangya Hospital, Central South University, Changsha, China; ²Ophthalmology, Univ of California, SF Sch of Med, San Francisco, CA

2541 — A0131 Retinal ganglion cell dendritic pruning in glaucoma is associated with early increased excitation. Michael L. Risner, S. Pasini, D. J. Calkins. Ophthalmology and Visual Sciences, Vanderbilt University Medical Center, Nashville, TN

2542 — A0132 RGC subtype specific death in acute and chronic models of glaucoma. Steffi Daniel¹, M. G. Anderson², A. F. Clark¹, C. M. McDowell¹. ¹University of North Texas Health Science Center, Fort Worth, TX; ²University of Iowa, Iowa City, IA

2543 — A0133 Effects of optic nerve crush and ocular hypertension on the reflectance spectrum and cytostructure of the retinal nerve fiber layer of rats. Xiang-Run Huang, W. Kong, Y. Z. Spector, J. Qiao. University of Miami, Bascom Palmer Eye Institute, Miami, FL

- 2544 — A0134 Persistent Changes in Optic Nerve Head (ONH) Gene Expression Following an Elevated Intraocular Pressure Event.** *Diana C. Lozano¹, D. Choi^{1,2}, H. Jayaram^{1,3}, W. O. Cepurna¹, T. E. Choe¹, L. Davis¹, S. Tehrani¹, E. C. Johnson¹, J. C. Morrison¹.* ¹Ophthalmology, Oregon Health & Science University, Portland, OR; ²School of Public Health, Oregon Health & Science University, Portland, OR; ³NIHR Moorfields Biomedical Research Centre, London, United Kingdom
- 2545 — A0135 Optic Nerve Head (ONH) Gene Expression Following Optic Nerve Transection vs an Ischemic Event.** *John C. Morrison¹, D. Choi^{1,2}, H. Jayaram^{1,3}, W. O. Cepurna¹, T. E. Choe¹, L. Davis¹, S. Tehrani¹, E. C. Johnson¹, D. C. Lozano¹.* ¹Ophthalmology, Oregon Health & Science University, Portland, OR; ²School of Public Health, Oregon Health & Science University, Portland, OR; ³NIHR Moorfields Biomedical Research Centre, London, United Kingdom
- 2546 — A0136 Simultaneous Integrative Analysis of MicroRNA(miR) & Gene Expression to Contrast Optic Nerve Head(ONH) Responses to Optic Nerve Transection(ONT) with a Controlled Elevation of IOP(CEI).** *Hari Jayaram^{1,2}, D. C. Lozano², D. Choi^{2,3}, T. E. Choe², W. O. Cepurna², E. C. Johnson², J. C. Morrison².* ¹NIHR Moorfields Biomedical Research Centre, London, United Kingdom; ²Casey Eye Institute, Oregon Health and Science University, Portland, OR; ³Public Health & Preventive Medicine, Oregon Health & Science University, Portland, OR
- 2547 — A0137 Optic Nerve Head (ONH) TGF- β in a Spontaneous Large Animal Glaucoma Model.** *Gillian J. McLellan^{1,2}, K. Oikawa^{1,2}.* ¹Ophthalmology & Visual Sciences, University of Wisconsin-Madison, Madison, WI; ²McPherson Eye Research Institute, Madison, WI
- 2548 — A0138 Establishment of conditionally immortalized mouse optic nerve astrocyte line.** *Yang Liu, G. C. Patel, W. Mao, A. F. Clark.* North Texas Eye Research Institute, University of North Texas Health Science Center, Fort Worth, TX *CR
- 2549 — A0139 The optic canal: a bottle neck for cerebrospinal fluid dynamics in normal tension glaucoma?** *Hanspeter Killer, M. montali, A. Pircher, J. Berberat, L. Remonda.* ophthalmology, kantonsspital aarau, Aarau, Switzerland
- 2550 — A0140 Dysregulation in purinergic signaling causes hypertensive glaucoma-like optic neuropathy.** *Youichi Shinozaki¹, K. Kashiwagi², A. Takeda¹, N. Ohno³, S. Koizumi¹.* ¹Neuropharmacology, University of Yamanashi, Chuo, Japan; ²Department of Ophthalmology, University of Yamanashi, Yamanashi, Japan; ³Natl Inst Physiol Sci, Aichi, Japan *CR
- 2551 — A0141 Up-regulation of connexin36 in retinal neurons amplifies gap junction-mediated neurodegeneration in glaucoma.** *Sandeep Kumar, H. Ramakrishnan, K. Roy, A. Akopian, S. A. Bloomfield.* SUNY College of Optometry, New York, NY
- 2552 — A0142 Neuroprotective antibodies trigger CNTF secretion of Müller cells.** *Katharina Bell, C. Wilding, S. Beck, N. Pfeiffer, F. H. Grus.* Experimental Ophthalmology, Medical Center University of Mainz, Mainz, Germany
- 2553 — A0143 Endogenous WNT/ β -catenin signaling in Müller cells protects retinal ganglion cells against excitotoxic damage.** *Andreas Ohlmann, F. Boesl, K. Drexler, E. R. Tamm.* Anatomy, University of Regensburg, Regensburg, Germany
- 2554 — A0144 Lack of regional axon loss in a murine glaucoma model.** *Julie Schaub, E. Cone-Kimball, M. Pease, E. Oglesby, C. Nguyen, H. A. Quigley.* Glaucoma Center of Excellence, Johns Hopkins University, Wilmer Eye Institute, Baltimore, MD
- 2555 — A0145 Intra ocular injection of plastic microsphere induces glaucoma in mice.** *Amir Sternfeld^{1,3}, Y. Barkana³, R. Ofri², N. Goldenberg-Cohen^{3,4}.* ¹Ophthalmology, Rabin Medical Center, Tel Aviv, Israel; ²Koret School of Veterinary Medicine, Hebrew University of Jerusalem, Rehovot, Israel; ³The Krieger eye laboratory, Felsenstein Medical Research Center, Petah Tikva, Israel; ⁴Ophthalmology, Bnai Zion Medical Center, Haifa, Israel; ⁵Private Practice, Tel-Aviv, Israel
- 2556 — A0146 Glaucoma features in a fibrillin-1 mutant mouse.** *MinHee K. Ko¹, J. Gonzalez¹, J. C. Tan^{1,2}.* ¹Ophthalmology, Doheny Eye Institute, LA, CA; ²Ophthalmology, University of California, Los Angeles, Los Angeles, CA
- 2557 — A0147 Retinal Glutamate Upregulation in Chronic Experimental Glaucoma (EG) with or without Prior Hemiretinal Endodiathermy Axotomy (HEA).** *Alexander Katz¹, C. B. Kim^{1,2}, H. Nguyen¹, V. Raghunathan³, P. Russell³, P. Miller⁴, C. J. Murphy^{3,2}, B. J. Christian⁶, T. Nork^{1,2}.* ¹Ophthalmology and Visual Sciences, University of Wisconsin - Madison, Madison, WI; ²OSOD (Ocular Services On Demand), LLC, Madison, WI; ³Surgical and Radiological Sciences, University of California, Davis, Davis, CA; ⁴Surgical Sciences, University of Wisconsin - Madison, Madison, WI; ⁵Ophthalmology and Visual Science, University of California, Davis, Davis, CA; ⁶Toxicology, Covance, Madison, WI
- 2558 — A0148 Effect of continuous eye perfusion on rat retinal ganglion cells.** *Kayla Ficarrota, C. L. Passaglia.* Biomedical Engineering, University of South Florida, Tampa, FL *CR
- 2559 — A0149 Global proteomic analysis of retina in progressive retinal ganglion cell (RGC) degeneration.** *Jacky Man Kwong Kwong¹, T. Lam², K. Li², C. To², J. Caprioli¹.* ¹Ophthalmology, Jules Stein Eye Institute, UCLA, Los Angeles, CA; ²Optometry, Hong Kong Polytechnic University, Hong Kong, Hong Kong
- 2560 — A0150 Proteomics analysis of astroglia-driven neuroinflammatory responses in mouse glaucoma.** *Gulgun Tezel¹, X. Yang¹, J. Ca², J. B. Klein².* ¹Ophthalmology, Columbia University, New York, NY; ²University of Louisville, Louisville, KY
- 2561 — A0151 Evaluation of intraocular pressure and inflammation after Boston K-Pro implantation in Rabbits.** *Vassiliki Kapoulea², E. Taniguchi¹, Y. Li^{2,3}, C. Zhou^{2,3}, F. Lei^{2,3}, J. Chodosh^{2,3}, D. F. Chen^{2,3}, C. H. Dohman^{2,3}, E. I. Paschalis^{2,3}.* ¹Eye Hospital of Blumenau, Blumenau, Brazil; ²Massachusetts Eye and Ear Infirmary, Boston, MA; ³Harvard Medical School, Boston, MA
- 2562 — A0152 T cell responses in human glaucoma.** *Xiangjun Yang, E. Goktas, Q. Zeng, L. Al-Aswad, J. D. Auran, D. Blumberg, G. A. Cioffi, J. M. Liebmann, L. H. Suh, D. Trief, G. Tezel.* Department of Ophthalmology, Columbia University, New York, NY
- 2563 — A0153 New role of pyruvate dehydrogenase kinase 4 in retinal ganglion cell death after Ischemia/reperfusion injury.** *Ji-yeon Do¹, I. Lee¹, D. Park^{2,3}.* ¹Drug discovery and development for diabetes and metabolic disease, Kyungpook national university hospital, Daegu, Korea (the Republic of); ²Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ³Ophthalmology, Kyungpook national university hospital, Daegu, Korea (the Republic of); ⁴Endocrinology, Kyungpook National University Hospital, Daegu, Korea (the Republic of)
- 2564 — A0154 Post-ischemic treatment with azithromycin prevents retinal ganglion cell death induced by ischemia/reperfusion injury in rat.** *Annagrazia Adornetto¹, G. P. Varano¹, C. Nucci², M. T. Corasaniti³, L. A. Morrone¹, G. Bagetta¹, R. Russo¹.* ¹Pharmacy and Health and Nutritional Sciences, University of Calabria, Arcavacata di Rende, Italy; ²Experimental Medicine and Surgery, Ophthalmology Unit, Rome, Italy; ³Health Sciences, University "Magna Graecia", Catanzaro, Italy
- 2565 — A0155 Effects of the dynamic modulation of macroautophagy in retinal ganglion cell survival in a mouse model of retinal ischemia/reperfusion.** *Rossella Russo¹, G. P. Varano¹, A. Adornetto¹, F. Nazio³, L. A. Morrone¹, M. T. Corasaniti³, F. Cecconi², G. Bagetta¹, C. Nucci¹.* ¹Pharmacy and Health and Nutritional Sciences, University of Calabria, Arcavacata di Rende, Italy; ²Biology, University of Rome Tor Vergata, Rome, Italy; ³Health Sciences, University "Magna Graecia", Catanzaro, Italy; ⁴Experimental Medicine and Surgery, Ophthalmology Unit, University of Rome Tor Vergata, Rome, Italy

2566 — A0156 Effect of Photobiomodulation on a Retinal Ischemia Rat Model. *Hongyi Zheng, J. SHUM, A. C. Lo, J. Lai.* Department of Ophthalmology, The University of Hong Kong, Hong Kong, Hong Kong

2567 — A0157 Neuroprotective effect of a dietary supplement against glutamate-induced cytotoxicity in experimental glaucoma models. *Takahiro Kurose¹, T. Takezawa², S. Shiratori², M. Kato¹, Y. Mitsuguchi¹, Y. Takai¹, Y. Honma¹, E. Sugano², H. Tomita².* ¹Rohto Pharmaceutical Co., Ltd, Kizugawa, Japan; ²Department of Chemistry and Bioengineering, Iwate University, Morioka, Japan *CR

2568 — A0158 Transgene expression, processing and activity following intravitreal Injection of QTA020V, a novel rAAV2 vector for retinal ganglion cell neuroprotection. *Andrew Osborne^{1,2}, P. S. Widdowson¹, K. R. Martin^{1,2}.* ¹School of Clinical Neuroscience, University Of Cambridge, Cambridge, United Kingdom; ²QUETHERA Ltd, Cambridge, United Kingdom *CR

2569 — A0159 Design and characterisation of an AAV2 vector aiming to achieve long term modulation of BDNF signalling as a treatment for glaucoma. *Peter S. Widdowson¹, A. Osborne^{2,1}, A. Tassoni², K. R. Martin^{2,1}.* ¹QUETHERA Ltd, Cambridge, United Kingdom; ²Department of Clinical Neurosciences, University of Cambridge, Cambridge, United Kingdom *CR

2570 — A0160 Neuroprotective potential of 3D culture of human limbal mesenchymal stem cells. *Madina Khubetsova¹, S. Borzenok^{1,2}, I. Saburina³, N. Gavrilova², N. Kosheleva³, K. Tonaeva¹, P. Arbukhanova¹, N. Lanevskaya^{1,2}, D. Ostrovsky¹, M. Shurygina¹, I. Popov¹.* ¹The S. Fyodorov Eye Microsurgery Federal State Institution Ministry of Health of Russian Federation, Moscow, Russian Federation; ²The A.I. Evdokimov Moscow State Medical Dental University, Moscow, Russian Federation; ³Institute of General Pathology and Pathophysiology, Moscow, Russia, Moscow, Russian Federation

2571 — A0161 Assessment of the effects of systemically administered levetiracetam in an ocular model for neuroprotection. *Ruta Maciulaitiene¹, S. Ragauskas², G. Pakuliene¹, S. Kaja^{2,3}, I. Januleviciene¹, G. Kalesnykas².* ¹Ophthalmology Department, Medical Academy, Lithuanian University of Health Sciences, Kaunas, Lithuania; ²Experimentica Ltd., Kuopio, Finland; ³K&P Scientific LLC, Kansas City, MO *CR

2572 — A0162 Effect of Doxycycline on Retinal Ganglion Cells in an Experimental Glaucoma Model. *Tae-eun Lee^{1,2}, Y. Kim².* ¹Ophthalmology, Chonbuk National University, Jeonju-si, Korea (the Republic of); ²Ophthalmology, Korea University, Seoul, Korea (the Republic of)

2573 — A0163 The effects of zeaxanthin injections on bugeye (Lrp2) mutant zebrafish vision, a model to study glaucoma treatments. *Kevin Z. Kwan¹, K. Villafan¹, T. Tran¹, P. G. Davey², D. Cameron².* ¹Graduate College of Biomedical Sciences, Western University of Health Sciences, Alhambra, CA; ²College of Optometry, Western University of Health Sciences, Pomona, CA

2574 — A0164 Sigma 1 receptor mediated neuroprotection in a rat model of glaucoma. *Kathryn E. Bollinger, B. A. Mysona, J. Zhao, G. gonsalvez, S. B. Smith.* Ophthalmology, Augusta University, Augusta, GA

2575 — A0165 Lipoxin B₁, a Novel Neuroprotectant for the Inner Retina. *John G. Flanagan¹, H. Liu¹, K. Gronert¹, J. M. Sivak², I. Livne-Bar^{1,2}.* ¹School of Optometry, University of California Berkeley, Berkeley, CA; ²Vision Sciences and Ophthalmology, University of Toronto, Toronto, ON, Canada *CR

2576 — A0166 Caloric Restriction Diet Shows Preservation Effect on Ocular Structures. *Katie A. Lucy¹, G. Wollstein¹, M. Liu², H. Ishikawa¹, J. S. Schuman¹.* ¹NYU Langone Eye Center, New York University School of Medicine, New York, NY; ²Departments of Population Health and Environmental Medicine, New York University School of Medicine, New York, NY *CR

2577 — A0167 Optogenetic brain stimulation as a neuroprotective strategy in murine experimental glaucoma. *Lieve K. Moons, M. Claes, E. Dekeyster, L. Arckens, M. Salinas-Navarro, E. Geeraerts.* Biology Dept, Zoological Inst, K U Leuven, Leuven, Belgium

Exhibit/Poster Hall A0168-A0190

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Visual Neuroscience

313 Ganglion Cells and Beyond

Moderator: Tudor C. Badea

2578 — A0168 Characterization of the nonlinear receptive fields of G9 and Off-alpha Ganglion cells in the rabbit retina. *Iris Fahrenfort, L. Tian, S. C. Massey, S. L. Mills.* Ophthalmology and Visual Sciences, UTHealth, Houston, TX

2579 — A0169 Simplified detection of ON/OFF receptive fields using a nonlinear input model. *Hope Shi, A. Boukhvalova, D. Butts, J. H. Singer.* Biology, University of Maryland, College Park, MD

2580 — A0170 Synaptic inputs to a gamma ganglion cell in rabbit retina. *David W. Marshak¹, A. S. Bordt¹, D. Perez¹, L. Tseng¹, W. S. Liu¹, C. Sigulinsky², D. Emrich², J. S. Lauritzen², C. B. Watt², B. W. Jones³, R. E. Marc².* ¹Neurobiology & Anatomy, McGovern Medical School, Houston, TX; ²John A. Moran Eye Center, Salt Lake City, UT *CR

2581 — A0171 Distinct Glycine Receptor Subunit Composition Across Retinal Ganglion Cell Types. *Ian S. Pyle¹, C. Zhang³, M. A. McCall^{2,1}.* ¹Anatomical Sciences and Neurobiology, University of Louisville, Louisville, KY; ²Department of Ophthalmology and Visual Sciences, University of Louisville School of Medicine, Louisville, KY; ³Department of Biological Structure, University of Washington, Seattle, WA

2582 — A0172 Dependence of Flupirtine-resistant RGC oscillation in deafferented mouse retinas on Connexin 36. *Ching-Kang J. Chen^{1,2}, Y. Chen¹, Y. Chen¹, C. Hsu², H. Tu¹.* ¹Ophthalmology, Baylor College of Medicine, Houston, TX; ²Neuroscience, Baylor College of Medicine, Houston, TX

2583 — A0173 Retinal processing around saccades. *Saad Idrees^{1,2}, T. A. Muench^{1,3}.* ¹Werner Reichardt Centre for Integrative Neuroscience, University of Tuebingen, Tuebingen, Germany; ²IMPRS for Cognitive and Systems Neuroscience, Tuebingen, Germany; ³Institute for Ophthalmic Research, Tuebingen, Germany

2584 — A0174 Effects of blocking GABA-C and mGlu1 receptors on contrast response functions of retinal ganglion cells in P23H rat. *Ralph J. Jensen.* Research, Boston VA Med Ctr, Boston, MA

2585 — A0175 Distinct retinal ganglion cell subtypes exhibit diverse topographic characteristics across the mouse retina. *Rana El-Danaf¹, A. Huberman^{1,2}.* ¹Neurobiology, Stanford University School of Medicine, Stanford, CA; ²Ophthalmology, Stanford Neurosciences Institute, BioX, Stanford University School of Medicine, Stanford, CA

- 2586 — A0176 Advanced Neural Circuit Analysis by Combining High-Resolution Optogenetic Stimulation, Two-Photon Imaging and Electrophysiology.** *Elric Esposito¹, G. Spampinato², P. Yger³, D. Dalkara⁴, E. Ronzitti⁵, E. Papagiakoumou⁵, V. Emiliani⁵, S. A. Picaud², O. Marre², J. Duebel¹.* ¹Neurophysiology and optogenetic applications in the retina, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ²Retinal information processing - Pharmacology and Pathology, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ³Computational neuroscience of sensory systems, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ⁴Gene therapies and animal models for neurodegenerative diseases, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ⁵Neurophotonics laboratory, Université Paris Descartes CNRS UMR8250, Paris, France
- 2587 — A0177 Macular Ganglion Cell-Inner Plexiform Layer and Ganglion Cell Complex Thickness in 3000 Normal Chinese Children Aged 6-18 Years Old Using Swept-Source Optical Coherence Tomography.** *Mingjin Wang, L. Cheng, X. He, M. Lv, J. Deng, J. Zhu, H. Zou, X. Xu.* Shanghai Eye Disease Prevention and Treatment Center, Shanghai, China
- 2588 — A0178 Genetic dissection of photoreceptor contributions to the mouse ganglion cell receptive field.** *Robert L. Seilheimer^{1,2}, J. Sabharwal^{1,2}, S. M. Wu¹.* ¹Ophthalmology, Baylor College of Medicine, Houston, TX; ²Medical Scientist Training Program, Baylor College of Medicine, Houston, TX
- 2589 — A0179 Retinal Ganglion Cells Layer thickness as a possible bio-marker for accelerate ageing due to Human Immunodeficiency Virus infection.** *Alessandro Invernizzi^{1,2}, A. Acquistapace¹, S. Boichchio¹, C. Resnati³, S. Pomati⁴, A. Klistorner², G. Staurenghi¹, A. Riva³.* ¹Department of Biomedical and Clinical Science “Luigi Sacco”, University of Milan, Milan, Italy; ²Save Sight Institute - University of Sydney, Sydney, NSW, Australia; ³Department of Clinical Sciences, Luigi Sacco Hospital, Section of Infectious and Tropical Diseases, University of Milan, Milan, Italy; ⁴Center for Research and Treatment on Cognitive Dysfunctions, Institute of Clinical Neurology, Department of Clinical Sciences, Luigi Sacco Hospital, University of Milan, Milan, Italy *CR
- 2590 — A0180 Study of Regulatory Mechanism of Growth Differentiation Factors on Retinal Ganglion Cell Development.** *Kun-Che Chang, C. Sun, X. Xia, S. Wu, J. L. Goldberg.* Ophthalmology, Stanford University, Palo Alto, CA
- 2591 — A0181 Retinoid-related orphan receptor β regulates the balance of ipsilateral and contralateral ganglion cells in mouse retina.** *In-Jung Kim, J. B. Demb, H. Byun.* Ophthalmology, Yale School of Medicine, New Haven, CT
- 2592 — A0182 Promoting optic nerve regeneration with a novel biocompatible fibrous scaffold.** *Karen Chang^{1,2}, J. Wu³, K. Cho², S. Luo³, T. Chen⁴, M. Chen¹, W. Su³, D. F. Chen².* ¹Graduate Institute of Clinical Dentistry, School of Dentistry, National Taiwan University, Taipei, Taiwan; ²Department of Ophthalmology, Schepens Eye Research Institute and Massachusetts Eye and Ear, Boston, MA; ³Department of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan; ⁴Department of Ophthalmology, National Taiwan University Hospital, Taipei, Taiwan
- 2593 — A0183 Regulation of neurite growth by IGF1R family members.** *Yingqian Li, K. Cho, D. F. Chen.* Chen lab, Schepens Eye research institute, Boston, MA
- 2594 — A0184 Development of Intrathalamic Connections Between dLGN and TRN.** *Peter W. Campbell, W. Guido.* Anatomical Sciences & Neurobiology, University of Louisville, Louisville, KY
- 2595 — A0185 Pou4f1/Brn3a regulates neurite- and synapse-associated genes during Retinal Ganglion Cell development.** *Vladimir Muzyka, T. C. Badea.* National Eye Institute, NIH, Bethesda, MD
- 2596 — A0186 Dendritic reorganization of starburst amacrine cells secondary to retinal ganglion cell death.** *Ning Tian¹, T. He^{2,1}, X. Mortensen¹, P. Wang¹.* ¹Ophthalmology & Visual Science, University of Utah, Salt Lake City, UT; ²Ophthalmology, Wuhan University, Wuhan, China
- 2597 — A0187 Differential expression and distribution of Copines in Retinal Ganglion Cells.** *Manvi Goel, T. Li, T. C. Badea.* National Eye Institute, National Institutes of Health, Bethesda, MD
- 2598 — A0188 The Orientation of Mouse Retina from Ocular Landmarks: Where you cut matters.** *Katelyn Sondereker¹, S. Hahghgou², J. Onyak¹, J. M. Renna¹, M. Stabio².* ¹Department of Biology, The University of Akron, Akron, OH; ²Department of Cell and Developmental Biology, University of Colorado School of Medicine, Denver, CO
- 2599 — A0189 Plastic changes in ganglion cell spectral responses after transgenic manipulation of the zebrafish cone mosaic.** *Leah J. Middleton, R. F. Nelson.* National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD
- 2600 — A0190 MicroRNA-19a enhances axon regeneration in retinal ganglion cells.** *Heather K. Mak¹, X. Cao¹, J. S. Yung¹, H. Ng¹, T. Lee², C. K. Leung¹.* ¹Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong; ²School of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong *CR

Exhibit/Poster Hall A0191-A0237

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Cornea

314 Corneal Epithelium

Moderator: Ali R. Djalilian

- 2601 — A0191 Activation of proteasome by inhibiting autophagy in corneal epithelia cells with limbal stem cell deficiency.** *Fawzia Bardag-Gorce, A. Makalino, R. Hofi, A. Laporte, J. Stark, I. Meepe, J. Oliva, Y. Niihara.* Hematology, LA BioMed at Harbor UCLA Medical Center, Torrance, CA *CR
- 2602 — A0192 Keratolimbic allograft and Boston keratoprosthesis in management of aniridic keratopathy.** *Omar Hassan, A. R. Djalilian, M. S. Cortina.* Department of Ophthalmology, University of Illinois, Chicago, IL
- 2603 — A0193 Proteomic analysis of secreted factors produced by human limbal epithelial cell cultures during in-vitro growth and expansion.** *Enrique Salero^{1,2}, M. Urbietal^{1,2}, A. L. Sabater^{1,2}, M. Piqueras¹, S. K. Bhattacharya¹, V. L. Perez^{1,2}.* ¹Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²Interdisciplinary Stem Cell Institute, Miami, FL *CR
- 2604 — A0194 Impact of Melanocytes on the Proliferation and Differentiation of Limbal Epithelial Stem Cells.** *Yan Chen¹, J. Xu¹, W. Li².* ¹EENT Hospital of Fudan University, Shanghai, China; ²Eye Institute of Xiamen University, Xiamen, China
- 2605 — A0195 Sox9 is required for corneal epithelial cell proliferation.** *Mark Rosenblatt¹, M. Sun¹, V. H. Guaiquil¹, A. Liu², E. Fuchs³, R. Sartaj¹.* ¹Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago/ Illinois Eye and Ear Infirmary, Chicago, IL; ²Department of Ophthalmology, Weill Cornell Medical College, New York, NY; ³Robin Chemers Neustein Laboratory of Mammalian Cell Biology and Development, Rockefeller University, New York, NY

2606 — A0196 Characterization of tet-On *Abcb5* (*P2A-rtTA*) Driver Mice by CRISPR/Cas9-mediated Knock-in Strategy. Jianhua Zhang³, C. Li³, F. Dong³, Y. Zhang¹, C. Liu¹, Y. Hu², Y. Chen², W. W. Kao³. ¹School of Ophthalmology, Indiana University, Bloomington, IN; ²Division of Developmental Biology, Cincinnati Children's, Cincinnati, OH; ³Department of Ophthalmology, College of Medicine University of Cincinnati, Cincinnati, OH

2607 — A0197 Sex differences in the corneal disease in Notch1 conditional knockout mice. Xiang Shen, I. Putra, N. Afsharkhamseh, A. Kachlan, M. Eslani, A. R. Djalilian. Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL

2608 — A0198 Different Regions of Amniotic Membrane Denuded with EDTA or Thermolysin Equally Support the *in vitro* Expansion of Limbal Stem/progenitor Cells. Hua Mei, L. Chen, E. Baclagon, S. X. Deng. Ophthalmology, Jules Stein Eye Institute, UCLA, Los Angeles, CA

2609 — A0199 FIH-1 regulates ΔNp63α: a novel insight on the control of proliferation. Han Peng, N. Kaplan, J. Park, Y. Dong, W. Yang, R. M. Lavker. Dermatology, Northwestern University, Chicago, IL

2610 — A0200 Comparative analysis of Epi-Bowman Keratectomy using epikeratome versus manual scraping for corneal epithelium debridement in photorefractive keratectomy. kanchan R. sainani¹, P. Khamar¹, P. Chevour², N. R. Kumar², R. Deshmukh¹. ¹Cornea and Refractive services, Narayana Nethralaya, Mumbai, India; ²GROW LAB, Narayana Nethralaya, Bangalore, India

2611 — A0201 Evaluating Biocompatibility of artificial corneal substitutes in an ex vivo corneal reepithelialization model. Xiaokun Wang¹, S. Majumdar², J. Sohn³, J. Qin³, J. Elisseeff^{1,3}. ¹School of Medicine, Johns Hopkins University, Baltimore, MD; ²Material Science and Engineering, Johns Hopkins University, Baltimore, MD; ³Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD

2612 — A0202 Taking the Recurrence out of Recurrent Corneal Erosions: A Case Series. Scott G. Hauswirth¹, M. M. Hom². ¹Minnesota Eye Consultants PA, Blaine, MN; ²Private Practice, Azusa, CA *CR

2613 — A0203 Dynamics of Fluorescent Imaging in Glob-Driven Breakup. Lan Zhong¹, R. J. Braun¹, P. E. King-Smith², C. G. Begley³. ¹Department of Mathematical Sciences, University of Delaware, Newark, DE; ²College of Optometry, The Ohio State University, Columbus, OH; ³School of Optometry, Indiana University, Bloomington, IN

2614 — A0204 Reevaluation of the epithelial permeability to fluorescein by the multi-drop method. Arushi Goyal¹, D. Talele¹, P. Padmanabhan¹, R. Sudhir¹, S. Mahadik¹, P. Murthy¹, U. B. Kompella², S. Ranganath⁴, S. P. Srinivas³. ¹Sankara Nethralaya, Chennai, India; ²Pharmaceutical Sciences, University of Colorado, Denver, CO; ³Optometry, Indiana University, Bloomington, IN; ⁴Chemical Eng, SIT, Tumkur, India

2615 — A0205 Optimized protocols for immunostaining of the epithelium of flat mounted whole human corneas. Zhiguo He¹, C. Perrache¹, F. Forest^{1,2}, D. Guindolet^{1,3}, E. Gabison³, F. Cognasse⁴, F. Bergandi⁵, S. Acquart⁴, P. Gain¹, G. Thuret^{1,6}. ¹BiGC EA 2521, University Jean Monnet; Faculty of Medicine, Saint-etienne, France; ²Department of Pathology, University Hospital of Saint-Etienne, Saint Etienne, France; ³Cornea and external Diseases, Ophthalmological Foundation of Rothschild, Paris, France; ⁴Eye Bank, Saint-Etienne, Auvergne-Loire French Blood Establishment, Saint Etienne, France; ⁵Department of Anatomy, Faculty of Medicine, Jean Monnet University, Saint Etienne, France; ⁶Institut Universitaire de France, Paris, France

2616 — A0206 Neuron-epithelial cell fusion in the murine cornea revealed with serial block-face sem imaging. Samuel D. Hanlon^{1,2}, J. A. Courson¹, T. T. Do¹, C. W. Smith², A. R. Burns^{1,2}. ¹Research, Univ of Houston College of Optometry, Houston, TX; ²CNRC, Baylor College of Medicine, Houston, TX

2617 — A0207 The Fibronectin-Derived Peptide PHSRN Promotes Corneal Epithelial Wound Healing in Diabetic Rats. Naoyuki Morishige^{1,2}, A. Uemura², Y. Morita², T. Nishida¹. ¹Division of Cornea and Ocular Surface, Ohshima Hospital of Ophthalmology, Fukuoka, Japan; ²Yamaguchi University, Ube, Japan *CR

2618 — A0208 Fragility of corneal epithelium induced by cornea-specific loss of plakoglobin in mice. Masahide Kokado¹, M. Miyajima², Y. Okada¹, O. Yamanaka¹, C. Liu³, W. W. Kao⁴, W. Show⁵, S. Saika¹. ¹Department of Ophthalmology, Wakayama Medical University, Wakayama, Japan; ²Laboratory Animal Center, Wakayama Medical University, Wakayama, Japan; ³School of Optometry, Indiana University, Bloomington, IN; ⁴Ophthalmology, University of Cincinnati, Cincinnati, OH; ⁵Herman B Wells Center for Pediatric Research, Department of Pediatrics, Indiana University School of Medicine, Indianapolis, IN

2619 — A0209 KLF4 Promotes Corneal Epithelial Cell Fate by Suppressing Epithelial-Mesenchymal Transition. Anil Tiwari¹, C. L. Loughner¹, S. Swamynathan¹, S. K. Swamynathan^{1,2}. ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Cell biology and Fox Center for Vision Restoration, University of Pittsburgh, Pittsburgh, PA

2620 — A0210 Growth factor immobilization *in situ* by copper-free click chemistry: *in vitro* binding, cytocompatibility, and cell proliferation studies. Gabriella Maria Fernandes Cunha, H. Lee, A. Kumar, A. Kreymerman, J. L. Goldberg, D. Myung. Ophthalmology, Stanford University, Palo Alto, CA

2621 — A0211 Biochemical Analysis of Potential c-Cbl Antagonists Identified through an *in silico* Screen. Brian P. Ceresa^{1,3}, J. O. Trent². ¹Pharmacology and Toxicology, University of Louisville, Louisville, KY; ²James Brown Cancer Center, University of Louisville, Louisville, KY; ³Ophthalmology and Vision Sciences, University of Louisville, Louisville, KY

2622 — A0212 Insulin regulates *de novo* nuclear trafficking of IGF-1/insulin Hybrid-R and metabolism in human corneal epithelial cells. Rossella Titone, M. Zhu, G. Zhou, D. M. Robertson. Ophthalmology, UT Southwestern Medical Center, Dallas, TX

2623 — A0213 Effects of travoprost on ZO-1 expression in corneal epithelial cells *in vitro*. Yukihisa Takada, O. Yamanaka, Y. Okada, T. Sumioka, S. Saika. Ophthalmology, Wakayama Medical University, Wakayama, Japan

2624 — A0214 OVOL2 maintains a transcriptional program in human corneal epithelial cells. Koji Kitazawa^{3,2}, T. Hikichi², T. Nakamura³, C. Sotozono¹, S. Kinoshita³, S. Masui². ¹Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ²Center for iPS cell Research & Application, Kyoto, Japan; ³Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan *CR

2625 — A0215 Vitamin D Receptor Knockout Effects on Mouse Corneal Epithelial Cells. Mitchell A. Watsky, X. Lu, Z. Chen. Cellular Biology and Anatomy, Augusta University, Augusta, GA

2626 — A0216 NF-kappa B pathway fine-tunes response to toll-like receptor stimulation in cornea epithelial cells. Aihua Hou¹, L. Tong^{1,2}. ¹Singapore Eye Research Institute, Singapore Eye Research Institute, Singapore, Singapore; ²Singapore National Eye Center, Singapore, Singapore

2627 — A0217 The effect of rapamycin on autophagy in human corneal epithelial cells. Samaneh Ghasemi, X. Shen, G. Agnihotri, I. Putra, Y. Rassouli, M. Eslani, A. R. Djalilian. Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL

- 2628 — A0218 Nucleic acid stimulation increases the membrane-associated mucin expression in immortalized corneal and conjunctival epithelium.** *Yuriko Ban^{1,2}, S. Morita³, C. Sotozono², S. Kinoshita⁴.* ¹Nantan General Hospital, Nantan, Japan; ²Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ³Faculty of Life and Medical Sciences, Doshisha University, Kyotanabe, Japan; ⁴Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan
- 2629 — A0219 Expression of K⁺ Channels by Human Corneal Limbal Epithelial Cells.** *John L. Ubels¹, M. P. Schotanus¹, P. M. Boersma^{1,2}, L. D. Haarsma².* ¹Department of Biology, Calvin College, Grand Rapids, MI; ²Department of Physics, Calvin College, Grand Rapids, MI
- 2630 — A0220 Mucin N-Glycans Contribute to the Ocular Surface Glycocalyx Barrier.** *Pablo Argueso¹, T. Taniguchi¹, A. Woodward¹, P. Magnelli², S. M. Jacopo¹, J. Mauris¹.* ¹Schepens Eye Research Institute and Massachusetts Eye and Ear, Harvard Medical School, Boston, MA; ²New England Biolabs, Ipswich, MA
- 2631 — A0221 Corneal Safety of Monoprost.** *Yasser H. Mohamed, D. Inoue, M. Uematsu, T. Kitaoka.* Ophthalmology, Nagasaki University, Nagasaki, Japan
- 2632 — A0222 Effect of the corneal epithelium on the topographical properties of thin and irregular corneas.** *Emilio A. Torres Netto^{1,2}, A. Saad¹, I. Salah-Mabed¹, D. Gatinel¹.* ¹Department of Anterior Segment and Refractive Surgery, Fondation Rothschild, Paris, France; ²Federal University of Sao Paulo, Sao Paulo, Brazil
- 2633 — A0223 Efficacy of heparin sulfate mimetic polymer in Cogan's epithelial dystrophy.** *Marc Labetoulle¹, A. Rousseau¹, M. M'Garrech¹, B. DUPAS², C. Baudouin³, E. Barreau¹, T. Bourcier³, F. Chiambaretta⁴.* ¹Ophthalmology, Hopital Bicetre, South Paris University, Le Kremlin Bicetre, France; ²Ophthalmology III, Quinze-Vingts Hospital, Paris, France; ³Ophthalmology, Hopital Civil, Strasbourg, France; ⁴Ophthalmology, CHU Clermont-Ferrand, Clermont-Ferrand, France *CR
- 2634 — A0224 The potential of using different forms of human platelet lysates in the treatment of ocular surface problems.** *Lily Chen, C. Huang, Y. Sun, W. Tu, F. Hu, W. Chen.* Ophthalmology, National Taiwan University Hospital, North Reading, MA
- 2635 — A0225 Phospholipids studies in human corneal epithelial cells from Climatic Droplet Keratopathy patients.** *Maria Fernanda Suarez¹, L. Correa², E. Esposito^{3,2}, J. A. Urrets-Zavalia², H. M. Serra¹.* ¹CIBICI CONICET, Department of Clinical Biochemistry, Faculty of Chemical Sciences, National University of Cordoba, Cordoba, Argentina; ²Department of Ophthalmology, University Clinic Reina Fabiola, Catholic University of Cordoba, Cordoba, Argentina; ³The Witelson Ocular Pathology Laboratory,, McGill University, Montreal, Canada, Montreal, QC, Canada
- 2636 — A0226 Decreased UV-filtering ability of corneal epithelium may be the cause of stromal pathologies in keratoconus.** *Nurullah Cagil¹, F. Budak Yildiran², N. Ugurlu¹, S. Tuncer², M. Turk⁵, M. Caglayan⁴, S. Akdag², S. Sevli³.* ¹Ophthalmology, Yildirim Beyazit University, Ankara, Turkey; ²Biology, Kirikkale University, Kirikkale, Turkey; ³Nehir Biotechnology, Ankara, Turkey; ⁴Ophthalmology, Mardin State Hospital, Mardin, Turkey; ⁵Bioengineering, Kirikkale University, Kirikkale, Turkey
- 2637 — A0227 Histological Patterns of Epithelial Alteration in Keratoconus.** *Denise Hileeto¹, L. Sorbara¹, M. Gorbet², K. K. Bizheva³, J. Lamarca⁴, M. Maldonado⁵, J. Pastor⁵, J. Lopez Lopez⁵.* ¹Optometry, University of Waterloo, Waterloo, ON, Canada; ²Systems Design Engineering, University of Waterloo, Waterloo, ON, Canada; ³Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; ⁴Barraquer Ophthalmology Institute, Universitat Internacional de Catalunya, Barcelona, Spain; ⁵IOBA, Universidad de Valladolid, Valladolid, Spain
- 2638 — A0228 Toxicity Potential Of Eye Drops With Soft Preservatives Versus Non-Preserved On Human Corneal Epithelium.** *Marisa Meloni, F. Ranzini, B. De Servi.* VitroScreen Srl, Milan, Italy
- 2639 — A0229 Platelet-rich Plasma Eye Drops in the Healing of Post-Keratoplasty Persistent Corneal Epithelial Defects.** *Sahar Balagholt^{1,2}, M. Rezaeikanavi¹, S. Alizadeh², A. Baradaran-Rafiei¹, S. Delfazaye Baher³, B. Ranjbar².* ¹Ocular Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (the Islamic Republic of); ²Department of Hematology, School of Allied Medicine, Tehran University of Medical Sciences, Tehran, Iran (the Islamic Republic of); ³Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (the Islamic Republic of)
- 2640 — A0230 Impact of Diesel Exhaust Particles on the Ocular Surface.** *Qichen Yang, C. Li, Z. LIU.* Eye Institute of Xiamen University, Xiamen, China
- 2641 — A0231 The effectiveness of tarsorrhaphy in healing persistent epithelial defects in cases of office based sutureless amniotic membrane treatment failure.** *Israel Ackerman^{1,2}, M. Gorski², A. Steiner², I. J. Udell², J. Winokur².* ¹New York Medical College, Valhalla, NY; ²Ophthalmology, Northwell Health, Great Neck, NY
- 2642 — A0232 Ex vivo corneal wound healing model using an innovative bioreactor.** *Damien Guindolet^{1,2}, E. Crouzet², Z. He², A. Bernard², C. Perrache², F. Forest^{3,2}, M. Peoc'h^{3,2}, P. Gain², G. Thuret², E. E. Gabison¹.* ¹Ophthalmology, Fondation Ophtalmologique Rothschild, Paris, France; ²Corneal Graft Biology- Engineering and Imaging Laboratory, EA2521- Federative Institute of Research in Sciences and Health Engineering- Faculty of Medicine- Jean Monnet University, Saint Etienne, France., Saint Etienne, France; ³Department of Pathology, University Hospital of Saint-Etienne, Saint Etienne, France *CR
- 2643 — A0233 MicroRNA-181a Modulates Corneal Epithelial Wound Healing Rate.** *Peter S. Reinach^{1,2}, D. Yan^{1,2}, W. Xu^{1,2}.* ¹Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China; ²Cultivation Base and Key Laboratory of Vision Science, Ministry of Health of the People's Republic of China, Zhejiang Provincial Laboratory of Ophthalmology and Optometry, State Key Laboratory, Wenzhou, China
- 2644 — A0234 Anti-inflammatory effects of ST266, an amnion-derived multipotent progenitor cell-derived secretome, on corneal wound healing and stromal fibrosis in rabbits.** *Larry Brown¹, H. Wessel¹, E. Klisch¹, E. Gill¹, J. Prater², D. Culp², B. C. Gilger^{2,3}, K. J. Mandell¹.* ¹Noveome Biotherapeutics, Pittsburgh, PA; ²Powered Research LLC, Research Triangle Park, NC; ³Veterinary Medicine, North Carolina State University College, Raleigh, NC *CR
- 2645 — A0235 Corneal Toxicity of Antibody Drug Conjugate Chemotherapeutics.** *Alicia M. Eby¹, R. Khan¹, M. Ray¹, L. Heilbrun², C. Milanovic¹, J. Jessica¹, M. McDermott¹, E. Heath².* ¹Ophthalmology, Kresge Eye Institute, Royal Oak, MI; ²Karmanos Cancer Institute, Detroit, MI
- 2646 — A0236 Constitutive Release of Lactritin's Latent Bactericidal Activity Explored by MALDI-TOF Mass Spectrometry.** *Jeff Romano¹, N. Sherman¹, R. L. McKown², T. Iwase³, G. W. Laurie¹.* ¹Cell Biology, University of Virginia, Charlottesville, VA; ²Integrated Science and Technology, JMU, Harrisonburg, VA; ³Bacteriology, The Jikei University School of Medicine, Minato, Japan *CR
- 2647 — A0237 Contribution of Nonpolar Side Chains to Lactritin N-104 Bactericidal Activity.** *Gordon W. Laurie, M. Ryan, A. Watkins, K. Sankoorikal.* Cell Biology, University of Virginia, Charlottesville, VA *CR

Exhibit/Poster Hall A0238-A0297

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Cornea

315 Dry eye, Clinical

2648 — A0238 Tear molecular biomarkers can predict the development of ocular chronic graft versus host disease before hematopoietic stem cell transplantation. Lidia Cocho¹, I. Fernández^{2,1}, M. Calonge^{1,2}, M. Sainz De La Maza³, M. Rovira⁴, C. García-Vázquez¹, M. E. Stern^{1,5}, A. Enriquez-De-Salamanca^{1,2}. ¹IOBA (Institute of Applied Ophthalmology). University of Valladolid, Valladolid, Spain; ²CIBER-BBN (Biomedical Research Networking Center in Bioengineering, Biomaterials and Nanomedicine). Carlos III National Institute of Health, Madrid, Spain; ³Clinical Institute of Ophthalmology (ICOF), Barcelona, Spain; ⁴Clinical Institute of Hematologic and Oncological Diseases (ICMHO), Barcelona, Spain; ⁵ImmunEyez, Orange County, CA *CR

2649 — A0239 The epidemiology of ocular itch by dry eye symptoms and signs. leslie small¹, A. Galor^{3,2}, W. J. Feuer³, E. R. Felix^{4,5}, R. Levitt^{4,6}, A. McClellan⁴, C. D. Sarantopoulos^{7,6}. ¹Optometry, Bascom Palmer Eye Institute, Miami, FL; ²Ophthalmology, Miami Veterans Administration Medical Center, Miami, FL; ³Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ⁴Optometry, Miami Veterans Administration Medical Center, Miami, FL; ⁵Department of Physical Medicine and Rehabilitation, University of Miami Miller School of Medicine, Miami, FL; ⁶Department of Anesthesiology, Perioperative Medicine and Pain Management, University of Miami Miller School of Medicine, Miami, FL; ⁷Miami Veterans Administration Medical Center, Miami, FL

2650 — A0240 Automated Non-Invasive Method For Dry Eye Prediction. Clara Llorens Quintana¹, D. H. Szczesna-Iskander², R. Iskander¹. ¹Department of Biomedical Engineering, Wroclaw University of Science and Technology, Wroclaw, Poland; ²Department of Optics and Photonics, Wroclaw University of Science and Technology, Wroclaw, Poland

2651 — A0241 A Survey of Dry Eye Practice Patterns. Karen Fernandez¹, G. Ying¹, G. Massaro-Giordano¹, S. Orlin¹, M. Sulewski¹, I. Macchi¹, K. Hammersmith², P. Nagra², C. J. Rapuano², V. Y. Bunya¹. ¹Ophthalmology, University of Pennsylvania Scheie Eye Institute, Philadelphia, PA; ²Cornea Associates, Wills Eye Hospital, Philadelphia, PA *CR

2652 — A0242 Assessing a new battery of risk factors for dry eye. Katherine M. Mastrotta¹, J. T. Kwan², S. G. Hauswirth³, S. Schachter⁴, J. S. Harthan⁵, L. E. O'Dell⁶, K. Hipolito⁷, M. M. Hom⁷. ¹Consultant, Brooklyn, NY; ²Southern California College of Optometry, Fullerton, CA; ³Minnesota Eye Consultants, Minneapolis, MN; ⁴Advanced Eyecare, Pismo Beach, CA; ⁵Illinois College of Optometry, Chicago, IL; ⁶Dry Eye Center of PA, Manchester, PA; ⁷Private Practice, Azusa, CA

2653 — A0243 Title ; Does anti VEGF is a promising modality of treatment in Dry eye disease? Dr Ajay K. Ambade¹, D. A. Ambade². ¹Eye, Ambade Eye Hospital, Nagpur, India; ²Physiology, Lata Mangeshkar Hospital, India, India ✗

2654 — A0244 Is the Ocular Surface Disease Index (OSDI®) the Right Tool to Measure Patient Perception of Ocular Surface Symptoms? Francisco Amparo, R. Dana. Cornea Service, Massachusetts Eye & Ear Infirmary, Boston, MA *CR

2655 — A0245 Residence time evaluation with oct of eyedrops with different sodium hyaluronate concentrations. Gonzalo Carracedo, C. Pastrana, M. Serramito. Optometry and Vision, University Complutense of Madrid, Madrid, Spain

2656 — A0246 In Vivo Confocal Microscopy Demonstrates the Presence of Microneuromas and may Allow Differentiation of Patients with Corneal Neuropathic Pain from Dry Eye Disease. Hamid-Reza Moein^{1,2}, G. Dieckmann¹, A. Abbouda¹, N. Pondelis¹, A. Jamali², Z. Salem¹, P. Hamrah^{1,2}. ¹Boston Image Reading Center, Department of Ophthalmology, Tufts Medical Center, Boston, MA; ²Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA *CR

2657 — A0247 In Vivo Confocal Microscopy Demonstrates Increased Density of Immune Dendritiform Cells in the Peripheral Cornea of Patients with Dry Eye Disease Compared to Normal Controls. Anam Akhlaq^{1,2}, P. Katagiri^{1,2}, G. Dieckmann^{1,2}, A. Jamali², S. Aggarwal³, R. T. Muller^{2,3}, B. Cavalcanti³, Y. Qazi^{1,3}, A. Cruzat³, A. Kheirkhah³, P. Hamrah^{1,2}. ¹Ophthalmology, Tufts Medical Center, Boston, MA; ²Center for Translational Ocular Immunology, Tufts Medical Center, Boston, MA; ³Cornea and Refractive Surgery Service, Massachusetts Eye & Ear Infirmary, Department of Ophthalmology, Harvard Medical School, Boston, MA *CR

2658 — A0248 Patients with Dry Eye Disease Demonstrate Significant Decrease In Central and Peripheral Corneal Nerve Density. Zeina Salem^{1,2}, G. Dieckmann^{1,2}, A. Tanaka¹, P. Katagiri^{1,2}, S. Aggarwal³, R. T. Muller^{1,3}, B. Cavalcanti³, A. Cruzat³, A. Kheirkhah³, P. Hamrah^{1,2}. ¹Center for Translational Ocular Immunology, Tufts Medical Center, Boston, MA; ²Cornea Service, New England Eye Center, and Department of Ophthalmology, Tufts Medical Center, Boston, MA; ³Cornea and Refractive Surgery Service, Massachusetts Eye & Ear Infirmary, Boston, MA *CR

2659 — A0249 Ocular Pain in Patients with Dry Eye Disease. ZHONGMOU SUN¹, V. Satitpitakul¹, A. Kheirkhah¹, A. Crnej¹, P. Hamrah², R. Dana¹. ¹Schepens Eye Research Institute, Harvard Medical School, Boston, MA; ²Cornea/Ophthalmology, NEEC, Tufts Medical Center, Tufts University, Boston, MA

2660 — A0250 Improvement of Key Clinical Parameters of Dry Eye Disease after 12 Months Treatment with Cyclosporine 0.05% Eye Drops. Tor P. Utheim¹, X. Chen², S. Raeder², Ø. Utheim³, A. Stojanovic², D. A. Dartt⁴, B. Tashbayev². ¹Department of Medical Biochemistry, Oslo University Hospital, Oslo, Norway; ²The Norwegian Dry Eye Clinic, Oslo, Norway; ³Department of Ophthalmology, Oslo University Hospital, Oslo, Norway; ⁴Department of Ophthalmology, Schepens Eye Research Institute/Massachusetts Eye and Ear, Boston, MA

2661 — A0251 Evaluation of 0.05% Cyclosporine Ophthalmic Emulsion on Ocular Surface Staining and Visual Function in Subjects Who Experience Discomfort While Engaging in Electronic Visual Tasking. Karl Stonecipher¹, G. Torkildsen³, E. B. McLaurin⁴, L. Villanueva⁵, G. W. Ousler², D. A. Hollander². ¹Ophthalmology, University of North Carolina, Greensboro, NC; ²Ora, Inc, Andover, MA; ³Andover Eye, Andover, MA; ⁴Total Eyecare, Memphis, TN; ⁵Allergan, Inc, Irvine, CA *CR, ✗

2662 — A0252 Retrospective evaluation of real-life efficacy of PADciclo™ 0.06% ciclosporin in dry eye patients. Morten Praestegaard¹, F. Gomez¹, S. K. Heegaard², J. K. Dartt¹. ¹MC2 Therapeutics, Hoersholm, Denmark; ²Moorfields Eye Hospital, London, United Kingdom; ³Rigshospitalet, Copenhagen, Denmark *CR

2663 — A0253 Prevalence of Dry Eye in Chennai, India. J Peter Gierow¹, A. G. Garcia¹, A. Narayanan². ¹Department of Medicine and Optometry, Linnaeus University, Kalmar, Sweden; ²Elite School of Optometry, Chennai, India

- 2664 — A0254 Clinical Signs of Dry Eye Disease are Correlated to Peripheral Corneal Immune Cell Alterations by In Vivo Confocal Microscopy.** Paula Katagiri¹, G. Dieckmann¹, S. Aggarwal², R. T. Muller², B. Cavalcanti², Y. Qazi^{2,3}, A. Cruzat², A. Kheirkhah², P. Hamrah^{1,3}. ¹Ophthalmology, New England Eye Center/ Tufts Medical Center, Boston, MA; ²Cornea and Refractive Surgery Service, Massachusetts Eye & Ear Infirmary, Department of Ophthalmology, Harvard Medical School, Boston, MA; ³Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Boston, MA *CR
- 2665 — A0255 Ocular lubricant use in medically and surgically treated glaucoma.** Jayant V. Iyer^{1,2}, Y. Zhao^{1,3}, F. Lim¹, L. Tong^{1,4}, T. T. Wong^{1,4}. ¹Ophthalmology, Singapore National Eye Centre, Singapore, Singapore; ²Glaucoma, Wilmer Eye Institute, Baltimore, MD; ³Ophthalmology, National University of Singapore, Singapore, Singapore; ⁴Singapore Eye Research Institute, Singapore, Singapore
- 2666 — A0256 Validating strip meniscometry tube (SMTube) as a method for measuring tear production in the diagnosis of aqueous deficient dry eye (ADDE).** Saleh Alshammeri, S. Hagan, L. Madden, I. Pearce. Glasgow Caledonian University, Glasgow, United Kingdom
- 2667 — A0257 Clinical Efficacies and Serum Components of Autologous Serum Eye Drops in Patients with Different Etiologies of Ocular Surface Disorders.** chiqju lu, Y. Ma, C. Huang, W. Tu, L. Chen, F. Hu, W. Chen. National Taiwan University Hospital, Taichung, Taiwan ✕
- 2668 — A0258 Safety and Efficacy of 0.05% and 0.1% RGN-259 for Subjects with Dry Eye Syndrome (DES): ARISE I.** George W. Ousler¹, J. B. Ciolino², W. S. Yang⁴, G. Sosne³. ¹Ora, Inc., Andover, MA; ²Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA; ³Ophthalmology, Wayne State University, Detroit, MI; ⁴GTreeBNT Co., Ltd., Seongnam, Korea (the Republic of) *CR, ✕
- 2669 — A0259 Lifitegrast ophthalmic solution 5.0% for treatment of dry eye disease: combined evidence from 5 randomized controlled trials.** Amir Shojaei¹, M. Darvish-Zargar², E. J. Holland³, C. Chan⁴, K. K. Nichols⁵, J. Tauber⁶, C. BAUDOIN⁷, A. Raychaudhuri¹, M. roy¹. ¹Shire, Lexington, MA; ²McGill University, Montreal, QC, Canada; ³Cincinnati Eye Institute, Edgewood, KY; ⁴University of Toronto, Toronto, ON, Canada; ⁵University of Alabama, Birmingham, AL; ⁶Tauber Eye Center, Kansas City, MO; ⁷Centre Hospitalier National d'Ophthalmologie des Quinze-Vingts, Paris, France *CR, ✕
- 2670 — A0260 Clinical and preclinical study correlation for SYL1001, a new treatment for dry eye disease.** Victoria Gonzalez¹, V. Ruz², C. Pañeda³, A. Bleau¹, B. Vargas², A. Jimenez³. ¹Clinical, Sylentis, Tres Cantos (Madrid), Spain; ²Regulatory affairs, Sylentis, Tres Cantos (Madrid), Spain; ³R&D, Sylentis, Tres Cantos (Madrid), Spain *CR, ✕
- 2671 — A0261 Clinical evaluation of a novel lipid-containing lubricant eye drop with omega-3 oil and trehalose.** Milton M. Hom¹, G. J. Berdy^{2,3}, L. E. Downie⁵, S. El-Harazi⁷, A. Verachert⁴, H. Liu⁶, C. Carlisle-Wilcox⁶, P. Simmons⁶, J. G. Vehige⁶. ¹Private Practice, Azusa, CA; ²Washington University School of Medicine, St. Louis, MO; ³Ophthalmology Associates, St. Louis, MO; ⁴Moyes Eye Center, Kansas City, MO; ⁵University of Melbourne, Parkville, VIC, Australia; ⁶Allergan, plc, Irvine, CA; ⁷Lugene Eye Institute, Glendale, CA *CR, f
- 2672 — A0262 Effect of Activity on Interblink Interval Assessed with Continual Blink Tracking using the iBlink® System in Normal Subjects.** Zhouxiao Wu¹, E. Angjeli¹, J. D. Rodriguez¹, G. W. Ousler², K. J. Lane¹, D. A. Hollander¹. ¹Research & Development, Ora, Inc., Andover, MA; ²Dry Eye, Ora, Inc., Andover, MA *CR
- 2673 — A0263 Effect of Intranasal Neurostimulation on Tear Protein Content in Patients With Dry Eye.** Ashley Woodward^{1,2}, M. Senchyna³, M. Franke³, M. Holdbrook³, P. Argueso^{1,2}. ¹Schepens Eye Research Institute/ Massachusetts Eye and Ear, Boston, MA; ²Ophthalmology, Harvard Medical School, Boston, MA; ³Clinical Development, Allergan, Inc., Irvine, CA *CR
- 2674 — A0264 Dry eye severity and Quality of Life in Primary and Secondary Sjögren's Syndrome with standard tests and tear biomarkers.** Fernando Morales-Wong¹, K. Mohamed-Noriega¹, J. Mohamed-Noriega¹, G. Villarreal Méndez¹, J. Mohamed¹, J. Riega-Torres², M. A. Garza-Elizondo². ¹Departamento de Oftalmología, Hospital Universitario "Dr. José Eleuterio González", Monterrey, Mexico; ²Departamento de Reumatología, Hospital Universitario "Dr. José Eleuterio González", UANL, Monterrey, Mexico
- 2675 — A0265 Infectious agents, environmental exposures and cytokine profile of patients with dry eye syndrome, Sjogren's syndrome and B-cell non-Hodgkin lymphoma: is there a continuum of risk?** Hadas Ben Eli, A. Solomon, M. Willhauck-Fleckenstein, M. Pawlita, G. Kleinstern, R. Abu Seir, A. Kedar Tirosh, D. Aframian, E. Ben Chetrit, D. Mevorach, O. Paltiel. Hadassah-Hebrew University, Jerusalem, Israel
- 2676 — A0266 Sjögren Syndrome in the Brazilian Population: Demographic, Clinical, Laboratory and Imaging Profile.** Eduardo M. Rocha¹, C. M. Modulo¹, A. P. Barbosa¹, F. R. Oliveira², F. C. Petean², A. R. Silva⁴, J. L. Esquiche³, D. M. Garcia¹, V. F. Muglia², P. Louzada². ¹Ophthalmology, FMRP-USP, Ribeirão Preto, Brazil; ²Clinical Medicine, FMRP-USP, Ribeirão Preto, Brazil; ³FORP-USP, Ribeirão Preto, Brazil; ⁴Pathology, FMRP-USP, Ribeirão Preto, Brazil *CR
- 2677 — A0267 Prevalence of Novel Serum Antibodies in the Penn Sjogren's International Clinical Collaborative Alliance (SICCA) cohort.** Vatinee Y. Bunya¹, G. Ying¹, F. B. Vivino², I. Macchi¹, T. Lietman³, J. A. Gonzales³, M. Massaro-Giordano¹. ¹Ophthalmology, Scheie Eye Institute, Philadelphia, PA; ²Rheumatology, University of Pennsylvania, Philadelphia, PA; ³Francis I. Proctor Foundation, San Francisco, CA *CR
- 2678 — A0268 The Effect of Smoking in the Sjögren's Syndrome International Collaborative Clinical Alliance Cohort.** John A. Gonzales^{1,4}, J. Rose-Nussbaumer^{1,4}, V. Y. Bunya², A. Chow³, L. Criswell⁵, C. Shiboski³, T. Lietman^{1,4}. ¹F.I. Proctor Foundation, San Francisco, CA; ²Ophthalmology, Hospital of the University of Pennsylvania, Philadelphia, PA; ³Orofacial Sciences, University of California, San Francisco, San Francisco, CA; ⁴Ophthalmology, University of California, San Francisco, San Francisco, CA; ⁵Rheumatology, University of California, San Francisco, San Francisco, CA *CR
- 2679 — A0269 Evaluation of the corneal epithelium in non-Sjögren's and Sjögren's dry eyes: An in vivo confocal microscopy study using the HRT III RCM.** Tudor Tepelus², A. G. Irvine¹, C. Irvine¹, J. Huang², E. Baghdasaryan², P. Huang², S. R. Sada¹, O. L. Lee¹. ¹Doheny Image Reading Center, Doheny Eye Institute, Los Angeles, CA; ²Doheny Image Reading and Research Lab, Doheny Eye Institute, Los Angeles, CA *CR
- 2680 — A0270 Correlation between tear osmolarity and parameters of ocular and systemic disease in primary Sjogren's syndrome.** Do Yeh Yoon^{1,2}, J. Kim³, H. Jeon², W. Wee¹, J. Hyon^{1,2}. ¹Ophthalmology, Seoul National University College of Medicine, Seoul, Korea (the Republic of); ²Ophthalmology, Seoul National University Bundang Hospital, Seongnam, Korea (the Republic of)
- 2681 — A0271 Blink Location during Reading and its Relationship to Reading Errors and Reading Rate in Normal Subjects.** Richard Macleod¹, C. Sundstrom², E. Angjeli², J. D. Rodriguez², G. W. Ousler¹, K. J. Lane², D. A. Hollander². ¹Dry Eye, Ora, Inc., Andover, MA; ²Research & Development, Ora, Inc., Andover, MA *CR

2682 — A0272 Prevalence of Dry Eye Symptoms in Patients Undergoing Treatment at a University-Based Psychiatric Mood and Anxiety Clinic. Joseph Baker¹, S. Jain¹, J. Nathan², J. Hallak¹. ¹Department of Ophthalmology & Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Department of Psychiatry, University of Illinois at Chicago, Chicago, IL

2683 — A0273 Patients with Dry Eye Disease and Depression: A Potential Role for VAL66MET Single Nucleotide Polymorphism on Treatment Response. Joelle Hallak, X. Gao, S. Jain. Ophthalmology & Visual Sciences, Illinois Eye & Ear Infirmary, Chicago, IL

2684 — A0274 The OcuTherm System, a Novel At-Home Eyelid Thermal Treatment Device - A 4-Week Clinical Study. Ijeoma S. Chinwuba¹, E. Tsui¹, M. Mistry³, A. M. Borges⁴, S. A. Biser^{2,1}. ¹Ophthalmology, New York University, New York, NY; ²Fleetwood Ophthalmology, Fleetwood, NY; ³New York Medical College, Valhalla, NY; ⁴Orlando Eye Institute, Windermere, FL *CR

2685 — A0275 Fixed versus pro-re-nata dosing of polyethylene glycol/propylene glycol-based artificial tears: A randomized clinical trial. Penny A. Asbell¹, A. J. Vingrys², J. Tan³, P. L. Shettle⁴, E. B. McLaurin⁵, A. Ogundele⁶, L. E. Downie², G. Jenkins⁷. ¹Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY; ²University of Melbourne, Parkville, VIC, Australia; ³University of New South Wales, Sydney, NSW, Australia; ⁴Shettle Eye Research, Largo, FL; ⁵Total Eye Care, Memphis, TN; ⁶Novartis Pharmaceutical Corporation, East Hanover, NJ; ⁷Nashville Vision Associates, Nashville, TN *CR, ✕

2686 — A0276 Effect of two different treatment regimes with artificial tear substitutes on ocular surface parameters in patients with dry eye disease. Doreen Schmid¹, K. Witkowska¹, P. Wozniak¹, A. Bata¹, K. Fondi¹, C. Baar¹, G. Garhofer¹, L. Schmetterer^{1,2}. ¹Department of Clinical Pharmacology, Medical University of Vienna, Baden, Austria; ²Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria ✕

2687 — A0277 Chemicals in Preservative Free Tears, Branded and Generic. Mary Gao¹, M. Wang², G. Wu³, B. Bautista⁴. ¹Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara, Santa Barbara, CA; ²Psychology, Santa Clara University, San Jose, CA; ³Ophthalmology, UCSF School of Medicine, San Francisco, CA; ⁴Psychology, Saint Louis University, Baguio, Philippines

2688 — A0278 Preservative-Free labeling in Artificial Tears and Google Trends. Bonnibel Bautista¹, G. Wu², M. Gao³, T. Le⁴, I. Kim⁵. ¹Psychology, Saint Louis University, Baguio City, Philippines; ²Department of Ophthalmology, UC San Francisco School of Medicine, San Francisco, CA; ³Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara, Santa Barbara, CA; ⁴Chemistry, University of California, Berkeley, Berkeley, CA; ⁵Integrative Biology, University of California, Berkeley, Berkeley, CA

2689 — A0279 Color Contrast in the Labelling of Preservative-Free Artificial Tears and Internet Popularity. Margaret Wang¹, G. Wu², M. Gao³, T. Le⁴, B. Bautista⁵. ¹Psychology, Santa Clara University, San Jose, CA; ²Ophthalmology, University of California, San Francisco School of Medicine, San Francisco, CA; ³Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara, Santa Barbara, CA; ⁴Chemistry, University of California, Berkeley, Berkeley, CA; ⁵Psychology, Saint Louis University, Baguio, Philippines

2690 — A0280 Ocular bacterial burden and dry eye symptoms in a normal population. Judith Flanagan^{1,2}, N. Yeotikar¹, H. Zhu^{1,2}, M. Markoulli^{1,2}, E. B. Papas^{1,2}. ¹Brien Holden Vision Institute, Kensington, NSW, Australia; ²School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia ✕

2691 — A0281 Spectral Domain Optical Coherence Tomography of the Tear Menisci in Dry Eye: Cirrus versus RTVue. Edoardo Villani, S. Bianco, D. Nizza, F. Bonsignore, S. Luccarelli, P. Nucci. DISCO. Eye Clinic., University of Milan. San Giuseppe Hospital., Milan, Italy *CR

2692 — A0282 Quantitation of Tear Production by Tear Meniscus Height Following Acute Use of the Intranasal Tear Neurostimulator. Brian Orrick¹, M. Watson¹, E. Angjeli¹, M. Franke⁴, M. Holdbrook², G. W. Ousler¹, M. Senchyna³. ¹Dry Eye, Ora, Inc., Andover, MA; ²Executive Director, Clinical Affairs and Biostatistics, Allergan plc, South San Francisco, CA; ³Senior Director, Clinical Development, Ophthalmology Therapeutic Area, Allergan, plc, Irvine, CA; ⁴Private Consultant, Valencia, CA *CR, ✕

2693 — A0283 Tear Total Lipid Concentration in Patients with Dry Eye Following Intranasal Neurostimulation. Kari Green¹, M. Kamat¹, M. Franke², M. Holdbrook², M. Senchyna². ¹Chemistry, University of Florida, Gainesville, FL; ²Allergan, Irvine, CA *CR

2694 — A0284 In Vivo Confocal Microscopy Demonstrates Intranasal Neurostimulation-Induced Goblet Cell Alterations in Patients with Dry Eye Disease. Gabriela Dieckmann^{1,2}, P. Katagiri^{1,2}, N. Pondelis¹, A. Jamali^{1,2}, A. Abbouda^{1,2}, Z. salem^{1,2}, M. Franke³, M. Senchyna³, P. Hamrah^{1,2}. ¹Ophthalmology, Tufts Medical center, Brookline, MA; ²Center for Translational Ocular Immunology, Tufts Medical Center, Boston, MA; ³Allergan, Irvine, CA *CR

2695 — A0285 The relationship between ocular surface temperature and tear film lipid heterogeneity. Brandon G. DeCaluwe, C. Callan, G. Yoon, H. B. Hindman. University of Rochester Flaum Eye Institute, Rochester, NY

2696 — A0286 Prevalence of Compromised Lid Seal in Symptomatic Refractory Dry Eye Patients and Asymptomatic Patients. Donald R. Korb², C. A. Blackie¹, A. C. Nau². ¹TearScience, Morrisville, NC; ²Korb Research, Boston, MA

2697 — A0287 Different techniques to statistically analyze the relationship between different ocular staining scores and their correlation with dry eye in Sjögren's syndrome. Karim Mohamed-Noriega¹, F. Morales-Wong¹, J. Mohamed-Noriega¹, G. Villarreal Méndez¹, J. Riega-Torres², M. A. Garza-Elizondo³, J. Mohamed¹. ¹Oftalmologia, Hospital Universitario, Universidad Autonoma de Nuevo Leon, Monterrey, Mexico; ²Reumatologia, Hospital Universitario, Universidad Autónoma de Nuevo Leon,, Monterrey, Mexico

2698 — A0288 Botulinum toxin A use in dry eye patients with superior limbic keratoconjunctivitis (SLK). Joanne F. Shen¹, Y. Kusne². ¹Department of Ophthalmology, Mayo Clinic in Arizona, Scottsdale, AZ; ²College of Medicine, University of Arizona, Phoenix, AZ

2699 — A0289 Prevalence of dry eye in Brazil: a domiciliary epidemiological study using a short questionnaire. Leidiane Adriano Pereira, E. de Souza Pessoa, J. de Souza dos Santos, C. Cezar Elias, T. Cavalcante Oriá, L. Braga, E. M. Rocha. Ribeirao Preto Medical School, University of Sao Paulo, Ribeirao Preto, SP, Brazil, Fortaleza, Brazil *CR

2700 — A0290 Incidence, persistence and resolution of dry eye disease: new insights into the natural history. Jelle Vehof¹, C. J. Hammond². ¹Ophthalmology, University Medical Center Groningen, Groningen, Netherlands; ²Twin Research and Genetic Epidemiology, King's College London, London, United Kingdom

2701 — A0291 Obtaining known concentrations of fluorescein and lissamine green from strips. Deborah Antwi¹, C. G. Begley¹, J. Nelson². ¹School of Optometry, Indiana University, Bloomington, IN; ²HealthPartners Medical Group, Bloomington, MN

2702 — A0292 Impact Of A Low Humidity Environment On Tear Film Stability And Visual Performance. Nhi Nguyen, D. R. Powell. Optometry, University of Houston, Houston, TX *CR

2703 — A0293 Image analysis of conjunctival staining with Lissamine green in dry eye syndrome. *Emilie Courrier¹, D. Renault^{2,1}, C. Urrea³, M. Kaspi³, E. Dib^{1,4}, C. Fournier⁴, T. Lépine^{1,4}, F. Chiambaretta⁵, G. Hor¹, Z. HE¹, G. Thuret^{1,3}, P. GAIN^{1,3}.* ¹Corneal Graft Biology, Engineering and Imaging Laboratory, Faculty of Medicine - Jean Monnet University, Saint-Etienne, France; ²Thea Laboratories, Clermont-Ferrand, France; ³Department of Ophthalmology, University Hospital of Saint-Etienne, Saint-Etienne, France; ⁴Hubert Curien Laboratory (UMR 5516 CNRS), Jean Monnet University, Saint-Etienne, France; ⁵Department of Ophthalmology, University Hospital of Clermont-Ferrand, Clermont-Ferrand, France

2704 — A0294 Efficacy and safety of retinol palmitate ophthalmic solution in the treatment of dry eye. *Sota Watanabe¹, H. Toshida², N. Tabuchi¹, T. Funaki³, K. Ono⁴, T. Seki⁵, H. Otake⁶, T. Kato⁷, N. Ebihara⁸, A. Murakami³.* ¹Pharmaceutical Research Laboratories No.1, Research & Development Headquarters, Lion Corporation, Kanagawa, Japan; ²Department of Ophthalmology, Juntendo University Shizuoka Hospital, Shizuoka, Japan; ³Department of Ophthalmology, Juntendo University Graduate School of Medicine, Tokyo, Japan; ⁴Department of Ophthalmology, Juntendo Tokyo Koto Geriatric Medical Center, Tokyo, Japan; ⁵Tamagawa Eye Clinic, Tokyo, Japan; ⁶Otake Eye Clinic, Kanagawa, Japan; ⁷Kato Eye Clinic, Tokyo, Japan; ⁸Department of Ophthalmology, Juntendo University Urayasu Hospital, Chiba, Japan *CR, ✗

2705 — A0295 Novel Light Intensity Device (LuxIQ) for Quantitative Evaluation of Dry Eye Syndrome. *Harvey Fishman MD PHD¹, P. Borden², M. Klein².* ¹Fishman Vision, Palo Alto, CA; ²Jasper Ridge, Inc., San Mateo, CA *CR, ✗

2706 — A0296 Randomised trial of acupuncture in dry eye found reduction in tear cytokine. *Louis Tong^{1,2}, H. Htoon^{1,2,3}, A. Hou², U. Acharya⁴, J. Tan¹, Q. Wei⁶, P. Lim⁵.* ¹Cornea and External Eye Disease Service, Singapore National Eye Ctr, Singapore, Singapore; ²Singapore Eye Research Institute, Singapore, Singapore; ³Duke-NUS Medical School, Singapore, Singapore; ⁴Ngee Ann Polytechnic, Singapore, Singapore; ⁵Singapore Chung Hwa Medical Institution, Singapore, Singapore; ⁶Beijing University of Chinese Medicine, Beijing, China ✗

2707 — A0297 Clinical and cytological results of Dry Eye in patients with Rosacea using adjuvant treatment with Omega 3 Fatty Acids. *Josefina A. Mejias Smith, L. O. Izquierdo Villavicencio, M. A. Henriquez Bertaggia, C. O. Maldonado Matos, N. Canorio Pariona, A. L. Gonzalez Mendez.* Research Department, Oftalmosalud, Lima, Peru

Exhibit/Poster Hall A0412-A0436

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Visual Psychophysics/Physiological Optics

316 Anterior segment imaging and optics

Moderator: Ramkumar Sabesan

2708 — A0412 Variability of Ciliary Muscle Segmentation in OCT Images. *Keke Liu^{1,3}, F. Cabot^{1,4}, Y. Chang^{1,3}, M. Ruggeri¹, S. H. Yoo^{4,3}, J. A. Parel^{1,2}, F. Manns^{1,3}.* ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Brien Holden Vision Institute and Vision Cooperative Research Centre, Sydney, NSW, Australia; ³Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL; ⁴Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL *CR

2709 — A0413 In Vivo Measurement of the Attenuation Coefficient of the Sclera and Ciliary Muscle from Transscleral Optical Coherence Tomography images. *Gabrielle Monterano Mesquita^{1,2}, Y. Chang^{1,2}, F. Cabot^{1,3}, M. Ruggeri¹, S. H. Yoo^{3,4}, J. A. Parel^{1,4}, F. Manns^{1,2}.* ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL; ³Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, University of Miami College of Engineering, Coral Gables, FL; ⁴Brien Holden Vision Institute and Vision Cooperative Research Center, Sydney, NSW, Australia

2710 — A0414 Effect of Accommodative Therapy on Ciliary Muscle Thickness. *Marjean T. Kulp¹, N. Shasteen¹, G. Mitchell¹, M. Bailey¹, C. Kao³, K. Richdale².* ¹The OSU College of Optometry, Columbus, OH; ²SUNY College of Optometry, New York, NY; ³Claremont McKenna College, Claremont, CA *CR

2711 — A0415 Ultra high-field MRI determination of diffusion rates in human lenses of different ages. *Thomas Stahnke¹, R. F. Guthoff¹, O. Stachs¹, A. Wree², A. G. Juenemann¹, N. Grabow³, T. Lindner⁴, S. Polei⁴.* ¹Department of Ophthalmology, University of Rostock, Rostock, Germany; ²Institute of Anatomy, Rostock, Germany; ³Institute of Biomedical Engineering, Rostock, Germany; ⁴Core Facility Multimodal Small Animal Imaging, Rostock, Germany

2712 — A0416 Normal and Cataract Crystalline Lens Evaluation with Swept-Source Optical Coherence Tomography. *Alberto De Castro¹, A. Benito¹, S. Manzanera¹, J. Mompean¹, B. Cañizares², J. Marín², I. Grulkowski³, P. Artal¹.* ¹Laboratorio de Óptica, Universidad de Murcia, Murcia, Spain; ²Servicio de Oftalmología, Hospital Virgen de la Arrixaca, Murcia, Spain; ³Faculty of Physics, Nicolaus Copernicus University, Torun, Poland

2713 — A0417 Novel system for measuring the scattering associated to the cornea and the lens. *Pau Santos, M. Vilaseca, J. Martínez-Roda, J. Ondategui, F. Díaz-Doutón, J. Pujol.* Centre for Sensors, Instruments and Sensors Development (CD6), Universitat Politècnica de Catalunya, Terrassa, Spain *CR

2714 — A0418 Forward light scattering by implant lenses extracted from donor eyes. *Grzegorz Labuz^{1,2}, N. Reus⁴, T. J. Van Den Berg³.* ¹Rotterdam Ophthalmic Institute, Rotterdam, Netherlands; ²Department of Optics and Optometry, University of Murcia, Murcia, Spain; ³Netherlands Institute for Neuroscience, Royal Netherlands Academy of Arts and Sciences, Amsterdam, Netherlands; ⁴Department of Ophthalmology, Amphia Hospital, Breda, Netherlands *CR

2715 — A0419 Quantifying crystalline lens geometry and optical properties by combined optical coherence tomography & laser ray tracing. *Ashik Mohamed^{1,2}, M. Ruggeri³, E. Martinez-Enriquez⁴, P. Perez-Merino⁴, S. Williams^{3,5}, Y. Yao^{3,5}, B. Maceo Heilman^{3,5}, A. De Castro⁴, V. S. Sangwan¹, R. C. Augusteyn^{2,6}, J. A. Parel^{3,6}, A. Ho^{2,6}, S. Marcos⁴, F. Manns^{3,5}.* ¹Ophthalmic Biophysics, L V Prasad Eye Institute, Hyderabad, India; ²School of Optometry and Vision Science, The University of New South Wales, Sydney, NSW, Australia; ³Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴Visual Optics and Biophotonics Lab, Institute of Optics, Consejo Superior de Investigaciones Científicas, Madrid, Spain; ⁵Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL; ⁶Vision Cooperative Research Centre, Brien Holden Vision Institute, Sydney, NSW, Australia

2716 — A0420 Enhanced pupil reaction for blue light after cataract surgery. *Manami Kuze^{2,1}, M. Ayaki³, T. Koyasu⁴, Y. Song^{5,6}, M. Kondo¹, K. Negishi³, K. Tsubota².* ¹Ophthalmology, Mie University Graduate School of Medicine, Matsusaka, Japan; ²Ophthalmology, Matsusaka Central General Hospital, Matsusaka, Japan; ³Ophthalmology, Keio University School of Medicine, Tokyo, Japan; ⁴Ophthalmology, Miwa Eye Clinic, Gifu, Japan; ⁵Ophthalmology, Lagone Medical Center, New York, NY; ⁶Ophthalmology, Asahikawa Medical University, Asahikawa, Japan

2717 — A0421 Pre-operative Prediction of Post-cataract Surgery IOL Position Using Anterior Chamber Depth and Lens Thickness Determined with Extended-depth OCT. Yu-Cherng Chang^{1,2}, F. Cabot^{3,1}, S. Williams^{1,2}, G. Gregori⁴, M. Ruggeri⁴, S. H. Yoo^{3,2}, J. A. Parel^{1,5}, F. Manns^{1,2}. ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL; ³Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴Quantitative Imaging Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁵Brien Holden Vision Institute and Vision Cooperative Research Centre, Sydney, NSW, Australia *CR

2718 — A0422 Optical ensemble analysis of a toric IOL using two different methods of optical modeling in realistic pseudophakic eyes. Huawei Zhao¹, M. Van der Mooren², P. A. Piers². ¹R & D, Abbott Medical Optics, Santa Ana, CA; ²AMO Groningen B.V, Groningen, Netherlands *CR

2719 — A0423 Use of the Ratio of Posterior to Anterior Corneal Radii of Curvature to Improve the Accuracy of Intraocular Lens Power Calculation: Eom's Adjustment Method. Youngsub Eom, M. Kim, H. Lee, Y. Suh, J. Song, H. Kim. Ophthalmology, Korea University College of Medicine, Ansan-si, Korea (the Republic of)

2720 — A0424 Spherical equivalent refractive error of the pseudophakic eye with and without prior LASIK predicted using Gaussian optics. Fabrice Manns^{1,2}, Y. Chang^{1,2}, F. Cabot^{1,3}, M. Ruggeri⁴, S. H. Yoo^{3,2}, J. A. Parel^{1,4}. ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL; ³Anne Bates Leach Eye Hospital, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴Brien Holden Vision Institute and Vision Cooperative Research Centre, Sydney, NSW, Australia *CR

2721 — A0425 Clinically relevant measurement conditions and metrics for evaluating intraocular lenses. Carmen Canovas¹, A. Alarcon¹, H. A. Weeber⁴, K. Hileman², P. A. Piers¹. ¹R&D, AMO Groningen B.V., Groningen, Netherlands; ²R&D Clinical Research, AMO, Santa Ana, CA *CR

2722 — A0426 Preclinical evaluation of IOL associated dysphotopsia footprint. Mihai State, R. Rosen, P. A. Piers. R&D, AMO Groningen B.V., Groningen, Netherlands *CR

2723 — A0427 Posterior capsular wrinkle in eyes with 2 types of 1-piece intraocular lens. Eri Shibuya, M. Sasaki, N. Mita, A. Okamoto, M. Kita, H. Osada, N. Shibata, Y. Takahashi, E. Kubo, H. Sasaki. Kanazawa Medical University, Ishikawa, Japan

2724 — A0428 Impact of intraocular lens design on anterior surface reflections. Robert Rosen, M. State, M. Van der Mooren. Abbott Medical Optics, Groningen, Netherlands *CR

2725 — A0429 Intraocular lens movement in different states. Manqiang Peng, D. Lin. Aier school of ophthalmology, Central South University, Changsha, China

2726 — A0430 Comparison of postoperative surface light scattering in various hydrophobic acrylic intraocular lenses. Jonghyun Lee, D. Lee, J. Kim, H. Choi. Department of Ophthalmology, Ilsan Paik Hospital, Inje University, Goyang, Korea (the Republic of)

2727 — A0431 Development of a two-component intraocular lens system for cataract surgery. Harilaos S. Gini¹, C. Wittmer², T. Werblin², C. Laue². ¹Research Department, Athens Eye Hospital, Athens, Greece; ²Research, InfiniteVision Optics SAS, Srasbourg, France *CR

2728 — A0432 Optical analysis of different types of intraocular lenses. "Real life" measurements of Dioptric Power, Spherical Aberration and Strehl Ratio. Bruno Trindade^{1,2}, F. T. Amaral^{1,3}, D. W. Monteiro^{1,3}, S. Cronemberger¹. ¹Federal University Of Minas Gerais, Belo Horizonte, Brazil; ²Instituto De Oftalmologia Caçado Trindade, Belo Horizonte, Brazil; ³Optma, Electrical Engineering School, Belo Horizonte, Brazil

2729 — A0433 Combining non-sequential ray trace and optical bench method to assess intraocular lens glare phenomena. Kamal K. Das¹, J. Schwiegerling². ¹Implantable Lens Research, Alcon Laboratories, Inc, Fort Worth, TX; ²College of Optical Sciences, University of Arizona, Tucson, AZ *CR

2730 — A0434 Visual outcomes after implantation of a new wide-angle IOL in AMD patients. Eloy A. Villegas¹, A. Pio², L. Hervella¹, C. M. Lago¹, J. Marin², M. Qureshi³, P. Artal¹. ¹Laboratorio de Óptica, Universidad de Murcia, Spain, Murcia, Spain; ²Servicio de Oftalmología, Hospital Virgen de la Arrixaca, Spain, Murcia, Spain; ³London Eye Hospital Pharma, UK, London, United Kingdom *CR

2731 — A0435 Evaluation of optical properties of the intraocular lenses damaged in vitro with Nd:YAG laser. Wojciech Dyd¹, K. Kolacz², M. Miller², N. Block², Z. Jaroszewicz², M. Rekas¹. ¹Ophthalmology, Military Institute of Medicine, Warszawa, Poland; ²Maksymilian Pluta Institute of Applied Optics, Warsaw, Poland

2732 — A0436 Optical Quality after Posterior Chamber Phakic Intraocular lens Implantation. Hongting Liu^{1,3}, J. Li², O. Agbedia³, J. Wang³, L. liu². ¹The People's Hospital of Guangxi Zhuang Autonomous Region, Nanning, China; ²Tongji Hospital of Huangzhong Science and Technology University, Wuhan, China; ³Wilmer Eye Institute, Baltimore, MD

Exhibit/Poster Hall A0437-A0453

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Anatomy and Pathology/Oncology

317 Visual functions, optical cues effecting and affected by myopia

Moderator: David Troilo

2733 — A0437 The effects of brief periods of hyperopic defocus or form deprivation on eye growth in chicks depend on time of day. Jane Yang, K. Jordan, K. Totonnelly, D. L. Nickla. Bioscience, The New England College of Optometry, Boston, MA

2734 — A0438 Effects of blue-tinted lens defocus on myopia susceptibility in mice. Ryan G. Strickland¹, E. Landis², R. Chakraborty^{3,4}, V. Yang³, P. Iuvone^{4,5}, M. T. Pardue^{3,6}. ¹Emory University, Atlanta, GA; ²Neuroscience, Emory University, Atlanta, GA; ³Atlanta Center for Visual and Neurocognitive Rehab, Decatur, GA; ⁴Ophthalmology, Emory University School of Medicine, Atlanta, GA; ⁵Pharmacology, Emory University School of Medicine, Atlanta, GA; ⁶Department of Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA

2735 — A0439 Measurements of Spherical Aberration through Contact Lenses in an Animal Model of Myopia Development. Rita Nieu, A. Benavente-Perez, A. Nour, X. Zhu, H. Feng, P. B. Kruger, D. Troilo. SUNY College of Optometry, New York, NY *CR

2736 — A0440 Peripheral design of progressive addition lenses and the lag of accommodation in myopes. Siegfried Wahl^{1,2}, T. Schilling¹, S. Varnas³, A. Ohlendorf^{1,2}. ¹ZEISS Vision Science Lab, University Tuebingen, Tuebingen, Germany; ²Carl Zeiss Vision International GmbH, Tuebingen, Germany; ³Carl Zeiss Vision Australia Pty. Ltd., Adelaide, SA, Australia *CR

2737 — A0441 Rearing mice in low ambient light as a model to explore the genetics of myopia. Brenda Tan, A. Toychiev, D. Troilo, S. A. Bloomfield. SUNY College of Optometry, New York, NY

2738 — A0442 Optical Aberrations of Guinea Pig Eyes. Sarah Kochik, C. F. Wildsoet, A. Roorda. Vision Science, University of California, Berkeley, Berkeley, CA

2739 — A0443 Seasonal light exposure and eye growth variations in young adults. Sekar Ulaganathan, S. A. Read, M. J. Collins, S. Vincent. Optometry and Vision Science, Queensland University of Technology, Brisbane, QLD, Australia

- 2740 — A0444 Effects of Long-Wavelength Lighting on Lens Compensation in Rhesus Monkeys.** Baskar Arumugam^{1,2}, L. Hung^{1,2}, A. Ho², E. L. Smith^{1,2}. ¹College of Optometry, University of Houston, Houston, TX; ²Brien Holden Vision Institute, Sydney, NSW, Australia *CR
- 2741 — A0445 Attention-Related-Functional Changes Induced By Imposed Myopia Defocus From Spectacle Lens.** Meng Tian Kang^{1,2}, B. Wang³, S. Li^{1,2}, A. Ran^{1,2}, J. Gan^{1,2}, N. Wang^{1,2}. ¹Ophthalmology, Beijing Tongren Hospital, Capital Medical University, Beijing, China; ²Ophthalmology, Beijing Institute of Ophthalmology, Beijing, China; ³State Key Laboratory of Brain and Cognitive Science, Institute of Biophysics, Chinese Academy of Sciences, Beijing, China
- 2742 — A0446 Effect of Temporal Vision on Binocularity in Ametropia.** Fuensanta A. Vera-Diaz¹, A. Kosovicheva², A. Ferreira¹, P. J. Bex². ¹Optometry, New England College of Optometry, Boston, MA; ²Psychology, North Eastern University, Boston, MA *CR
- 2743 — A0447 Temporal Contrast Sensitivity in Myopia.** Adriana Ferreira¹, A. Kosovicheva², P. J. Bex², F. A. Vera-Diaz¹. ¹New England College of Optometry, Boston, MA; ²Northeastern University, Boston, MA *CR
- 2744 — A0448 Wavelength Cues Are Essential to Maintain Emmetropia in Tree Shrews.** Timothy Gawne, A. Ward, T. T. Norton. Optometry and Vision Science, University of Alabama at Birmingham (UAB), Birmingham, AL
- 2745 — A0449 Interaction of minus-lens wear and form deprivation with long-wavelength light in tree shrews.** Alexander H. Ward, T. T. Norton, T. Gawne. Optometry and Vision Science, University of Alabama at Birmingham, Birmingham, AL
- 2746 — A0450 The calibration of the PlusOptix PowerRef 3 as a function of viewing distance.** Saeideh Ghahghaei¹, J. B. Badler¹, T. Candy², A. Chandna¹. ¹The Smith-Kettlewell Eye Research Institute, San Francisco, CA; ²Indiana University, School of Optometry and Vision, Bloomington, IN
- 2747 — A0451 Changes in forward light scatter parameters correlate with refractive error in young adults.** Manbir Nagra, M. Patel, J. L. Barbur. Division of Optometry and Visual Science, City, University of London, London, United Kingdom
- 2748 — A0452 Clinical Accuracy and Precision of a Hand-Held Shack Hartman Wavefront Sensor Autorefractor.** Nicolas Brown¹, T. C. Vaz², O. Pikul², R. Dowd², R. L. Nally², S. B. Klein², G. Yoon². ¹Ovitz Corporation, Victor, NY; ²Flaum Eye Institute, University of Rochester, Rochester, NY *CR
- 2749 — A0453 Retinal sensitivity asymmetry in high myopia and its correlation with refractive error.** Zeyad A. A. ALzaben¹, G. Cardona¹, M. A. Zapata², A. Zaben³, D. N. Koff⁴. ¹Department of Optics and Optometry, Technical University of Catalonia, Olot, Spain; ²Ophthalmology, Valle de Hebrón Hospital, Barcelona, Spain; ³Optometry, Optipunt Eye Clinic, Figueres, Spain; ⁴Allied Medical Sciences, Jordan University of Science and Technology, Irbid, Jordan
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- Exhibit/Poster Hall B0077-B0117
Tuesday, May 09, 2017 8:30 AM-10:15 AM
- Genetics Group**
- 318 Whole Genome Analysis, Genetic Screening in Retinal Dystrophies and Others**
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- Moderators: Zi-Bing Jin and Stephen P. Daiger**
- 2750 — B0077 Genomics approaches to identify an elusive defect at chromosome 17q22 in an autosomal dominant retinitis pigmentosa family.** Susanne Roosing^{1,2}, M. Khan^{1,2}, S. Micheal^{1,2}, M. Zonneveld-Vrieling^{1,2}, B. Royer-Bertrand⁴, C. Rivolta⁴, A. I. Den Hollander^{3,1}, C. C. Hoyng³, F. P. Cremers^{1,2}. ¹Human Genetics, Radboud university medical center, Nijmegen, Netherlands; ²Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands; ³Ophthalmology, Radboud university medical center, Nijmegen, Netherlands; ⁴Department of Computational Biology, Unit of Medical Genetics, University of Lausanne, Lausanne, Switzerland
- 2751 — B0078 International networks in eye disease - the Asian Eye Genetics Consortium (AEGC).** Takeshi Iwata¹, G. Prakash², P. N. Baird³, S. Natarajan⁴. ¹National Institute of Sensory Organs, National Hospital Organization Tokyo Medical Center, Tokyo, Japan; ²National Eye Institute, National Institutes of Health, Bethesda, MD; ³Center for Eye Research Australia, University of Melbourne, East Melbourne, Australia; ⁴Aditya Jyot Eye Hospital, Mumbai, India
- 2752 — B0079 Target 5000: Genetic characterisation of a cohort of inherited retinal degeneration (IRD) patients.** Adrian Dockery¹, M. Carrigan¹, C. P. Malone², E. Duignan², D. J. Keegan³, K. Stephenson³, G. Silvestri^{4,5}, A. Green⁶, J. McCourt⁷, P. Humphries¹, P. F. Kenna^{1,2}, J. G. Farrar¹. ¹The School of Genetics & Microbiology, Trinity College Dublin, Dublin, Ireland; ²Research Foundation, The Royal Victoria Eye and Ear Hospital, Dublin, Ireland; ³The Mater Misericordiae Hospital, Dublin, Ireland; ⁴Department of Ophthalmology, The Royal Victoria Hospital, Belfast, United Kingdom; ⁵Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom; ⁶Our Lady's Children's Hospital, Dublin, Ireland; ⁷RCSI Clinical Research Centre, Beaumont Hospital, Dublin, Ireland
- 2753 — B0080 Semi masked analysis reduces bias in whole exome sequencing analysis.** Laura Bryant¹, O. Lozynska¹, J. Bennicelli¹, T. S. Aleman², A. M. Maguire², J. Bennett¹. ¹Center for Advanced Retinal and Ocular Therapeutics, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, Scheie Eye Institute, Philadelphia, PA *CR
- 2754 — B0081 Identification of pathogenic mutations in patients with inherited retinal dystrophies using whole genome sequencing.** Kari E. Branham¹, P. Biswas², L. Rassi Gabriel¹, A. Soto-Hermida³, H. Matsui⁴, A. Telenti⁶, K. A. Frazer^{4,5}, J. R. Heckenlively¹, P. A. Sieving³, R. Ayyagari². ¹Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ²Shiley Eye Institute, University of California San Diego, La Jolla, CA; ³National Eye Institute, National Institutes of Health, Bethesda, MD; ⁴Institute for Genomic Medicine, University of California San Diego, San Diego, CA; ⁵Department of Pediatrics and Rady Children's Hospital, University of California San Diego, La Jolla, CA; ⁶Human Longevity, Inc, San Diego, CA; ⁷Department of Ocular Genetics, Brazilian Center of Eye Surgery, Goiania, Brazil *CR
- 2755 — B0082 Loss of function variants in retinitis pigmentosa genes in NHLBI GO Exome Sequencing Project.** Jianhuan Chen¹, H. Wang². ¹Wuxi School of Medicine, Jiangnan University, Wuxi, China; ²Joint Shantou International Eye Center, Shantou University & the Chinese University of Hong Kong, Shantou, China
- 2756 — B0083 Whole genome sequencing to find missing alleles in patients with retinal disease.** Adam P. DeLuca, H. T. Daggatt, J. S. East, A. V. Drack, T. E. Scheetz, V. Sheffield, E. M. Stone. Stephen A. Wynn Institute for Vision Res, University of Iowa, Iowa City, IA
- 2757 — B0084 Ion Proton system enables reliable genetic diagnosis and improves mutation detection rate of inherited retinal dystrophies.** Marina Riera¹, R. Navarro², S. Ruiz-Nogales¹, P. Mendez¹, A. Bures-Jelstrup², B. Corcostegui², E. Pomares¹. ¹Genetics, Institut de Microcirurgia Ocular, Barcelona, Spain; ²Retina, Institut de Microcirurgia Ocular, Barcelona, Spain

2758 — B0085 Sequence analysis of 108 genes associated with non-syndromic inherited retinal diseases in 3,200 probands using molecular inversion probes. Muhammad Khan^{1,2}, P. Raque^{3,4}, D. Sharon⁵, R. K. Koeneke⁶, C. Rivolta⁷, E. De Baere⁸, C. F. Inglehearn⁹, S. Kohl¹⁰, C. P. Hamel¹¹, T. Ben-Yosef¹², B. De la Cerda¹³, D. F. Schorderet¹⁴, S. Banfi¹⁵, C. Ayuso^{3,4}, F. P. Cremers^{1,2}. ¹Human Genetics, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands; ²Donders Institute for Brain, Cognition and Behaviour, Radboud University Nijmegen, Nijmegen, Netherlands; ³Department of Genetics, Instituto de Investigación Sanitaria-University Hospital Fundacion Jimenez Diaz (IIS-FJD, UAM), Madrid, Spain; ⁴Centre for Biomedical Network Research on Rare Diseases (CIBERER), ISCIII, Madrid, Spain; ⁵Departement of Ophthalmology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel; ⁶Departments of Paediatric Surgery, Human Genetics and Ophthalmology, McGill University Health Center, Montreal, QC, Canada; ⁷Department of Computational Biology, University of Lausanne, Lausanne, Switzerland; ⁸Center for Medical Genetics, Ghent University Hospital, Ghent, Belgium; ⁹Department of Ophthalmology and Neuroscience, University of Leeds, Leeds, United Kingdom; ¹⁰Centre for Ophthalmology, Institute for Ophthalmic Research, University of Tuebingen, Tuebingen, Germany; ¹¹Institute for Neurosciences of Montpellier, University of Montpellier-University Hospital, Montpellier, France; ¹²The Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel; ¹³Andalusian Molecular Biology and Regenerative Medicine Centre (CABIMER), Sevilla, Spain; ¹⁴Institute for Research in Ophthalmology (IRO), Sion, Switzerland; ¹⁵Telethon Institute of Genetics and Medicine (TIGEM), Pozzuoli, Italy

2759 — B0086 Whole genome sequencing revealed mutations in two independent genes as the underlying cause of retinal degeneration (RD) in an Ashkenazi Jewish Pedigree. Kevin Gustafson¹, J. L. Duncan¹, P. Biswas², H. Matsui³, A. Soto-Hermida², J. Suk², A. Telenti⁴, K. A. Frazer^{3,5}, R. Ayyagari². ¹Ophthalmology, University of California, San Francisco, San Francisco, CA; ²Shiley Eye Institute, University of California, San Diego, La Jolla, CA; ³Institute for Genomic Medicine, University of California, San Diego, La Jolla, CA; ⁴Human Longevity, Inc., San Diego, CA; ⁵Department of Pediatrics, Rady Children's Hospital, Division of Genome Information Sciences, San Diego, CA *CR

2760 — B0087 Novel insights in KIF11-related retinopathy. Johannes Birtel^{1,2}, M. Gliem^{1,2}, E. Mangold³, L. Tebbe⁴, I. Spier³, P. Mueller^{1,2}, F. G. Holz^{1,2}, C. Neuhaus⁵, U. Wolftrum⁴, H. Bolz^{5,6}, P. Charbel Issa^{1,7}. ¹University of Bonn, Department of Ophthalmology, Bonn, Germany; ²Center for Rare Diseases Bonn (ZSEB), Bonn, Germany; ³University of Bonn, Institute of Human Genetics, Bonn, Germany; ⁴Johannes Gutenberg University of Mainz, Institute of Zoology, Cell and Matrix Biology, Mainz, Germany; ⁵Bioscientia Center for Human Genetics, Ingelheim, Germany; ⁶University of Cologne, Institute of Human Genetics, Cologne, Germany; ⁷University of Oxford, Oxford Eye Hospital, Oxford, United Kingdom *CR

2761 — B0088 c.2991+1655A>G CEP290 intronic mutation is a recurrent founder allele in Brazilian Individuals with Leber Congenital Amaurosis. Fernanda B. Porto^{1,2}, E. Jones³, R. T. Simões³, R. Chen⁴, J. Branch⁴. ¹INRET Clínica e Centro de Pesquisa, Belo Horizonte, Brazil; ²Retina, Centro Oftalmológico de Minas Gerais, Belo Horizonte, Brazil; ³IEP Instituto de Ensino e Pesquisas da Santa Casa de Belo Horizonte, Belo Horizonte, Brazil; ⁴Baylor College Of Medicine, Houston, TX

2762 — B0089 Para-arterial preservation of the inner retinal layer in Leber congenital amaurosis: an early and transient sign of retinal degeneration. Ariane de Lassus¹, B. P. Leroy^{2,3}, V. Vaclavik¹, D. F. Schorderet⁴, F. L. Munier¹, H. V. Tran¹. ¹Jules-Gonin Eye Hospital, Prilly, Switzerland; ²Ophthalmology, Ghent University Hospital, Ghent, Belgium; ³Ophthalmic Genetics and Retinal Degenerations clinics, Children's Hospital of Philadelphia, Philadelphia, PA; ⁴IRO-Inst for Research in Ophthalmology, Sion, Switzerland

2763 — B0090 An ancestral mutation in SAG (S-antigen visual arrestin-1) is a common cause of autosomal dominant retinitis pigmentosa in Hispanics. Lori S. Sullivan¹, S. J. Bowne¹, K. Webb-Jones², J. R. Heckenlively³, D. C. Koboldt⁴, Y. Li⁵, R. Chen⁵, V. Gurevich⁶, D. G. Birch², S. P. Daiger^{1,7}. ¹Human Genetics Center SPH, Univ Texas Hlth Sci Ctr Houston, Houston, TX; ²Retina Foundation of the Southwest, Dallas, TX; ³Kellogg Eye Center, University of Michigan, Ann Arbor, MI; ⁴The Institute for Genomic Medicine, Nationwide Children's Hospital, Columbus, OH; ⁵Molecular and Human Genetics, Baylor College of Medicine, Houston, TX; ⁶Vanderbilt University, Nashville, TN; ⁷Ruiz Dept. of Ophthalmology and Visual Science, Univ Texas Hlth Sci Ctr Houston, Houston, TX

2764 — B0091 The range of retinal phenotypes in CNGB3 related disease. Ajoy Vincent, E. Heon. Ophthalmology and Vision Sciences, Hospital for Sick Children, Toronto, ON, Canada

2765 — B0092 The clinical spectrum of IMPG2-associated retinal dystrophies. Alberta A. Thiadens^{1,2}, A. E. de Boer⁴, J. Kievit⁵, V. J. Verhoeven^{2,5}, C. C. Hoyng³, R. van Huet³, C. Klaver^{1,3}. ¹Ophthalmology and Epidemiology, Erasmus MC, Rotterdam, Netherlands; ²Epidemiology, Erasmus MC, Rotterdam, Netherlands; ³Ophthalmology, Radboud UMC, Nijmegen, Netherlands; ⁴Ophthalmology, Erasmus MC, Rotterdam, Netherlands; ⁵Clinical Genetics, Erasmus MC, Rotterdam, Netherlands

2766 — B0093 The Phenotype-Genotype Correlation in Brazilian CRB1 Patients. Fabiana L. Motta¹, M. V. Salles¹, K. A. Costa¹, R. F. da Silva², R. P. Martin³, J. M. Sallum¹. ¹Ophthalmology, Federal University of São Paulo, São Paulo, Brazil; ²Biophysics, Federal University of São Paulo, São Paulo, Brazil

2767 — B0094 Genotype - phenotype analysis in a family with autosomal dominant retinitis pigmentosa and a mutation in SNRNP200. Christina Gerth-Kahler¹, A. Tiwari², A. Bahr², J. V. Hanson¹, W. Berger^{2,3}. ¹Dept of Ophthalmology, University of Zurich, Zurich, Switzerland; ²Institute of Medical Molecular Genetics, University of Zurich, Schlieren, Switzerland; ³Zurich Center for Integrative Human Physiology (ZIHP), University of Zurich, Zurich, Switzerland

2768 — B0095 Targeted next generation sequencing in Italian patients with Usher syndrome: phenotype genotype correlations. Chiara M. Eandi¹, A. Mariottini², C. Alovisi¹, F. Torricelli², L. Musso¹, C. Marchese³. ¹Department of Surgical Sciences, Eye Clinic, University of Torino, Torino, Italy; ²Diagnostic Genetic Unit AOU Careggi, Firenze, Italy; ³Inherited retinal dystrophies Unit, Azienda Ospedaliera Ordine Mauriziano Torino, Torino, Italy

2769 — B0096 Clinical and molecular analysis in a family with X-linked retinitis pigmentosa due to a novel mutation in RPGR . Aline Astorga Carballo, V. Ruiz Villegas, R. Matsui. Retina, Conde de Valenciana, Mexico, Mexico

2770 — B0097 Characterising X-linked Inherited Retinal Disease in New Zealand identifies unique population demographics and genotypes. Andrea L. Vincent^{1,2}, E. Song¹, S. Kuruvilla^{1,2}, N. Raoof^{1,2}, K. van Bysterveldt¹, V. F. Oliver¹. ¹Ophthalmology, Faculty of Medical and Health Sciences, New Zealand National Eye Centre, University of Auckland, Auckland, New Zealand; ²Eye Department, Greenlane Clinical Centre, Auckland District Health Board, Auckland, New Zealand

2771 — B0098 Novel mutations in PRPF31 cause autosomal dominant retinitis pigmentosa identified by whole exome sequencing. Haoyu Chen, X. Xiao, Z. Zhang, Y. Cao, Y. Zheng. Joint Shantou International Eye Center, Shantou, China

- 2772 — B0099 Identification of a novel SDCCAG8 gene variant in a family with retinitis pigmentosa and kidney failure.** Benjamin Bakall^{1,2}, P. Biswas⁴, H. Matsu³, J. Suk³, A. Telenti⁵, K. A. Frazer³, R. Ayyagari⁴. ¹University of Arizona College of Medicine Phoenix, Phoenix, AZ; ²Associated Retina Consultants, Phoenix, AZ; ³Institute for Genomic Medicine, University of California San Diego, San Diego, CA; ⁴Shiley Eye Institute, University of California San Diego, La Jolla, CA; ⁵Human Longevity Inc, San Diego, CA *CR
- 2773 — B0100 Severe congenital stationary night blindness due to GUCY2D mutations.** Scott E. Brodie¹, A. V. Drack², E. M. Stone². ¹Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY; ²Wynn Institute for Vision Research, University of Iowa, Iowa City, IA
- 2774 — B0101 Simultaneous expression of ABCA4 and USH2A mutations in one sporadic RP patient.** Liping Yang. Peking University Eye Center, Peking University Third Hospital, Beijing, China
- 2775 — B0102 Segregation analyze in Stargardt patients' families: investigation of complex allele in ABCA4 gene.** Mariana V. Salles¹, F. L. Motta³, K. A. Costa¹, J. Chiang², J. Pesquero³, J. M. Sallum¹. ¹Ophthalmology, UNIFESP, Sao Paulo, Brazil; ²Molecular Vision Laboratory, Portland, OR; ³Biophysics, UNIFESP, Sao Paulo, Brazil
- 2776 — B0103 Proapoptotic TLR4 polymorphism is more frequent in Stargardt disease patients. A family study.** Gonzalez-de la Rosa Alejandro^{1,2}, J. Navarro-Partida¹, N. Macríz-Romero², R. Rosales Diaz³, A. B. Martínez-Rizo³, A. Santos^{1,2}. ¹Division De Biotecnología Y Salud. Campus Guadalajara., Tecnológico De Monterrey, Zapopan, Mexico; ²Centro De Retina Medica Y Quirúrgica, Zapopan, Mexico; ³Unidad Academica De Medicina, Universidad Autonoma De Nayarit, Tepic, Mexico
- 2777 — B0104 Peripherin-2 mutations identified by whole exome sequencing in clinically heterogeneous families with retinal pattern dystrophies.** Mercedes B. Villalonga¹, G. K. Collins¹, R. E. Silver¹, J. M. Seddon^{1,2}. ¹Ophthalmic Epidemiology and Genetics Service, Tufts Medical Center, Boston, MA; ²Department of Ophthalmology, Tufts University School of Medicine, Boston, MA *CR
- 2778 — B0105 Mutations in MFSD8 cause early and late onset Autosomal Recessive Macular Dystrophy in Switzerland.** Veronika Vaclavik¹, D. F. Schorderet¹, F. L. Munier¹, H. V. Tran¹, M. Todorova². ¹oculogenetic unit, University of Lausanne, Jules Gonin Eye Hospital, Lausanne, Switzerland; ²University Eye Hospital, Basel, Switzerland
- 2779 — B0106 North Carolina macular dystrophy: mutations found in 12 additional families.** Kent W. Small^{2,1}, F. Shaya^{2,1}, S. Yelchits³, A. P. DeLuca⁴, R. A. Lewis⁵, M. J. Leys⁶, N. Udar^{2,1}, B. Bakall⁷, K. Rohrschneider⁸, B. Puech⁹, V. Puech¹⁰, E. Heon¹¹, J. C. Folk¹², G. A. Fishman¹³, C. Garabedian^{2,1}, E. M. Stone¹. ¹Retina, Molecular Insight, Research Foundation, Los Angeles, CA; ²Macula and Retina Institute, Glendale, CA; ³Jules Stein Eye Institute, Los Angeles, CA; ⁴University of Iowa, Iowa City, IA; ⁵Baylor College of Medicine, Houston, TX; ⁶WVU Eye Institute, Morgantown, WV; ⁷University of Arizona College of Medicine, Phoenix, AZ; ⁸University of Heidelberg, Heidelberg, Germany; ⁹Service d'Exploration de la vision et Neuro-ophtalmologie CHRU, Lille, France; ¹⁰Ophthalmologist in Marcq-en-Barœul, Marcq-en-Barœul, France; ¹¹Hospital for Sick Children, Toronto, ON, Canada; ¹²University of Iowa Hospitals & Clinics, Iowa City, IA; ¹³Chicago Lighthouse for the Blind & Vis Impaired, Chicago, IL
- 2780 — B0107 Blue Cone Monochromatism Identified in an Irish Family.** Niamh C. Wynne¹, C. P. Malone¹, M. Carrigan², K. Collins¹, H. Dempsey¹, A. Green³, J. G. Farrar², P. Kenna^{1,2}. ¹Research Department, Royal Victoria Eye and Ear Hospital, Co Kildare, Ireland; ²Ocular Genetics Unit, Trinity College Dublin, Dublin, Ireland; ³National Genetics Unit, Our Lady's Hospital for Sick Children Crumlin, Dublin, Ireland
- 2781 — B0108 A Novel Candidate Gene for Complete Achromatopsia.** Markus N. Preising, A. Zuliani, B. Lorenz. Department of Ophthalmology, Justus-Liebig University, Giessen, Germany
- 2782 — B0109 Uniparental isodisomy of chromosome 2 in CNGA3-associated achromatopsia.** Susanne Kohl, B. Baumann, A. Mayer, B. Wissinger. Centre for Ophthalmology, Inst for Ophthalmic Rsrch Tuebingen, Tuebingen, Germany
- 2783 — B0110 Genome wide analysis of enucleated Coats eyes.** Denisa Dzulova¹, C. Sanjurjo Soriano¹, J. Poulter¹, I. Carr¹, W. Abed Alnabi², N. Wangtiraumnay², R. Eagle², C. L. Shields², A. V. Levin^{2,3}, C. Toomes¹. ¹University of Leeds, Leeds, United Kingdom; ²Wills Eye Hospital, Philadelphia, PA; ³Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA
- 2784 — B0111 Next generation sequencing reveal accurate molecular diagnosis in patients with infantile nystagmus syndrome.** Jinu Han¹, S. Lee². ¹Department of Ophthalmology, Yonsei University College of Medicine, Seoul, Korea (the Republic of); ²Department of Laboratory Medicine, Yonsei University College of Medicine, Seoul, Korea (the Republic of)
- 2785 — B0112 Whole exome sequencing towards a rapid identification of genetic variants associated with congenital nystagmus.** Marta Owczarek-Lipska¹, C. Jüschke¹, L. Mulahasanovic³, K. Hörtnagl³, S. Biskup³, T. Linden³, C. Korenke³, J. P. Neidhardt¹. ¹Human Genetics, University of Oldenburg, Oldenburg, Germany; ²Klinikum Oldenburg, Department of Neuropediatrics, Children's Hospital, Oldenburg, Germany; ³Center for Genomics and Transcriptomics, CeGaT GmbH, Tübingen, Praxis für Humangenetik, Tübingen, Germany
- 2786 — B0113 Mutations in SLC38A8 and FOXD1 in patients with nystagmus and foveal hypoplasia.** Emma C. Lord¹, J. Poulter¹, A. R. Webster^{2,3}, P. Sergouniotis^{4,2}, K. N. Khan¹, P. J. Benke⁵, L. Friedman⁶, M. Ali¹, C. F. Inglehearn¹, C. Toomes¹. ¹Medicine & Health, The University of Leeds, Preston, United Kingdom; ²UCL Institute of Ophthalmology, London, United Kingdom; ³Moorfields Eye Hospital, London, United Kingdom; ⁴The University of Manchester, Manchester, United Kingdom; ⁵Joe DiMaggio Children's Hospital, Hollywood, FL; ⁶Florida Eye Microsurgical Institute, Boca Raton, FL
- 2787 — B0114 Autosomal dominant locus for pediatric cataract, myopic astigmatism, familial exudative vitreoretinopathy and primary open-angle glaucoma identified on chromosome 7q36.** Stuart W. Tompson¹, K. N. Whisenhunt¹, A. W. Hewitt^{2,3}, D. A. Mackey^{2,3}, T. L. Young¹. ¹Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI; ²Centre for Eye Research Australia, University of Melbourne, Melbourne, VIC, Australia; ³Department of Ophthalmology, Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia
- 2788 — B0115 Defects in the cell signaling mediator β -catenin (CTNNB1) cause the retinal vascular condition FEVR.** Carmel Toomes¹, E. S. Panagiotou¹, J. Poulter¹, C. Sanjurjo Soriano¹, H. Kondo^{4,5}, A. Hiyoshi³, H. Chung³, M. E. Tafaya², M. Ali¹, C. F. Inglehearn¹. ¹University of Leeds, Leeds, United Kingdom; ²Pacific Retina Care, Waikale, HI; ³The University of Hong Kong, Hong Kong, China; ⁴Fukuoka University, Fukuoka, Japan; ⁵University of Occupational and Environmental Health, Kitakyushu, Japan
- 2789 — B0116 Fibrillin 1-associated Autosomal Dominant Non-Marfan Ectopia Lentis with Retinal Detachment.** Kirk Stephenson¹, A. Dockery², A. Green³, J. G. Farrar², D. J. Keegan¹. ¹Ophthalmology, Mater Misericordiae University Hospital, Dublin, Ireland; ²Genetics, Trinity College Dublin, Dublin, Ireland; ³Genetics, Our Lady's Children's Hospital, Crumlin, Dublin, Ireland

2790 — B0117 Association between HLA class II region and ocular involvement in sarcoidosis. Akira Meguro¹, M. Ishihara¹, M. Takeuchi^{1,2}, S. Ohno³, N. Mizuki¹. ¹Department of Ophthalmology, Yokohama City University School of Medicine, Yokohama, Japan; ²Inflammatory Disease Section, National Human Genome Research Institute, National Institutes of Health, Bethesda, MD; ³Department of Ophthalmology, Hokkaido University Graduate School of Medicine, Sapporo, Japan

Exhibit/Poster Hall B0228-B0270

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Retina

319 Vitreoretinal surgery

Moderator: Jens F. Kiilgaard

2791 — B0228 27-gauge vitrectomy wound integrity: a randomized pilot study comparing angled versus straight entry in fluid-filled vitrectomized eyes. M. Ali A. Khan^{2,1}, A. Durrani¹, J. Hsu¹, C. D. Regillo¹. ¹Ophthalmology, Wills Eye Hospital, Philadelphia, PA; ²Ophthalmology, Doheny Eye Center UCLA, Pasadena, CA ✕

2792 — B0229 Correlation of Intraoperative Morphology and Postoperative Outcome in Patients with Full Thickness Macular Hole (FTMH). Julia S. Klein, S. Bohnacker, M. Nasseri, N. Feucht, C. Lohmann, M. M. Maier. Klinikum Rechts der Isar, Augenklinik, TUM, Munich, Germany

2793 — B0230 The Clinical Outcomes of Surgical Management of Anterior Chamber Migration of a Dexamethasone Implant (Ozurdex®). Hyunseung A. Kang¹, M. Lee¹, S. Byeon¹, H. Koh², S. Lee², S. Kim², M. Kim¹. ¹Ophthalmology, Yonsei University College of Medicine, Gangnam Severance Hospital, Seoul, Korea (the Republic of); ²Ophthalmology, Yonsei University College of Medicine, Shinchon Severance Hospital, Seoul, Korea (the Republic of)

2794 — B0231 Efficacy and safety outcomes following the use of ILUVIEN in vitrectomized eyes - results from the University Eye Clinic Frankfurt in Germany. Frank H. Koch¹, P. Singh¹, A. Chedid¹, M. Mueller¹, T. Kohnen², S. K. Deuchler^{1,2}. ¹Retina and Vitreous Unit, University Eye Clinic Frankfurt / Main, Frankfurt Am Main, Germany; ²Department of Ophthalmology, University Clinic Frankfurt, Frankfurt, Germany *CR

2795 — B0232 Who gets surgery for idiopathic epiretinal membrane? A retrospective analysis. Michael Rothschild¹, J. J. Tseng², K. J. Wald^{2,1}. ¹Ophthalmology, New York University School of Medicine, New York, NY; ²Retina Associates of New York, New York, NY

2796 — B0233 3D Heads-up vitreo-retinal surgery with intraoperative OCT and intraocular endoscopy. Takashi Kitaoka, Y. Hara, M. Matsumoto, E. Tsuki. Department of Ophthalmology, Nagasaki Univ School of Medicine, Nagasaki, Japan

2797 — B0234 Analysis of prognostic factors for a successful result after surgery for Idiopathic Macular Hole. Simona Maria Caprani, S. Donati, M. Mazzola, M. Todarello, A. Ravasio, M. Bianchi, C. Azzolini. Morphological & Surgical Sci, Univ of Insubria-Circolo Hosp, Varese, Italy

2798 — B0235 Comparison of 20-gauge, 23-gauge, and 25-gauge Vitrectomy Instrumentation for the Repair of Diabetic Tractional Retinal Detachment. Anna Ter-Zakarian, P. Storey, S. A. Philander, L. C. Olmos, M. George, D. C. Rodger, M. S. Humayun, H. Ameri. USC Eye Institute, Los Angeles, CA

2799 — B0236 A Comparison of Retrobulbar, Sub-Tenon's Anesthesia and Canthal Anesthesia for 25-Gauge Posterior Vitrectomy. Derri Roman Pognuz, G. Scarpa, L. Spedicato. Department of Ophthalmology, Ca Foncello Hospital, ULSS 9, Treviso, Italy

2800 — B0237 Sub-Tenon's capsule 0.1% adrenaline versus placebo in maintenance of mydriasis during vitrectomy. Thais Andrade¹, R. B. de Araujo¹, G. D. Melo², B. M. Azevedo¹, P. C. Carricondo¹. ¹Universidade de São Paulo, Sao Paulo, Brazil; ²Federal University of Rio Grande do Norte, Natal, Brazil ✕

2801 — B0238 Redistribution of indocyanine green dye after pars plana vitrectomy with epiretinal membrane peel surgery. Malav Joshi, R. Iezzi. Ophthalmology, Mayo Clinic, Rochester, MN

2802 — B0239 Outcomes of Anterior Chamber Intraocular Lens (ACIOL) Implantation in Patients Undergoing Pars Plana Vitrectomy. Henry L. Feng, A. P. Finn, T. Kim, T. H. Mahmoud. Ophthalmology, Duke University Medical Center, Durham, NC

2803 — B0240 Incidence of recurrent vitreous hemorrhage with SF6 vs air post-vitrectomy. Scott Sullivan², B. Budden¹, A. Rao^{1,3}. ¹Ophthalmology, LSUHSC-New Orleans, New Orleans, LA; ²School of Medicine, LSUHSC - New Orleans, New Orleans, LA; ³Vitreoretinal Institute, Baton Rouge, LA

2804 — B0241 Clinical outcomes according to silicone oil removal time in severe proliferative diabetic retinopathy. Su Jin Park¹, S. Hyun^{1,2}, D. Nam¹, D. Lee¹. ¹Gachon University, Gil Medical Center, Incheon, Korea (the Republic of); ²Shinan Health Center, Shinan-gun, Korea (the Republic of)

2805 — B0242 Combined Pars Plana Vitrectomy (PPV) and Phacoemulsification (Phaco) versus PPV and Deferred Phaco for Patients with Macular Hole (MH) or Epiretinal Membrane (ERM). Rodrigo Jorge¹, K. I. Viana¹, D. Lucena¹, M. M. Esperandio¹, D. M. Garcia¹, F. P. Almeida¹, A. Messias¹, I. U. Scott². ¹Ophthalmology, Ribeirao Preto Med School, University of Sao Paulo, Ribeirao Preto, Brazil; ²Departments of Ophthalmology and Public Health Sciences, Penn State College of Medicine, Hershey, PA ✕

2806 — B0243 Unexpected visual loss after intraocular silicone oil removal: a retrospective study. Amandio Rocha-Sousa^{1,2}, A. Roca¹, J. Barbosa-Breda^{1,2}, M. Silva², P. Alves-Faria², M. Falcão^{1,2}, F. Falcão-Reis^{1,2}. ¹Dept Surgery and Physiology (Ophthalmology Unit), Faculty of Medicine; University of Porto, Porto, Portugal; ²Ophthalmology, Centro Hospitalar de São João, Porto, Portugal

2807 — B0244 Vitrectomy for Symptomatic Vitreous Floaters: Characteristics of Intraocular Lens Status and Patient Selection, a Retrospective Observational Study. Hari Mylvaganam¹, J. M. Osher², M. M. Lai³. ¹Ophthalmology, Georgetown University, Arlington, VA; ²Ophthalmology, Cincinnatti Eye Institute, Blue Ash, OH; ³Ophthalmology, Retina Group of Washington, Washington, DC

2808 — B0245 Inverted ILM flap for treatment of myopic macular holes: healing processes and morphologic changes in comparison with complete ILM removal. Maurizio Mete¹, A. Alfano¹, M. Guerriero², G. Pertile¹. ¹Ophthalmology, Ospedale Sacro Cuore Don Calabria, Negrar (vr), Italy; ²Computer Science, University of Verona, Verona, Italy

2809 — B0246 Timing of Pars Plana Vitrectomy for Retained Lens Fragments after Cataract Surgery. Travis Peck, A. Bajwa, J. Park, Y. Shildkrot. Ophthalmology, University of Virginia, Charlottesville, VA

2810 — B0247 Outcomes of vitrectomy with membrane peeling for epiretinal membrane in patients with dry age-related macular degeneration. Ferhina Ali¹, A. Shahlae¹, J. Deane², J. Hsu¹, A. Chiang¹, A. Obeid¹. ¹Retina Service, Wills Eye Hospital, Philadelphia, PA; ²Wills Eye Hospital, Philadelphia, PA

2811 — B0248 Does warming up influence performance and surgical outcome in epiretinal membrane peeling? Zoya Chaudhry, A. Dan, R. Alshareef, M. A. Kapusta. McGill University, Montreal, QC, Canada

2812 — B0249 Visual Acuity and Optical Coherence Tomography Findings after Vitrectomy with Double Membrane Peel for Treatment of Epimacular Membrane. Edwin Anders, H. Hancock, D. Williamson, D. McGuffey, C. J. Chen. Department of Ophthalmology, The University of Mississippi Medical Center, Jackson, MS *CR

- 2813 — B0250 Important issues to reduce the retinal redetachment rate after vitrectomy with temporary silicone oil tamponade.** *Svenja Deuchler¹, P. Singh¹, M. Mueller¹, T. Kohnen², C. Wagner³, M. Schill³, H. Ackermann⁴, J. Iwanczuk⁵, F. H. Koch¹.* ¹Vitreoretinal Unit, Univ Eye Clinic Frankfurt/M - Germany, Frankfurt/main, Germany; ²Ophthalmology, Goethe University Frankfurt, Frankfurt, Germany; ³VG magic GmbH, Mannheim, Germany; ⁴Institute of Biostatistics and Mathematical Modelling, University Hospital, Frankfurt, Germany; ⁵Oculus Optikgeräte GmbH, Wetzlar, Germany *CR
- 2814 — B0251 Outcomes of diagnostic and therapeutic vitrectomy in uveitis.** *Mariana Ingolotti¹, M. S. Ormaechea¹, C. A. Couto², M. J. Saravia¹.* ¹Hospital Universitario Austral, Pilar, Argentina; ²Uveítis, Hospital de Clínicas José de San Martín, Buenos Aires, Argentina
- 2815 — B0252 The effect of baseline optical coherence tomography characteristics on surgical outcomes in patients with epiretinal membrane.** *Alexander Barnes, P. K. Kaiser.* Cole Eye Institute, Cleveland Clinic Foundation, Cleveland, OH
- 2816 — B0253 Trends in diabetic vitrectomy at single academic institution.** *Neepa Shah, J. O. Adeghate, M. P. Gupta, A. Orlin, D. J. D'Amico, S. Kiss.* Weill Cornell Medical College, New York, NY
- 2817 — B0254 Statin use and vitreoretinal surgery: a population based cohort study.** *Sirpa Loukovaara¹, S. Sahanne², A. Takala², J. Haukka³.* ¹Ophthalmology, Helsinki University Central Hospital, Helsinki, Finland; ²Department of Anesthesiology and Intensive Care Medicine, Helsinki University Hospital, Helsinki, Finland; ³Department of Public Health, University of Helsinki, Helsinki, Finland
- 2818 — B0255 The use of intravitreal implant ILUVIEN® (fluocinolone acetonide) after prior OZURDEX® Implant (DEX) (Dexamethason) in patients with diabetic macular edema (DME) - Efficacy and safety outcomes from the University Eye Clinic in Frankfurt, Germany.** *Pankaj Singh, A. Chedid, S. Deuchler, T. Kohnen, M. Mueller, F. H. Koch.* Vitreoretinal Unit, University Eye Clinic, Frankfurt am Main, Frankfurt Am Main, Germany
- 2819 — B0256 Comparative Analysis of 3 Different Intraocular Pressure Measurement Techniques in Surgical Retina Clinic.** *Stephanie A. Ma, S. H. Wong, M. A. Zarbin, N. Bhagat.* Ophthalmology, Rutgers University-Newark, Bloomfield, NJ *CR
- 2820 — B0257 Baseline Predictors for Anatomical Outcomes after Primary Pneumatic Retinopexy for Rhegmatogenous Retinal Detachment.** *Jesse J. Jung¹, Q. V. Hoang^{2,3}, J. Cheng¹, D. A. Brinton¹.* ¹East Bay Retina Consultants, Inc., Oakland, CA; ²Ophthalmology, Edward S. Harkness Eye Institute, Columbia College of Physicians and Surgeons, New York, NY; ³Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore *CR
- 2821 — B0258 Associations between epiretinal membrane histology findings with clinical and optical coherence tomography findings.** *Ajay E. Kuriyan^{2,1}, A. Bermudez¹, N. Relhan¹, M. Fernandez¹, W. Smiddy², H. W. Flynn¹, S. R. Dubovy¹.* ¹Bascom Palmer Eye Institute, Univ of Miami/Miller School of Medicine, Miami, FL; ²Flaum Eye Institute, University of Rochester Medical Center, Rochester, NY
- 2822 — B0259 Visual and Anatomic Outcomes of Diabetic Tractional Retinal Detachment Repair in a County Health System.** *Christina Y. Weng^{1,2}, S. A. Rahman³, B. M. Shah³, M. A. Rivera³.* ¹Retina, Baylor College of Medicine-Cullen Eye Institute, Houston, TX; ²Dept. of Ophthalmology, Ben Taub General Hospital, Houston, TX; ³Baylor College of Medicine, Houston, TX *CR
- 2823 — B0260 Visual Outcomes and Complications of Cataract Surgery with Retained Lens Material Requiring Pars Plana Vitrectomy at a Large County Hospital.** *Weijie V. Lin¹, M. N. Scott², C. Tendhar³, C. Y. Weng².* ¹School of Medicine, Baylor College of Medicine, Katy, TX; ²Ophthalmology, Baylor College of Medicine, Houston, TX; ³Division of Evaluation, Assessment, and Research, Baylor College of Medicine, Houston, TX *CR
- 2824 — B0261 Management and outcomes of Giant Retinal tear presenting with proliferative vitreoretinopathy in a Tertiary Care Eye Hospital.** *Farrar Islam, N. Qureshi.* Vitreoretina, Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan
- 2825 — B0262 Comparison of individual retinal layer thicknesses after epiretinal membrane surgery with or without internal limiting membrane peeling.** *Chul Hee Lee, E. Choi, S. Byeon, S. Kim, H. Koh, S. Lee, M. Kim.* Ophthalmology, Yonsei University, College of Medicine, Seoul, Korea (the Republic of)
- 2826 — B0263 Decision Tree Analysis in Macular Hole Surgery.** *Jans J. Fromow-Guerra^{1,2}, A. Arriola¹, V. Morales-Canton¹, D. Lozano-Rechy², R. Velez-Montoya¹, J. Guerrero-Naranjo¹.* ¹Retina, Asociacion Para Evitar la Ceguera, Mexico City, Mexico; ²Posgrado, UNAM, Mexico, Mexico
- 2827 — B0264 Association between mental stress and the level of experience of retina surgeons. Pilot study.** *Ismael Avila - Lule¹, D. Ancona-Lezama¹, C. Valdez - Lara¹, P. Tolosa Tort¹, A. Soto - Mota², A. Lisker-Cervantes¹, F. Estephania¹, V. Morales-Canton¹.* ¹Asociacion Para Evitar La Ceguera En Mexico, Mexico City, Mexico; ²Instituto Nacional de Ciencias Medicas y Nutricion Salvador Zubiran, Mexico city, Mexico
- 2828 — B0265 Clinical and anatomic outcomes of concurrent phacovitrectomy surgery for epiretinal membrane (ERM), vitreomacular adhesion (VMA), and macular hole (MH).** *Ivy Zhu, W. F. Mieler.* University of Illinois at Chicago, Glendale Heights, IL
- 2829 — B0266 Pars plana vitrectomy with subretinal tissue plasminogen activator, bevacizumab, air injection and intraocular gas tamponade for submacular hemorrhage secondary to age-related macular degeneration.** *Jihoon Jeon, J. Heo, H. Chung, Y. Yu.* Seoul National University, Seoul, Korea (the Republic of)
- 2830 — B0267 Surgical outcomes of vitrectomy for macular hole and Epiretinal Membrane in patients with coexisting advanced AMD.** *Megan Land, Y. Rodriguez Torres, J. Hu, A. Tewari.* Ophthalmology, Kresge Eye Institute, Waukesha, WI
- 2831 — B0268 Idiopathic Macular Hole Repair: A non-linear relationship between pre-operative and post-operative visual acuity.** *Ram Peddada^{1,3}, G. Alvernaz², S. Peddada².* ¹Retina of Auburn & Metro-Columbus, Columbus, GA; ²ACOM, Dothan, AL; ³Eye Center South, Dothan, AL
- 2832 — B0269 Assessment of three different surgical ILM peeling techniques for the treatment of complicated macular holes.** *Jaime Oswaldo O. Rodríguez Avila¹, A. Ramirez-Estudillo¹, V. Morales-Canton¹, S. Hernandez-Da Mota², F. Bejar³, R. Velez-Montoya¹.* ¹Asociacion para Evitar la Ceguera en México, México, Mexico; ²Retina, Clinica David, Morelia, Mexico
- 2833 — B0270 Evaluation of self-sealing scleral incision integrity in a fluorescein-perfused human cadaver eye model.** *Nina Rosa Konichi da Silva, D. Tapias, R. B. Bhisitkul.* Ophthalmology/Retina, UCSF, San Francisco, CA

Exhibit/Poster Hall B0437-B0484

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Glaucoma**320 Visual Fields, Vision Function, Psychophysics I****2834 — B0437 Association between Cognitive Impairment and Primary Open-Angle Glaucoma Using the Montreal Cognitive Assessment.**

Makayla McCoskey, V. Addis, P. SANKAR, J. Sha, M. G. Maguire, E. G. Miller-Ellis, A. Lehman, R. J. Salowe, L. O'Keefe, J. M. O'Brien. Ophthalmology, University of Pennsylvania, Philadelphia, PA

2835 — B0438 Predictive factors for going blind in normal tension glaucoma: a subgroup analysis. Akira Sawada, K. OZAWA, T. Yamamoto. Ophthalmology, Gifu Univ Grad School of Med, Gifu-shi, Japan**2836 — B0439 Association of Ocular Dominance and Humphrey Visual Field Parameters: Mean Deviation, Pattern Standard Deviation, and Visual Field Index.** Sharnjit Bains, N. Hua, E. Sogbesan. Surgery - Ophthalmology, McMaster University, Hamilton, ON, Canada**2837 — B0440 Disruption of binocular rivalry processes in patients with mild glaucoma.** Luminita Tarita-Nistor¹, T. Brin^{1,2}, E. G. Gonzalez^{1,3}, G. E. Trope³, M. J. Steinbach^{1,3}. ¹Vision Science Research Program, Krembil Research Institute, Toronto Western Hospital, Toronto, ON, Canada; ²Centre for Vision Research, York University, Toronto, ON, Canada; ³Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada**2838 — B0441 Relationship between Silent Reading Performance and Clustered Visual Field in Patients with Glaucoma.** Noriaki Murata^{1,2}, D. Miyamoto², T. Togano², T. Fukuchi². ¹Department of Orthoptics and Visual Sciences, Niigata University of Health and Welfare, Niigata-shi, Japan; ²Division of Ophthalmology and Visual Science, Graduated School of Medical and Dental Science, Niigata University, Niigata-shi, Japan**2839 — B0442 Association between the Cognitive Performance of Elderly Patients Measured by the Mini-Mental State Examination and the Reliability of Humphrey Standard Automated Perimetry in Patients with Glaucoma.** LUCAS A. SANTANA, M. Paolera, M. Matuoka, A. Kussabara, N. Kasahara, D. Tebaldi, J. Figueiredo, B. Rocha. Ophthalmology, Irmandade Santa Casa de São Paulo, SAO PAULO, Brazil**2840 — B0443 Comparison of Threshold Visual Field Results Using Translucent and Opaque Occlusion.** Thomas Callan, C. Yoo, S. Yu. R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR**2841 — B0444 Pupil Size Over Course of Perimetry Exam - Influence of Translucent and Opaque Occlusion.** Buck Cunningham, T. Callan, C. Yoo, S. Yu. R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR**2842 — B0445 Perimetric Threshold Predictability Between Goldmann Size III and V Stimuli.** Luke X. Chong¹, P. H. Artes², N. Wall³, T. Callan⁴, V. Patella⁴, G. C. Lee⁴, M. Monhart⁴, J. G. Flanagan¹. ¹School of Optometry and Vision Science, University of California Berkeley, Berkeley, CA; ²Eye and Vision research group, Plymouth, United Kingdom; ³Neurology & Ophthalmology, University of Iowa, Iowa City, IA; ⁴Carl Zeiss Meditec, Inc., Dublin, CA *CR**2843 — B0446 Comparison Between 24-2 SITA-Standard and 24-2 SITA-Fast Strategies in Standard Automated Perimetry.** Brian Benenati¹, N. Nassiri², C. Kim², R. Swendris², A. M. Mas-Ramirez², J. Tannir², A. Goyal², M. S. Juzych², B. A. Hughes². ¹Wayne State University School of Medicine, Detroit, MI; ²Kresge Eye Institute, Detroit, MI**2844 — B0447 Preliminary results of test-retest variability of Compass vs Humphrey Perimeters.** Paolo Fogagnolo, M. Digiuni, G. montesano, L. M. Rossotti. Università degli Studi di Milano, Milano, Italy *CR**2845 — B0448 Detecting central visual field defect in early glaucoma patients: Humphrey vs Octopus comparison study.** Gloria Roberti¹, F. Oddone¹, M. Michelessi¹, L. Tanga¹, S. Giammaria², D. Rastelli², G. Manni². ¹IRCCS-Fondazione GB Bietti, Rome, Italy, Rome, Italy; ²DSCMT, University of Rome Tor Vergata, Rome, Italy *CR**2846 — B0449 A deep-learning based automatic glaucoma identification.** Serife Seda S. Kucur¹, M. Abegg², S. Wolf², R. Sznitman¹. ¹ARTORG Center, University of Bern, Bern, Switzerland; ²Department of Ophthalmology, Inselspital Bern, Bern, Switzerland**2847 — B0450 Piloting A New Method For Estimating Effects Of Visual Field Loss In A Panoramic Naturalistic Environment.** David Anderson¹, D. A. Ghate², S. Kedar^{1,2}, M. Rizzo¹. ¹Neurological Sciences, University of Nebraska Medical Center, Omaha, NE; ²Stanley F Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE**2848 — B0451 Modelling visual field loss and spatial summation characteristics of patients with glaucoma across the 30-2.** Jack Phu, S. Khuu, M. Kalloniatis. Optometry and Vision Science, Centre for Eye Health, Kensington, NSW, Australia *CR**2849 — B0452 Predicting False-Positive Glaucoma Hemifield Test Results by Representative Glaucomatous Visual Field Patterns.** Mengyu Wang¹, L. R. Pasquale², L. Q. Shen², M. V. Boland³, S. R. Wellik⁴, C. G. De Moraes⁵, J. S. Myers⁶, H. Wang^{1,7}, N. Baniyadi^{1,8}, P. J. Bex⁹, T. Elze¹. ¹Schepens Eye Research Institute, Mass. Eye and Ear, Harvard Medical School, Boston, MA; ²Mass. Eye and Ear, Harvard Medical School, Boston, MA; ³Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ⁴Bascom Palmer Eye Institute, University of Miami, Miami, FL; ⁵Edward S. Harkness Eye Institute, Columbia University Medical Center, New York, NY; ⁶Wills Eye Hospital, Thomas Jefferson University, Philadelphia, PA; ⁷Institute for Psychology and Behavior, Jilin University of Finance and Economics, Changchun, China; ⁸Department of Biomedical Engineering and Biotechnology, University of Massachusetts Lowell, Lowell, MA; ⁹Department of Psychology, Northeastern University, Boston, MA *CR**2850 — B0453 Spatial correlation between localized decreases in the exploratory visual search performance and areas of glaucomatous visual field loss.** Jayter S. Paula¹, C. SENGER¹, M. J. Silva¹, C. De Moraes², A. Messias¹. ¹Department of Ophthalmology, USP - Ribeirao Preto Medical School, Ribeirao Preto, Brazil; ²Department of Ophthalmology, Columbia University Medical Center, New York, NY**2851 — B0454 Contrast sensitivity in patients with advanced glaucoma.** Alessandro A. Jamma¹, A. S. Reis², B. G. Ferreira², C. Zangalli², P. H. Artes¹, V. P. Costa². ¹Eye and Vision Research Group, Plymouth University, Plymouth, United Kingdom; ²Universidade Estadual de Campinas (UNICAMP), Campinas, Brazil**2852 — B0455 Quantifying the signal/noise ratio with perimetric stimuli optimised to probe changing spatial summation in glaucoma.** Lindsay Rountree¹, P. J. Mulholland^{2,3}, R. S. Anderson^{2,3}, J. E. Morgan¹, D. Garway-Heath³, T. Redmond¹. ¹School of Optometry and Vision Sciences, Cardiff University, Cardiff, United Kingdom; ²Optometry and Vision Science Research Group, School of Biomedical Sciences, Ulster University, Coleraine, United Kingdom; ³National Institute for Health Research (NIHR) Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom *CR**2853 — B0456 Investigating the Impact of Primary Open-Angle Glaucoma on the Visual Perception of Higher-Order Motion.** Kadé Diallo, L. Racette, E. Hansen, A. Young, A. Gosch. Ophthalmology - Glick Eye Institute, Indiana University School of Medicine, Indianapolis, IN

- 2854 — B0457 Comparison of the Global Visit Effect model and Pattern Deviation over a varying number of affected visual field points.** Susan R. Bryan¹, H. G. Lemij², K. A. Vermeer¹. ¹Rotterdam Ophthalmic Institute, Rotterdam, Netherlands; ²Glaucoma Service, Rotterdam Eye Hospital, Rotterdam, Netherlands
- 2855 — B0458 A Psychophysical Investigation of Deficits in Visual Attention Associated with Primary Open-Angle Glaucoma.** Evan Hansen, L. Racette, K. Diallo, A. Young, A. Gosch. Ophthalmology, Eugene and Marilyn Glick Eye Institute, Indiana University School of Medicine, Indianapolis, IN
- 2856 — B0459 Resilience of area-modulated perimetric stimuli to increased intraocular straylight.** Tony Redmond¹, L. Rountree¹, R. S. Anderson^{2,3}, P. J. Mulholland^{2,3}. ¹School of Optometry and Vision Sciences, Cardiff University, Cardiff, United Kingdom; ²Optometry and Vision Science Research Group, School of Biomedical Sciences, Ulster University, Coleraine, United Kingdom; ³National Institute for Health Research (NIHR) Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom *CR
- 2857 — B0460 Detection accuracy and reaction time for lights and darks in early stages of glaucoma.** Muen Yang, M. W. Dul, C. Pons, J. Alonso. SUNY State College of Optometry, Forest Hills, NY
- 2858 — B0461 Are differences in visual function between people of African and European descent with healthy eyes due to early glaucoma?** Erik Andrewski¹, L. M. Zangwill², C. A. Girkin³, J. M. Liebmann⁴, F. Medeiros², R. N. Weinreb², S. Jain², C. Bowd², K. Ramezani¹, L. Racette¹. ¹Department of Ophthalmology, Eugene and Marilyn Glick Eye Institute, Indianapolis, IN; ²Hamilton Glaucoma Center, Shiley Eye Institute, Department of Ophthalmology, University of California San Diego, La Jolla, CA; ³School of Medicine, University of Alabama, Birmingham, AL; ⁴Harkness Eye Institute, Columbia University Medical Center, New York, NY *CR
- 2859 — B0462 Lifestyle-parameters of glaucoma patients compared to age-matched controls.** Gregor Thomaschewski, K. R. Pillunat, E. Spoerl, L. E. Pillunat. Ophthalmology, Augenklinik Universitaet Dresden, Dresden, Germany ✗
- 2860 — B0463 The Effective Dynamic Ranges for Visual Field Progression with Standard Automated Perimetry with Stimulus Sizes III and V.** Michael Wall¹, K. D. Zamba², P. H. Artes³. ¹Neurology & Ophthalmology, Univ of Iowa, Carver Coll of Med, Iowa City, IA; ²School of Public Health, University of Iowa, Iowa City, IA; ³Eye and Vision research group, Plymouth University, Plymouth, United Kingdom *CR
- 2861 — B0464 The influence of infrequent testing on detecting glaucomatous visual field progression.** Andrew J. Anderson¹, R. Asoka², H. Murata³, R. Asaoka³. ¹Dept of Optometry & Vision Sciences, The University of Melbourne, Parkville, VIC, Australia; ²Elite School of Optometry, Medical Research Foundation, Chennai, India; ³Department of Ophthalmology, The University of Tokyo, Tokyo, Japan
- 2862 — B0465 The usefulness of cluster-based trend analysis in assessing visual field progression in open-angle glaucoma.** Shuichiro Aoki¹, H. Murata¹, Y. Fujino¹, M. Matsuura¹, A. Miki², M. Tanito^{3,4}, S. Mizoue⁵, K. Mori⁶, K. Suzuki⁷, T. Yamashita⁸, K. Kashiwagi⁹, K. Hirasawa¹⁰, N. Shoji¹⁰, R. Asaoka¹. ¹Ophthalmology, The university of Tokyo, Tokyo, Japan; ²Ophthalmology, Osaka University Graduate School of Medicine, Osaka, Japan; ³Ophthalmology, Shimane University Faculty of Medicine, Shimane, Japan; ⁴Division of Ophthalmology, Matsue Red Cross Hospital, Shimane, Japan; ⁵ophthalmology, Ehime University Graduate School of Medicine, Ehime, Japan; ⁶Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ⁷Yamaguchi University Graduate School of Medicine, Yamaguchi, Japan; ⁸Ophthalmology, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima, Japan; ⁹Ophthalmology, University of Yamanashi Faculty of Medicine, Yamanashi, Japan; ¹⁰Allied Health Sciences, Kitasato University, Kanagawa, Japan *CR
- 2863 — B0466 Comparison between global, cluster, and pointwise trend analyses for detecting visual field change.** Stuart K. Gardiner^{1,2}, S. Demirel^{1,2}. ¹Discoveries In Sight Laboratories, Devers Eye Institute, Portland, OR; ²Legacy Research Institute, Legacy Health, Portland, OR *CR
- 2864 — B0467 Comparison of the rates of visual field progression before and after primary Ahmed valve glaucoma implantation for Asian eyes with glaucoma.** Jody Paige P. Goh¹, V. T. Koh¹, D. Chen¹, J. Choo¹, Y. Chan², S. Loon¹. ¹Ophthalmology, National University Hospital, Singapore, Singapore; ²Biostatistics Unit, National University of Singapore, Yong Loo Lin School of Medicine, Singapore, Singapore
- 2865 — B0468 An individualized test to detect glaucoma progression in visual fields.** Siamak Yousefi, H. Murata, Y. Fujino, R. Asaoka. Ophthalmology, University of Tokyo, Tokyo, Japan f
- 2866 — B0469 Longitudinal comparison of visual field outcomes obtained by a tablet perimeter and those returned by Humphrey Field Analyzer.** Yu Xiang George Kong^{2,3}, M. He³, J. Crowston^{3,1}, K. R. Martin², A. J. Vingrys⁴. ¹Department of Ophthalmology, Centre for Eye Research Australia, East Melbourne, VIC, Australia; ²Department of Ophthalmology, Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom; ³Department of Ophthalmology, The University of Melbourne, Melbourne, VIC, Australia; ⁴Optometry & Vision Sciences, The University of Melbourne, Melbourne, VIC, Australia *CR
- 2867 — B0470 Improving the sensitivity of progression detection by accounting for Global Visit Effects in simulation studies.** Koenraad A. Vermeer¹, S. R. Bryan¹, H. G. Lemij². ¹Rotterdam Ophthalmic Institute, Rotterdam Eye Hospital, Rotterdam, Netherlands; ²Glaucoma Service, Rotterdam Eye Hospital, Rotterdam, Netherlands
- 2868 — B0471 Verification of the variational Bayes linear regression using the DIGS and the UKGTS datasets.** Hiroshi Murata¹, Y. Fujino¹, L. M. Zangwill², D. Garway-Heath³, R. Asaoka¹. ¹The University of Tokyo Hospital, TOKYO, Japan; ²University of California at San Diego, La Jolla, CA; ³UCL Institute of Ophthalmology, London, United Kingdom *CR
- 2869 — B0472 An Exponential Regression Model to Measure Perimetric Rates of Decay in Glaucoma.** Nathaniel Sears¹, M. Lin², E. Morales¹, J. Caprioli¹. ¹Ophthalmology, UCLA Stein Eye Institute, Los Angeles, CA; ²Ophthalmology, University of California, Irvine, CA
- 2870 — B0473 Using Kalman Filtering to Personalize the Monitoring of Persons with Normal Tension Glaucoma.** Mariel S. Lavieri¹, X. Liu¹, Z. Zhou¹, J. Wang¹, K. Sugiyama², K. Nitta³, C. Andrews¹, M. Van Oyen¹, J. D. Stein¹. ¹Niversity of Michigan, Ann Arbor, MI; ²Department of Ophthalmology, Kanazawa University Graduate School of Medical Science, Kanazawa, Japan; ³Department of Ophthalmology, Fukui-ken Saiseikai Hospital, Fukui, Japan *CR
- 2871 — B0474 Validation and Reproducibility of the Heidelberg Edge Perimeter in the Detection of Visual Field Defects in Glaucoma Participants.** Jonathan M. Lam, L. A. Hark, J. S. Myers, L. Katz, S. Siraj, M. Waisbourd, P. Gogte, Q. J. Cui. Glaucoma, Wills Eye Hospital, Philadelphia, PA ✗
- 2872 — B0475 Sensitivity and Specificity of a new perimeter for glaucoma diagnostics.** Maria Tafel¹, O. Stachs¹, B. Lobmayr², A. G. Juenemann¹. ¹Department of Ophthalmology, University of Rostock, Rostock, Germany; ²Ellex, Berlin, Germany *CR

2873 — B0476 Evaluation of SEP, a new perimetry test strategy for fast and accurate threshold estimation. Derk S. Wild¹, S. S. Kucur¹, M. Abegg², S. Wolf, R. Sznitman¹. ¹ARTORG Center for Biomedical Engineering Research, University of Bern, Bern, Switzerland; ²Department of Ophthalmology, Inselspital, Bern, Switzerland

2874 — B0477 Comparison of Test Duration and Test Reliability Between Octopus 900 Perimetry and Humphrey SITA-Standard Perimetry. Michael Beyer, K. Lodewyk, N. Nassiri, C. Kim, B. A. Hughes, M. S. Juzych, M. Cyrilin. Kresge Eye Institute, Detroit, MI

2875 — B0478 Development of Clock Chart Driving Edition for self-checking the binocular visual field. Marika Yamashita, C. Matsumoto, S. Hashimoto, S. Okuyama, H. Nomoto, M. Eura, T. Kayazawa, T. Numata, Y. Shimomura. Ophthalmology, Kindai University Faculty of Medicine, Osaka-Sayama, Japan

2876 — B0479 Simulating observer responses in kinetic perimetry using KANGA. Astrid Zeman¹, A. M. McKendrick¹, A. Turpin². ¹Optometry & Vision Sciences, University of Melbourne, Melbourne, VIC, Australia; ²Computing and Information Systems, University of Melbourne, Melbourne, VIC, Australia *CR

2877 — B0480 Investigating the Oculus Rift as a New Device to Study Vection in Glaucoma. Taylor Brin^{1,2}, L. Tarita-Nistor², E. G. Gonzalez^{2,3}, G. E. Trope^{2,3}, M. J. Steinbach^{2,3}. ¹Centre for Vision Research, York University, Toronto, ON, Canada; ²Krembil Research Institute, Toronto, ON, Canada; ³Department of Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada

2878 — B0481 A head mounted perimeter “imo”: visual field test results in normal subjects. Hiroki Nomoto¹, C. Matsumoto¹, S. Okuyama³, A. Minamino², T. Kimura³, K. Yoshikawa⁴, S. Mizoue⁵, A. Iwase⁶, M. Aihara⁷, T. Numata¹, S. Yamao¹, S. Kimura⁸, Y. Shimomura¹. ¹Ophthalmology, Kinki Univ School of Medicine, Sayama, Japan; ²Kagurazaka Minamino Eye Clinic, Tokyo, Japan; ³Ueno Eye Clinic, Tokyo, Japan; ⁴Yoshikawa Eye Clinic, Tokyo, Japan; ⁵ophthalmology, Ehime University School of Medicine, Touon city, Japan; ⁶Tajimi Iwase Eye Clinic, Tajimi city, Japan; ⁷ophthalmology, The University of Tokyo, Tokyo, Japan; ⁸CREWT Medical System, Inc, Tokyo, Japan *CR

2879 — B0482 Chromatic multifocal pupilloperimetry for objective perimetry in retinal and optic nerve neurodegeneration. Ifat Sher-Rosenthal¹, M. Gurevich^{1,2}, Y. Rotenstreich^{1,2}. ¹Goldschleger Eye Institute, Sheba Medical Center, Tel Hashomer, Israel; ²Goldschleger Eye Institute, Tel Aviv University, Tel Aviv, Israel *CR, ✗

2880 — B0483 Effect of Mobile Phone Distraction on Driving Performance in Patients with Glaucoma. Nara G. Ogata^{1,2}, F. Daga^{1,3}, E. R. Boer¹, R. Susanna², F. Medeiros¹. ¹Visual Performance Laboratory, Department of Ophthalmology, University of California San Diego, La Jolla, CA; ²Department of Ophthalmology, University of São Paulo, São Paulo, Brazil; ³Department of Ophthalmology, Federal University of São Paulo, São Paulo, Brazil *CR

2881 — B0484 The Macula Progression Study (MAPS): Short-term variability of 10-2 visual fields for the detection of progression of central functional loss in glaucoma. Jeremy Reimann¹, C. De Moraes¹, J. M. Liebmann¹, L. Lu¹, G. A. Cioffi¹, L. Al-Aswad¹, D. Blumberg¹, R. Ritch², D. Hood³. ¹Bernard and Shirlee Brown Glaucoma Research Laboratory, Department of Ophthalmology, Columbia University Medical Center, New York, NY; ²Einhorn Clinical Research Center, Department of Ophthalmology, NY, NY; ³Department of Psychology, Columbia University, New York, NY *CR, ✗

Exhibit/Poster Hall B0528-B0563

Tuesday, May 09, 2017 8:30 AM-10:15 AM

Clinical/Epidemiologic Research

321 Diabetic Eye Disease

Moderator: Lauren N. Ayton

2882 — B0528 The prevalence of diabetic retinopathy in Australian adults with self-reported diabetes: the National Eye Health Survey. Stuart Keel¹, J. Xie¹, J. R. Foreman¹, P. V. Wijngaarden¹, H. Taylor², M. Dirani¹. ¹Centre for Eye Research Australia, Melbourne, VIC, Australia; ²Melbourne School of Population and Global Health, University of Melbourne, Melbourne, VIC, Australia

2883 — B0529 Prevalence and risk factors of hard exudate among Chinese patients with diabetic retinopathy. Chan Wu¹, R. Dai¹, F. Dong¹, Y. Zhang², W. Li¹. ¹Peking Union Medical College Hospital, Beijing, China; ²Peking Union Medical College, Beijing, China

2884 — B0530 Prevalence and 5-year Incidence and Progression of Diabetic Retinopathy from a National Telemedicine Screening Program - the Singapore Integrated Diabetic Retinopathy Programme. Gavin S. Tan^{1,2}, A. T. Gan¹, C. Sabanayagam^{1,2}, H. B. Hamzah¹, E. L. Lamoureux^{1,2}, N. Tan^{3,2}, T. Y. Wong^{1,2}. ¹Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore; ²Duke-NUS Graduate Medical School, Singapore, Singapore; ³Singhealth Polyclinics, Singapore, Singapore

2885 — B0531 Incidence of diabetic retinopathy: a systematic review and meta-analysis of prospective studies. Charumathi Sabanayagam^{1,2}, W. Yip¹, R. Banu¹, R. Lee³, P. Ong¹, E. L. Lamoureux^{1,2}, C. Cheng^{1,2}, T. Wong^{1,2}. ¹Singapore National Eye Centre, Singapore Eye Research Institute, Singapore, Singapore; ²Ophthalmology and Visual Sciences Academic Clinical Program, Duke-NUS Medical School, Singapore, Singapore; ³National University of Singapore, Singapore, Singapore

2886 — B0532 Self-Reported Visual Function among Adults with Diabetic Retinopathy in the United States. Jeffrey R. Willis^{1,2}, Q. Doan⁴, M. Gleason⁴, L. S. Morse¹, P. Ramulu³, R. A. Cantrell¹. ¹Ophthalmology, UC Davis, Sacramento, CA; ²Genentech, South San Francisco, CA; ³Ophthalmology, Johns Hopkins, Baltimore, MD; ⁴Outcomes Insight, Los Angeles, CA *CR

2887 — B0533 Ophthalmic and clinical factors that predict four-year incidence and progression of diabetic retinopathy in Type 1 diabetes. Sangeetha Srinivasan^{1,6}, C. Dehghani¹, N. Pritchard¹, K. Edwards¹, A. W. Russell^{2,3}, R. A. Malik^{4,5}, N. Efron¹. ¹Optometry and Vision Science, Institute of Health and Biomedical Information, Brisbane, QLD, Australia; ²School of Medicine, University of Queensland, Woolloongabba, QLD, Australia; ³Princess Alexandra Hospital, Woolloongabba, QLD, Australia; ⁴Central Manchester University Hospitals Foundation Trust, Manchester, United Kingdom; ⁵Weill Cornell Medicine-Qatar, Education City, Qatar; ⁶Department of Vitreoretinal Services, Vision Research Foundation, Sankara Nethralaya, Chennai, India

2888 — B0534 Retinal vessel geometry and the incidence and progression of diabetic retinopathy. Laurence S. Lim, M. Chee, T. Wong. Ophthalmology, Singapore National Eye Center, Singapore, Singapore

2889 — B0535 Diabetes and Diabetic Retinopathy are associated with Impaired Myocardial Function in Patients with Cardiomyopathy. Shin-Young Choi, K. Moon, Y. Chung, K. Lee. Ophthalmology, Ajou University School of Medicine, Suwon, Korea (the Republic of)

2890 — B0536 Associations of peripheral sensory, autonomic and anatomic neural characteristics and proliferative retinopathy in persons with type 1 diabetes. Barbara E. Klein¹, K. L. Horak¹, K. E. Lee¹, S. M. Meuer¹, M. D. Abramoff^{2,3}, E. Z. Soliman⁴, M. Recheke¹, R. Klein¹. ¹Ophthalmology & Visual Sciences, Univ of Wisconsin-Madison, Madison, WI; ²Electrical and Computer Engineering, University of Iowa, Iowa City, IA, Iowa City, IA; ³Biomedical Engineering, University of Iowa, Iowa City, IA; ⁴Epidemiology & Prevention EpiCare, Wake Forest University, Winston-Salem, NC *CR

- 2891 — B0537 Aspirin, statins and central retinal venular diameter in persons with and without diabetes.** *Christine A. Kiire, K. E. Lee, B. E. Klein, R. Klein.* Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI
- 2892 — B0538 Influence of glycosylated hemoglobin on diabetic retinopathy.** *jie xu^{1,3}, W. wei², J. B. Jonas².* fundus, Beijing Institute of Ophthalmology, Beijing, China; ²Department of Ophthalmology, Medical Faculty Mannheim of the Ruprecht-Karls-University of Heidelberg, Heidelberg, Germany; ³Beijing Ophthalmology and Visual Science Key Lab., Beijing, China
- 2893 — B0539 Systemic predictors of diabetic eye disease development and severity.** *Elaine Tran¹, J. L. Goldberg^{2,3}, S. Pershing^{2,3}.* ¹Stanford University, Stanford, CA; ²Department of Ophthalmology, Byers Eye Institute, Palo Alto, CA; ³VA Palo Alto Health Care System, Palo Alto, CA
- 2894 — B0540 Demographic variation in follow-up rates for patients with proliferative diabetic retinopathy from a large private retina practice.** *Anthony Obeid, X. Gao, J. Hsu, A. Ho.* Retina, Will Eye Hospital, Philadelphia, PA *CR
- 2895 — B0541 Adherence to diabetic eye examination guidelines in Australia - The National Eye Health Survey (NEHS).** *Jing Xie¹, J. R. Foreman¹, S. Keel¹, P. V. Wijngaarden¹, H. Taylor², M. Dirani¹.* ¹Department of Ophthalmology, Centre for Eye Research Australia, East Melbourne, VIC, Australia; ²The University of Melbourne, 3Indigenous Eye Health Unit, Melbourne School of Population and Global Health, Melbourne, VIC, Australia
- 2896 — B0542 A Mobile Phone Message Reminder to Improve Adherence of Diabetic Patients for Scheduled Eye Care in Rural China: A Randomized Clinical Trial.** *Tingting Chen¹, W. Zhu^{1,2}, L. Jin¹, J. Wang¹, T. Ye¹, D. Xiao³, J. Vignarajan³, B. Xiao¹, Y. Kanagasingham³, N. G. Congdon^{1,4}.* ¹State Key Laboratory of Ophthalmology and Division of Preventive Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ²The Ophthalmology Department, the First Affiliated Hospital of Sun Yat-sen University, Guangzhou, China; ³The Australian e-Health Research Centre, CSIRO, Perth, WA, Australia; ⁴Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom ✕
- 2897 — B0543 Changes in glycosylated hemoglobin levels following consultation with diabetes specialist nurse in retinal clinics.** *Mahmood El-Gasim¹, R. Amin¹, S. Al-Abed¹, A. mapani¹, O. A. Mahroo^{1,2}, D. Flanagan¹, C. A. Egan^{1,2}.* ¹Moorfields Eye Hospital, London, United Kingdom; ²UCL Institute of Ophthalmology, London, United Kingdom
- 2898 — B0544 Evaluation of follow-up rates among non-compliant patients participating in a telemedicine program for diabetic retinopathy.** *Rachel Shah, A. Morales Allende, N. Bernstein, D. Rubaltelli, U. Mian.* Ophthalmology, Montefiore, New York, NY
- 2899 — B0545 Four-year experience of tele-ophthalmology for diabetic retinopathy screening in San Francisco, CA.** *Christos Theophanous, J. M. Stewart, A. Afshar.* Ophthalmology, University of California, San Francisco, San Francisco, CA
- 2900 — B0546 Patient and primary care provider barriers and facilitators to tele-ophthalmology use in a rural, multi-payer health system.** *Yao Liu¹, R. Swearingen¹, N. Jacobson², T. Bjelland³, M. Smith².* ¹Dept of Ophthalmology and Visual Science, University of Wisconsin, Madison, WI; ²University of Wisconsin-Madison, Madison, WI; ³Mile Bluff Medical Center, Mauston, WI
- 2901 — B0547 Telemedicine for Diabetic Retinopathy Screening for Well Insured Patients in a Non-Geographically Isolated Setting.** *Robert Wong^{1,3}, M. N. Benson¹, S. Collins¹, J. A. Martinez^{1,3}, A. Daghestani², S. Day-Ghafoori^{1,3}, C. A. Harper^{1,3}, J. W. Dooner^{1,3}, M. Levitan^{1,3}, P. A. Nixon^{1,3}, R. C. Young¹.* ¹Ophthalmology, Austin Retina Associates, Austin, TX; ²Austin Regional Clinic, Austin, TX; ³Department of Surgery and Perioperative Medicine, Dell Medical School, University of Texas, Austin, TX *CR
- 2902 — B0548 Telemedicine for Diabetic Retinopathy Screening for an Urban-Based Safety Net Population in Travis County, TX.** *Maria N. Benson¹, R. Wong^{1,2}, J. A. Martinez^{1,2}, S. Collins¹, M. S. Hernandez², C. A. Harper^{1,2}, J. W. Dooner^{1,2}, M. Levitan^{1,2}, P. A. Nixon^{1,2}, S. Day-Ghafoori^{1,2}, R. C. Young^{1,2}.* ¹Austin Retina Associates, Austin, TX; ²Department of Surgery and Perioperative Medicine, Dell Medical School, University of Texas, Austin, TX; ³Internal Medicine, Dell Medical School, Austin, TX *CR
- 2903 — B0549 Accuracy of trained rural ophthalmologists versus non-medical image graders in the diagnosis of diabetic retinopathy in rural China.** *Nathan G. Congdon^{2,1}, M. McKenna², T. Chen¹, H. McAnaney², M. Vazquez¹, L. Jin¹, W. Xiao¹.* ¹Preventive Ophthalmology, Zhongshan Ophthalmic Center, Guangzhou, China; ²Centre for Public Health, Queen's University Belfast, Belfast, United Kingdom
- 2904 — B0550 Staging of diabetic retinopathy in a sample of patients in Mexico through a reading center.** *Hugo Valencia-Santiago, M. Vazquez, E. Lopez-Star, C. Van-Lansingh, V. Romero, X. Mira, R. Garcia Franco.* Retina, Instituto Mexicano De Oftalmologia IAP, Queretaro, Mexico
- 2905 — B0551 UK Diabetic Screening Referrals Impact on Population and Clinical Correlations.** *Ali S. Hassan, G. Menon, M. Chandran.* Ophthalmology, Frimley Health NHS Foundation Trust, Chessington, United Kingdom
- 2906 — B0552 Validity and Feasibility of Diabetic Retinopathy Screening Program in an Urban Community, Southern China.** *Siming Chen, W. Huang.* State key Laboratory(Ophthalmology).PRC, Zhongshan Ophthalmic Centre, Sun Yat-sen University, Guangzhou, China
- 2907 — B0553 Hurdles and Barriers of Eye screening and Interdisciplinary Exchange: lessons learned from the DiabCheck study.** *Lydia Marahrens¹, D. Röck¹, T. Ziemssen², A. Fritsche², F. Ziemssen¹.* ¹Ophthalmology, University of Tuebingen, Tuebingen, Germany; ²Division of Endocrinology, Diabetology, Department of Internal Medicine, University of Tuebingen, Tuebingen, Germany; ³Department of Neurology, Autonomic and Neuroendocrinological Laboratory Dresden, University Hospital Carl Gustav Carus at the Dresden University of Technology, Dresden, Germany *CR, ✕
- 2908 — B0554 Glycemic thresholds for diabetic retinopathy and implications for diabetic retinopathy screening in the United States.** *Wen-Hsiang Lee^{1,2}, K. J. Moore^{3,4}, E. C. Dunn^{3,4}, T. Koru-Sengul^{4,5}.* ¹Ophthalmology, University of Miami Miller School of Medicine, Miami, FL; ²Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ³Medical Education, University of Miami Miller School of Medicine, Miami, FL; ⁴Public Health Sciences, University of Miami Miller School of Medicine, Miami, FL; ⁵Sylvester Comprehensive Cancer Center, University of Miami Miller School of Medicine, Miami, FL
- 2909 — B0555 Variation in the use of bevacizumab and ranibizumab for diabetic macular edema.** *Annie Wu¹, C. Wu¹, P. B. Greenberg^{1,2}, F. Yu², F. Lum¹, A. Coleman².* ¹Warren Alpert Medical School of Brown University, Providence, RI; ²Section of Ophthalmology, VA Medical Center, Providence, RI; ³Stein Eye Institute, UCLA, Los Angeles, CA; ⁴American Academy of Ophthalmology, San Francisco, CA *CR
- 2910 — B0556 Investigating the Arden hypothesis: a pilot investigation of the prevention of dark adaptation as complementary therapy for diabetic retinopathy and macular edema.** *David J. Ramsey¹, G. Arden², C. Hogg³, G. R. Blaha¹, F. C. Barrouch¹, J. Chang¹, L. LaMonica⁴, S. Poulin⁵, J. L. Marx¹.* ¹Ophthalmology, Lahey Hospital and Medical Center, Peabody, MA; ²University College London, London, United Kingdom; ³Moorfields Eye Hospital, London, United Kingdom; ⁴Yale University, New Haven, CT; ⁵Tufts University, Boston, MA

2911 — B0557 Use of optical coherence tomography angiography in evaluating foveal vascularization in Type 1 Diabetes Mellitus. Manan Shah, B. Szirth, A. S. Khouri. New Jersey Medical School, Marlboro, NJ

2912 — B0558 Quantitative Optical Coherence Tomography Angiography May Predict Diabetic Retinopathy Progression. Carol Y. Cheung, F. Tang, D. S. Ng, T. Tso, R. Wong, J. Lok, S. Mohamed, C. C. Tham. Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong

2913 — B0559 Assessment of the concordance of the diagnosis of diabetic retinopathy made by color fundus photograph review. Maria P. Aquino, F. Forgues, A. Adaniya, J. P. Fernandez, M. J. Portela, N. Montes, A. Lupinacci, A. Schlaen, M. J. Saravia. Hospital Universitario Austral, Pilar, Argentina

2914 — B0560 Sensitivity of 2 Dimensional Color Fundus Photography Surrogate Markers as for Diabetic Macular Oedema. Ling Zhi Heng¹, C. Collins², M. Ashraf³, S. Chave², P. Scanlon². ¹Ophthalmology, Severn deanery, London, United Kingdom; ²Gloucestershire Retinal Research Group, Gloucestershire Hospitals NHS Foundation Trust, Cheltenham, UK, Gloucestershire, United Kingdom; ³Faculty of Health Science University of Bristol, Centre for Medical Education, 1st Floor Senate House, Tyndall Ave, BS8 1TH, Bristol, United Kingdom

2915 — B0561 Diabetic retinopathy in patients with ocular inflammation. Sapna Gangaputra, M. Akanda, S. Kodati, H. Sen. Lab of Immunology, National Eye Institute, Bethesda, MD

2916 — B0562 Complications of Diabetic Retinopathy presented at the emergency department (ED) of a reference center in Mexico. Norma Morales, J. Serna-Ojeda, J. L. Rodriguez-Loaiza. Instituto de Oftalmología Conde de Valenciana, Ciudad de Mexico, Mexico

2917 — B0563 Variable Validity of Computer Extracted Problem Lists for Diabetic Retinopathy and other Co-Morbidities within the Greater Los Angeles Veterans Health Administration. Stephan Chiu¹, J. Davis¹, G. Orshansky², L. Kleinman², A. Lee³, J. Giaconi^{1,2}, I. Tsui^{1,2}. ¹Jules Stein Eye Institute, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²VA Greater Los Angeles Health Administration, Los Angeles, CA; ³Washington University in St Louis, St. Louis, MO

Exhibit/Poster Hall B0564-B0579

Tuesday, May 09, 2017 8:30 AM-10:15 AM
Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

322 Strabismus

Moderator: Vallabh E. Das

2918 — B0564 Prevalence and associations of diplopia in patients with epiretinal membranes. Kevin K. Veverka¹, S. R. Hatt², D. A. Leske², A. J. Barkmeier², R. Iezz², J. M. Holmes². ¹Mayo Clinic School of Medicine, Rochester, MN; ²Ophthalmology, Mayo Clinic, Rochester, MN

2919 — B0565 Incidence of superior oblique palsy after spacer surgery for treatment of Browns syndrome: An honest look at residual superior oblique function. Medha Sharma, S. MacKinnon, L. dagi. Pediatric ophthalmology, Boston children hospital, Boston, MA

2920 — B0566 Evaluation of the effects of corrective strabismus surgery on social anxiety and self-consciousness in adults. Kimberly Estes¹, R. Parrish¹, J. Sinacore², P. Mumby³, J. F. McDonnell¹. ¹Ophthalmology, Loyola University Medical Center, Maywood, IL; ²Public Health Science, Loyola University Medical Center, Maywood, IL; ³Psychiatry and Behavioral Neurosciences, Loyola University Medical Center, Maywood, IL

2921 — B0567 Factors associated with failure to improve health-related quality-of-life following adult strabismus surgery. Jonathan M. Holmes, D. A. Leske, S. R. Hatt. Ophthalmology, Mayo Clinic, Rochester, MN

2922 — B0568 Nil binocularity in adult with childhood strabismus means no hope for Binocularity? Jing Yao¹, H. Liu¹, X. Qu¹, J. Lin¹, A. Wang². ¹Eye and ENT Hospital, Fudan University, Shanghai, China; ²National Taiwan University Hospital, Taipei, Taiwan

2923 — B0569 Depression in attempted abduction: A common feature in Duane syndrome. Soolianah Rhiu^{1,2}, S. M. Michalak^{1,3}, W. Phanphruk^{1,5}, D. G. Hunter^{1,4}. ¹Department of Ophthalmology, Boston Children's Hospital, Boston, MA; ²Department of Ophthalmology, Hallym University School of Medicine, Dongtan Sacred Heart Hospital, Hwaseong, Korea (the Republic of); ³University of North Carolina School of Medicine, Chapel Hill, NC; ⁴Department of Ophthalmology, Harvard Medical School, Boston, MA; ⁵Department of Ophthalmology, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand *CR

2924 — B0570 Modification of the angle of strabismus in hyperopic patients after photorefractive keratectomy. Michela Fresina, G. Giannaccare, L. Primavera, P. Versura, E. C. Campos. DIMES, Ophthalmic Unit, University of Bologna, Bologna, Italy

2925 — B0571 Protective effect of biodegradable collagen implant in thinned sclera after strabismus surgery : paired eye study. Tae Keun Yoo, S. han, J. Han. Ophthalmology, Yonsei University College of Medicine, Seoul, Korea (the Republic of) x⁷

2926 — B0572 Surgical Results of Medial Rectus Recession with Tendon Elongation in Sixth Nerve Palsy. Herbert Jaegle. University Clinic, Department for Ophthalmology, Regensburg, Germany

2927 — B0573 A variation on Optional Adjustable strabismus surgery: applying the Engel/Rousta technique to limbal incisions. Steve Madill. Princess Alexandra Eye Pavilion, Edinburgh, United Kingdom

2928 — B0574 Corrective effect of Fresnel membrane prisms in the secondary and tertiary gaze positions. Satoshi Hasebe, S. Morisawa, T. Tokutake. Ophthalmology 2, Kawasaki Medical School, Okayama, Japan

2929 — B0575 What can we learn about strabismus from a 90 second gaze recording?: Rapid evaluation of oculomotor deficits in strabismus. Anna Kosovicheva¹, M. Kazlas^{2,3}, D. G. Hunter^{2,3}, P. Bex¹. ¹Department of Psychology, Northeastern University, Boston, MA; ²Department of Ophthalmology, Boston Children's Hospital, Boston, MA; ³Department of Ophthalmology, Harvard Medical School, Boston, MA *CR

2930 — B0576 A new computerized Hess-Lancaster red-green test. Giuliano Stramare. Ospedale Sacro Cuore- Negrar - Verona, Negrar - Vr, Italy

2931 — B0577 A method for rapid objective strabismus angle measurement. Oren Yehezkel¹, A. Spierer², D. Oz¹, R. Yam¹, M. Belkin². ¹NovaSight Ltd, Airport city, Israel; ²Goldschleger Eye Institute, Sheba Medical Center, Tel-Hashomer, Israel; ³Goldschleger Eye Research Institute, Sheba Medical Center, Tel Hashomer, Israel *CR

2932 — B0578 Validation of StrabisPIX, a mobile application for home measurement of ocular alignment. Warachaya Phanphruk^{1,2}, Y. Liu^{1,3}, K. Morley⁴, J. Gavin¹, A. S. Shah^{1,3}, D. G. Hunter^{1,3}. ¹Department of Ophthalmology, Boston Children's Hospital, Boston, MA; ²Department of Ophthalmology, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand; ³Department of Ophthalmology, Harvard Medical School, Boston, MA; ⁴Department of Medicine, Massachusetts General Hospital, Boston, MA

2933 — B0579 A simple method to measure head tilt using iPhone®. Michelle L. Farah¹,
M. Santinello², L. Carvalho¹, R. Barcellos¹.

¹Ophthalmology, Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil;

²Faculdade de Medicina do ABC, São Paulo, Brazil

Tuesday Posters
8:30 am – 10:15 am

Tuesday – General Business Meeting

Room 324

Tuesday, May 09, 2017 10:15 AM-10:55 AM

323 General Business Meeting

- Welcome - ARVO President, Dr. Emily Chew, MD, FARVO

- Presentation of ARVO Distinguished Service Awards - ARVO President, Dr. Emily Chew, MD, FARVO

-Dr. Craig E. Crosson, PhD, FARVO

-Dr. John I. Clark, PhD, FARVO

-Dr. Paul S. Bernstein, MD, PhD, FARVO

-Dr. Peter D. Lukasiewicz, PhD

- Presentation of the Joanne G. Angle Award to Dr. Robert Ritch - ARVO President Dr. Emily Chew, MD, FARVO

- Presentation of the VSS Award to Dr. Kathryn Bonnon, BS. - ARVO President Dr. Emily Chew, MD, FARVO

- Presentation of Certificate of Appreciation to Dr. Mark Radford, MD, PhD for his outstanding contributions to ARVO-Asia - ARVO President, Dr. Emily Chew, MD, FARVO

- Presentation of Membership Update and Election Results - ARVO Executive Vice President, Dr. Craig E. Crosson, PhD, FARVO

- Membership and Annual Meeting attendance update - ARVO Executive Vice President, Dr. Craig E. Crosson, PhD, FARVO

- Introduction of Incoming Officers - ARVO Executive Vice President, Dr. Craig E. Crosson, PhD, FARVO

- 2017 Achievement Award recipients - ARVO Executive Vice President, Dr. Craig E. Crosson, PhD, FARVO

- 2018 Achievement Award nominees - ARVO Executive Vice President, Dr. Craig E. Crosson, PhD, FARVO

- Conclude Meeting - ARVO Executive Vice President, Dr. Craig E. Crosson, PhD, FARVO

Tuesday General Business Meeting 10:15 am – 10:55 am

Ballroom 2

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Cornea

324 Corneal dystrophies: Where do we stand? - Minisymposium

This minisymposium includes discussion of three major blinding diseases affecting the cornea: corneal dystrophy, keratoconus, and Fuch's dystrophy. Session presentations span novel cell biological mechanistic studies, to clinical treatments and outcomes, to new treatments and challenges to commercializing cell-based therapies.

Moderators: Dimitrios Karamichos and Audrey M. Bernstein

— 11:00 Introduction

2934 — 11:03 Pathogenesis of granular corneal dystrophy type 2. Eung Kweon Kim. Ophthalmology, Yonsei University College of Medicine, Seoul, Korea (the Republic of) *CR

2935 — 11:20 The role of decorin in the development of congenital stromal corneal dystrophy. Eyvind Rodahl. Department of Ophthalmology, Haukeland University Hospital, Bergen, Norway; Department of Clinical Medicine, University of Bergen, Bergen, Norway

2936 — 11:37 Keratoconus: An update on diagnosis and surgical treatments. Penny A. Asbell. Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY

2937 — 11:54 Insights into the molecular mechanisms of keratoconus. Dimitrios Karamichos. Ophthalmology, OUHSC, University of Oklahoma Health Sciences Center, Oklahoma City, OK

2938 — 12:11 Fuchs dystrophy: Genetics, gene expression and pathways. Keith Baratz. Ophthalmology, Mayo Clinic, Rochester, MN

2939 — 12:28 Developing drug therapies for Fuchs and corneal endothelial dysfunction. David Eveleth. Trefoil Therapeutics, San Diego, CA *CR

Ballroom 1

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Biochemistry/Molecular Biology / Glaucoma / Low Vision / Physiology/Pharmacology / Retinal Cell Biology / Retina**325 ER stress and the unfolded protein response in ocular health and disease - Minisymposium**

ER stress and Unfolded Protein Response (UPR) are involved in the development of many ocular progressive disorders including retinitis pigmentosa, age-related retinal macular degeneration, diabetic retinopathy, retinopathy of premature, glaucoma and cataract. The minisymposium highlights roles of ER stress and UPR in progression of ocular diseases, presents different therapeutic strategies to treat ocular diseases and emphasizes the needs to promote a field from lab bench to clinical trials.

Moderators: Marina Gorbatyuk, Christina Zeitz and Luminita I. Paraoan

— 11:00 Introduction

2940 — 11:05 Targeting the Unfolded Protein Response for the Prevention and Treatment of Diabetic Retinopathy. Sarah X. Zhang. Ophthalmology, University at Buffalo, Buffalo, NY

2941 — 11:20 Targeting ER stress pathway for the treatment of glaucoma. Gulab Zode. The North Texas Eye Research Institute, Univ. of North Texas HSC, Fort Worth, TX

2942 — 11:35 Involvement of ER stress in TULP1 induced retinal degeneration. Stephanie A. Hagstrom. Cole Eye Institute, Cleveland Clinic, Cleveland, OH

2943 — 11:50 Achromatopsia mutations target sequential steps of ATF6 activation. Jonathan Lin. Pathology, UCSD, La Jolla, CA

2944 — 12:05 ER Stress as a Gatekeeper of Cellular Senescence and Pathological Angiogenesis - for ER stress and the Unfolded Protein Response minisymposium. Przemyslaw Mike Sapielha. Ophthalmology, University of Montreal, Montreal, QC, Canada; Ophthalmology, Maisonneuve Rosemont Hospital, Montreal, QC, Canada *CR

2945 — 12:20 Targeting the unfolded protein response in retinal degenerative diseases. Marina Gorbatyuk. Optometry and Vision Sciences, UAB, Birmingham, AL

Ballroom 3

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Retina

326 Diabetic retinopathy clinical

Moderators: Michael D. Abramoff and Neil Bressler

2946 — 11:00 The effect of HgbA1c and diabetes duration as risk factors for proliferative diabetic retinopathy is determined by common mitochondrial haplogroups in patients with Type 2 diabetes. Milam A. Brantley¹, A. C. Neisinger¹, C. N. Bruce¹, A. Muhammad¹, C. B. Estopinal¹, I. M. Chocron¹, J. A. Bregman¹, A. C. Umfress¹, K. L. Jarrell¹, C. Warden¹, P. A. Harlow¹, D. C. Samuels². ¹Vanderbilt Eye Institute, Vanderbilt University Medical Center, Nashville, TN; ²Vanderbilt Genetics Institute, Vanderbilt University, Nashville, TN

2947 — 11:15 Hemorrhages and/or Microaneurysm Distribution and Counts Identified on Ultrawide Field Imaging and the Risk of Diabetic Retinopathy Progression Over 4 Years. Paolo S. Silva^{1,2}, H. El Rami¹, R. Barham¹, A. Gupta¹, A. Fleming³, J. Hemert³, J. K. Sun^{1,2}, L. P. Aiello^{1,2}. ¹Beetham Eye Institute, Joslin Diabetes Center, Belmont, MA; ²Ophthalmology, Harvard Medical School, Boston, MA; ³Optos plc, Dunfermline, United Kingdom *CR

2948 — 11:30 Association of Predominantly Peripheral Diabetic Retinopathy Lesions (PPL) with Oximetry-Measured Retinal Ischemia and Nonperfusion on Ultrawide Field Angiography. Konstantina Sampani¹, P. S. Silva^{1,2}, N. Spanos¹, G. L. Yau¹, J. Rhee¹, A. Gupta¹, A. Tolson¹, C. M. Pitoc², J. K. Sun^{1,3}, L. P. Aiello^{1,3}. ¹Beetham Eye Institute, Joslin Diabetes Center, Cambridge, MA; ²Philippine Eye Research Institute, University of the Philippines, Manila, Philippines; ³Ophthalmology, Harvard Medical School, Boston, MA *CR

2949 — 11:45 Continuous submicrogram fluocinolone acetonide (FAc) therapy for the treatment of diabetic retinopathy. Charles C. Wykoff. Retina, Retina Consultants of Houston, Houston, TX *CR

2950 — 12:00 Progression of diabetic retinopathy in patients treated with 0.2 µg/day fluocinolone acetonide (FAc) implants for diabetic macular edema (DME): a fellow eye-controlled analysis. Raymond Iezzi¹, B. Kapik², K. E. Green². ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Alimera Sciences, Alpharetta, GA *CR

2951 — 12:15 Association between retinal neurodegeneration and foveal avascular zone in diabetic eyes: OCTA analysis. Seung-Young Yu, K. Kim, E. Kim. Ophthalmology, Kyung Hee University, Seoul, Korea (the Republic of)

Ballroom 4

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Glaucoma**327 Neuroprotection****Moderators: Gulgun Tezel and Cynthia L. Grosskreutz****2952 — 11:00 Role for dual leucine zipper kinase in human embryonic stem cell-derived retinal ganglion cell death signaling.***Derek S. Welsbie¹, K. L. Mitchell¹, V. Slucht², P. Zhang², A. Patel¹, D. J. Zack².* ¹Ophthalmology, University of California San Diego, La Jolla, CA; ²Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, MD**2953 — 11:15 BMSC-derived exosomes promote retinal ganglion cell survival.** *Ben Mead, S. I. Tomarev.* National Eye Institute, National Institutes of Health, Bethesda, MD**2954 — 11:30 QTA020V, a novel rAAV2 vector, delays retinal ganglion cell loss following optic nerve crush in the mouse.** *Keith R.**Martin^{1,2}, A. Osborne^{1,2}, T. Khatib¹, A. Barber¹, G. Kong^{3,4}, P. S. Widdowson².* ¹Department of Clinical Neurosciences, University of Cambridge, Cambridge, United Kingdom; ²QUETHERA Ltd, Cambridge, United Kingdom; ³Center for Eye Research Australia, University of Melbourne, Melbourne, VIC, Australia; ⁴Department of Optometry and Vision Sciences, University of Melbourne, Melbourne, VIC, Australia *CR**2955 — 11:45 Regeneration of retinal ganglion cell dendrites and synapses after axonal injury: the role of insulin on regrowth and reconnection.***Jessica Agostinone¹, W. Yi², R. O. Wong², A. Di Polo¹.* ¹Neurosciences, University of Montreal, CRCHUM, Montreal, QC, Canada; ²Biological structure, University of Washington, Seattle, WA**2956 — 12:00 Ccl-5 Deficiency Impedes Retinal Ganglion Cell Axonopathy in Glaucoma.***William M. McLaughlin¹, M. G. Dubner¹, C. Formichella¹, R. M. Sappington^{1,2}.* ¹Department of Ophthalmology and Visual Sciences, Vanderbilt Eye Institute, Vanderbilt University Medical Center, Nashville, TN; ²Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, TN**2957 — 12:15 Inhibiting complement C3 activation by gene therapy reduces glaucoma progression.***Alejandra Bosco¹, S. Anderson¹, K. T. Breen¹, C. O. Romero¹, M. R. Steele¹, V. A. Chiodo², S. L. Boye², W. W. Hauswirth², S. Tomlinson³, M. L. Vetter¹.* ¹Neurobiology and Anatomy, University of Utah, Salt Lake City, UT; ²Ophthalmology, University of Florida, Gainesville, FL; ³Microbiology and Immunology, Medical University of South Carolina, Charleston, SC *CR**2958 — 12:30 Metabolic stress in glaucoma engages early activation of the energy biosensor AMPK leading to neuronal dysfunction.***Nicolas A. Belforte, J. Cueva Vargas, A. Di Polo.* Department of Neuroscience, University of Montreal Hospital Research Center, Montreal, QC, Canada

Hall G

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Retina**328 Retinal Vascular Diseases and CSCR****Moderators: Judy E. Kim and Anat Loewenstein****2959 — 11:00 Spectral Domain Optical Coherence Tomography of Sickle Cell Retinopathy Eyes.** *Jennifer I. Lim, D. Cao.**Ophthal-Eye & Ear Infirm, University of Illinois, Chicago, IL***2960 — 11:15 Patients with Central Retinal Vein Occlusion require fewer injections when treated with aflibercept compared to ranibizumab using a treat-and-extend regimen: A prospective double-masked study.***Manuel Casselholm de Salles, U. Amrén, A. P. Kvanta, D. L. Epstein.* St. Erik Eye Hospital, Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden f**2961 — 11:30 Focal breakdown of the blood retinal barrier is associated with fatal brain swelling in paediatric cerebral malaria.***Ian J. MacCormick^{1,2}, K. Seydel^{3,4}, M. Potchen^{5,4}, S. Kampondeni^{4,5}, R. Heyderman^{6,7}, M. Molyneux^{6,8}, N. V. Beare⁹, M. Mallewa¹⁰, G. Czanner^{1,11}, T. Taylor^{3,4}, S. P. Harding^{1,9}.* ¹Department of Eye and Vision Science, University of Liverpool, Edinburgh, United Kingdom; ²Centre for Clinical Brain Sciences, University of Edinburgh, Edinburgh, United Kingdom; ³Department of Osteopathic Medical Specialties, Michigan State University, East Lansing, MI; ⁴Blantyre Malaria Project, Queen Elizabeth Central Hospital, Blantyre, Malawi; ⁵Department of Imaging Sciences, University of Rochester Medical Center, Rochester, NY; ⁶Malawi-Liverpool-Wellcome Trust Clinical Research Programme, Queen Elizabeth Central Hospital, Blantyre, Malawi; ⁷Division of Infection & Immunity, University College London, London, United Kingdom; ⁸Liverpool School of Tropical Medicine, Liverpool, United Kingdom; ⁹St Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom; ¹⁰Department of Paediatrics and Child Health, Queen Elizabeth Central Hospital, Blantyre, Malawi; ¹¹Department of Biostatistics, University of Liverpool, Liverpool, United Kingdom**2962 — 11:45 W1206R mutation in mouse factor H causes retinal thrombosis and ischemic retinopathy.** *Delu Song¹, I. Mohammed², Y. Ueda², L. Zhou², R. Bhuyan¹, T. Miwa², W. Song², J. L. Dunaief¹.* ¹Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ²Department of Pharmacology, University of Pennsylvania, Philadelphia, PA; ³Academic Ophthalmology, University of Nottingham, Nottingham, United Kingdom**2963 — 12:00 An analysis of the phase 2 trial with intravitreal aflibercept and suprachoroidal triamcinolone acetate compared to intravitreal aflibercept alone in retinal vein occlusion patients in terms of perfusion status.***Michael Singer¹, G. Noronha².* ¹Med Ctr Ophthalmology Assoc, San Antonio, TX; ²Cleasid Biomedical, Atlanta, GA *CR, x**2965 — 12:15 Risk factors for recurrences in central serous chorioretinopathy.** *Alexandre Matet, A. Daruich, M. Zola, F. F. Behar-Cohen.* Jules-Gonin Eye Hospital, Lausanne, Switzerland

Room 301

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Physiology/Pharmacology**329 Retina/RPE 2****Moderator: Sunny E. Ohia****2966 — 11:00 Verteporfin-induced formation of protein oligomers is mediated by light and leads to cell toxicity.***Eleni Konstantinou¹, S. Notomi¹, K. Brodowska¹, A. Moujahed¹, F. Nicolaou², P. Tsoka¹, E. S. Gragoudas¹, J. W. Miller¹, L. Young¹, D. G. Vavvas¹.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Pediatric Surgery Laboratories, Massachusetts General Hospital, Boston, MA**2967 — 11:15 Prospective, randomized, subject-masked evaluation of intravitreal Sirolimus vs. anti-VEGF in chronic neovascular AMD with persistent retinal fluid: 1-year follow-up.***Peter Bracha¹, J. Chhablani², A. Harless², S. Dumpala³, R. Maturi^{2,1}.* ¹Ophthalmology, Indiana University, Indianapolis, IN; ²Ophthalmology, Midwest Eye Institute, Indianapolis, IN; ³L V Prasad Eye Institute, Smt. Kanuri Santhamma Retina Vitreous Centre, Hyderabad, India *CR, x**2968 — 11:30 Characterization and function of a soluble VEGF receptor 2 protein.** *Xinyuan Zhang.* Beijing TongRen Hospital, Beijing, China

2969 — 11:45 QRX-421, an Antisense Oligonucleotide (AON) Targeting Mutations in Exon 13 of *USH2A*, Associated with Retinitis Pigmentosa in Usher Syndrome Type 2, is Effective in Skipping Exon 13 in the *USH2A* mRNA of Patients Fibroblasts and Patient-Derived Optic Cups. Peter Adamson^{1,2}, H. Chan¹, J. Turunen¹, J. Miao¹, E. de Vrieze³, M. Dona³, S. Albert¹, E. van Wijk³, H. van Diepen¹. ¹ProQR Therapeutics, Leiden, Netherlands; ²Institute of Ophthalmology, UCL, London, United Kingdom; ³Ophthalmology, Radboudumc, Nijmegen, Netherlands; ⁴Human Genetics, Radboudumc, Nijmegen, Netherlands *CR

2970 — 12:00 Rational tuning of visual cycle modulator pharmacodynamics. Philip Kiser^{1,2}, J. Zhang¹, M. Badiie³, G. Tochtrop³, K. Palczewski¹. ¹Pharmacology, Case Western Reserve University, Pepper Pike, OH; ²Research Service, Louis Stokes Cleveland VA Medical Center, Cleveland, OH; ³Chemistry, Case Western Reserve University, Cleveland, OH

2971 — 12:15 Sustained Intravitreal Delivery of Small and Large Molecules with Injectable Hydrogels. Mark Tibbitt¹, A. Auerbach¹, A. Jayagopal², R. Langer¹. ¹Koch Institute, Massachusetts Institute of Technology, Cambridge, MA; ²Pharma Research and Early Development, Ophthalmology Discovery and Biomarkers, Roche Innovation Center Basel, F. Hoffman-La Roche Ltd, Basel, Switzerland *CR

Room 308

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Visual Neuroscience

330 Bipolar, Horizontal and Amacrine cells

Moderators: Tomomi Ichinose and Maarten Kamermans

2972 — 11:00 The rates of visual information encoding in parallel retinal bipolar cell pathways. Bart G. Borghuis¹, C. P. Ratliff². ¹Anatomical Sciences and Neurobiology, University of Louisville, Louisville, KY; ²Department of Ophthalmology, University of California LA, David Geffen School of Medicine, Los Angeles, CA

2973 — 11:15 All bipolar cells encode irradiance in their output. Shai Sabbah¹, C. M. Papendorp¹, E. Koplak¹, M. Beltoja¹, C. Etebari¹, A. N. Gunesch¹, L. Carrete¹, M. Kim¹, G. Manoff¹, A. Bhatia-Lin¹, H. Dowling², K. L. Briggman³, D. M. Berson¹. ¹Neuroscience, Brown University, Providence, RI; ²Greenwich High School, Greenwich, CT; ³National Institute for Neurological Disorders and Stroke, National Institute of Health, Bethesda, MD

2974 — 11:30 NMDA receptors contribute to excitatory synaptic input to dopaminergic amacrine cells in the mouse retina. Lei-Lei Liu, N. J. Spix, D. Zhang. Eye Research Institute, Oakland University, Rochester, MI

2975 — 11:45 TARPγ2 is required for normal AMPA receptor expression and function in the inner retina. Teresa Puthussery^{1,2}, T. Stincic^{1,3}, G. Jacqueline¹, W. R. Taylor^{1,2}. ¹Casey Eye Institute, Oregon Health & Science Univ, Portland, OR; ²School of Optometry, University of California, Berkeley, Berkeley, CA; ³Physiology & Pharmacology, Oregon Health & Science University, Portland, OR

2976 — 12:00 Establishment of convergence at rod bipolar cell dendrites in postnatal mouse retina. Ivan Anastasov, W. Wang, F. Dunn. Ophthalmology, University of California San Francisco, San Francisco, CA

2977 — 12:15 Optogenetic detection of spatial inhomogeneity of protons in the synaptic cleft during horizontal cell to cone feedback underlying lateral inhibition. Billie Beckwith-Cohen¹, L. Holzhausen², R. Kramer^{2,1}. ¹Vision Science, University of California, Berkeley, Berkeley, CA; ²Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

2978 — 12:30 Isolating the circuit components behind contrast adaptation within the Rod-Bipolar pathway. Gregory E. Perrin^{1,2}, J. Pottackal^{3,4}, D. Butts^{2,1}, J. B. Demb^{4,5}, J. H. Singer^{2,1}. ¹Program in Neuroscience and Cognitive Science, University of Maryland, College Park, MD; ²Biology, University of Maryland, Washington, DC; ³Interdepartmental Program in Neuroscience, Yale University, New Haven, CT; ⁴Department of Ophthalmology & Visual Science, Yale University, New Haven, CT; ⁵Department of Cellular & Molecular Physiology, Yale University, New Haven, CT

Room 309

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Clinical/Epidemiologic Research

331 Understanding the Course and Risk Factors for Age-Related Macular Degeneration

Moderators: Emily Chew and Usha Chakravarthy

2979 — 11:00 Progression from early/intermediate age-related macular degeneration to either geographic atrophy or choroidal neovascularisation in a large UK cohort. Usha Chakravarthy¹, C. Bailey², M. McKibbin³, S. Rabhi⁴, A. Muthantri⁴, C. Brittain⁵, J. R. Willis⁵, R. A. Cantrell⁶. ¹Ctr for Vascular & Vision Sciences, Queens University of Belfast, Belfast, United Kingdom; ²University Hospitals Bristol National Health Service Foundation Trust, Bristol, United Kingdom; ³Gloucestershire Eye Unit, Cheltenham General Hospital, Cheltenham, United Kingdom; ⁴QuintilesIMS, London, United Kingdom; ⁵Genentech, Inc., South San Francisco, CA *CR

2980 — 11:15 Progression time to foveal loss in Geographic Atrophy. Johanna Maria Colijn^{1,2}, C. Brussee^{1,2}, A. J. Hooghart^{1,2}, M. A. Meester^{1,2}, J. R. Vingerling¹, A. Hofman², C. Klaver^{3,4}. ¹Ophthalmology, Erasmus MC, Rotterdam, Netherlands; ²Epidemiology, Erasmus MC, Rotterdam, Netherlands; ³Ophthalmology Epidemiology, Erasmus MC, Den Haag, Netherlands; ⁴Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands

2981 — 11:30 Vitamin D intake is associated with a reduced rate of progression to advanced stages of age-related macular degeneration. Rachel E. Silver¹, B. M. Merle¹, B. Rosner², J. M. Seddon^{1,3}. ¹Ophthalmic Epidemiology & Genetics, Tufts Medical Center, Boston, MA; ²Channing Division of Network Medicine, Harvard Medical School, Boston, MA; ³Department of Ophthalmology, Tufts University School of Medicine, Boston, MA *CR

2982 — 11:45 The Relationship of Macular Pigment Optical Density (MPOD) to Mortality in the Second Carotenoids in Age-Related Eye Disease Study (CAREDS 2), an ancillary study of the Women's Health Initiative (WHI). Julie A. Mares¹, Z. Liu¹, R. B. Wallace², R. Gangnon³, B. Hammond⁵, E. Johnson⁴, L. Tinker⁶, C. Blomme¹, G. Sarto⁸, D. Snodderly⁷. ¹Ophthal and Visual Sciences, University of Wisconsin-Madison, Madison, WI; ²Epidemiology, University of Iowa School of Public Health, Iowa City, IA; ³Population Health Sciences, University of Wisconsin, School of Medicine and Public Health, Madison, WI; ⁴Jean Mayer USDA Human Nutrition Research Center on Aging, Tufts University, Boston, MA; ⁵Psychology, University of Georgia, Athens, GA; ⁶Public Health Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA; ⁷Department of Neuroscience and Department of Nutritional Sciences, The University of Texas, Austin, TX; ⁸Obstetrics & Gynecology, University of Wisconsin, School of Medicine and Public Health, Madison, WI

2983 — 12:00 Pleiotropic effect of genetic variants associated with complex diseases and traits in age-related macular degeneration. Felix Grassmann¹, C. Kiel¹, M. Gorski², K. Stark², M. Zimmermann², I. M. Heid², B. H. Weber¹. ¹Institute of Human Genetics, University of Regensburg, Regensburg, Germany; ²Department of Genetic Epidemiology, University of Regensburg, Regensburg, Germany

2984 — 12:15 A Deep Phenotype Association Study (DeePAS) in AREDS2 reveals specific phenotype associations with AMD-related genetic variants. Freekje Van Asten^{1,2}, M. Simmons^{1,3}, A. Singhal³, R. Ratnapriya², E. Agron¹, A. Swaroop², Z. Lu³, E. Chew¹. ¹Division of Epidemiology and Clinical Application, National Eye Institute, NIH, Bethesda, MD; ²Neurobiology Neurodegeneration & Repair Laboratory, National Eye Institute, NIH, Bethesda, MD; ³National Center for Biotechnology Information, National Library of Medicine, NIH, Bethesda, MD ✕

2985 — 12:30 Genetic Interaction with Response to Oral Micronutrient Supplements in the Age-Related Eye Disease Study 2 (AREDS2). Emily Chew¹, C. Chiu², E. Agron¹, T. E. Clemons³, F. van Asten¹, R. Fan¹. ¹Epidemiology & Clinical Applications, National Eye Institute, Bethesda, MD; ²National Institute of Child Health and Human Development, Bethesda, MD; ³EMMES Corporation, Rockville, MD; ⁴Georgetown University, Washington, DC ✕

Room 310

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Immunology/Microbiology

332 Going viral!**Moderator: Richard D. Dix**

2986 — 11:00 Role of CD8⁺ T cells versus CD8 α ⁺ DCs in HSV-1 latency-reactivation. Homayon Ghiasi², K. R. Mott², S. J. Allen², Y. N. Ghiasi¹, H. Matundan², T. Town¹. ¹Zilkha Neurogenetic Institute, Department of Physiology & Biophysics, USC, Los Angeles, CA; ²Ophthalmology Research/Surgery, Cedars-Sinai Medical Center, Los Angeles, CA

2987 — 11:15 Routes of immunization differentially affect the dynamics of humoral immunity elicited by ocular HSV-1 vaccine. Daniel J. Carr¹, M. Carr¹, H. R. Gurung¹, D. J. Royer¹, W. Halford². ¹Ophthalmology, Univ of Oklahoma Hlth Sci Ctr, Oklahoma City, OK; ²Southern Illinois Univ Medical Center, Springfield, IL *CR

2988 — 11:30 Sensory nerve loss and sympathetic innervation characterize recurrent herpes stromal keratitis in mice. Hongmin Yun¹, X. Yin², P. M. Stuart², R. L. Hendricks^{1,3}. ¹Department of Ophthalmology, Eye and Ear Institute, University of Pittsburgh School of Medicine, Pittsburgh, PA; ²Department of Ophthalmology, Saint Louis University, St. Louis, MO; ³Department of Immunology, University of Pittsburgh, Pittsburgh, PA

2989 — 11:45 Effectiveness of real-time PCR assessment for varicella-zoster virus-associated keratitis. Dai Miyazaki, K. Inata, R. UOTANI, D. Shimizu, A. Miyake, Y. Shimizu, Y. Inoue. Ophthalmology, Tottori University, Yonago, Japan

2990 — 12:00 A rat model of facial Post Herpetic Neuralgia (PHN) induced by Varicella Zoster Virus (VZV). Paul R. Kinchington¹, B. Warner¹, W. Goins¹, M. Rao², C. Stinson², P. Kramer². ¹Ophthalmology/Mol Micro & Genetics, Univ of Pittsburgh Eye & Ear Inst, Pittsburgh, PA; ²Biological Sciences, Texas A&M College of Dentistry, Dallas, TX

2991 — 12:15 Longitudinal Changes of Geographic Retinal Darkening in a Cohort of Ebola Survivors. Paul J. Steptoe¹, N. V. Beare^{4,2}, J. T. Scott¹, M. J. Vandy³, L. Harrison-Williams³, F. Momorie⁵, A. D. Fornah⁵, J. M. Baxter², C. K. Parkes², R. Dwivedi², F. Sahr², S. P. Harding⁴, M. G. Semple¹. ¹Institute of Translational Medicine, University of Liverpool, Liverpool, United Kingdom; ²St. Paul's Eye Department, Royal Liverpool Hospital, Liverpool, United Kingdom; ³Ophthalmology Department, Connaught Hospital, Freetown, Sierra Leone; ⁴Department of Eye and Vision Science, Institute of Ageing and Chronic Disease, University of Liverpool, Liverpool, United Kingdom; ⁵Department of Ophthalmology, 34th Regiment Military Hospital, Republic of Sierra Leone Armed Forces Joint Medical Unit, Freetown, Sierra Leone *CR

2992 — 12:30 Zika Virus Causes Chorioretinal Atrophy in Mouse Eyes and Infects Primary Human Cells Lining the Blood-Retinal Barrier. Pawan Kumar Singh^{1,2}, J. Guest¹, M. Kanwar¹, J. Boss¹, N. Gao¹, G. W. Abrams¹, F. X. Yu^{1,2}, A. Kumar^{1,2}. ¹Kresge Eye Institute, Wayne State University School of Medicine, Detroit, MI; ²Anatomy and Cell Biology, Wayne State University School of Medicine, Detroit, MI

Room 316

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Visual Psychophysics/Physiological Optics / Cornea / Eye Movements/Strabismus/ Amblyopia/Neuro-Ophthalmology / Glaucoma / Lens / Visual Neuroscience

333 Age-related changes in optics of the eye and vision - Minisymposium

A better understanding of age-related changes in ocular components provides both scientifically and clinically important insights into mechanisms underlying the normal aging process of the eye and their association with age-related blinding eye diseases, leading to increasing the potential to detect and treat the diseases as early as possible

Moderators: Geunyoung Yoon and Lisa A. Ostrin

— 11:00 Introduction

2993 — 11:03 Changes in normal ocular biometry and optics with age. Jos Rozema. Ophthalmology, Universitair Ziekenhuis Antwerpen, Edegem, Belgium; Medicine and Health Science, University of Antwerp, Antwerp, Belgium

2994 — 11:20 Imaging of age-related changes in lens and ciliary muscle accommodation. Fabrice Manns. Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami, Miami, FL; Biomedical Optics Laboratory, Department of Biomedical Engineering, University of Miami College of Engineering, Coral Gables, FL *CR

2995 — 11:37 Characterizing changes in intraocular light scatter with age. *Thomas J. Van Den Berg.* Netherlands Institute for Neuroscience, Royal Netherlands Academy of Arts and Sciences, Amsterdam, Netherlands *CR

2996 — 11:54 Optical and visual tradeoffs of presbyopia correcting lenses. *James Wolffsohn.* School of Life and Health Sciences, Aston University, Birmingham, United Kingdom *CR

2997 — 12:11 Age-related changes to visual functions in normal eyes. *Allison M. McKendrick.* Optometry & Vision Sciences, University of Melbourne, Parkville, VIC, Australia

2998 — 12:28 Melanopsin function in patients with ocular disease. *Aki Kawasaki.* Neuro-Ophthalmology, University of Lausanne, Lausanne, Switzerland; Hôpital Ophtalmique Jules Gonin, Lausanne, Switzerland

Room 321

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology

334 Factors affecting ocular development

Moderator: Brenda L. Bohnsack

2999 — 11:00 Ocular motor nerve development in the presence and absence of extraocular muscle. *Suzanne M. Michalak^{2,1}, J. Park³, M. Whitman³, M. Tischfield², E. Engle².* ¹University of North Carolina School of Medicine, Chapel Hill, NC; ²Boston Children's Hospital, Harvard Medical School, Boston, MA

3000 — 11:15 Mouse orbital fat has a unique transcriptome compared to visceral, cutaneous, and brown fat depots, consistent with distinct developmental origins. *Fatemeh Rajaii¹, S. Blackshaw².* ¹Ophthalmology, Johns Hopkins University, Baltimore, MD; ²Neuroscience, Johns Hopkins University, Baltimore, MD

3001 — 11:30 Periocular Mesenchyme delineate into sub-populations during targeting to the anterior segment. *Jakub Famulski.* Biology, University of Kentucky, Edmonton, KY

3002 — 11:45 The Presence of Accommodative Tissues Influences the Shape of the Developing Eye. *Nguyen K. Tram¹, M. A. Reilly^{1,2}, K. E. Swindle-Reilly^{1,3}.* ¹Biomedical Engineering, The Ohio State University, Columbus, OH; ²Ophthalmology & Visual Science, The Ohio State University, Columbus, OH; ³Chemical and Biomolecular Engineering, The Ohio State University, Columbus, OH

3003 — 12:00 An in vivo investigation of the upstream regulatory elements of PITX2/pitx2 through generation of large deletions of conserved enhancer elements in zebrafish. *Eric Weh, E. Semina.* Pediatrics, Medical College of Wisconsin, Milwaukee, WI

3004 — 12:15 Ocular neural crest cells are less sensitive to ethanol than craniofacial neural crest in a zebrafish model of fetal alcohol syndrome. *Jessica Eason, A. Williams, B. Chawla, C. Apsey, B. L. Bohnsack.* Department of Ophthalmology and Visual S, Univ of Michigan Kellogg Eye Center, Ann Arbor, MI

3005 — 12:30 Cellular interactions during closure of the optic fissure in the embryonic mouse eye. *Amrita Pathak¹, K. S. Hofstetter¹, J. Kuntz¹, D. Burnette², S. Fuhrmann¹.* ¹Department of Ophthalmology and Visual Sciences, Vanderbilt University Medical Center, Nashville, TN; ²Cell and Developmental Biology, Vanderbilt University, Nashville, TN

Exhibit/Poster Hall A0001-A0023

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Retinal Cell Biology

335 Cellular Metabolism of the Retina and RPEModerators: *Kathleen Boesze-Battaglia and Michael H. Farkas*

3006 — A0001 Glucocorticoids and survival of retinal pigment epithelial cells (ARPE-19) in vitro. *Melisa Daniela D. Marquioni Ramella, P. S. Tate, T. P. Bachor, M. C. Marazita, A. M. Suburo.* Facultad de Ciencias Biomédicas, IIMT, Universidad Austral-CONICET, Presidente Derqui, Pilar, Argentina

3007 — A0002 Exploration of the resistance's mechanisms to oncogenesis induced by APC mutation in retinal pigment epithelium cells. *REGENT Florian¹, A. Plancheron^{1,2}, K. Ben M'Barek¹, W. Habeler^{1,2}, L. Chatrousse^{1,2}, P. Fragner^{1,2}, Y. Laäbi^{1,2}, C. Monville¹.* ¹I-Stem, INSERM UEVE UMR861, AFM, Corbeil-Essones, France; ²I-Stem, CECS AFM, Corbeil-Essones, France

3008 — A0003 Stillbene compounds induce dynamic autophagy and decrease protein aggregation during proteasome inhibition. *Kai Kaarniranta^{1,2}, J. Viiri¹, M. Reinisalo³, A. Koskela¹.* ¹Department of Ophthalmology, University of Eastern Finland, Kuopio, Finland; ²Department of Ophthalmology, Kuopio University Hospital, Kuopio, Finland; ³School of Pharmacy, University of Eastern Finland, Kuopio, Finland

3009 — A0004 Epithelial-Mesenchymal Transition of Retinal Pigment Epithelium from Different Sources in Vitro. *Bo Lu¹, W. Hu¹, X. Zhang¹, N. Yang¹, N. Bressler², J. Kong^{1,2}.* ¹Ophthalmology, The Fourth Affiliated Hospital of China Medical University, Shenyang, China; ²Retina Division, Wilmer Eye Institute, JHH, Baltimore, MD

3010 — A0005 The Role of Oxidative Stress Pathway in RPE Epithelial to Mesenchymal Transition. *Karla Y. Barbosa¹, J. Chang¹, M. Lal², K. Bharti¹.* ¹NEI, NIH, Bethesda, MD; ²National Center for Advancing Translational Sciences, NIH, Bethesda, MD

3011 — A0006 Circadian regulation of mitochondrial dynamics in retinal photoreceptors. *JANET Ya-An CHANG, L. Sheldon, M. Ko, G. Y. Ko.* Veterinary Integrative Biosciences, Texas A&M University, College Station, TX

3012 — A0007 Response of ARPE-19 cybrids of European and African origin to high glucose and bevacizumab. *Sean W. Tsao, A. Memon, S. Abedi, M. Riazi Esfahani, M. Mohamed, S. R. Nashine, M. Chwa, C. M. Kenney, B. D. Kuppermann.* Ophthalmology, Gavin Herbert Eye Institute, Irvine, CA *CR

3013 — A0008 Mitochondrial activity in the retina relies on glycolysis independent of substrate availability. *Marin Gantner¹, K. eade¹, E. Aguilar^{2,1}, M. Prins¹, A. Johnson¹, M. Friedlander^{2,1}.* ¹The Lowy Medical Research Institute, La Jolla, CA; ²The Scripps Research Institute, La Jolla, CA

3014 — A0009 PGC-1 α is required to maintain RPE metabolism, integrity and function. *Mariana Aparecida B. Rosaes, S. Jacobo, J. Iacovelli, M. Saint-Geniez.* Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary, Department of Ophthalmology, Harvard Medical School, Chelsea, MA

3015 — A0010 Primate macula and short wavelength cones use glycolysis to fund energy expenditure. *Jaimie Hoh Kam, T. Weinrich Weinrich, M. B. Powner, G. Jeffery.* Visual Neuroscience, Institute of Ophthalmology, London, United Kingdom

3016 — A0011 A non-redundant role for PGC-1 β in retinal homeostasis and photoreceptor resistance to oxidative stress induced by light exposure. *Casey J. Keuthan, C. M. Chason, J. D. Ash.* Ophthalmology, University of Florida, Gainesville, FL

3017 — A0012 Genetic loss of the metabolic sensor AMPK results in an accelerated aging of the retina. *Lei Xu, L. T. Phu, A. M. Bell, J. D. Ash.* Ophthalmology, Univ of Florida, Gainesville, FL

3018 — A0013 Fuel exchange between photoreceptors and RPE underlies a retinal metabolic ecosystem. *Michelle Giarmarco¹, M. Kanow¹, A. Engel², J. Du^{4,3}, J. R. Chao², J. Hurley^{1,2}.* ¹Biochemistry, University of Washington, Seattle, WA; ²Ophthalmology, University of Washington, Seattle, WA; ³Biochemistry, West Virginia University, Morgantown, WV; ⁴Ophthalmology, West Virginia University, Morgantown, WV

3019 — A0014 Analysis of Secretory Lipidomics and Proteomics of Late-Onset Retinal Degeneration iPSC-derived RPE. *Kiyoharu J. Miyagishima¹, R. Sharma¹, K. Clore-Gronenborn¹, Z. Qureshy¹, B. Jun², W. C. Gordon², N. Hotaling¹, C. Zhang¹, C. A. Cukras¹, P. A. Sieving¹, N. G. Bazan², S. S. Miller¹, K. Bharti¹.* ¹NEI, NIH, Bethesda, MD; ²Neuroscience Center of Excellence, Louisiana State University Health, New Orleans, LA

3020 — A0015 Role of PPAR-alpha in Retinal Mitochondrial Function. *Rui Cheng¹, E. P. Moran^{1,2}, K. Zhou¹, M. Gantner³, J. Ma¹.* ¹Physiology, University of Oklahoma Health Sciences Center, Oklahoma City, OK; ²Department of Ophthalmology, Boston Children's Hospital, Harvard Medical School., Boston, MA; ³The Lowy Medical Research Institute, La Jolla, CA

3021 — A0016 Diurnal regulation of peroxisome function in RPE cells, a role for autophagy-dependent turnover. *Lauren L. Daniele¹, J. Caughey³, A. Dhingra¹, D. Alexander², N. J. Philp³, K. Boesze-Battaglia¹.* ¹Biochemistry, SDM, University of Pennsylvania, Philadelphia, PA; ²Program in Cell and Molecular Biology, Biomedical Graduate Studies, University of Pennsylvania, Philadelphia, PA; ³School of Dental Medicine, University of Pennsylvania, Philadelphia, PA; ⁴Department of Pathology, Anatomy, and Cell Biology, Thomas Jefferson University, Philadelphia, PA

3022 — A0017 Microtubule-associated protein 1 light chain 3 (LC3) isoforms in RPE: expression and function. *Anuradha Dhingra¹, J. Reyes-Reveles¹, D. Alexander¹, R. Sharp¹, A. Swarup², H. Kim³, J. R. Sparrow³, K. Boesze-Battaglia¹.* ¹Department of Biochemistry, University of Pennsylvania, Philadelphia, PA; ²Department of Pathology, Anatomy and Cell Biology, Thomas Jefferson University, Philadelphia, PA; ³Department of Pathology and Cell Biology, Columbia University, New York, NY

3023 — A0018 Loss of GLUT1 in the retinal pigment epithelium does not diminish its function, differentiation or polarity. *Ivy S. Samuels^{1,2}, A. Swarup³, C. Beight^{1,2}, J. Y. Han³, J. Soto⁴, E. D. Abel^{4,5}, N. S. Peachey^{1,2}, N. J. Philp³.* ¹Research Service, Louis Stokes VA Medical Center, Cleveland, OH; ²Department of Ophthalmic Research, Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ³Department of Pathology, Anatomy and Cell Biology, Thomas Jefferson University, Philadelphia, PA; ⁴Division of Endocrinology and Metabolism, Carver College of Medicine, University of Iowa, Iowa City, IA; ⁵Fraternal Order of Eagles Diabetes Research Center, University of Iowa, Iowa City, IA

3024 — A0019 Rebalancing RPE energy metabolism slows retinal degeneration. *Douglas Vollrath, M. Calton.* Department of Genetics, Stanford University School of Medicine, Stanford, CA

3025 — A0020 Modulation of mitochondrial respiration in hPSC-RPE. Divya Sinha^{1,3}, G. Rathnasamy^{3,2}, K. A. Toops^{3,2}, M. M. Wilson¹, R. Valiuga¹, L. Tan^{2,4}, J. T. Eells⁵, A. Lakkaraju^{2,4}, D. M. Gamm^{3,2}. ¹Waisman Center, University of Wisconsin-Madison, Madison, WI; ²Department of Ophthalmology and Visual Sciences, School of Medicine and Public Health, University of Wisconsin-Madison, Madison, WI; ³McPherson Eye Research Institute, University of Wisconsin-Madison, Madison, WI; ⁴Division of Pharmaceutical Sciences, School of Pharmacy, University of Wisconsin-Madison, Madison, WI; ⁵Department of Biomedical Sciences, University of Wisconsin-Milwaukee, Madison, WI

3026 — A0021 Estrogen effects on VEGF-A expression in Human Retinal Pigment Epithelial Cells. Diego Tapias, J. Lo, C. Chia, M. Kudisch, E. Winters, R. Lamy, J. M. Stewart. Ophthalmology, University of California San Francisco, San Francisco, CA

3027 — A0022 Abnormal blood vessel formation due to VEGFR2-expressing exosomes released from stressed RPE cells, is influenced by autophagy. Francisco J. Romero¹, S. Atienzar¹, G. Serrano-Heras², C. Ruiz de Almodovar³, J. M. Barcia¹, J. Sancho-Pelluz¹. ¹School of Medicine, Univ Catolica de Valencia, Valencia, Spain; ²General University Hospital of Albacete, Albacete, Spain; ³University Heidelberg, Heidelberg, Germany

3028 — A0023 Contact of Rod Outer Segment Tips with the RPE Triggers Glucose Transport From the RPE to Cone Photoreceptors for OS Synthesis and Function. Wei Wang¹, H. J. Kaplan¹, D. C. Dean^{1,2}. ¹Department of Ophthalmology, University of Louisville, Louisville, KY; ²James Graham Brown Cancer Center, University of Louisville, Louisville, KY

Exhibit/Poster Hall A0024-A0038

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Physiology/Pharmacology

336 Blood flow

Moderator: Krishna Patel

3029 — A0024 Alteration of ocular blood pressure and flow leads to ophthalmic vascular and neuroretinal dysfunction. Shu-Huai Tsai¹, W. Xie^{1,2}, M. Zhao^{1,2}, R. H. Rosa^{1,2}, T. W. Hein², L. Kuo^{1,2}. ¹Department of Medical Physiology, Baylor Scott & White Health, Texas A&M University Health Science Center, Temple, TX; ²Department of Ophthalmology, Baylor Scott & White Health, Texas A&M University Health Science Center, Temple, TX

3030 — A0025 Thrombin causes biphasic regulation of vascular tone in porcine retinal arteries. Kengo Takahashi, T. Nagaoka, T. Omae, S. Ono, T. Kamiya, A. Tanner, A. Yoshida. Ophthalmology, Asahikawa Medical University, Asahikawa, Japan

3031 — A0026 Optical Coherence Tomography Angiography in preperimetric and glaucomatous eyes. Teresa Rolle, L. Dallorto, M. Tavassoli, R. Nuzzi. Department of Surgical Sciences, University of Torino, Eye Clinic, Torino, Italy

3032 — A0027 Ripasudil (K-115) elicits dilation of isolated porcine retinal arterioles. Takayuki Kamiya, T. Nagaoka, M. Kawai, T. Omae, S. Nakabayashi, S. Ono, K. Takahashi, A. Tanner, A. Yoshida. Asahikawa Medical University, Asahikawa, Japan *CR

3033 — A0028 Retinal morphology and vessel oxygen saturation in normal and diabetic patients. Adam M. Dubis^{1,2}, L. Nicholson², R. Crosby-Nwaobi², P. Hykin², S. Sivaprasad². ¹Visual Neuroscience, UCL-Institute of Ophthalmology, London, United Kingdom; ²Research and Development, NIHR Biomedical Resource Centre at Moorfields Eye Hospital NHS Trust, London, United Kingdom *CR

3034 — A0029 Immunohistochemical characterization of neurotransmitters in the episcleral circulation in rats. Anja-Maria Ladek, A. Trost, C. Runge, F. Schroedel, C. Strohmaier, H. A. Reitsamer. Ophthalmology, Paracelsus Medical University, SALK, Müllner Hauptstrasse 48, 5020 Salzburg, Austria, Salzburg, Austria

3035 — A0030 Effect of anti-VEGF on retinal blood flow in diabetic mouse model. Praveen K. Balne¹, N. Khandelwal², S. Tun¹, V. A. Barathi¹, R. V. Agrawal². ¹Translational Pre Clinical Model Platform, Singapore Eye Research Institute, Singapore, Singapore; ²Tan Tock Seng Hospital, Singapore, Singapore

3036 — A0031 Ocular and cerebral hemofluid dynamics in microgravity: a mathematical model. Giovanna Guidoboni¹, F. Salerni³, A. Harris⁴, C. Prud'homme⁵, M. Szopos⁵, P. M. Pinsky⁶, R. Repetto². ¹LabEx IRMIA, Strasbourg, France; ²DICCA, University of Genova, Genova, Italy; ³Physics and Earth Sciences, University of Parma, Prma, Italy; ⁴Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ⁵Université de Strasbourg, CNRS, IRMA UMR 7501, Strasbourg, France; ⁶Mechanical Engineering, Stanford University, Stanford, CA *CR

3038 — A0033 Flicker-Induced Retinal Vasodilation in Healthy Subjects. Leopold Schmetterer^{2,1}, M. Sharifzad¹, G. Aschinger³, D. Schmidl¹, G. Garhofer¹, R. M. Werkmeister³. ¹Clinical Pharmacology, Medical University of Vienna, Vienna, Austria; ²Singapore Eye Research Institute, Singapore, Singapore; ³CMPBME, Medical University of Vienna, Vienna, Austria

3039 — A0034 Effect of Neuronal Nitric Oxide Synthase Deletion on Choroidal Blood Flow and Retinal Morphology and Function. Chunyan Li¹, C. Taylor³, N. Guley³, N. Del Mar¹, M. E. Fitzgerald^{1,2}, A. Reiner¹. ¹Anatomy & Neurobiology, Univ of Tennessee Hlth Sci Ctr, Memphis, TN; ²Biology, Christian Brothers University, Memphis, TN; ³Univ of Tennessee Hlth Sci Ctr, Memphis, TN

3040 — A0035 Retinal circulation changes with aging effect in normotensive healthy subjects. Tomofumi Tani¹, Y. Song¹, K. Sogawa¹, T. Wada¹, A. Ishibazawa¹, T. Omae¹, E. Sato¹, S. Nakamura², J. Sakai², M. Akiba², T. Yoshioka¹, A. Yoshida¹. ¹Ophthalmology, Asahikawa Medical University, Asahikawa, Japan; ²Topcon corp, Tokyo, Japan *CR

3041 — A0036 Retinal Blood Flow in Glaucomatous Eyes with Single Hemifield Damage. takafumi yoshioka¹, T. Kamiya¹, M. Kawai¹, T. Tani¹, S. Nakabayashi¹, M. Akiba², A. Yoshida¹. ¹Asahikawa Medical University, Asahikawa Medical University, Asahikawa, Japan; ²Topcon Corp, Tokyo, Japan *CR

3042 — A0037 In ovo chick chorioallantoic membrane (CAM) model to assess vascular reactivity. catherine chia, E. Winters, H. Nguyen, D. Tapias, J. hyer, J. M. Stewart, R. Lamy. Ophthalmology, University of California San Francisco, San Francisco, CA

3043 — A0038 Human Retinal Vascular Reactivity to Flickering Light and Cold Water Immersion Measured by Laser Speckle Flowgraphy. Randy Kardou^{1,2}, C. Starkey^{1,2}, J. M. Full^{1,2}, A. Ketcham^{1,2}, B. Tong³, G. Pierce⁴, S. Holwerda⁴, J. Fiedorowicz³. ¹Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ²Iowa City VA Center for the Prevention and Treatment of Visual Loss, Iowa City VA Medical Center, Iowa City, IA; ³Psychiatry, University of Iowa College of Medicine, Iowa City, IA; ⁴Health and Human Physiology, University of Iowa College of Liberal Arts, Iowa City, IA

Exhibit/Poster Hall A0298-A0351

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Cornea

337 Contact Lenses*Moderators: Debarun Dutta and Mark Willcox*

3044 — A0298 A thirteen year large-scale follow-up study into the number of prescriptions of single vision and bifocal contact lenses. - The result of age group analysis of approximately 102,000 eyes of Japanese patients over 40 years old. - *Eiichi Okada¹, N. Mizuki², A. Meguro², T. Kawagoe², T. Yamane², M. Yoshida³.* ¹Okada Eye Clinic, Yokohama, Japan; ²Department of Ophthalmology, Yokohama City University School of Medicine, Yokohama, Japan; ³Department of Public Health, Kyorin University School of Medicine, Mitaka, Japan

3045 — A0299 A fourteen year large-scale follow-up study on the distribution of astigmatic axis in Japan. -The result of analysis of the astigmatic power of approximately 550,000 eyes of Japanese patients.- *Masao Yoshida¹, N. Mizuki², A. Meguro², T. Kawagoe², T. Yamane², E. Okada³.* ¹Department of Public Health, Kyorin University School of Medicine, Mitaka, Japan; ²Department of Ophthalmology, Yokohama City University School of Medicine, Yokohama, Japan; ³Okada Eye Clinic, Yokohama, Japan

3046 — A0300 Worsening contact lens dryness associated with increased rate of cooling in symptomatic contact lens wearers. *Wing Li¹, A. Graham¹, T. Dursch², D. Yan³, M. C. Lin⁴.* ¹Clinical Research Center, School of Optometry, UC Berkeley, Berkeley, CA; ²Chemical and Biomolecular Engineering, University of California Berkeley, Berkeley, CA; ³Marshall B. Ketchum University, Fullerton, CA; ⁴Vision Science Graduate Group, University of California Berkeley, Berkeley, CA *CR

3047 — A0301 Performance Evaluation of Dailies AquaComfort Plus Toric Contact Lens. *Jami R. Kern¹, C. Wang².* ¹Global Medical Affairs, R&D, Alcon Research Ltd, Fort Worth, TX; ²Alcon, Johns Creek, GA *CR, \neq

3048 — A0302 The correlation between corneal biomechanics and corneal morphology in the early stage of overnight orthokeratology. *Renai Chen¹, H. B², X. Mao¹, M. Shen¹, J. Jiang¹, F. Lu¹.* ¹Optometry Department, The Affiliated Eye Hospital of Wenzhou Medical University, Wenzhou, China; ²College of Optometry, NOVA Southeastern University, Davie, FL

3049 — A0303 Diurnal variation of sensory and tearing responses and symptoms in symptomatic and asymptomatic contact lens wearers. *Ping Situ¹, T. L. Simpson², C. G. Begley¹, N. J. Keir³.* ¹School of Optometry, Indiana University Bloomington, Bloomington, IN; ²School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada; ³R & D, CooperVision, Pleasanton, CA *CR

3050 — A0304 Clinical Evaluation of Two Daily Disposable Contact Lenses in Neophytes. *Mary Fahmy¹, C. Wang², W. Sickenberger³, S. Marx⁴.* ¹CDMA, Alcon, Johns Creek, GA; ²Biometrics, Alcon, Johns Creek, GA; ³University of Jena, Jena, Germany; ⁴JenVis Research, Jena, Germany *CR, f

3051 — A0305 Modality of contact lens use after placement of intrastromal ring segments for corneal ectasia. *Amy C. Nau¹, L. Raju².* ¹Korb Research, Sharon, MA; ²ophthalmology, NY Langone Medical Center, New York, NY

3052 — A0306 Visual acuity and over-refraction in myopic children fitted with soft multifocal contact lenses in the BLINK Study. *David A. Berntsen¹, K. L. Schulle¹, L. T. Sinnott², K. Bickle², A. T. Gostovic¹, G. E. Pierce², L. A. Jones-Jordan², D. O. Mutti², J. J. Walline².* ¹College of Optometry, University of Houston, Houston, TX; ²College of Optometry, The Ohio State University, Columbus, OH *CR, \neq

3053 — A0307 Vision Correction Preference and Refractive Error in Presbyopes and Non-Presbyopes. *Erin Rueff¹, M. Bailey.* College of Optometry, The Ohio State University, Columbus, OH

3054 — A0308 Using detection thresholds to select ocular surface sensory panels II: Criteria based on mechanical and chemical threshold combinations. *Trefford L. Simpson¹, N. J. Keir², Y. Feng¹, W. Ngo³.* ¹School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada; ²Cooper Vision, Pleasanton, CA; ³University of Waterloo, School of Optometry & Vision Science, Centre for Contact Lens Research, Waterloo, ON, Canada

3055 — A0309 Daily soft contact lens preference and visual performance as a function of wear time and natural corneal aberrations. *Nicole M. Putnam, F. Yeh, N. Le, S. Rowan, T. Quirl, R. Potter, A. Mackelprang, W. W. Harrison.* Arizona College of Optometry, Midwestern University, Phoenix, AZ

3056 — A0310 A Neuro-Optical Model of Binocular Visual Performance in Simultaneous Vision. *Derek Nankivil, B. Wooley.* Research & Development, Johnson & Johnson Vision Care Inc., Jacksonville, FL *CR

3057 — A0311 Prosthetic Replacement of the Ocular Surface Ecosystem treatment for patients with Stuve-Weidemann Syndrome. *Buntitar Lertsuwanroj, T. H. Dohlman, M. N. Lee, K. C. Sippel, A. G. Alzaga Fernandez, E. C. Lai, J. Ciralsky.* Ophthalmology, Weill Cornell Medicine, New York, NY

3058 — A0312 Rigid gas permeable contact lens for correction of cone ectasia after corneal refractive surgery. *Zonghui Yan.* Refractive Surgery, Shenzhen Eye Hospital, Shenzhen, China

3060 — A0314 The influence of hard and soft contact lenses on tear protein profiles: A perspective through the proteomic looking glass. *Caroline Manicam, N. Perumal, Y. C. Ngongkole, A. Tschäbunin, M. Sievers, F. H. Grus, N. Pfeiffer, J. Wasilica-Poslednik, A. Gericke.* Department of Ophthalmology, University Medical Center of the Johannes Gutenberg University Mainz, Mainz, Germany

3061 — A0315 Advanced contact lenses based on cyclodextrin-decorated hydrogels for controlled release of drugs and demulcents. *Carmen Alvarez-Lorenzo¹, F. Alvarez-Rivera¹, S. Anguiano-Igea², A. Concheiro¹.* ¹Pharmacology, Pharmacy and Pharmaceutical Technology, Universidade de Santiago de Compostela, Santiago de Compostela, Spain; ²Lentimed Medical Devices S.L., Santiago de Compostela, Spain *CR

3062 — A0316 Bimodal Amphiphilic Conetworks As Therapeutic Contact Lenses For The Control Delivery Of Topical Drugs. *Maryo Kohen¹, F. Orge¹, G. Guzman², M. Cakmak².* ¹Department of Ophthalmology, Case Western Reserve University, Cleveland, OH; ²Department of Nanotechnology, Purdue University, West Lafayette, IN

3063 — A0317 Inflammatory mediator uptake and release in contact lens materials - a preliminary experimental report. *Cecilia Chao^{1,2}, K. Richdale¹, M. D. Willcox^{2,1}.* ¹Optometry, SUNY, New York, NY; ²School of Optometry and Vision Science, UNSW, Sydney, NSW, Australia

3064 — A0318 MMP-Deactivating Contact Lens for Corneal Melting. *Kyung Jae Jeong¹, C. Lopez², B. Shalek¹, J. Lee².* ¹Chemical Engineering, University of New Hampshire, Durham, NH; ²Chemistry, University of Colorado Denver, Denver, CO *CR

3065 — A0319 Antimicrobial efficacy of silver copolymerized barrel lens cases. *Ananya Datta, M. Willcox, F. Stapleton.* School of Optometry and vision Science, University of New South Wales, Sydney, Kingsford, NSW, Australia

- 3066 — A0320 The Effect of Hyaluronic Acid on the Surface Properties of Recombinant Human Proteoglycan 4 modified Model Contact Lenses.** Myrto Korogiannaki¹, M. Samsom², T. A. Schmidt^{2,3}, H. Sheardown¹. ¹Chemical Engineering, McMaster University, Hamilton, ON, Canada; ²Biomedical Engineering, University of Calgary, Calgary, AB, Canada; ³Kinesiology, University of Calgary, Calgary, AB, Canada *CR
- 3067 — A0321 Diclofenac Loaded Soft Contact Lenses: *in vitro* studies towards the development of safe and efficient devices.** Helena Filipe^{5,6}, R. Galante¹, D. Ghisleni¹, M. Braga¹, T. J. A. Pinto¹, R. Colaço^{2,3}, A. Serro^{2,4}. ¹Departamento de Farmácia, Faculdade de Ciências Farmacêuticas - Universidade de São Paulo, São Paulo, Brazil; ²Centro de Química Estrutural, Instituto Superior Técnico - Universidade de Lisboa, Lisbon, Portugal; ³Departamento de Engenharia Mecânica and IDMEC, Instituto Superior Técnico - Universidade de Lisboa, Lisbon, Portugal; ⁴Centro de Investigação Interdisciplinar Egas Moniz, Instituto Superior de Ciências da Saúde Egas Moniz, Lisbon, Portugal; ⁵Departamento de Cirurgia. Serviço de Oftalmologia, Hospital das Forças Armadas, Lisboa, Portugal; ⁶Unidade de Oftalmologia, Hospital dos SAMS, Lisboa, Portugal
- 3068 — A0322 Protein uptake by model soft contact lens materials *in vitro*: effects of surface charges and modifications.** Tatyana F. Svitova, K. F. Sommerschuh, M. C. Lin. Optometry School, Univ of California, Berkeley, Berkeley, CA
- 3069 — A0323 The Impact of Densely Grafted Phosphorylcholine on Surface Modified Model Silicone Hydrogel Lenses.** Alysha Spadafora¹, M. Koroyannaki², H. Sheardown^{2,1}. ¹Biomedical Engineering, McMaster University, Hamilton, ON, Canada; ²Chemical Engineering, McMaster University, Hamilton, ON, Canada
- 3070 — A0324 *In vitro* and on eye wettability of lotrafilcon B lenses packaged with a substantive wetting agent.** Robert C. Tucker¹, J. M. Lemp², M. Guillon³. ¹R&D, Alcon, Johns Creek, GA; ²Medical Affairs, Alcon, Fort Worth, TX; ³Ocular Technology Group, London, United Kingdom *CR, ⚡
- 3071 — A0325 New Methods for Measuring Water Transport through Hydrogel Contact Lenses.** Donald Riederer, C. Scales, B. Santa Maria, M. Ferran, Z. Fadli. R&D, Johnson and Johnson Vision Care, Inc., Jacksonville, FL *CR
- 3072 — A0326 UVC radiation in sterilization of contact lenses and its potential in the social technologies development.** Priscila Cristovam¹, R. R. Loureiro¹, V. R. dos Santos¹, K. Bauab², C. Carvalhaes², A. Andriolo², J. A. Gomes¹, D. de Freitas¹. ¹Ophthalmology and Visual Science, Federal University of Sao Paulo, São Paulo, Brazil; ²Federal University of Sao Paulo, Sao Paulo, Brazil
- 3073 — A0327 Contact lens care solutions exhibit different efficiencies in lipids and proteins removal from model SCL surfaces *in vitro*: a QCM-D study.** Meng C. Lin, K. F. Sommerschuh, T. F. Svitova. School of Optometry, University of California, Berkeley, Berkeley, CA
- 3074 — A0328 Bacterial transmission to contact lenses following storage case disinfection.** Ajay Kumar Vijay, N. G. de Jesus, J. Ong, M. D. Willcox. School of Optometry & Vision Science, University of New South Wales, Sydney, NSW, Australia *CR
- 3075 — A0329 The Effect of Artificial Tear Solution and Organic Load on the Efficacy of Contact Lens Disinfectant Solutions.** David McCanna, M. Bidar, L. Subbaraman, L. W. Jones. School of Optometry and Vision Science, Centre for Contact Lens Research, Waterloo, ON, Canada
- 3076 — A0330 Refractive index of soft contact lens materials measured in packaging solution and standard phosphate buffered saline.** Eon Kim¹, K. Ehrmann^{1,2}. ¹Technology, Brien Holden Vision Institute, Sydney, NSW, Australia; ²School of Optometry & Vision Science, University of New South Wales, Sydney, NSW, Australia
- 3077 — A0331 The effect of a novel contact lens blister pack solution on bacterial contamination during lens handling.** Inna Maltseva, K. Khong, C. Blackman, A. Luk, C. Morris. R&D, CooperVision, Inc., Pleasanton, CA *CR
- 3078 — A0332 Contact lens care - what our patients do and what they know.** Jennifer Hind, O. Williams, D. oladiwura, E. Macdonald. NHS Greater Glasgow and Clyde, Glasgow, United Kingdom
- 3079 — A0333 Adhesion of emerging pathogens to contact lenses under the influence of an artificial tear solution.** Jaya Dantam, L. Subbaraman, L. W. Jones. Centre for Contact Lens Research, School of Optometry & Vision Science, University of Waterloo, Waterloo, ON, Canada *CR
- 3080 — A0334 Modeling the limbus as an elliptical toric to optimize scleral lens fitting.** Christine W. Sindt¹, B. Lay², R. Danno², D. Slater³. ¹Ophthalmology, University of Iowa, Iowa City, IA; ²Adcis, Saint- Contest, France; ³EyePrint Prosthetics, Lakewood, CO *CR
- 3081 — A0335 Normative Scleral Lens Landing Data.** Bruno Lay¹, C. W. Sindt², D. Slater³. ¹ADCIS, Saint Contest, France; ²Ophthalmology, University of Iowa, Iowa City, IA; ³EyePrint Prosthetics, Lakewood, CO *CR
- 3082 — A0336 Do scleral lenses reduce the need for corneal transplant in some patients?** Corey Miller, A. Amireskandari, T. Mauger, C. Mundy, C. J. Roberts, M. A. Slabaugh, A. Hendershot. Department of Ophthalmology, The Ohio State University, Columbus, OH *CR
- 3083 — A0337 Scleral Lens Settling in 20 minute Intervals Over 2 Hours with Three Lens Designs.** Cherie B. Nau, M. Schornack. Optometry, Mayo Clinic, Rochester, MN
- 3084 — A0338 Outcomes of scleral contact lens use in veterans.** Humberto Salazar, P. Chamberlain, S. Khandelwal. Department of Ophthalmology, Baylor College of Medicine, Houston, TX
- 3085 — A0339 Central and Peripheral Corneal Thickness Changes during Scleral Contact Lens Wear.** Vivien Tse¹, Y. Kim¹, K. Lin¹, B. Tan¹, Y. Zhou¹, W. Li¹, M. C. Lin^{1,2}. ¹Clinical Research Center, School of Optometry, University of California, Berkeley, Berkeley, CA; ²Vision Science Group, University of California, Berkeley, Berkeley, CA *CR
- 3086 — A0340 Prediction of Central Corneal Swelling with Scleral-Lens Wear.** Young Hyun Kim^{1,2}, B. Tan¹, M. C. Lin^{1,3}, C. J. Radke^{2,3}. ¹Clinical Research Center, School of Optometry, University of California, Berkeley, Berkeley, CA; ²Chemical Engineering, University of California, Berkeley, Berkeley, CA; ³Vision Science Group, University of California, Berkeley, Berkeley, CA
- 3087 — A0341 Changes in corneal thickness and ocular aberrations associated with scleral contact lens wear in normal subjects.** Florencia Yeh, J. Baker, N. Le, T. Nguyen, M. Kwon, M. Tehseen, N. M. Putnam. Arizona College of Optometry - Midwestern University, Glendale, AZ
- 3088 — A0342 Change in Fluid Reservoir Density at 20 Minute Intervals Over 2 Hours with 3 Scleral Lens Diameters.** Muriel Schornack, C. B. Nau. Ophthalmology, Mayo Clinic, Rochester, MN
- 3089 — A0343 Development of a novel, objective metric to determine tear film stability.** Darcy Kroeker, K. van Doorn, H. Walther, L. Subbaraman, L. W. Jones. CCLR, University of Waterloo, Waterloo, ON, Canada
- 3090 — A0344 Pre-contact lens tear film kinetic measurement repeatability under normal and adverse environmental conditions.** Michel Guillon^{1,2}, K. Patel¹, R. Gupta¹, T. Patel¹, C. A. Maissa³. ¹Ocular Technology Group International, London, United Kingdom; ²School of Life and Health Sciences, Aston University, Aston, United Kingdom; ³Alcon Research, Ltd, Fort Worth, TX *CR, f
- 3091 — A0345 Tear Film Collection Method and Analysis of the Scleral Lens Tear Film Reservoir in Keratoconus Patients.** Maria Walker, R. L. Redfern, J. D. Marsack. College of Optometry, University of Houston, Houston, TX
- 3092 — A0346 Correlation between Ocular Surface Temperature and Tear Film Stability in Soft Contact Lens Wear.** Takashi Itokawa, Y. Hori, Y. Okajima, H. Iwashita. ophthalmology, Toho University Omiru Medical Center, Yokohama, Japan *CR

3093 — A0347 Relationship Of Silicon And Fluorine Contents With Water Content Of Silicone-Hydrogel Contact Lens Materials. *Terin Dupre, W. J. Benjamin.* Optometry, University of Alabama at Birmingham, Birmingham, AL *CR

3094 — A0348 Sticky Business: How Cross-Linker Content Can Have a Profound Effect on the Adhesiveness of Contact Lenses. *Charles W. Scales, S. Popwell, B. Pall, B. Johnson, T. Maggio.* R&D, Johnson & Johnson Vision Care, Inc., Jacksonville, FL *CR

3095 — A0349 In Vitro Hydrogel Friction Experiments on Corneal Cells. *Juan M. Urueña, A. A. Pitenis, T. Hormel, T. Bhattacharjee, S. L. Marshall, S. M. Hart, K. D. Schulze, T. E. Angelini, W. G. Sawyer.* Mechanical Engineering, University of Florida, Gainesville, FL *CR

3096 — A0350 In Vitro Characterization of Mucin Growth Dynamics by Confocal Fluorescence Microscopy. *Angela A. Pitenis, T. T. Hormel, T. Bhattacharjee, J. M. Urueña, W. G. Sawyer, T. E. Angelini.* Mechanical Engineering, University of Florida, Gainesville, FL *CR

3097 — A0351 Surface temperature change in soft contact lenses: an in vitro study. *Stephanie Wong⁵, E. Lum^{1,3}, A. Planaguma Cornella^{2,3}, P. J. Murphy^{3,4}, L. W. Jones⁵.* ¹School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia; ²Terrassa School of Optics and Optometry, Universitat Politècnica de Catalunya, Terrassa, Spain; ³School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada; ⁴School of Optometry and Vision Science, Cardiff University, Cardiff, United Kingdom; ⁵Centre for Contact Lens Research, School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada *CR

Exhibit/Poster Hall B0001-B0011

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Multidisciplinary Ophthalmic Imaging Group

338 Functional imaging

3098 — B0001 Functional ultrasound imaging maps the visual system in rodents with high spatial and temporal precisions. *Kévin BLAIZE¹, M. Gesnik², T. Deffieux², J. Gennisson², J. A. Sahel¹, M. Fink², M. Tanter², S. A. Picaud¹.* ¹Institut de la vision, PARIS, France; ²Biomédical, Institut Langevin, PARIS, France

3099 — B0002 Diffusion fMRI of mouse optic nerve with antidromic electrical stimulation. *Tsen-Hsuan Lin¹, W. M. Spees^{1,2}, M. Wallendorf³, Y. I. Shih⁴, A. Cross^{5,2}, S. Song^{1,2}.* ¹Radiology, Washington University School of Medicine, St. Louis, MO; ²The Hope Center for Neurological Disorders, Washington University School of Medicine, ST. Louis, MO; ³Biostatistics, Washington University School of Medicine, ST. Louis, MO; ⁴Neurology, The University of North Carolina in Chapel Hill, Chapel Hill, NC; ⁵Neurology, Washington University School of Medicine, ST. Louis, MO *CR

3100 — B0003 Visible-light Optical Coherence Tomography Oximetry in Healthy Individuals. *Hao F. Zhang^{1,2}, S. Chen¹, X. Shu², P. L. Nesper², A. A. Fawzi², W. Liu³.* ¹Biomedical Engineering, Northwestern University, Evanston, IL; ²Ophthalmology, Northwestern University, Chicago, IL; ³Opticent Inc., Evanston, IL *CR

3101 — B0004 Structural and functional human retinal imaging with a fiber-based visible light OCT ophthalmoscope. *Shau Poh Chong¹, M. T. Bernucci¹, H. Radhakrishnan¹, V. J. Srinivasan^{1,2}.* ¹Department of Biomedical Engineering, University of California, Davis, Davis, CA; ²Department of Ophthalmology and Vision Science, University of California Davis School of Medicine, Sacramento, CA *CR

3102 — B0005 Alterations in Retinal Oxygen Delivery and Metabolism due to Experimental Retinal Ischemia. *Michael R. Tan, A. Felder, N. P. Blair, M. Shahidi.* Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL

3103 — B0006 Retinal oximetry as a biomarker for Alzheimer's disease. *Valgerdur Dora D. Traustadottir¹, O. B. Olafsdottir^{1,2}, A. B. Saevarsdottir², S. H. Hardarson², J. Snaedal², E. Stefansson^{1,2}.* ¹Ophthalmology, Landspítali University Hospital, Reykjavik, Iceland; ²University of Iceland, Reykjavik, Iceland *CR

3104 — B0007 Retinal oximetry in multiple sclerosis. *Olof B. Olafsdottir^{1,2}, A. B. Einarsdottir^{3,4}, S. H. Hardarson¹, E. Stefansson^{1,2}.* ¹Ophthalmology, University of Iceland, Reykjavik, Iceland; ²Ophthalmology, Landspítali University Hospital, Reykjavik, Iceland; ³Neurology, Odense University Hospital, Odense, Denmark; ⁴Neurology, Landspítali University Hospital, Reykjavik, Iceland *CR

3105 — B0008 Repeatability and reproducibility of retinal hemodynamic parameters by using Doppler OCT. *Shenghai Huang, M. Shen, D. Zhu, C. Shi, F. Lu.* School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China

3106 — B0009 The effect of different adaptation conditions on the dynamic vessel analysis. *Sascha Klee, D. Link.* Institute of Biomedical Engineering and Informatics, Technische Universität Ilmenau, Ilmenau, Germany

3107 — B0010 Assessing live visualization of stimuli on the retina during visual function testing. *Allen W. Ingling¹, M. S. Muller¹, J. L. Clendenon¹, R. N. Gilbert², S. E. Hassan², E. J. Kollbaum², B. P. Haggerty², A. E. Elsner^{2,1}.* ¹Aeon Imaging, Bloomington, IN; ²School of Optometry, Indiana University, Bloomington, IN *CR

3108 — B0011 Retinotopic Imaging of Retinal and Cortical Structure and Function: A New Paradigm for Assessing the Visual Connectome in Health and Disease. *Jeiran Choupan¹, V. Patel¹, C. Purington¹, N. R. Stiles¹, N. Chen¹, J. I. Morgan², A. S. Bock², K. K. Gokoffski¹, J. Wang¹, M. Law¹, A. H. Kashani¹, G. K. Aguirre², J. D. Weiland¹, Y. Shi¹, B. S. Tjan¹.* ¹University of Southern California, Los Angeles, CA; ²University of Pennsylvania, Philadelphia, PA *CR

Exhibit/Poster Hall B0012-B0037

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Multidisciplinary Ophthalmic Imaging Group

339 Innovations in imaging

Moderator: Amani A. Fawzi

3109 — B0012 Second Harmonic Generation Microscopy Of The Human Cornea and Sclera In Vivo. *Francisco J. Avila, J. M. Bueno, A. Gambin, P. Artal.* Laboratorio de Óptica, Universidad de Murcia, Murcia, Spain

3110 — B0013 Enhancements to a confocal microfluorometer for lifetime spectroscopy of the cornea based on a digital frequency domain. *Kushal Shah¹, S. Damale², R. Babu², U. B. Kompella³, B. Barbieri⁴, S. P. Srinivas¹.* ¹Optometry, Indiana University, Bloomington, IN; ²Computer Science, DSCE, Bangalore, India; ³Pharmaceutical Sciences, University of Colorado, Bangalore, India; ⁴ISS, Champaign, IL *CR

3111 — B0014 Trans-corneal Fluorescence Lifetime Spectroscopy in Time Domain using a Multichannel Scalar. *McKinzie Daniels¹, T. Sushma², S. Amutha³, R. Babu³, U. B. Kompella⁴, S. P. Srinivas¹.* ¹Optometry, Indiana University, Bloomington, IN; ²Electronics and Instrumentation, DSCE, Bangalore, India; ³Computer Science, DSCE, Bangalore, India; ⁴Pharmaceutical Sciences, University of Colorado, Denver, CO

3112 — B0015 A new Raman spectrometer device for non-invasive determination of the molecular composition of the living eye. *Shuo Zhang, R. Erckens, F. Jongsma, J. de Brabander, C. Webers, T. Berendschot.* ophthalmology, University Eye Clinic Maastricht, Maastricht, Netherlands

- 3113 — B0016 Optical Coherence Tomography Angiography for Iris Vasculature Imaging.** Claudio Zeit Lobos^{1,2}, D. M. Stina², R. Kato², E. A. Novais², N. Allemann². ¹Medical Technology, Pontificia Universidade Católica de Valparaíso, São Paulo, Brazil; ²Ophthalmology, Federal University of São Paulo, São Paulo, Brazil
- 3114 — B0017 Optical system for monitoring net ocular blood flow.** Mircea Mujat, Y. Zhao, N. Iftimia, R. D. Ferguson. Physical Sciences Inc., Acton, MA *CR
- 3115 — B0018 Integrated photoacoustic microscopy and optical coherence tomography for *in vivo* imaging of choroidal neovascularization.** Chao Tian^{1,2}, A. Mordovanakis¹, W. Zhang², M. Tarnowski¹, A. Ponduri¹, X. Wang², Y. M. Paulus^{1,2}. ¹Department of Ophthalmology and Visual Sciences, The University of Michigan, Ann Arbor, MI; ²Department of Biomedical Engineering, The University of Michigan, Ann Arbor, MI
- 3116 — B0019 Immersive Virtual Reality for Live Volumetric Optical Coherence Tomography.** Mark Draelos¹, B. Keller¹, A. N. Kuo², J. A. Izatt^{1,2}. ¹Biomedical Engineering, Duke University, Durham, NC; ²Ophthalmology, Duke University, Durham, NC *CR
- 3117 — B0020 Utilization of Automated OCT in a High Volume Eye Urgent Care Setting.** Richard Kaplan, R. B. Rosen, M. Gupta. Ophthalmology, New York Eye & Ear Infirmary of Mount Sinai, New York, NY *CR
- 3118 — B0021 Detection of Nondiabetic Retinal Findings Using Remote Imaging in Telemedicine.** Hang Pham, S. Kavali, L. Akduman. Department of Ophthalmology, Saint Louis University, St. Louis, MO *CR
- 3119 — B0022 Quantified elasticity mapping of retinal tissue using acoustic radiation force optical coherence elastography.** Yueqiao (Rachel) Qu^{2,1}, Y. He^{2,1}, Y. Zhang², T. Ma^{3,4}, J. Zhu², Y. Miao², C. Dai², R. H. Silverman⁵, M. S. Humayun³, Q. Zhou^{3,4}, Z. Chen^{2,1}. ¹Biomedical Engineering, University of California, Irvine, Irvine, CA; ²Beckman Laser Institute, University of California, Irvine, Irvine, CA; ³USC Roski Eye Institute & Institute for Biomedical Therapeutics, University of Southern California, Los Angeles, CA; ⁴NIH Ultrasonic Transducer Resource Center, Department of Biomedical Engineering, University of Southern California, Los Angeles, CA; ⁵Department of Ophthalmology, Columbia University Medical Center, New York, NY *CR
- 3120 — B0023 iExaminer: a clinically proven fundus imaging system with medical education potential.** Steven G. Stockslager¹, M. Pihlblad², C. Mei³. ¹Ophthalmology, SUNY Buffalo, Amherst, NY; ²Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ³SUNY Buffalo, Jacobs School of Medicine, Buffalo, NY
- 3121 — B0024 Initial clinical experience with a novel high-speed ultra-compact handheld swept source optical coherence tomography imaging system to evaluate retinal microanatomy in adults, children and infants.** Du Tran-Viet¹, S. Mangalesh¹, F. LaRocca², D. Nankivil^{2,3}, C. Viehland², B. Keller², A. Dandridge¹, S. F. Freedman¹, J. A. Izatt², C. A. Toth^{1,2}. ¹Duke University Eye Center, Durham, NC; ²Biomedical Engineering, Duke University, Durham, NC; ³Johnson & Johnson Vision Care Inc., Jacksonville, FL *CR, f
- 3122 — B0025 Subretinal Therapy Delivery Technique Guided by Intraoperative 4-Dimensional Microscope-Integrated Optical Coherence Tomography.** Lejla Vajzovic¹, K. Sleiman¹, A. Dandridge¹, O. Carrasco-Zevallos², C. Viehland², A. Maminishkis³, J. Amaral³, K. Bharti³, C. A. Toth^{1,2}, J. A. Izatt¹. ¹Ophthalmology, Duke University Eye Center, Durham, NC; ²Department of Biomedical Engineering, Duke University, Durham, NC; ³National Eye Institute, Bethesda, MD *CR, f
- 3123 — B0026 Intraoperative microscope integrated optical coherence tomography angiography.** Christian Viehland¹, L. Vajzovic², X. Chen², O. Carrasco-Zevallos¹, B. Keller¹, C. A. Toth^{2,1}, J. A. Izatt^{1,2}. ¹Biomedical Engineering, Duke University, Durham, NC; ²Ophthalmology, Duke University, Durham, NC *CR, f
- 3124 — B0027 Incremental Enhancement of Live Intraoperative OCT Scans by Temporal Analysis.** Abouzar Eslami¹, S. Duca¹, H. Roodaki², M. Nasseri³, S. Bohnacker³, D. M. Zapp³, M. M. Maier³, J. Straub⁴. ¹Carl Zeiss Meditec, Munich, Germany; ²Technical University of Munich, Munich, Germany; ³Klinikum rechts der Isar, TUMuenchen, Munich, Germany; ⁴Carl Zeiss Meditec, Inc, Munich, CA *CR
- 3125 — B0028 Handheld and mobile oximeter in a healthy adult population.** Wouter Vehmeijer¹, S. H. Hardarson³, K. Jonkman², A. Dahan², L. Aarts², E. Stefansson², N. Schalijs-Delfos¹. ¹Ophthalmology, Leiden University Medical Center, Leiden, Netherlands; ²Anesthesiology, Leiden University Medical Center, Leiden, Netherlands; ³Ophthalmology, University of Iceland, Reykjavik, Iceland *CR
- 3126 — B0029 High-speed holographic imaging of the retina.** Michael Atlan¹, S. Meimon², L. Puyo¹, M. Fink¹, J. A. Sahel³, M. Paques³. ¹Langevin Institute, CNRS, Paris, France; ²ONERA, Paris, France; ³UPMC, Paris, France
- 3127 — B0030 Intracoronary optical coherence tomography catheter for fiber-optic endoscopic trans-vitreous optical coherence tomography of the retina to diagnose peripheral retinal tears.** Chrishan D. Gunasekera¹, J. Patel¹, P. Thomas², P. Alexander³. ¹Ophthalmology, Colchester University Hospital NHS Foundation Trust, London, United Kingdom; ²Ophthalmology, Hinchingsbrooke Health Care NHS Trust, UK, Huntingdon, United Kingdom; ³Ophthalmology, Cambridge University Hospitals NHS Foundation Trust, Cambridge, United Kingdom
- 3128 — B0031 Use of a novel ocular contact lens to aid fundal optical coherence tomography (OCT) imaging in severe keratoconus.** Elena Y. Zhu^{2,1}, A. Ioannidis², P. Harrington⁴, R. Symons^{3,2}. ¹Medical School, University of Melbourne, Docklands, VIC, Australia; ²Ophthalmology, Royal Melbourne Hospital, Parkville, VIC, Australia; ³Surgery, University of Melbourne, Parkville, VIC, Australia; ⁴Ocular Instrument Inc, Bellevue, WA *CR
- 3129 — B0032 eyeFusion: Mobile, Objective Quantification of Critical Flicker Fusion Thresholds.** Kasra Zarei^{1,2}, P. Poolman^{3,2}, M. K. Garvin^{3,2}, R. Kardon³. ¹Biomedical Engineering, University of Iowa, Coralville, IA; ²Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ³Center for the Prevention and Treatment of Visual Loss, Veterans Affairs (VA) Health Care System, University of Iowa, Iowa City, IA
- 3130 — B0033 Erythrocyte Mediated Angiography: Use of a Novel Method to Determine Erythrocyte Dynamics in the Glaucomatous Optic Nerve.** Osama Saeedi¹, M. Ou¹, S. Kalarni¹, A. Jones², L. Toledo¹, L. Im¹, H. A. Quigley³. ¹Ophthalmology, University of Maryland - Baltimore, Baltimore, MD; ²Neurology, University of Maryland, Baltimore, Baltimore, MD; ³Wilmer Eye Institute, Baltimore, MD
- 3131 — B0034 Dynamic retinal vessel analysis using a spatial light modulator for stimulation.** Dietmar Link, D. Baumgarten, S. Klee. Biomedical Engineering & Informatics, Technische Universitaet Ilmenau, Ilmenau, Germany
- 3132 — B0035 Dual wavelength Scanning Light Ophthalmoscope with concentric circle scanning.** Mathi Damodaran², K. V. Vienola², K. A. Vermeer¹, J. F. De Boer². ¹Rotterdam Ophthalmic Institute, Rotterdam, Netherlands; ²Physics and Astronomy, LaserLaB, Vrije Universiteit Amsterdam, Amsterdam, Netherlands *CR
- 3133 — B0036 Cell labeling using hybrid lipid coated gold nanorods.** Trevor J. McGill^{1,2}, D. Huang¹, J. Stoddard², M. Mackiewicz³. ¹Ophthalmology, Casey Eye Institute-OHSU, Beaverton, OR; ²Neuroscience, Oregon National Primate Research Center, Beaverton, OR; ³Portland State University, Portland, OR *CR

3134 — B0037 Use of Focus-Tunable Lenses for Flexible Focusing in OCT Systems. *Katja Schlichting, M. Arain, T. Schmoll, J. Straub.* R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR

Exhibit/Poster Hall B0038-B0076

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Glaucoma

340 Biomechanics II

Moderators: Thao D. Nguyen and Massimo A. Fazio

3135 — B0038 Use of a protective eye shield to reduce variability in and magnitude of limbal strain during simulated sleep in adults with glaucoma. *Alison Flatau^{1,2}, F. Solano³, J. L. Jefferys⁴, C. Damion², H. A. Quigley⁴.*
¹Fischell Dept. of Bioengineering, University of Maryland, College Park, MD; ²Dept. of Aerospace Engineering, University of Maryland, College Park, MD; ³Hospital Beneficência Portuguesa São Paulo, São Paulo, Brazil; ⁴Wilmer Eye Institute, Baltimore, MD *CR

3136 — B0039 Factors influencing circumpapillary retinal nerve fibre layer thickness (cRNFLT) in Northern Ireland Cohort Longitudinal Study of Ageing (NICOLA) study. *Paul McCann, R. E. Hogg, A. Azuara-Blanco, I. Young, F. Kee.* Queens University Belfast, Belfast, United Kingdom

3137 — B0040 Measurement of ocular rigidity in patients undergoing intravitreal anti-VEGF injections. *Jocelyn G. Lam, I. Luttrell, K. Rezaei, J. R. Chao, Y. Chee, L. Ding, J. C. Wen.* Ophthalmology, University of Washington, Seattle, WA

3138 — B0041 Corneal hysteresis predicts optic nerve tissue displacement in response to acute IOP elevation. *Bang V. Bui¹, F. Tanabe¹, P. Bedgood¹, A. Turpin², A. J. Anderson¹, A. M. McKendrick¹.* ¹Optometry & Vision Sciences, The University of Melbourne, Parkville, VIC, Australia; ²Department of Computing and Information Systems, The University of Melbourne, Parkville, VIC, Australia

3139 — B0042 Long-term variability of corneal hysteresis and corneal resistance factor. *Michael Sullivan-Mee, S. Katiyar, D. Pensyl.* Optometry, Albuquerque VA Med Center, Albuquerque, NM

3140 — B0043 Relative utility of central corneal thickness and corneal hysteresis for differentiating glaucomatous from glaucoma suspect eyes. *Denise Pensyl, S. Katiyar, M. Sullivan-Mee.* Albuquerque VA Medical Center, Albuquerque, NM

3141 — B0044 Corneal deformation dynamics are associated with the retinal nerve fiber layer progression rate in glaucoma suspects and early manifest glaucoma patients. *Farshad Abedi¹, A. Kolovos¹, A. Waldie¹, J. Fitzgerald¹, M. Awadalla¹, R. Casson⁵, S. L. Graham³, P. R. Healey⁴, A. Islam², M. Keane¹, J. Landers¹, J. E. Craig¹.*
¹Ophthalmology, Flinders University, Adelaide, SA, Australia; ²Swinburne University, Melbourne, VIC, Australia; ³Macquarie University, Sydney, NSW, Australia; ⁴University of Sydney, Sydney, NSW, Australia; ⁵Ophthalmology, University of Adelaide, Adelaide, SA, Australia

3142 — B0045 Biomechanical impact of the sclera on corneal deformation response to an air-puff: a finite-element study. *B. Audrey Nguyen², M. Hossain³, J. Liu^{2,1}, C. J. Roberts^{1,2}.*
¹Ophthalmology & Visual Science, The Ohio State University, Columbus, OH; ²Biomedical Engineering, The Ohio State University, Columbus, OH; ³Mechanical and Aerospace Engineering, The Ohio State University, Columbus, OH *CR

3143 — B0046 Assessment of early changes in corneal pulsation following canaloplasty in eyes with open-angle glaucoma. *Monika E. Danielewska¹, A. Kicinska², K. Lewczuk², M. Rekas², R. Iskander¹.* ¹Department of Biomedical Engineering, Wrocław University of Science and Technology, Wrocław, Poland; ²Department of Ophthalmology, Military Institute of Medicine, Warsaw, Poland

3144 — B0047 Investigation of corneal pulse response to artificial increase in intraocular pressure in rabbit eyes. *Maja M. Rogala¹, M. E. Danielewska², A. Antonczyk³, Z. Kielbowicz³, J. Detyna¹, R. Iskander².* ¹Department of Mechanics, Materials Science and Engineering, Wrocław University of Science and Technology, Wrocław, Poland; ²Department of Biomedical Engineering, Wrocław University of Science and Technology, Wrocław, Poland; ³Department of Surgery, Wrocław University of Environmental and Life Sciences, Wrocław, Poland

3145 — B0048 Comparison of ocular rigidity between eyes with open-angle glaucoma and eyes with functional trabeculectomy blebs using a novel clinical method based on high-speed OCT choroidal imaging. *Diane N. Sayah^{1,4}, J. Mazzaferri¹, L. Beaton¹, M. Hidalgo^{1,2}, F. Lalonde^{1,3}, D. Descovich¹, S. Costantino^{1,3}, M. R. Lesk^{1,3}.* ¹Centre de recherche de l'Hôpital Maisonneuve-Rosemont, Montreal, QC, Canada; ²Institut National de la Recherche Scientifique, Montreal, QC, Canada; ³Ophthalmology, Université de Montréal, Montreal, QC, Canada; ⁴École d'Optométrie, Université de Montréal, Montreal, QC, Canada *CR

3146 — B0049 Effects of dexamethasone on trabecular meshwork stiffness in mice. *Ke Wang¹, A. T. Read¹, G. Li², W. D. Stamer², C. R. Ethier¹.*
¹Coulter Department of Biomedical Engineering, Georgia Institute of Technology/Emory University, Atlanta, GA; ²Department of Ophthalmology, Duke University School of Medicine, Durham, NC

3147 — B0050 An ex vivo pigment dispersion glaucoma perfusion model. *Yalong Dang¹, S. Waxman¹, R. Loewen¹, A. Jensen¹, C. WANG^{1,2}, M. Sun³, N. Loewen¹.* ¹Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Xiangya School of Medicine, Central South University, Changsha, China; ³Department of Cell Biology, University of Pittsburgh, Pittsburgh, PA

3148 — B0051 Dynamic compensation occurs in the aqueous outflow pathway in non-human primates with experimental glaucoma. *Seth Eaton^{1,2}, V. Raghunathan^{1,3}, B. J. Christian⁴, J. T. Morgan², J. N. Ver Hoeve^{1,5}, C. C. Yang^{6,7}, H. Gong^{6,7}, C. A. Rasmussen^{1,5}, P. Miller^{1,8}, P. Russell^{1,2}, T. Nork^{1,5}, C. J. Murphy^{1,2}.* ¹Ocular Services on Demand (OSOD), Madison, WI; ²Department of Surgical and Radiological Sciences, School of Veterinary Medicine, University of California - Davis, Davis, CA; ³The Ocular Surface Institute, Department of Basic Sciences, College of Optometry, University of Houston, Houston, TX; ⁴Covance Laboratories, Inc., Madison, WI; ⁵Department of Ophthalmology and Visual Sciences, School of Medicine and Public Health, University of Wisconsin - Madison, Madison, WI; ⁶Department of Anatomy and Neurobiology, School of Medicine, Boston University, Boston, MA; ⁷Department of Ophthalmology, School of Medicine, Boston University, Boston, MA; ⁸Department of Surgical Sciences, School of Veterinary Medicine, University of Wisconsin - Madison, Madison, WI

3149 — B0052 The role of α -actinin and RhoA in the mechanical properties of Schlemm's canal cells. *Amir Yahabikashi¹, K. M. Perkumas³, C. Young Park⁴, W. Stamer^{3,5}, J. Fredberg⁴, M. Johnson^{1,2}.* ¹Biomedical Engineering, Northwestern University, Evanston, IL; ²Ophthalmology, Northwestern University, Chicago, IL; ³Ophthalmology, Duke University, Durham, NC; ⁴Public Health, Harvard University, Boston, MA; ⁵Biomedical Engineering, Duke University, Durham, NC

3150 — B0053 Nitric oxide changes the biomechanical behavior of Schlemm canal cells and HUVECs. *Rudolf Fuchshofer¹, D. Nguyen³, W. D. Stamer², M. Johnson³.* ¹Human Anatomy and Embryology, University of Regensburg, Regensburg, Germany; ²Department Of Ophthalmology, Duke University, Durham, NC; ³Departments of Biomedical Engineering, Mechanical Engineering and Ophthalmology, Northwestern University, Evanston, IL

3151 — B0054 Iris mechanical stiffness calculated using an in-vivo imaged-based finite element method in Indian patients with occludable angles post laser peripheral iridotomy. *Rouzbeh Amini¹, A. Pant¹, P. Gogte², S. K. Dorairaj³, V. Pathak-Ray².* ¹Department of Biomedical Engineering, University of Akron, Akron, OH; ²LV Prasad Eye Institute, Hyderabad, India; ³Department of Ophthalmology, Mayo Clinic, Jacksonville, FL

- 3152 — B0055 Characterization Method for the IOP-time-dependent Cornea and Sclera Biomechanics.** Gianfranco Bianco¹, L. Bruno^{2,1}, M. A. Fazio¹. ¹Ophthalmology, The University of Alabama at Birmingham, Birmingham, AL; ²Department of Mechanical, Energy and Managment Engineering, University of Calabria, Arcavacata di Rende, Italy
- 3153 — B0056 The Impact of Choroidal Swelling on Optic Nerve Head Deformation.** Andrew Feola¹, B. C. Samuels², E. Nelson³, C. R. Ethier⁴. ¹Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA; ²Ophthalmology, University of Alabama Birmingham, Birmingham, AL; ³NASA Glenn Research Center, Cleveland, OH
- 3154 — B0057 ONH Deformation in Human Eyes Using Ultrasound Speckle Tracking.** Elias Pavlatos¹, X. Pan², K. Clayson¹, R. T. Hart¹, P. Weber³, J. Liu^{1,3}. ¹Department of Biomedical Engineering, The Ohio State University, Columbus, OH; ²Center for Biostatistics, The Ohio State University, Columbus, OH; ³Ophthalmology and Visual Sciences, The Ohio State University, Columbus, OH
- 3155 — B0058 A fast method to measure the biomechanical properties of human optic nerve head tissues in vivo.** Liang Zhang^{1,2}, B. Mani^{3,4}, T. Aung^{3,5}, N. G. Strouthidis^{3,6}, M. J. Girard^{1,3}. ¹Department of Biomedical Engineering, National University of Singapore, Singapore, Singapore; ²NUS Graduate School for Integrative Sciences and Engineering, National University of Singapore, Singapore, Singapore; ³Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore; ⁴Eye-ACP, Office of Clinical, Academic and Faculty Affairs, Duke-NUS Medical School, Singapore, Singapore; ⁵Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore; ⁶NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom
- 3156 — B0059 Biomechanical Responses of Sclera and Lamina Cribrosa to IOP Change Assessed by Optical Coherence Tomography in Glaucoma Eyes.** Harry A. Quigley¹, T. D. Nguyen², S. Bedrood³, D. Midgett². ¹Ophthalmology, Johns Hopkins Wilmer Eye Inst, Baltimore, MD; ²Johns Hopkins University, Baltimore, MD; ³USC, Los Angeles, CA
- 3157 — B0060 Lamina cribrosa shape is different between humans and monkeys at baseline IOP and is changed differently with IOP elevations.** Huong Tran^{1,2}, J. Wallace¹, A. P. Voorhees¹, Z. Zhu³, B. Wang^{1,2}, K. A. Lucy⁴, J. S. Schuman⁴, M. Smith^{1,2}, G. Wollstein⁴, I. A. Sigal^{1,2}. ¹Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Department of Bioengineering, University of Pittsburgh, Pittsburgh, PA; ³Department of Mechanical and Material Science Engineering, University of Pittsburgh, Pittsburgh, PA; ⁴NYU Langone Eye Center, NYU School of Medicine, New York, NY *CR
- 3158 — B0061 Optic nerve deformations in normal enucleated human eyes in response to increased intraocular pressure.** Jonathan P. Vande Geest¹, E. Tamimi¹, J. Pyne², S. J. Howerton³. ¹Bioengineering, University of Pittsburgh, Pittsburgh, PA; ²Department of Mechanical Engineering, University of California Berkeley, Berkeley, CA; ³Department of Mechanical Engineering, University of Arizona, Tucson, AZ
- 3159 — B0062 Lamina Cribrosa Pore Convexity Predicts Neural Tissue Mechanical Insult.** Andrew P. Voorhees¹, N. Jan^{1,2}, M. Austin², J. G. Flanagan³, J. M. Sivak⁴, R. A. Bilonick¹, I. A. Sigal^{1,2}. ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Bioengineering, University of Pittsburgh, Pittsburgh, PA; ³Optometry and Vision Science, University of California Berkeley, Berkeley, PA; ⁴Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada
- 3160 — B0063 Biomechanics of Human Optic Nerve (ON) & Sheath Correlate With Connective Tissue Composition.** Andrew Shin, J. Park, A. Baig, A. Le, M. Jang, V. Poukens, J. L. Demer. Ophthalmology, Stein Eye Institute, UCLA, Los Angeles, CA
- 3161 — B0064 Between a basket and a finger trap: a unified model of posterior pole fiber architecture.** Ian A. Sigal^{1,2}, N. Jan^{1,2}, K. L. Lathrop^{1,2}, A. P. Voorhees¹. ¹Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Department of Bioengineering, University of Pittsburgh, Pittsburgh, PA
- 3162 — B0065 Stretch-Induced Collagen Bundle Uncrimping and Recruitment are Independent of Depth in Equatorial Sclera.** Jacob Wallace¹, N. Jan^{1,2}, A. Gogola¹, M. Iasella², K. L. Lathrop¹, A. P. Voorhees¹, H. Tran^{1,2}, I. A. Sigal^{1,2}. ¹Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Department of Bioengineering, University of Pittsburgh, Pittsburgh, PA
- 3163 — B0066 Removing Glycosaminoglycans Produced a Stiffer Human Optic Nerve Head.** Dan Midgett¹, H. A. Quigley², T. D. Nguyen¹. ¹Mechanical Engineering, Johns Hopkins, Baltimore, MD; ²Ophthalmology, Johns Hopkins University, Baltimore, MD
- 3164 — B0067 Determining the Efficacy of Crosslinking Stiffening Agents in Rat Sclera.** Bailey Hannon¹, I. Campbell², A. T. Read², M. T. Pardue^{2,3}, C. R. Ethier². ¹Mechanical Engineering, Georgia Institute of Technology, Atlanta, GA; ²Biomedical Engineering, Georgia Institute of Technology and Emory University, Atlanta, GA; ³Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center, Atlanta, GA
- 3165 — B0068 Optical Birefringence Correlates with Tensile Properties of Human Sclera.** Joseph Park, A. Shin, J. L. Demer. Jule Stein Eye Institute, University of California - Los Angeles, Los Angeles, CA
- 3166 — B0069 Effects of myopia and glaucoma in anterior lamina cribrosa and prelaminar scleral canal structure.** Siyun Lee¹, M. L. Heisler¹, W. Chui¹, M. V. Sarunic¹, P. J. Mackenzie², M. F. Beg¹. ¹School of Engineering Science, Simon Fraser University, Vancouver, BC, Canada; ²Department of Ophthalmology & Visual Sciences, University of British Columbia, Vancouver, BC, Canada
- 3167 — B0070 Correlations between axial length and deep optic nerve head structures in myopic eyes with and without open angle glaucoma.** Jong Chul Han. Sungkyunkwan University, Samsung Medical Center, Seoul, Korea (the Republic of)
- 3168 — B0071 Relative contributions of intracranial pressure and intraocular pressure in lamina cribrosa behavior.** Junfei Tong¹, D. Ghatge², S. Kedar^{3,2}, L. Gu¹. ¹Mechanical and Materials Engineering, University of Nebraska-Lincoln, Lincoln, NE; ²Stanley Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE; ³Neurological Sciences, University of Nebraska Medical Center, Omaha, NE
- 3169 — B0072 Quantitative measures of alteration in the astrocytic lamina of mouse optic nerve head with experimental glaucoma.** Yik Tung Tracy Ling¹, C. Nguyen², E. Cone-Kimball², M. Pease², H. A. Quigley², T. D. Nguyen¹. ¹Mechanical Engineering, Johns Hopkins University, Baltimore, MD; ²Wilmer Ophthalmological Institute, School of Medicine, Johns Hopkins University, Baltimore, MD
- 3170 — B0073 Decellularization of the porcine lamina cribrosa.** Kelsey Sadleir, C. Ardila, J. P. Vande Geest. University of Pittsburgh, Pittsburgh, PA
- 3171 — B0074 Predictions of Optic Nerve Traction Forces and Optic Nerve Head Tissue Stresses Following Horizontal Eye Movements.** Michael J. Girard^{1,2}, L. K. Fisher¹, D. Milea², J. B. Jonas³, X. Wang¹. ¹OELL, Biomedical Engineering, National University of Singapore, Singapore, Singapore; ²Singapore Eye Research Institute, Singapore, Singapore; ³Ophthalmology, Medical Faculty Mannheim, Mannheim, Germany
- 3172 — B0075 Cerebrospinal Fluid Pressure (CSFP) and the Constraints on the Optic Nerve at the Orbit Exit (CON) Can Influence Optic Nerve Head (ONH) Biomechanics.** Yi Hua¹, A. P. Voorhees¹, J. L. Grimm¹, B. Yang¹, J. S. Schuman³, I. A. Sigal^{1,2}. ¹Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Department of Bioengineering, University of Pittsburgh, Pittsburgh, PA; ³NYU Langone Eye Center, NYU School of Medicine, New York, NY

3173 — B0076 Menopause alters Ocular Biomechanics and Increases Visual Impairment in a Rat Model of Glaucoma. *Jieming Fu¹, R. S. Allen², I. Campbell^{3,2}, J. Sherwood⁴, V. Yang², A. Ottensmeyer⁵, R. Haider², C. R. Ethier³, M. T. Pardue^{2,3}, A. Feola².* ¹Chemistry, Emory University, Atlanta, GA; ²Atlanta VA Medical Center, Atlanta, GA; ³Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA; ⁴Imperial College London, London, United Kingdom; ⁵School of Medicine, Emory University, Atlanta, GA

Exhibit/Poster Hall B0205-B0227

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Lens

341 Cataractogenesis II

Moderator: Xingjun Fan

3174 — B0205 Switching Of Redox Signaling By Sulforaphane Determines Lens Epithelial Cells Fate By Hormetic Mechanisms Involving Prdx6/Nrf2 and Klf9 Pathways. *Bhavana Chhunchha¹, E. Kubo², H. Sasaki², D. P. Singh¹.* ¹Ophthalmology & Visual Sciences, University of Nebraska Medical Center, Omaha, NE; ²Ophthalmology, Kanazawa Medical University, Kanazawa, Japan

3175 — B0206 Lens-enriched transgenic expression of human aldose reductase (AKR1B1) upregulates inflammatory mediators in the eye. *J. Mark Petrash¹, B. Shieh¹, K. Chang¹, K. L. Jones².* ¹Ophthalmology, Univ of Colorado SOM, Aurora, CO; ²Biochemistry & Molecular Genetics, University of Colorado SOM, Aurora, CO

3176 — B0207 Dapagliflozin Decrease Fructose-Induced Oxidative Stress Mediated by NADPH Oxidase via a SGLT-2-Dependent Mechanism in the Lens of Type 2 DM Model. *Ying-Ying Chen^{3,1}, T. Wu^{3,1}, P. Cheng².* ¹National Yang-Ming University, Taipei, Taiwan; ²Medical Education and Research, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan; ³Ophthalmology, Kaohsiung Veterans General Hospital, Kaohsiung, Taiwan

3177 — B0208 UVR-B irradiation induces NKR-1 upregulation in ocular tissues in vivo. *Janine Groß¹, A. R. Wegener¹, M. Kronschaeger², C. Schoenfeld^{3,4}, F. G. Holz¹, L. M. Meyer^{3,1}.* ¹Ophthalmology, University of Bonn, Bonn, Germany; ²Department of Ophthalmology, Hanusch Hospital, Vienna, Austria; ³Herzog Carl Theodor Eye Clinic, Munich, Germany; ⁴Ludwig-Maximilian University Eye Clinic, Munich, Germany *CR

3178 — B0209 Function of Thioltransferase in Human Lens Epithelial Cells under Ultraviolet Radiation. *Jie Zhang, X. Zheng, H. Yan.* Department of Ophthalmology, Tangdu Hospital, Xi'an, China

3179 — B0210 Inhibition of HDAC6 suppresses epithelial-mesenchymal transition of lens epithelial cells through increasing α -tubulin acetylation. *Shan Huang, L. Wang, X. Lu, B. Chen, J. Chen, Y. Liu.* State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

3180 — B0211 Micro RNA Upregulation in Diabetic lens. *Shambhu D. Varma, K. Chandrasekaran.* Ophthal & Visual Sci & Biochem, Univ of Maryland Sch of Med, Baltimore, MD

3181 — B0212 Role of TNF alpha in senile, diabetic and traumatic cataract. *Eduardo Sebastian Arellano Arias, A. Robles-Contreras, A. B. Medina-Perez.* Fundacion Hospital Nuestra Señora de la Luz, Mexico, Mexico

3182 — B0213 Potential of CeCl₃@mSiO₂ Nanoparticles in Alleviating Diabetic Cataract Development and Progression. *Jin Yang, L. Cai, Q. Fan, Y. Lu.* Department of Ophthalmology, Eye and ENT Hospital, Fudan University, Shanghai, China

3183 — B0214 Gene Expression analysis of atopic cataract. *Sari Miyachi¹, K. Kobayashi¹, Y. Asada¹, S. Iwamoto¹, T. Funaki¹, S. Nakatani¹, N. Ebihara², A. Matsuda¹.* ¹Department of Ophthalmology, Juntendo University School of Medicine, Tokyo, Japan; ²Department of Ophthalmology, Juntendo Urayasu Hospital, Chiba, Japan

3184 — B0215 The Comparative Lens non-crystallin Disulfidome of LEGSKO Mouse and Human Cataract. *Vincent M. Monnier¹, B. Wang², X. Fan³.* ¹Pathology & Biochemistry, Case Western Reserve Univ, Cleveland, OH; ²Case Center for Proteomics and Mass Spectrometry, Case Western Reserve University, Cleveland, OH; ³Pathology, Case Western Reserve University, Cleveland, OH

3185 — B0216 Decreased levels of reduced glutathione in the lens and lens epithelial cells promote epithelial-mesenchymal transition (EMT) via activating Wnt signaling. *Zongbo WEI, X. Fan.* Pathology, Case Western Reserve Univ., Cleveland, OH

3186 — B0217 Metformin inhibits epithelial-to-mesenchymal transition in an in vitro model of posterior capsule opacification. *Jade Lasiste, D. Miyamoto, P. Zoroquain, S. Bergeron, M. N. Burnier, C. Mastromonaco.* McGill University Health Centre, Montreal, QC, Canada

3187 — B0218 β -catenin/Smad3 interaction regulates epithelial to mesenchymal transition in the lens. *Aftab Taiyab, J. A. West-Mays.* Pathology and Molecular Medicine, McMaster University, Hamilton, ON, Canada

3188 — B0219 EGFR signaling promotes TGF β -dependent epithelial-mesenchymal transition (EMT) in the lens. *Daisy Shu^{1,2}, F. J. Lovicu^{1,2}.* ¹Discipline of Anatomy & Histology, University of Sydney, Bosch Institute, Camperdown, NSW, Australia; ²Discipline of Clinical Ophthalmology and Eye Health, Save Sight Institute, Sydney, NSW, Australia

3189 — B0220 A role for the focal adhesion kinase in TGF- β 2 induced cell migration in human lens epithelial cells. *Jie Liu, J. Li, D. Xu, Y. Shao, C. Pei.* Xi'an jiaotong university, Xi'an, China

3190 — B0221 α 9 Integrin-Vimentin Linked Pathways are Positioned for Important Roles in the Regulation of Wound Healing and Fibrosis. *Alhanoof A. Alnwibit, B. Bleaken, A. Menko, J. L. Walker.* Thomas Jefferson University, Philadelphia, PA

3191 — B0222 Downregulation of Syndecan-4 prevent injury-induced capsule opacification in mouse. *Yingyan Qin, F. Luo, M. Hou, X. Bao, Y. Zhu, M. Wu.* The State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

3192 — B0223 Intraocular lens biocompatibility: a novel, objective approach. *Christina Mastromonaco¹, M. Balazsi², E. Esposito¹, J. Coblentz¹, A. Siblini¹, J. Lasiste¹, M. N. Burnier¹.* ¹MUHC McGill Ocular Pathology Laboratory, Montreal, QC, Canada; ²Engineering, Medical Parachute, Montreal, QC, Canada *CR

3193 — B0224 Influence of Substrate Chemical and Mechanical Properties on Lens Epithelial Cell Behavior. *Katelyn E. Swindle-Reilly^{1,2}, S. A. Carus¹, K. M. Schroeder¹, L. M. Shingler¹, N. K. Tran¹, H. L. Chandler³.* ¹Biomedical Engineering, The Ohio State University, Columbus, OH; ²Chemical and Biomolecular Engineering, The Ohio State University, Columbus, OH; ³College of Optometry, The Ohio State University, Columbus, OH

3194 — B0225 Prevention of posterior capsule opacification in cultured human lens capsules, through treatment with hydrogen peroxide or distilled water. *Justin Christopher C. D'Antin¹, R. I. Barraquer^{1,2}, R. Michael¹.* ¹Instituto Universitario Barraquer, Universitat Autònoma de Barcelona, Barcelona, Spain; ²Centro de Oftalmología Barraquer, Universitat internacional de Catalunya, Barcelona, Spain

3195 — B0226 Canonical Wnt activity is dynamic in the developing lens and upregulates dramatically in fibrotic lens cells. *Melinda K. Duncan, Y. Wang, P. Mahesh, Y. Wang.* Biological Sciences, University of Delaware, Newark, DE

3196 — B0227 Hyaluronic Acid and its Receptor RHAMM in an Ex Vivo Mock Cataract Surgery Model Under Fibrotic Promoting Conditions. Alison R. Romisher, A. A. Alnwibit, W. J. Vines, Y. Sharpadskaya, A. Menko, J. L. Walker. Thomas Jefferson University, Philadelphia, PA

Exhibit/Poster Hall B0330-B0348

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Retina

342 AMD Clinical Research 2

Moderator: Itay Chowers

3197 — B0330 Treat and Extend in the treatment of exsudative age related macular degeneration. Bianca Apitzsch¹, L. Fechner², C. Bormann³, A. Habermann³, U. Hammer³, T. Hammer^{2,3}. ¹Eye Center Johannisplatz, Leipzig, Germany; ²Department of Ophthalmology, University Hospital Halle (Saale), Halle (Saale), Germany; ³Eye Center Halle (Saale), Halle (Saale), Germany

3198 — B0331 Dark-adaptation in Age-related Macular Degeneration: The Influence of Health Conditions and Lifestyle Factors. Steven Mach, I. Lains, J. B. Miller, R. Mukai, D. G. Vavvas, I. K. Kim, J. W. Miller; D. Husain. Massachusetts Eye and Ear Infirmary, Boston, MA *CR

3199 — B0332 Advanced age related macular degeneration and healthy eyes: comparison between static and dynamic fixation. Erika Rigoni, C. Carnevale, S. Fragiotta, E. Vingolo. Department of Ophthalmology, "Sapienza" University of Rome, Pontinia, Italy

3200 — B0333 Benefits of Aspirin Outweigh Risks in Age-related Macular Degeneration Patients. Christine Garabetian^{2,1}, K. W. Small^{2,1}, F. Shaya^{2,1}. ¹Macula and Retina Institute, Glendale, CA; ²Molecular Insight Research Foundation, Los Angeles, CA

3201 — B0334 Aflibercept polypoidal choroidal vasculopathy treatment : Result of a prospective study. Martine Mauget-Fayssie¹, V. Vivien¹, A. Cahuzac¹, F. Coscas³, L. Castelnovo², C. Favard³, G. Michel¹, C. Français³, L. Salomon¹, B. Wolff². ¹Rothschild Foundation, PARIS, France; ²Centre Ophthalmologique Maison Rouge, Strasbourg, France; ³Centre Ophthalmologique de l'Odéon, Paris, France *CR

3202 — B0335 Spatial Mapping of Dark Adaptation Kinetics in Intermediate AMD and Reticular Pseudodrusen. Oliver J. Flynn, C. A. Cukras, B. G. Jeffrey. OGVFB, National Eye Institute, NIH, Washington, DC

3203 — B0336 Subfoveal choroidal thickness as a potential predictor of clinical response to stereotactic radiotherapy for neovascular age-related macular degeneration. Mahdy Ranjbar¹, M. Kurz¹, A. Holzhey¹, D. Rades², S. Grisanti¹. ¹Department of Ophthalmology, University of Lübeck, Lübeck, Germany; ²Department of Radiation Oncology, University of Lübeck, Lübeck, Germany

3204 — B0337 Real-world use of ranibizumab for neovascular age-related macular degeneration as determined by national health insurance coverage in Taiwan. Yi-Sheng Chang. Department of Ophthalmology, National Cheng Kung University, Tainan, Taiwan; Department of Ophthalmology, National Cheng Kung University Hospital, Tainan, Taiwan

3205 — B0338 Intraocular cytokines in neovascular age-related macular degeneration non-responder to ranibizumab treatment. Pear Pongsachareonont¹, W. Lam^{2,3}, M. Mak². ¹Ophthalmology, Chulalongkorn University and King Chulalongkorn Memorial hospital, Bangkok, Thailand; ²Department of Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada; ³Ophthalmology, University of Hong Kong, Hong Kong, Hong Kong *CR, ✗

3206 — B0339 Five-year outcomes of Polypoidal Choroidal Vasculopathy in Unaffected fellow eyes. Kunho Bae¹, E. Kim², J. Kim², S. Kang¹, S. Yu². ¹Ophthalmology, Samsung Medical Center, Seoul, Korea (the Republic of); ²Ophthalmology, Kyung Hee University Hospital, Seoul, Korea (the Republic of)

3207 — B0340 Effect of Nutrient Intake in Genetically at-Risk Participants on the Development of AMD in AREDS. Elvira Agron¹, E. Chew¹, T. E. Clemons², F. Van Asten¹. ¹National Eye Institute, Bethesda, MD; ²The EMMES Corporation, Rockville, MD

3208 — B0341 Use Of A Smart Device Mobile App For Monitoring Visual Acuity And Metamorphopsia In Patients With Diabetic Retinopathy Or Age-Related Macular Degeneration. Lawrence J. Singerman^{1,2}, R. N. Khurana³, A. M. Khanani⁴, C. Hoang⁵, R. Ivanhoe⁵, R. G. Holcomb⁵. ¹Retina Associates of Cleveland, Cleveland, OH; ²Ophthalmology, Case Western Reserve University School of Medicine, Cleveland, OH; ³Northern California Retina Vitreous Associates, San Jose, CA; ⁴Sierra Eye Associates, Reno, NV; ⁵DigiSight Technologies, Inc, San Francisco, CA *CR, ✗

3209 — B0342 Drusen area measured from color photographs compared to RPE and drusen volume from SD-OCT in eyes with AMD over one year. Ronald P. Danis, A. Domalpally, R. Trane. Ophthalmology & Visual Sciences, Univ of Wisconsin-Madison, Madison, WI *CR

3210 — B0343 A Phase 1/2 multidose, dose escalation study to evaluate RXI-109 administered by intravitreal injection to reduce the progression of subretinal fibrosis in subjects with advanced neovascular AMD (NVAMD). Michael Byrne³, N. Gagne¹, G. Hafiz², T. Mir², M. Survi¹, L. Barefoot¹, J. Cardia³, K. Bulock³, P. A. Pavco³, P. A. Campochiaro². ¹Clinical, RXI Pharmaceuticals, Marlborough, MA; ²Wilmer Eye Institute, Baltimore, MD; ³RXi Pharmaceuticals, Marlborough, MA *CR, ✗

3211 — B0344 Complexities in interpreting subretinal fluid on spectral-domain optical coherence tomography in intermediate age-related macular degeneration. Jia Jia Lek^{1,2}, E. Baglin^{1,2}, P. Sivarajah^{1,2}, E. Caruso^{1,2}, R. Smallwood³, M. Ayres³, L. Hodgson^{1,2}, C. D. Luu^{1,2}, R. H. Guymer^{1,2}. ¹Centre of Eye Research Australia, Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia; ²Department of Surgery (Ophthalmology), University of Melbourne, Melbourne, VIC, Australia; ³Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia

3212 — B0345 ERG/EOG Study in AMD Patients Treated with Ranibizumab (RAPTR). Abdhish R. Bhavsar. Retina Center, Minnesota, Medina, MN *CR, ✗

3213 — B0346 Correlation between retinal function and microstructural foveal changes in intermediate age related macular degeneration. Serena Fragiotta, C. Carnevale, A. Cutini, E. Rigoni, E. Vingolo. University of Rome Sapienza, Latina, Italy

3214 — B0347 Content validity of the NEI VFQ-25 in patients with geographic atrophy. Sobha Sivaprasad¹, I. Sumer², R. Guymer^{3,4}, A. M. Jousseaume⁵, P. Lanzetta⁶, E. Tschosik⁷, A. Kapre⁷, D. Ferrara⁷. ¹Biomedical Research Centre, Moorfields Eye Hospital, London, United Kingdom; ²Retina Associates of Florida, Tampa, FL; ³Centre for Eye Research Australia, East Melbourne, VIC, Australia; ⁴The Royal Victorian Eye and Ear Hospital, East Melbourne, VIC, Australia; ⁵Charité - Universitätsmedizin Berlin, Berlin, Germany; ⁶University of Udine, Udine, Italy; ⁷Genentech, Inc., South San Francisco, CA *CR

3215 — B0348 Antiplatelet and anticoagulant drugs do not affect visual acuity in neovascular age-related macular degeneration. The BRAMD Study. Gabriëlle H. Buitendijk¹, A. M. Schuurwieghe², J. R. Vingerling¹, R. Schlingemann^{2,3}, C. Klaver^{1,4}. ¹Ophthalmic Epidemiology, Erasmus MC, Rotterdam, Netherlands; ²Ophthalmology, Academic Medical Center, Amsterdam, Netherlands; ³Netherlands Institute for Neurosciences, Amsterdam, Netherlands; ⁴Ophthalmology, Radboud University Nijmegen Medical Center, Nijmegen, Netherlands *CR, ✗

Exhibit/Poster Hall B0349-B0396

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Retina

343 Retinitis pigmentosa (clinical)

Moderators: Stephen H. Tsang and Yasuhiro Ikeda

3216 — B0349 EZ Width Reflects Disease Severity in adRP Patients with PRPF31 Gene Mutations. Kaylie Webb-Jones¹, M. Klein¹, S. J. Bowne², L. S. Sullivan², S. P. Daiger^{2,4}, D. G. Birch^{1,3}. ¹Retina Foundation of the Southwest, Dallas, TX; ²Human Genetics Center, School of Public Health, The Univ. of Texas Health Science Center, Houston, TX; ³Dept. Ophthalmology, Univ. of Texas Southwestern Medical Center, Dallas, TX; ⁴Ruiz Dept. of Ophthalmology and Visual Science, The Univ. of Texas Health Science Center, Houston, TX

3217 — B0350 Reversal of Cystoid Macular Edema in Gyrate Atrophy Patients. Dan Heller¹, C. Weiner^{2,3}, I. Nasie², Y. Anikster⁴, Y. Landau⁴, T. Koren², R. Pokroy¹, A. Abulafia¹, E. Pras^{1,2}. ¹Department of ophthalmology, Assaf Harofe Medical center, Rehovot, Israel; ²Matlow's Ophthalmogenetic laboratory, Assaf Harofe Medical Center, Zerifin, Israel; ³Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; ⁴Metabolic Diseases Unit, Edmond and Lily Safra Children's Hospital, Sheba Medical Center, Tel-Hashomer, Israel

3218 — B0351 Course of visual field changes in retinitis pigmentosa patients followed by Humphrey Field Analyzer 10-2 program. Akira Sayo, S. Ueno, A. Nakanishi, T. Kominami, M. Okado, H. Terasaki. Ophthalmology, Nagoya University Graduate School Of Medicine, Nagoya, Japan

3219 — B0352 Clinical Characteristics of a Large Cohort of Patients with Retinitis Pigmentosa due to Biallelic FAM161A Mutations. Avigail Beryozkin, S. Khateb, C. Idrobo, M. Hanany, A. Obolensky, D. Sharon, E. Banin. Ophthalmology, Hadassah Hebrew university, Jerusalem, Israel, Jerusalem, Israel

3220 — B0353 Optical Coherence Tomography Angiography Assessment of Retinal Degeneration in Patients with Retinitis Pigmentosa. Ramiro Maldonado, W. M. Zein, R. B. Hufnagel, B. P. Brooks, L. Huryn. Ophthalmic Genetics, National Eye Institute, Bethesda, MD

3221 — B0354 Intravitreal dexamethasone 0.7mg implants for the treatment of Retinitis Pigmentosa-associated cystoid macular edema. Margaret Reynolds, J. Abou Chehade, R. Iezzi. Ophthalmology, Mayo Clinic, Rochester, MN

3222 — B0355 Clinical characterization of an uncommon ABCA4 mutation in Mexican Population. Rodrigo Matsui, S. Lopez-Rubio, O. Chacon, J. Zenteno Ruiz. Retina, Institute of Ophthalmology, Mexico City, Mexico

3223 — B0356 Hearing Loss as a Prognostic Indicator of Visual Function in USH2A-associated Retinal Degeneration. Jesse D. Sengillo^{1,2}, T. Cabra^{3,4}, K. Schuerch¹, J. K. Duong⁵, W. Lee¹, K. Boudreaux^{1,6}, S. Justus¹, Y. Xu^{1,7}, J. R. Sparrow¹, V. B. Mahajan^{8,9}, S. H. Tsang^{1,10}. ¹Ophthalmology, Columbia University, New York, NY; ²College of Medicine, SUNY Downstate Medical Center, Brooklyn, NY; ³Ophthalmology, Federal University of Espirito Santo, Vitória, Brazil; ⁴Ophthalmology, Federal University of São Paulo, São Paulo, Brazil; ⁵Biostatistics, Columbia University, New York, NY; ⁶Ophthalmology, University of Montreal, Montreal, QC, Canada; ⁷Ophthalmology, Xin Hua Hospital, affiliate of Shanghai Jiao Tong University School of Medicine, Shanghai, China; ⁸Ophthalmology & Visual Sciences, University of Iowa, Iowa City, IA; ⁹Omics Laboratory, University of Iowa, Iowa City, IA; ¹⁰Pathology & Cell Biology, Institute of Human Nutrition, Columbia University, New York, NY

3224 — B0357 Dysplasia and degeneration in NR2E3 retinopathy: an imaging study. Rola Ba-Abbad^{1,2}, A. Vincent¹, A. M. Dubis^{2,3}, K. MacNeill¹, E. Heon¹. ¹Department of Ophthalmology and Vision Sciences, Hospital for Sick Children, Toronto, ON, Canada; ²Institute of Ophthalmology, University College London, London, United Kingdom; ³National Institute for Health Research & Biomedical Research Centre, Moorfields Eye Hospital, London, United Kingdom

3225 — B0358 Clinical And Genetic Evaluation In A Cohort Of Pediatric Patients With Inherited Retinal Dystrophies. Raffaella Brunetti-Pierri¹, M. Filippelli¹, F. Testa¹, V. Di Iorio¹, G. Di Fruscio², V. Nigro³, M. Pizzo³, N. Brunetti-Pierri⁴, S. Banfi^{2,3}, F. Simonelli¹. ¹Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences, Second University of Naples, Naples, Italy, Napoli, Italy; ²Medical Genetics, Department of Biochemistry, Biophysics and General Pathology, Second University of Naples, Naples, Italy, Napoli, Italy; ³Telethon Institute of Genetics and Medicine, Pozzuoli (NA), Italy, Napoli, Italy; ⁴Department of Translational Medicine, Federico II University, Naples, Italy, Napoli, Italy

3226 — B0359 Classification of cones across the transition zone in retinitis pigmentosa based on AO-OCT signature. Ayoub Lassoued, Z. Liu, K. Kurokawa, J. Cromwell, D. T. Miller. Optometry, Indiana University-Bloomington, Bloomington, IN

3227 — B0360 Genotype-phenotype correlations in patients with Usher syndrome type 2 harboring mutations in USH2A and ADGRV1. Marko Hawlina¹, A. Fakin¹, C. Bonnet⁵, A. Kurtenbach², S. Mohand-Said^{5,3}, D. Zabor², M. Jarc-Vidmar¹, K. Stingl², F. Testa⁴, F. Simonelli⁴, J. Sahe^{1,3}, I. S. Audo^{5,3}, E. Zrenner², C. Petit^{5,6}. ¹Eye Hospital, University Medical Centre Ljubljana, Ljubljana, Slovenia; ²Centre for Ophthalmology, Institute for Ophthalmic Research, University of Tuebingen, Tuebingen, Germany; ³Centre d'Investigation Clinique, Direction de l'Hospitalisation et de l'Organisation des Soins, Centre Hospitalier National d'Ophtalmologie des Quinze-Vingts, Paris, France; ⁴Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences Second University of Naples, Naples, Italy; ⁵Institut de la Vision, UMRS 1120 INSERM/UPMC, Paris, France; ⁶Institut Pasteur, Collège de France, Paris, France *CR

3228 — B0361 Longevity of Visual Improvements following Transcorneal Electrical Stimulation (TES) and Efficacy of Retreatment in Retinitis Pigmentosa subjects. Rachel M. Salvesson, A. K. Bittner, K. R. Seger. Nova Southeastern University, Davie, FL *CR, ✗

3229 — B0362 Optical coherence tomography examination of the retinal pigment epithelium and vitelliform lesions in Best vitelliform macular dystrophy. Cynthia X. Qian^{1,2}, D. Charran³, C. R. Strong¹, T. J. Steffens¹, T. Jayasundera¹, J. Heckenlively¹. ¹Ophthalmology, Kellogg Eye Center, Ann Arbor, MI; ²University of Montreal, Montreal, QC, Canada; ³Instituto de Patologia Ocular en Santo Domingo, Santo Domingo, Dominican Republic

3230 — B0363 Whole exome sequencing reveals DFNB31 mutations associated with mild conerod dystrophy and sensorineural hearing loss in Japanese family. Shuhei Kameya¹, D. Kubota¹, S. Kikuchi¹, K. Gocho¹, K. Akeo¹, K. Yamaki¹, H. Takahashi². ¹Ophthalmology, Chiba Hokusoh Hosp Nippon Med Sch, Inba, Japan; ²Ophthalmology, Nippon Medical School, Sendagi, Japan

3231 — B0364 Necrotic Enlargement of Cone Photoreceptor Cells and the Release of High-mobility Group Box-1 in Retinitis Pigmentosa. Yusuke Murakami, Y. Ikeda, S. Nakatake, J. Funatsu, T. Tachibana, K. Fujiwara, S. Nakao, T. Hisatomi, S. Yoshida, T. Ishibashi, K. Sonoda. Department of Ophthalmology, Kyushu University, Fukuoka, Japan

- 3232 — B0365 Interocular Symmetry of Rod and Cone Topography in Human *ORF15-RPGR-XLRP* Disease Despite Large Intraretinal, Intrafamilial and Interfamilial Variation.** *Artur V. Cideciyan¹, J. Charnig¹, S. G. Jacobson¹, A. Sumaroka¹, S. B. Schwartz¹, M. Swider¹, A. J. Roman¹, R. Sheplock¹, M. Anand², M. C. Peden³, H. Khanna³, E. Heon⁴, A. F. Wright⁵, A. Swaroop⁶.* ¹Dept of Ophthalmology, Scheie Eye Institute, Univ of Pennsylvania, Philadelphia, PA; ²Department of Ophthalmology, University of Massachusetts Medical School, Worcester, MA; ³Retina Associates of Florida, Tampa, FL; ⁴Department of Ophthalmology and Vision Sciences, The Hospital for Sick Children, Toronto, ON, Canada; ⁵MRC Human Genetics Unit, Edinburgh, United Kingdom; ⁶Neurobiology-Neurodegeneration & Repair Laboratory, National Eye Institute, Bethesda, MD *CR
- 3233 — B0366 Retinal sensitivity in Retinitis Pigmentosa patients, MP3 Study.** *Enzo Maria Vingolo¹, S. Fragiotta¹, S. scalinci², P. G. Limoli², V. de rosa¹.* ¹UOC Ophthal Hosp “A. Fiorini” Terracina, Clinica Oculistica del Policlinico Umberto I di Ro, Roma, Italy; ²Department Of Ophthalmology, University of Bologna, Bologna, Italy; ³Centro Studi Ipvisione, Milan, Italy
- 3234 — B0367 SAG (S-antigen visual arrestin-1) mutations cause autosomal dominant retinitis pigmentosa (adRP) without the Oguchi disease phenotype.** *David G. Birch^{1,2}, K. Webb-Jones¹, M. Klein¹, R. Chen³, L. S. Sullivan⁴, S. J. Bowne⁴, S. P. Daiger^{4,5}.* ¹Retina Foundation of the Southwest, Dallas, TX; ²Ophthalmology, University of Texas Southwestern Medical Center, Dallas, TX; ³Baylor College of Medicine, Houston, TX; ⁴Human Genetics Center, University of Texas Health Science Center, Houston, TX; ⁵Ruiz Dept of Ophthalmology, University of Texas Health Science Center, Houston, TX
- 3235 — B0368 Efficacy of Additional Topical Betamethasone in Persistent Cystoid Macular Edema after Carbonic Anhydrase Inhibitor Treatments in Retinitis pigmentosa.** *Shohei Kitahata^{1,2}, Y. Hiram³, S. Takagi³, M. Fujiwara³, Y. Kurimoto³, M. Takahashi¹.* ¹Retinal Regeneration Center for Developmental Biology, Riken Center For Developmental Biology, Kobe, Japan; ²Graduate School of Meidicine, Graduate School of Medicine and Faculty of Medicine Kyoto University, Kyoto, Japan; ³Ophthalmology, Kobe City Medical Center General Hospital, Kobe, Japan
- 3236 — B0369 Retinitis pigmentosa-associated cystoid macular edema has inflammatory optical density characteristics.** *Tomer Batash¹, H. Newman¹, A. Barak¹, S. Zayit-Soudry², E. Pras³, E. Banin⁴, M. Politis⁴, A. Loewenstein¹, M. Neudorfer¹.* ¹Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; ²Rambam Health Care Campus, Haifa, Israel; ³Assaf Harofeh Medical Center, Tzrifin, Israel; ⁴Hadassah Medical Center, Jerusalem, Israel
- 3237 — B0370 Assessment of Interocular Disease Progression in Retinitis Pigmentosa GTPase Regulator (*RPGR*)-associated Retinopathy with Quantitative Fundus Autofluorescence (FAF) Image Analysis.** *James Tee^{1,2}, M. Michaelides^{1,2}.* ¹Medical Retina, Moorfields Eye Hospital, London, United Kingdom; ²Institute of Ophthalmology, University College London, London, United Kingdom *CR
- 3238 — B0371 Analysis of *RP2* And *RPGR* Mutations in Five X-Linked Chinese Families With Retinitis Pigmentosa.** *Ningdong Li.* Ophthalmology, Beijing Children Hospital, Beijing, China
- 3239 — B0372 Novel *RPGRIP1* mutation in Leber congenital amaurosis patients.** *Imen Habib^{1,2}, Y. Falfouf¹, A. Chebi¹, L. El Matri², D. F. Schorderet¹.* ¹Institute for Research in Ophthalmology, Sion, Switzerland; ²Department B of Ophthalmology, Research Laboratory of Oculogenetic (LR14SP01), Hedi Rais Institute of Ophthalmology, Tunis, Tunisia
- 3240 — B0373 Mevalonate Kinase Deficiency Associated With Ataxia And Retinitis Pigmentosa In 2 Brothers With *MVK* Gene Mutations (c.59A>C, c.1000G>A).** *Ulrich Kellner^{3,1}, H. Stoehr², S. Weinitz^{3,1}, G. Farmand³, W. H. Bernhard².* ¹RetinaScience, Bonn, Germany; ²Institut für Humangenetik, Universität Regensburg, Regensburg, Germany; ³MVZ ADTC Siegburg GmbH, Rare Retinal Disease Center, AugenZentrum Sgeburg, Siegburg, Germany
- 3241 — B0374 Choroidal Morphology and Circulation in Early Retinitis Pigmentosa in the Young, based on Evaluation of Enhanced Depth Imaging Optical Coherence Tomography and Optical Coherence Tomography Angiography.** *Naohiro Motozawa.* Kobe City Medical Center General Hospital, Kobe, Japan
- 3242 — B0375 The relationship between the retinal structure and visual field measured with the microperimetry: MP-3, in patients with retinitis pigmentosa.** *Yuichi Asahina, H. Murata, R. Obata, T. Inoue, R. Asaoka.* Ophthalmology, University of Tokyo, Tokyo, Japan
- 3243 — B0376 Risk factors for Posterior Subcapsular Cataract in Retinitis Pigmentosa.** *Jun Funatsu, K. Fujiwara, Y. Ikeda, Y. Murakami, S. Nakatake, T. Tachibana, N. Yoshida, S. Nakao, T. Hisatomi, S. Yoshida, T. Ishibashi, K. Sonoda.* Kyushu university, Fukuoka, Japan
- 3244 — B0377 Central visual function over two-year follow-up of patients with *RLBP1* retinitis pigmentosa enrolled in a prospective Natural History Study.** *Kalliopi Stasi¹, M. Wald¹, M. Burstedt², J. Green³, J. Whelan³, M. Rosol¹, X. Ni¹, Z. Su¹, J. Deslandes¹, C. L. Grosskreutz¹, K. Holopigian¹.* ¹NIBR, Cambridge, MA; ²Umeå University, Umeå, Sweden; ³Memorial University of Newfoundland, St. John's, NF, Canada *CR
- 3245 — B0378 Dark Adaptation Testing in Retinitis Pigmentosa Patients using the AdaptDx.** *Tracey Topacio¹, A. K. Bittner².* ¹College of Osteopathic Medicine, Nova Southeastern University, Davie, FL; ²Nova Southeastern University, Davie, FL *CR, X
- 3246 — B0379 Humphrey visual field and flicker electroretinogram changes over two-year follow-up in patients with *RLBP1* retinitis pigmentosa enrolled in a prospective Natural History Study.** *Karen Holopigian¹, J. Green², J. Whelan³, M. Burstedt⁴, Z. Su¹, J. Deslandes¹, X. Ni¹, M. Wald¹, C. L. Grosskreutz¹, K. Stasi¹.* ¹NIBR, East Hanover, NJ; ²Memorial University of Newfoundland, St. John's, NF, Canada; ³Memorial University of Newfoundland, St. John's, NF, Canada; ⁴Umea University, Umea, Sweden *CR
- 3247 — B0380 TLR4 deficiency delays photoreceptor cell loss and visual function decline in the *rd10* mouse model of retinitis pigmentosa.** *Catalina Hernandez- Sanchez¹, A. Sanchez-Cruz^{1,2}, P. de la Villa³, L. Ignacio², E. J. De La Rosa¹.* ¹Molecular and Cellular Medicine, Centro De Investigaciones Biologicas (CSIC), Madrid, Spain; ²Universidad Complutense de Madrid, Madrid, Spain; ³Universidad de Alcalá de Henares, Alcalá de Henares, Spain
- 3248 — B0381 Retinal structure evaluation using spectral domain optical coherence tomography in patients with Syndromic and Non-Syndromic forms of Retinitis Pigmentosa due to *USH2A* gene mutations.** *Giulia Torregrossa¹, L. Colombo², G. Montesano¹, F. patelli², L. M. Rossetti^{1,2}.* ¹Università Statale di Milano, Milano, Italy; ²ASST Santi Paolo e Carlo - Ospedale San Paolo, Milano, Italy
- 3249 — B0382 Full-field stimulus threshold dark-adaptation kinetics over two-year follow-up in patients with *RLBP1* retinitis pigmentosa enrolled in a prospective Natural History Study.** *Xiao Ni¹, M. Wald¹, M. Burstedt², J. Green³, J. Whelan³, Z. Su¹, J. Deslandes¹, C. L. Grosskreutz¹, K. Stasi¹, K. Holopigian¹.* ¹Novartis Institutes for BioMedical Research, Cambridge, MA; ²Umeå University, Umeå, Sweden; ³Memorial University of Newfoundland, St. John's, NF, Canada *CR
- 3250 — B0383 Volumetric assessment of scotopic visual field sensitivity in retinitis pigmentosa.** *Lea D. Bennett¹, R. G. Weleber², T. B. Smith³, M. Klein¹, D. G. Birch¹.* ¹Retina Foundation of the Southwest, Dallas, TX; ²Oregon Health and Science University, Portland, OR *CR
- 3251 — B0384 Cross-sectional evaluation of patient-reported outcomes (PROs) in patients with *RLBP1* retinitis pigmentosa enrolled in a Natural History Study.** *Anmol Mullins¹, M. Burstedt², J. Green³, J. Whelan³, B. Sloesen¹, X. Ni¹, Z. Su¹, M. Wald¹, C. L. Grosskreutz¹, K. Stasi¹, K. Holopigian¹, J. Deslandes¹.* ¹NIBR, Novartis, Cambridge, MA; ²Umeå University, Umeå, Sweden; ³Memorial University of Newfoundland, St. John's, NF, Canada *CR

3252 — B0385 Hyper reflective foci represent decreased fundus auto fluorescence in eyes with retinitis pigmentosa. *Yosuke Nagasaka, Y. Ito, S. Ueno, H. Terasaki.* Ophthalmology, Nagoya University Graduate school of Medicine, Nagoya, Japan

3253 — B0386 Vitreo-macular interface alterations in retinitis pigmentosa patients determined by spectral domain optical coherence tomography. *Carmela Carnevale, S. Fragiotta, E. Rigoni, E. Vingolo.* Ophthalmology, Sapienza University of Rome, Fondi, Italy

3254 — B0387 Baseline characteristics of patients with *RLBP1* retinitis pigmentosa enrolled in a prospective Natural History Study. *Jane Green¹, M. Burstedt², J. H. Whelan³, Y. He⁴, Z. Su⁴, X. Ni⁴, M. Wald⁴, G. Normand⁴, J. Deslandes⁴, C. L. Grosskreutz⁴, K. Holopigian⁴, K. Stasi⁴.* ¹Medical Genetics, Memorial University, Memorial Univ of Newfoundland, Middle Cove, NF, Canada; ²Umea University, Umea, Sweden; ³Surgery (Ophthalmology), Memorial University, Memorial University of Newfoundland, St. John's, NF, Canada; ⁴Novartis, Cambridge, MA *CR

3255 — B0388 Longitudinal evaluation of optical coherence tomography and color fundus photography over 2 year follow up in patients with *RLBP1* retinitis pigmentosa. *James H. Whelan¹, G. Normand², M. Maker², M. Burstedt³, J. Green¹, M. Wald², Z. Su², X. Ni², K. Holopigian², C. L. Grosskreutz², K. Stasi².* ¹Surgery/Ophthalmology, Memorial University, St. John's, NF, Canada; ²Novartis Institute of BioMedical Research, Cambridge, MA; ³Umea University, Umea, Sweden *CR

3256 — B0389 OCT Angiography and Correlation with Macular Structure and Function in Retinitis Pigmentosa. *Sandeep Grover, K. Sambhav.* Ophthalmology, University of Florida College of Medicine, Jacksonville, FL

3257 — B0390 Intrafamilial Phenotype Variation Associated with *BBS1* Met390Arg. *Conor P. Malone¹, M. Carrigan², K. Collins¹, H. Dempsey¹, A. Dockery², G. J. Farrar², P. F. Kenna^{2,1}.* ¹Research Foundation, Royal Victoria Eye and Ear Hospital, Dublin 2, Ireland; ²Ocular Genetics Unit, School of Genetics and Microbiology, Trinity College Dublin, Dublin, Ireland

3258 — B0391 5-year progression of retinal disease using spectral domain oct in sibling affected by Retinitis Pigmentosa. *Giovanni Esposito¹, L. colombo², G. montesano¹, M. Capitant¹, F. patelli², L. M. Rossetti^{1,2}.* ¹Università Statale di Milano, Milano, Italy; ²ASST Santi Paolo e Carlo - Ospedale San Paolo, Milano, Italy

3259 — B0392 Progressive Loss of Rod Sensitivity in Patients with Autosomal Dominant Retinitis Pigmentosa (adRP) due to RHO Pro23His Mutation. *Kirsten G. Locke¹, S. Duwel², A. V. Cideciyan³, D. B. McGuigan³, A. Iannaccone⁴, J. Heckenlively⁵, S. G. Jacobson³, M. McCaleb⁶, D. G. Birch¹.* ¹Retina Foundation of the Southwest, Dallas, TX; ²Emmes Corporation, Rockville, MD; ³Scheie Eye Institute, Univ of Pennsylvania, Philadelphia, PA; ⁴Ophthalmology, Duke University, Durham, NC; ⁵Ophthalmology, Univ of Michigan, Ann Arbor, MI; ⁶Ionis Pharmaceuticals, Carlsbad, CA *CR

3260 — B0393 Fundus Findings Associated with Complications in X-Linked Retinoschisis. *Abigail Fahim¹, N. Ali², T. Blachley¹, M. Michaelides².* ¹University of Michigan, Ann Arbor, MI; ²Moorfields Eye Hospital, London, United Kingdom

3261 — B0394 Pilot Study to Evaluate Oral Minocycline as a Treatment for Cystoid Macular Edema Associated with Retinitis Pigmentosa. *Catherine A. Cukras, J. Singaravelu, J. Alvarez, W. T. Wong.* National Eye Institute, NIH, Bethesda, MD f

3262 — B0395 Peripheral pigmented lesions in Stargardt disease. *Maria Fernanda Abalem^{1,2}, P. Zhao¹, D. Nadelman¹, C. X. Qian¹, K. E. Branham¹, D. Schlegel¹, N. W. Khan¹, J. R. Heckenlively¹, T. Jayasundera¹.* ¹Kellogg Eye Center, University of Michigan, Ann Arbor, MI; ²Ophthalmology Department, University of Sao Paulo, Sao Paulo, Brazil

3263 — B0396 Survival and functionality of iPSC-RPE cultured as a polarized monolayer on ultrathin parylene assessed in a new immunodeficient RCS rat model. *Biju Thomas^{1,4}, Y. Shad⁵, J. C. Martinez^{1,4}, N. Singh¹, Y. Kim¹, S. Freeman¹, S. A. Mu¹, V. Shastri¹, K. Bharti², M. S. Humayun^{1,4}, D. R. Hinton³, D. Zhu³.* ¹Ophthalmology, USC Eye Institute, Chino Hills, CA; ²National Eye Institute, Bethesda, MD; ³Pathology, Keck School of Medicine, University of Southern California, Los Angeles, CA; ⁴USC Institute for Biomedical Therapeutics, Los Angeles, CA; ⁵McMaster University, Hamilton, ON, Canada

Exhibit/Poster Hall B0397-B0436

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Low Vision Group

344 Functioning with Low Vision

Moderator: Joanne Wood

3264 — B0397 The MeyeSight Visual Fitness App. *August Colenbrander¹, D. C. Fletcher¹, H. Shen¹, S. Carduner².* ¹Smith-Kettlewell Eye Res Inst, Novato, CA; ²Open Mind Foundation, Sherwood, MD

3265 — B0398 The Impact of a Novel Artificial Vision Device (OrCam) on the Quality of Life of Participants with End-Stage Glaucoma. *Joshua Newman², M. Waisbourd¹, L. A. Hark¹, D. Robinson¹, L. Katz¹.* ¹Glaucoma Research, Wills Eye Hospital, Philadelphia, PA; ²Sidney Kimmel Medical College, Philadelphia, PA

3266 — B0399 The MeyeSight App for Screening of Visual Acuity, Contrast Vision, and the Central Visual Field. *Kimberly Tang¹, G. R. Slean¹, A. Colenbrander^{2,1}.* ¹California Pacific Medical Center, San Francisco, CA; ²Smith-Kettlewell Eye Research Institute, San Francisco, CA

3267 — B0400 The impact of using eSight Eyewear on functional vision and oculo-motor control in low vision patients. *Marie-Celine Lorenzini, J. Jarry, W. Wittich.* Optometry, Université de Montreal, Montreal, QC, Canada *CR

3268 — B0401 VA Low-Vision Intervention Trial II (LOVIT II): One-Year Outcomes. *Joan Stelmack^{1,2}, X. Tang¹, Y. Wei¹, S. Sayers¹, R. W. Massof¹.* ¹Hines VA Hospital, Hines, IL; ²Ophthalmology, Illinois Eye & Ear Infirmary, Chicago, IL; ³Wilmer Eye Institute, Johns Hopkins, Baltimore, MD x

3269 — B0402 Design and in-office evaluation of a customizable Low Vision Tele-Rehabilitation Program. *Valeria Silvestri, M. Sulfaro, P. Piscopo, M. Guidobaldi, F. M. Amore.* National Centre of Services and Research for the Prevention of Blindness and Rehabilitation of Low Vision Patients, International Agency Prevention Blindness, Italia, Rome, Italy

3270 — B0403 Profile of acceptance of low vision aids in eye diseases. *Akanksha Prasad.* Icare Eye Hospital, New Delhi, India

3271 — B0404 Determining success of the OrCam MyEye/MyReader in patients with visual impairment. *Wing Yip^{1,2}, Z. stoev^{1,3}.* ¹Illinois college of optometry, Forest Park, IL; ²chicago lighthouse, Chicago, IL; ³Spectrios institute for vision rehabilitation, Wheaton, IL

3272 — B0405 Providers' Ratings of their Experiences with Delivering Remote Telerehabilitation Services to Low Vision Patients. *Nicole Ross¹, P. Yoshinaga², A. Bowers³, T. Saccar⁴, J. Shepherd⁶, A. K. Bittner⁵.* ¹Low Vision, New England College of Optometry, Arlington, MA; ²College of Optometry, Marshall B. Ketchum University, Anaheim, CA; ³Alphapointe, Kansas City, MO; ⁴Envision, Wichita, KS; ⁵Optometry, NOVA Southeastern University, Fort Lauderdale, FL; ⁶Ophthalmology, University of Nebraska Medical Center, Omaha, NE *CR

3273 — B0406 Wilkins Reading Rates in Early and Intermediate AMD Compared to Age Matched Normal Patients. *William H. Ridder, P. Yoshinaga, G. Comer, S. Ridder.* Basic & Visual Science, Southern California Coll of Optometry, Cypress, CA

- 3274 — B0407 Computer-generated MNREAD sentences for measuring acuity and reading-speed: A comparison of Times and Courier.** *John Stephen Mansfield, A. M. Lewis.* Psychology, SUNY Plattsburgh, Plattsburgh, NY *CR
- 3275 — B0408 Comparing reading with classic versus computer-generated MNREAD sentences.** *nilsu atilgan¹, G. E. Legge¹, J. Mansfield².* ¹Psychology, University of Minnesota, Minneapolis, MN; ²Psychology, State University of New York College at Plattsburgh, Plattsburgh, NY
- 3276 — B0409 Simulating the Effect of Acuity Reduction on Reading Performance.** *YINGZI XIONG¹, J. Boucher^{1,2}, A. Calabrese^{1,3}, Q. Lei¹, G. E. Legge¹.* ¹University of Minnesota, Minneapolis, MN; ²Ecole Normale Supérieure, Paris, France; ³Aix-Marseille University, Marseille, France
- 3277 — B0410 Measuring visual span.** *Deyue Yu, L. Perry.* College of Optometry, Ohio State University, Columbus, OH
- 3278 — B0411 The quick reading method: its efficiency and accuracy in assessing reading performance in the periphery.** *Timothy G. Shepard¹, F. Hou², P. J. Bex³, L. A. Lesmes⁴, Z. Lu⁵, D. Yu¹.* ¹College of Optometry, Ohio State University, Columbus, OH; ²Wenzhou Medical University, Wenzhou, China; ³Psychology, Northeastern University, West Newton, MA; ⁴Adaptive Sensory Technology, San Diego, CA; ⁵Psychology, Ohio State University, Columbus, OH *CR
- 3279 — B0412 Preliminary findings on the development of a Head Mounted Device application to improve reading ability in patients with central scotomas.** *Xian Hui Lim¹, A. E. Wessels², D. Ting^{1,3}, S. Zhao², A. C. Tan^{1,3}.* ¹Ophthalmology, Singapore National Eye Centre, Singapore, Singapore; ²School of Computing, National University of Singapore, Singapore, Singapore; ³Singapore Eye Research Institute, Singapore, Singapore
- 3280 — B0413 Selection criteria of the retinal locus used for biofeedback fixation training with microperimetry in patients with central vision loss.** *Marco U. Morales¹, S. Saker¹, C. Wilde¹, P. G. Limoli², W. M. Amoaku¹.* ¹Division of Clinical Neurosciences, Academic Ophthalmology, Nottingham University, Nottingham, United Kingdom; ²Centro Studi Iprovisione, Milan, Italy *CR, f
- 3281 — B0414 Natural progression of scotopic and photopic macular function loss in patients with Stargardt disease: The SMART Study.** *Millena Bittencourt¹, M. A. Ibrahim¹, X. Kong¹, R. W. Strauss^{2,5}, A. Ervin³, A. Ho⁴, M. Nittala⁴, I. S. Audo^{6,7}, D. G. Birch⁸, H. P. Scholl⁹.* ¹Ophthalmology, Johns Hopkins University, Edmond, OK; ²Ophthalmology, Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, United Kingdom; ³Epidemiology, Johns Hopkins University, Baltimore, MD; ⁴Doheny Eye Institute, Los Angeles, CA; ⁵Ophthalmology, Johannes Kepler University Linz, Linz, Austria; ⁶ophthalmology, CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DHOS CIC 1423, Paris, France; ⁷Ophthalmology, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Paris, France; ⁸Retina Foundation of the Southwest, Dallas, TX; ⁹ophthalmology, University of Basel, Basel, Switzerland *CR, x
- 3282 — B0415 Effect of background brightness on preferred retinal loci.** *Satoshi Ishiko¹, T. Mase², E. Sato², K. Sugawara², H. Mukai³, H. Kataoka³, A. Yoshida².* ¹Medicine and Engineering Comb Res Inst, Asahikawa Medical University, Asahikawa, Japan; ²Ophthalmology, Asahikawa Medical University, Asahikawa, Japan; ³Tomey Corporation, Nagoya, Japan *CR, x
- 3283 — B0416 Retinal sensitivity and fixation stability as surrogate markers of visual function in molecularly confirmed choroideremia patients.** *Vaishnavi Batmanabane, A. Vincent, E. Heon.* Ophthalmology and Visual Sciences, The Hospital for Sick Children, Toronto, ON, Canada
- 3284 — B0417 Locomotion and visual search of objects with patients affected by retinitis pigmentosa in twilight conditions.** *Chloé Pagot¹, K. Becker¹, A. Zenouda¹, E. Bochin¹, H. Delphine¹, C. Cécilia¹, S. Mohand-Said², J. A. Sahel³.* ¹Streetlab, PARIS, France; ²CHNO Quinze-Vingts / CIC Inserm, Paris, France; ³UMR-S 968, Institut de la Vision, Paris, France
- 3285 — B0418 Street-Crossing Decision-Making in Pedestrians with Simulated Central Field Loss.** *Essam S. Almutleb, A. Bradley, J. Jedlicka, S. E. Hassan.* Indiana University School of Optometry, Bloomington, IN
- 3286 — B0419 Gait Characteristics of Age-related Macular Degeneration (AMD) patients.** *Varshini Varadaraj¹, A. Mihailovic¹, R. Ehrenkrantz², S. Lesche², P. Ramulu¹, B. K. Swenor⁴.* ¹Wilmer Eye Institute, Glaucoma, Johns Hopkins University School of Medicine, Baltimore, MD; ²Johns Hopkins School of Medicine, Baltimore, MD; ³Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ⁴Wilmer Eye Institute, Johns Hopkins, Baltimore, MD
- 3287 — B0420 Looming and bearing effects on pedestrian collision judgment in open-space walking simulations.** *Cheng Qiu, L. Spano, M. Tuccar-Burak, R. B. Goldstein, E. Peli.* Schepens Eye Research Institute, Boston, MA
- 3288 — B0421 iAid: Ultrasonic and GPS controlled Joystick Mobility Device.** *Alexander Deans.* Engineering, McGill University, Windsor, ON, Canada
- 3289 — B0422 Optimized position of dual-array STS retinal prosthesis for mobility examined by retinal prosthesis simulator.** *Kenta Hozumi, T. Endo, M. Hirota, H. Kanda, T. Morimoto, T. Fujikado, K. Nishida.* Ophthalmology, Osaka University, Osaka City, Japan *CR, x
- 3290 — B0423 Development and Validation of a Portable Visual Navigation Challenge for Assessment of Retinal Disease in Multi-Centered Clinical Trials.** *Aron Shapiro, P. Corcoran, C. Sundstrom, E. Angjeli, J. D. Rodriguez, M. B. Abelson, D. A. Hollander.* Ora, Inc, Andover, MA *CR
- 3291 — B0424 Circumstances, locations, and outcomes of falls in patients with glaucoma.** *Andrea V. Yonge¹, A. Mihailovic¹, L. Gitlin², S. West¹, D. S. Friedman¹, P. Ramulu¹.* ¹Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ²Center for Innovative Care in Aging, School of Nursing, Johns Hopkins University, Baltimore, MD
- 3292 — B0425 Correlation of multi-luminance mobility testing with visual function tests in a phase 3 trial of voretigene neparovoc for biallelic RPE65-mediated inherited retinal disease.** *Daniel C. Chung¹, S. R. Russell², J. Bennett³, A. M. Maguire³, J. A. Wellman⁴, Z. Yu⁵, A. Tillman⁶, K. A. High⁴.* ¹Medical Affairs, Spark Therapeutics, Inc, Philadelphia, PA; ²University of Iowa, Iowa City, IA; ³Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA; ⁴Spark Therapeutics, Inc., Philadelphia, PA; ⁵Statistics Collaborative, Inc., Washington, DC *CR, x
- 3293 — B0426 Do people with hemianopia spontaneously adapt their gaze scanning to differing hazard detection demands?** *Alex R. Bowers, C. F. Alberti, R. B. Goldstein, E. Peli.* Ophthalmology, Harvard Medical School, Schepens Eye Research Institute, Boston, MA
- 3294 — B0427 Strabismic hemianopic field expansion and mobility.** *Philip M. Bronstad, E. Peli, A. Doherty, A. B. Fulton.* Ophthalmology, Harvard Medical School, Boston, MA
- 3295 — B0428 Quality of Life Measures in Patients with Retinal Degeneration.** *Anum Butt^{1,2}, J. K. Jolly^{1,2}, C. Couldridge^{1,2}, K. Xue^{1,2}, R. E. MacLaren^{1,2}.* ¹Oxford Eye Hospital, Oxford University Hospitals NHS Trust, Oxford, United Kingdom; ²Nuffield Laboratory of Ophthalmology, University of Oxford, Oxford, United Kingdom

3296 — B0429 Measuring Contrast Sensitivity with SPARCS in Specific Areas of Vision - A Meaningful Way to Assess Quality of Life and Ability to Perform Daily Activities in Glaucoma Patients. Karishma Kodia³, M. Waisbourd², P. Gogte², H. Eshraghi², D. Lee^{2,1}, R. Manzi Muhire², S. S. Wizov², J. S. Myers^{2,1}, S. S. Fudemberg^{2,1}, A. V. Mantravadi^{2,1}, L. Katz^{2,1}, M. Moster^{2,1}, M. Pro^{2,1}, G. L. Spaeth^{2,1}, L. A. Hark^{2,1}. ¹Ophthalmology, Thomas Jefferson University, Philadelphia, PA; ²Glaucoma, Wills Eye Hospital, Philadelphia, PA; ³Sidney Kimmel Medical College, Philadelphia, PA *CR

3297 — B0430 Self-reported visual function and related quality of life in low-income visually impaired patients. Nivea Nunes Cavascan, P. Sacai, H. Oh, P. B. Silva, C. R. Santos, A. S. Leal, C. R. Nakanami. Ophthalmology and Visual Science, Universidade Federal de Sao Paulo, Sao Paulo, Brazil

3298 — B0431 Visual Function Measurements from the nGoggle are Associated with Patient-Reported Quality of Life in Glaucoma. Carolina N. Susanna^{1,2}, F. B. Daga², M. Nakanishi^{2,3}, B. Susanna^{1,2}, Y. Wang³, R. Susanna⁵, N. G. Ogata², J. Zao⁴, T. Jung⁴, F. Medeiros^{2,4}. ¹Faculdade de Medicina do ABC, São Paulo, Brazil; ²Ophthalmology, University of California San Diego, San Diego, CA; ³Neural Computation, University of California San Diego, San Diego, CA; ⁴nGoggle Inc., San Diego, CA; ⁵Ophthalmology, Universidade de São Paulo, São Paulo, Brazil *CR

3299 — B0432 Impact of Central Superior and Inferior Visual Field on Quality of Life in Glaucoma Patients. Shawn Gulati^{1,2}, A. Mihailovic^{3,4}, J. Odden^{1,5}, M. V. Boland^{3,4}, D. S. Friedman^{3,4}, S. West^{3,4}, P. Ramulu^{3,4}. ¹Department of Epidemiology and Biostatistics, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ²Oakland University William Beaumont School of Medicine, Royal Oak, MI; ³Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ⁴Dana Center for Preventive Ophthalmology, Johns Hopkins University, Baltimore, MD; ⁵University of North Dakota, School of Medicine and Health Sciences, Grand Forks, ND

3300 — B0433 Glaucoma Severity Associated with Difficulty Performing Daily Life Tasks. Heather Livengood¹, N. Baker², G. Wollstein¹, H. Ishikawa¹, M. Liu³, J. S. Schuman¹. ¹NYU Langone Eye Center, NYU School of Medicine, New York, NY; ²Department of Occupational Therapy, University of Pittsburgh School of Health and Rehabilitation Sciences, Pittsburgh, PA; ³Division of Biostatistics, Departments of Population Health and Environmental Medicine, NYU School of Medicine, New York, NY *CR

3301 — B0434 Correlation between visual function and an objective evaluation of the ability of glaucomatous patients to perform daily living activities. Lombardi Marco^{1,3}, A. Zenouda¹, L. Azoulay-Sebban¹, E. Gutman¹, E. Brasnu³, P. Hamard³, J. Sahel^{1,2}, C. Baudouin^{3,4}, A. Labbé^{3,4}. ¹Streetlab, Institut de la Vision, Paris, France; ²Inserm, U968; UPMC Univ Paris 06, UMR_S968, Institut de la Vision; CNRS, UMR 7210; CHNO des Quinze-Vingts, INSERM-DHOS CIC 503, Paris, France; ³Department of Ophthalmology III - DHU Sight Restore, Quinze-Vingts National Ophthalmology Hospital, Paris, France; ⁴Department of Ophthalmology, Ambroise Paré Hospital, AP-HP, University of Versailles Saint-Quentin-en-Yvelines, Versailles, France

3302 — B0435 Functional Complaints of Patients Seeking Low Vision Services in Tamil Nadu, India. Gabrielle Shaughnessy¹, A. Vardhan², J. Flora², B. C. Stagg^{1,3}, K. Ilango², J. R. Ehrlich^{1,3}. ¹Ophthalmology, University of Michigan, Ann Arbor, MI; ²Aravind Eye Care System, Tamil Nadu, India; ³Institute for Healthcare Policy and Innovation, University of Michigan, Ann Arbor, MI

3303 — B0436 Using Delphi methodology in the development of a new patient reported outcome measure for stroke survivors with visual impairment. Lauren R. Hepworth, F. J. Rowe. Health Services Research, University of Liverpool, Liverpool, United Kingdom

Exhibit/Poster Hall B0580-B0605

Tuesday, May 09, 2017 11:00 AM-12:45 PM
Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

345 Papilledema, IIH and Optic Nerve

Moderators: Deepta A. Ghate and Vikas Gulati

3304 — B0580 Ultrasonography, OCT and OCT-angiography in the diagnostic workup of children with suspected papilledema. Annegret H. Dahlmann-Noor¹, G. G. Adams³, M. C. Daniel¹, A. Davis³, J. Hancox³, M. Hingorani³, P. Ibanez⁴, B. MacPhee⁴, H. Patel³, M. Restori⁵, C. Roberts³, J. Sloper³, M. Theodorou³, J. Acheson². ¹Paediatric Ophthalmology and Strabismus, NIHR Biomedical Research Centre at Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, United Kingdom; ²Neuro-ophthalmology, Moorfields Eye Hospital, London, United Kingdom; ³Paediatric Ophthalmology and Strabismus, Moorfields Eye Hospital, London, United Kingdom; ⁴Medical Illustration, Moorfields Eye Hospital, London, United Kingdom; ⁵Ocular ultrasound, Moorfields Eye Hospital, London, United Kingdom

3305 — B0581 Perfused Large Vessel and Capillary Densities in Various Grades of Papilledema Using OCTA Custom Software. David Fell^{1,2}, S. Raouf^{1,2}, T. Y. Chui^{1,3}, P. M. Garcia¹, S. Mo^{1,4}, S. B. Dave¹, N. K. Scripsema^{1,3}, R. B. Rosen^{1,3}, R. Banik^{1,3}. ¹Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ²Medicine, Stony Brook University School of Medicine, Stony Brook, NY; ³Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY; ⁴Medicine, Icahn School of Medicine at Mount Sinai, New York, NY *CR

3306 — B0582 Fractal Analysis of Peripapillary Vasculature In Eyes With Papilledema Using Optical Coherence Tomography Angiography. Soshian Sarrafpour¹, E. Tsui¹, D. Fell^{2,3}, S. Raouf^{2,3}, N. K. Scripsema^{2,4}, S. Zahid¹, S. B. Dave², P. M. Garcia², T. Y. Chui^{2,4}, R. B. Rosen^{2,4}, R. Banik^{2,4}, J. A. Young¹. ¹Ophthalmology, New York University, New York, NY; ²Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ³Stony Brook University School of Medicine, Stony Brook, NY; ⁴Icahn School of Medicine at Mount Sinai, New York, NY *CR

3307 — B0583 Characteristics and Incidence of Inpatient Ophthalmology Consultations to Screen for Papilledema. Peter J. Belin, G. Greaves, A. Weiss, J. Winokur, M. Gorski. Ophthalmology, Hofstra Northwell School of Medicine, Great Neck, NY

3308 — B0584 Objective Quantification of Papilledema Resolution after Optic Nerve Sheath Fenestration. Steven E. Katz^{1,2}, A. M. Mahmoud^{2,3}, C. J. Roberts^{2,3}. ¹Ophthalmology, Ohio ENT, Columbus, OH; ²Ophthalmology & Visual Science, The Ohio State University, Columbus, OH; ³Biomedical Engineering, The Ohio State University, Columbus, OH *CR

3309 — B0585 Hodgkin's Lymphoma Masquerading As Intermediate Uveitis And Bilateral Optic Disc Edema. Mindy Wang, F. El Sayyad, H. Samy. Ophthalmology, University of Florida, Gainesville, FL

3310 — B0586 Advances in imaging of Optic Disc Edema : Role of Oximetry and its relation with visual feild defects. NEHA SUDHAKAR S. PERAKA¹, A. Rawoof², N. K. Yadav¹, R. Shetty³, A. Mohan¹. ¹Vitreoretina, Narayana Nethralaya, Bangalore, India; ²Neuroophthalmology, Narayana nethralaya, Bangalore, India; ³Cornea and Refractive Surgery, Narayana Nethralaya, Bangalore, India

- 3311 — B0587 The Relationship between Central Corneal Thickness (CCT) and Papilledema from Idiopathic Intracranial Hypertension (IIH).** *Caroline Vasseneix², M. Dattilo², B. B. Bruce^{2,1}, N. J. Newman^{2,3}, V. Biousse^{2,4}, J. Peragallo^{2,5}.* ¹Department of Epidemiology, Emory University, Atlanta, GA; ²Neuro-Ophthalmology unit, Department of Ophthalmology, Emory University, Atlanta, GA; ³Department of Neurological surgery, Emory University, Atlanta, GA; ⁴Department of Neurology, Emory University, Atlanta, GA; ⁵Department of Pediatric Ophthalmology, Emory University, Atlanta, GA
- 3312 — B0588 MRI quantification of intraconal fat volume in patients with Idiopathic Intracranial Hypertension.** *Laurel Tainsh¹, S. A. Hussnain¹, A. Yuan¹, A. Shukla², M. Ehrlich¹.* ¹Ophthalmology and Visual Science, Yale School of Medicine, New Haven, CT; ²Radiology and Biomedical Imaging, Yale School of Medicine, New Haven, CT
- 3313 — B0589 Electroretinography in idiopathic intracranial hypertension: comparison of the pattern ERG and the photopic negative response.** *Jason C. Park, H. Moss, J. McAnany.* Ophthalmology, University of Illinois at Chicago, Chicago, IL
- 3314 — B0590 Patterns of Vision Loss in Idiopathic Intracranial Hypertension: The Central vs. Peripheral Visual Field.** *Eric Lee¹, A. Subramani¹, R. Wanzek¹, T. Eden¹, L. X. Chong³, A. Turpin², I. Marin-Franch^{4,5}, M. Wall⁶.* ¹Carver College of Medicine, University of Iowa, Iowa City, IA; ²University of Melbourne, Melbourne, VIC, Australia; ³University of California at Berkeley, Berkeley, CA; ⁴Departamento de Óptica y Optometría y Ciencias de la Visión, Universitat de València, Valencia, Spain; ⁵Ciencias de la Visión research group, Facultad de Óptica y Optometría, Universidad de Murcia, Murcia, Spain; ⁶Neurology, Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA *CR
- 3315 — B0591 Detection of Visual Loss in Idiopathic Intracranial Hypertension with Static Automated Perimetry: The Far Periphery.** *Ashwin Subramani¹, M. Wall¹, E. Lee¹, A. Turpin², L. X. Chong³.* ¹University of Iowa, Iowa City, IA; ²University of Melbourne, Melbourne, VIC, Australia; ³University of California, Berkeley, CA *CR
- 3316 — B0592 Treatment of Secondary Pseudotumor Cerebri from Severe Anemia with Blood Transfusion.** *Nehali Nanawati, E. Crane, K. K. Modi, R. Turbin, L. Frohman.* Department of Ophthalmology and Visual Science, Rutgers New Jersey Medical School, Newark, NJ
- 3317 — B0593 Optic nerve head geometry as a function of chronic intracranial pressure.** *Heather Moss¹, K. Malhotra², M. Patel³, Z. Shirazi².* ¹Ophthalmology, Stanford University, Palo Alto, CA; ²College of Medicine, University of Illinois at Chicago, Chicago, IL; ³Department of Bioengineering, University of Illinois at Chicago, Chicago, IL
- 3318 — B0594 MR imaging of the optic nerve and chiasm at 7 Tesla improves lesion detection for Neuro-Ophthalmic conditions compared to conventional clinical field strength.** *Lorna Grech Fonk^{1,3}, M. Versteegen², W. Teeuwisse³, T. Ferreira³, I. Notting¹, W. van Furth², A. Pereira⁴, G. P. Luyten¹, A. Webb³, J. Beenakker^{1,3}.* ¹Ophthalmology, Leiden University Medical Centre, Leiden, Netherlands; ²Neurosurgery, Leiden University Medical Center, Leiden, Netherlands; ³Radiology, C.J. Gorter Center for high field MRI, Leiden University Medical Center, Leiden, Netherlands; ⁴Endocrinology, Leiden University Medical Center, Leiden, Netherlands
- 3319 — B0595 Quantitative measure of optic disc drusen location in enhanced depth imaging optical coherence tomography scans.** *Anne-Sofie W. Lindberg¹, L. Malmqvist Larsen², V. Andersen Dahl¹, T. Martini Jørgensen¹, S. Ellitsgaard Hamann².* ¹DTU Compute, Technical University of Denmark, Kongens Lyngby, Denmark; ²Centre of Head and Orthopaedics - Department of Ophthalmology, Rigshospitalet - Glostrup, Glostrup, Denmark
- 3320 — B0596 Spectral Domain Optical Coherence Tomography Findings in Patients with Congenital Optic Nerve Hypoplasia.** *Yi Pang, K. Yin, K. A. Frantz.* Illinois Coll of Optom, Chicago, IL
- 3321 — B0597 Retinal cardioplipin metabolism is altered in a mouse model of Dominant Optic Atrophy.** *Emmanuelle Sarzi¹, A. Chabl², M. Seveno¹, C. P. Hamel^{1,2}, A. Müller^{4,1}, G. Lenaers^{1,3}, C. Delettre¹.* ¹Inserm U1051, Institute for Neurosciences of Montpellier, Montpellier, France; ²CHU Gui de Chauliac, Montpellier, France; ³Inserm U1083, Angers, France; ⁴Université de Montpellier, Montpellier, France; ⁵Hôpital Necker Enfants Malades, Paris, France
- 3322 — B0598 Mechanisms of RGC Neuroprotection Mediated by ST266.** *Reas Sulaimankutty¹, K. Dine¹, L. R. Brown², K. S. Shindler¹.* ¹Ophthalmology, Univ of Pennsylvania, Scheie Eye Institute, Philadelphia, PA; ²Noveome Biotherapeutics Inc, Pittsburgh, PA *CR
- 3323 — B0599 Tissue engineered 3D cultures of meningeothelial cells to study the optic nerve microenvironment during conditions of optic nerve compartmentalization.** *Corina Kohler², L. Power^{2,4}, N. Zeleny¹, A. Neutzner², H. P. Scholl², P. Meyer³, D. Wendt^{2,4}, H. E. Killer¹.* ¹Kantonsspital Aarau AG, Aarau, Switzerland; ²Department of Biomedicine, University of Basel, Basel, Switzerland; ³Department of Ophthalmology, University of Basel, Basel, Switzerland; ⁴Department of Surgery, University of Basel, Basel, Switzerland *CR
- 3324 — B0600 Decellularization of Porcine and Primate Optic Nerve Lamina towards Cell Culture with Neural Progenitor Cells.** *Lilangi S. Edirivickrema¹, R. Fawcett², N. R. Miller¹, S. L. Bernstein².* ¹Ophthalmology, Johns Hopkins University, Wilmer Eye Institute, BALTIMORE, MD; ²Ophthalmology, University of Maryland School of Medicine, Baltimore, MD
- 3325 — B0601 Mutation analysis of CDKN2A , MYB, MYBL1 and FGFR1 in pediatric low grade gliomas of the optic pathway.** *Shirel Weiss^{1,2}, H. Toledano^{3,2}, O. Barinfeld^{2,1}, S. Michowitz⁴, N. Goldenberg-Cohen^{2,5}.* ¹Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; ²Krieger Eye Research Laboratory, Felsenstein Medical Research Center, Petach Tikva, Israel; ³Department of Pediatric Oncology, Schneider Children's Medical Center of Israel, Israel, Petach Tikva, Israel; ⁴Department of Neurosurgery, Schneider Children's Medical Center of Israel, Israel, Petach Tikva, Israel; ⁵Ophthalmology Department,, Bnai Zion Medical Center,, Haifa, Israel
- 3326 — B0602 Zebrafish *rere* mutants exhibit optic nerve defects.** *James Liu, A. George, B. P. Brooks.* Ophthalmic Genetics and Visual Function Branch, National Eye institute/National Institutes of Health, Bethesda, MD
- 3327 — B0603 T Cell Mediated Autoimmune Targeting Of The Astrocytic Endfoot Protein Aqp4 Leads To Neuronal/Axonal Swelling But Not Cell Loss In The Retina.** *Andrés Cruz-Herranz, S. A. Sagan, R. Winger, G. M. Timmons, N. S. Baker, M. P. Devereux, M. H. Levin, C. M. Spencer, S. S. Zamvil, A. J. Green.* Neurology, University of California San Francisco, San Francisco, CA
- 3328 — B0604 Cultivation of mouse neural progenitor cells from the optic nerve.** *Rebecca J. Fawcett¹, Y. Guo², C. Kerr², S. L. Bernstein¹.* ¹Department of Ophthalmology and Visual Sciences, University of Maryland, Baltimore, MD; ²Department of Biochemistry and Molecular Biology, Stem Cell Program, University of Maryland, Baltimore, MD
- 3329 — B0605 Sensory ocular dominance and area of the optic nerve head as measured by optical coherence tomography-a pilot study.** *Patricia Cisarik, C. Prestwich.* Southern College of Optometry, Memphis, TN

Exhibit/Poster Hall B0606-B0618

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology

346 Retinoblastoma: Clinical

Moderator: Jesse L. Berry

3330 — B0606 Developing a novel documentation system for retinoblastoma. Lesley Everett¹, J. Meza², A. Afshar², B. E. Damato².

¹Department of Ophthalmology, University of California, San Francisco, San Francisco, CA;

²Department of Ophthalmology, Ocular Oncology Service, University of California, San Francisco, San Francisco, CA

3331 — B0607 Immediate and Delayed Microstructural Effects of Cryotherapy for Retinoblastoma Imaged by Optical Coherence Tomography. Thamolwan Surakiatchanakul, E. T. Say, C. L. Shields. Ocular Oncology Service, Wills Eye Hospital, Philadelphia, PA

3332 — B0608 Automatic Segmentation of Retinoblastoma in Fundus Image Photography using Convolutional Neural Networks. Carlos Ciller^{2,1}, S. Ivo S. De Zanet³, S. Apostolopoulos¹, F. L. Munier⁴, S. Wolf⁵, J. Thiran^{6,2}, M. Bach Cuadra², R. Sznitman^{1,5}. ¹Ophthalmic Technologies Laboratory, ARTORG Center, University of Bern, Bern, Switzerland; ²Department of Radiology, University of Lausanne, Lausanne, Switzerland; ³Computer Vision Lab (CVLab), EPFL, Lausanne, Switzerland; ⁴Unit of Pediatric Ocular Oncology, Jules Gonin Eye Hospital, Lausanne, Switzerland; ⁵Department of Ophthalmology, Inselspital, Bern University Hospital, Bern, Switzerland; ⁶Laboratory of Signal Processing 5 (LTS5), EPFL, Lausanne, Switzerland; ⁷Signal Processing Core, CIBM, Lausanne, Switzerland

3333 — B0609 Development of a technique for assessment of retinoblastoma cell dissemination after intravitreal injection of chemotherapy. Ursula A. Winter¹, M. Nicolas², F. L. Munier², M. Sgroi¹, A. Fandiño¹, G. Chantada¹, P. Schaiquevich¹. ¹Hospital J.P. Garrahan, Buenos Aires, Argentina; ²Jules-Gonin Eye Hospital, Lausanne, Switzerland

3334 — B0610 Magnetic resonance imaging features of the optic nerve in enucleated retinoblastoma patients. Ramon Lee^{1,2}, J. L. Berry^{1,2}, I. Madi^{1,2}, E. Zolfaghari^{1,2}, J. W. Kim^{1,2}. ¹The Vision Center at Children's Hospital Los Angeles, Department of Ophthalmology, Keck School of Medicine of University of Southern California, Los Angeles, CA; ²USC Roski Eye Institute, Department of Ophthalmology, Keck School of Medicine of University of Southern California, Los Angeles, CA

3335 — B0611 Optic Nerve Obscuration in Retinoblastoma: a Risk Factor for Optic Nerve Invasion? Emily J. Zolfaghari¹, J. L. Berry^{1,2}, A. Chen^{1,2}, A. Murphree^{1,2}, R. Jubran³, J. W. Kim^{1,2}. ¹Ophthalmology, Children's Hospital, Los Angeles, Los Angeles, CA; ²USC Roski Eye Institute, Los Angeles, CA; ³The Children's Center for Cancer and Blood Diseases, Children's Hospital Los Angeles, Los Angeles, CA

3336 — B0612 Treatment of Group B Retinoblastoma with Chemotherapy Alone without Laser Consolidation Therapy. Arezu Haghghi¹, E. J. Zolfaghari², J. Kim³, H. A. Aziz², K. McGovern², R. Jubran³, A. Murphree², J. L. Berry¹. ¹Ophthalmology, University of Southern California Roski Eye Institute, Pasadena, CA; ²Children's Hospital Los Angeles, Los Angeles, CA

3337 — B0613 Second Primary Malignancies in Retinoblastoma Patients Treated with Intraarterial Chemotherapy: The First Ten Years. Larissa Habib¹, J. H. Francis^{1,2}, P. Gobin², B. Marr^{1,2}, I. J. Dunkel³, D. H. Abramson^{1,2}. ¹Ophthalmic Oncology, Memorial Sloan Kettering Cancer Center, New York, NY; ²Weill Cornell Medical College, New York, NY; ³Pediatrics, Memorial Sloan Kettering Cancer Center, New York, NY

3338 — B0614 Anti-VEGF therapy for secondary neovascularization following intra-arterial chemotherapy for advanced retinoblastoma. Francis L. Munier¹, M. Gaillard¹, F. Puccinelli², C. Bergin¹, S. Houghton¹, A. Moulin¹, M. Beck-Popovic³. ¹Ophthalmology Department, Jules-Gonin Eye Hospital, Lausanne, Switzerland; ²Neuroradiology Unit, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland; ³Pediatric Hematology Oncology Unit, Centre Hospitalier Universitaire Vaudois, Lausanne, Switzerland

3339 — B0615 Choroidal infarction following ophthalmic artery chemotherapy. Kelley Bohm¹, P. Gobin², J. H. Francis¹, B. Marr¹, A. Dabo-Trubelja³, P. H. Dalecki³, D. H. Abramson¹. ¹Ophthalmic Oncology Dept., Memorial Sloan Kettering Cancer Center, NEW YORK, NY; ²Interventional Neuroradiology Dept., Weill Cornell Medical College, New York, NY; ³Anesthesia Dept., Memorial Sloan Kettering Cancer Center, New York, NY

3340 — B0616 A comparison of retinoblastoma vitreous seed clouds (class 3) treated with ophthalmic artery chemosurgery with or without intravitreous chemotherapy. Jasmine H. Francis^{1,2}, S. Iyer¹, P. Gobin², B. Marr^{1,2}, S. E. Brodie³, D. H. Abramson^{1,2}. ¹Ophthalmic Oncology, Memorial Sloan Kettering Cancer Center, New York, NY; ²Weill Cornell Medical Center, New York, NY; ³Icahn School of Medicine at Mount Sinai, New York, NY

3341 — B0617 Retinoblastoma in India: Clinical presentation and outcome in 1457 patients (2074 eyes). Swathi Kaliki, A. Patel, S. Iram, V. Palkonda, A. Mohamed, G. Ramappa. Ocular Oncology, L V Prasad Eye Institute, Hyderabad, India

3342 — B0618 Are plasma levels of 8-hydroxy-2'-deoxyguanosine associated with an increased risk of unilateral sporadic Retinoblastoma? Bhavna Chawla¹, S. Bish², R. Dada². ¹Dr Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi, India; ²Laboratory for Molecular Reproduction and Genetics, Department of Anatomy, All India Institute of Medical Sciences, New Delhi, India

Exhibit/Poster Hall B0619-B0643

Tuesday, May 09, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology

347 Tumors: Inside and around the eye, II

Moderator: Geeta K. Vemuganti

3343 — B0619 A multifaceted diagnostic approach to pathological diagnosis of corneal infection. Austin Nakatsuka^{1,2}, J. Ortiz³, P. Chevez-Barríos³. ¹Ophthalmology, UTMB, Galveston, TX; ²Ophthalmology, Methodist Hospital, Houston, TX; ³Pathology, Methodist Hospital, Houston, TX

3344 — B0620 The relationship of cigarette smoking and alcohol use with dysplasia grade in ocular surface squamous neoplasia. Alison Early, T. Mauger, C. Miller, S. Adelson. Department of Ophthalmology, The Ohio State University, Columbus, OH

3345 — B0621 Whole Exome Sequencing of Conjunctival Melanoma. Swarup S. Swaminathan¹, D. Sant², G. Wang^{1,2}, A. Galor^{1,3}, S. R. Dubovy¹, C. Karp¹. ¹Bascom Palmer Eye Institute, Miami, FL; ²John P. Hussman Institute for Human Genomics, Miami, FL; ³Miami Veteran Affairs Medical Center, Miami, FL

3346 — B0622 MAPkinase and PI3K/mTOR pathways inhibition in conjunctival melanoma. Ikram E. El-Zaoui¹, M. Nicolas², R. Pescini Gobert¹, D. Rimoldi⁴, S. Leyraz³, C. Rivolta¹, A. Moulin². ¹Department of Medical Genetics, University of Lausanne, Lausanne, Switzerland; ²Department of Ophthalmology, University of Lausanne, Switzerland, Jules-Gonin Eye Hospital, Lausanne, Switzerland; ³Department of Oncology, Lausanne, Switzerland; ⁴Ludwig Institute for Cancer Research, Lausanne, Switzerland

- 3347 — B0623 The Histopathology and the Pathogenesis of Floppy Eyelid Syndrome.** *Henry Chen^{1,2}, S. Brownstein^{1,2}, D. R. Jordan¹, M. J. Belliveau¹, S. Gilbert¹, C. Iacob³, P. Blanco², J. Farmer².* ¹Ophthalmology, University of Ottawa, Ottawa, ON, Canada; ²Pathology & Laboratory Medicine, University of Ottawa, Ottawa, ON, Canada; ³Pathology, New York Eye and Ear Infirmary, New York, NY
- 3348 — B0624 The Association Between Ocular Surface Squamous Neoplasia and Human Papilloma Virus in HIV Sero-positive Mozambicans.** *Nosabih Hariri^{1,2}, V. Snyder¹, F. Hashem^{3,4}, C. Carrilho^{5,6}, P. J. Kobalka⁷, W. O. Lin⁸, Y. Liu⁹, E. S. Gudo⁶, E. Marole¹⁰, Y. Zambujo¹⁰, R. T. Schooley¹¹, J. Lin^{1,3}.* ¹Pathology, University of California, San Diego, La Jolla, CA; ²Pathology, University of Tabuk, Tabuk, Saudi Arabia; ³Ophthalmology, University of California, San Diego, La Jolla, CA; ⁴Ophthalmology, University of Tabuk, Tabuk, Saudi Arabia; ⁵Pathology, Eduardo Mondlane University, Maputo, Mozambique; ⁶Pathology, Maputo Central Hospital, Maputo, Mozambique; ⁷Cytopathology, The Cleveland Clinic, Cleveland, OH; ⁸University of California, San Diego, La Jolla, CA; ⁹School of Medicine, University of California, San Diego, La Jolla, CA; ¹⁰Ophthalmology, Maputo Central Hospital, Maputo, Mozambique; ¹¹Medicine, University of California, San Diego, La Jolla, CA
- 3349 — B0625 Hepatitis C-associated ocular surface squamous neoplasia.** *Nahyoung G. Lee^{4,5}, A. Sanchez^{3,5}, A. Stagner^{2,5}, C. J. Choi¹.* ¹Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²Pathology, Massachusetts General Hospital, Boston, MA; ³Schepens Eye Research Institute, Boston, MA; ⁴Massachusetts Eye and Ear Infirmary, Boston, MA; ⁵Harvard Medical School, Boston, MA
- 3350 — B0626 Triazole antifungal agents promote UV-induced DNA damage by increasing oxidative stress.** *Iga N. Gray¹, M. Gober², H. Bashir¹, A. Huang², J. Li², C. Marshall¹, R. Todd¹, S. John², V. Lee^{1,2}.* ¹Ophthalmology, Perelman School of Medicine, Philadelphia, PA; ²Dermatology, Perelman School of Medicine, Philadelphia, PA
- 3351 — B0627 Recurrent squamous cell carcinoma with orbital invasion in the setting of immunosuppression following organ transplants - Case Series.** *Joshua Jones¹, S. Alshami¹, J. Sokol¹, K. Kakarala², L. Shnyder¹.* ¹Ophthalmology, University of Kansas Medical Center, Roeland Park, KS; ²University of Kansas Medical Center, Kansas City, KS
- 3352 — B0628 Immunosuppression as a possible risk factor for interferon non- response in ocular surface squamous neoplasia.** *carolina mercado, N. Ashkenazy, C. Karp, G. Wang, A. Galor.* Bascom Palmer eye institute, Miami, FL *CR
- 3353 — B0629 Clinicopathologic features of basal cell carcinoma of the eyelid with sebaceous differentiation.** *Taylor Nayman, P. Zoroquiain, E. Esposito, S. Bergeron, C. A. Moreira Neto, S. Aldrees, M. N. Burnier.* McGill University Ocular Pathology Laboratory, MUHC, Montreal, QC, Canada
- 3354 — B0630 HER2 as a possible therapeutic target in squamous cell carcinoma of the conjunctiva.** *Evangelina Esposito, P. Zoroquiain, A. T. Dias, F. L. Schneider, S. Corredor-Casas, M. N. Burnier.* Ocular Pathology, McGill University, Montreal, QC, Canada
- 3355 — B0631 Malignant Melanoma Presenting as Amelanotic Caruncular Lesion in a Child.** *Alexander Walters, K. Keck, O. Simmons, S. Williams, S. Cross, R. Patel.* University of South Carolina/ Palmetto Health, Columbia, SC
- 3356 — B0632 Desmoplastic Melanoma of the Periocular Region.** *Sudip Thakar¹, T. Kandl¹, O. Sagiv¹, M. Tetzlaff², B. Esmaili¹.* ¹Plastic Surgery, The University of Texas MD Anderson Cancer Center, Sugar Land, TX; ²Pathology, The University of Texas MD Anderson Cancer Center, Houston, TX
- 3357 — B0633 Kaposi's sarcoma of the conjunctiva and orbit.** *Claudia Fiorot, J. Coblentz, G. Discepolo, S. Cohen, R. Belfort, M. N. Burnier.* McGill University, Westmount, QC, Canada
- 3358 — B0634 Clinicopathologic Correlation of Kaposi Sarcoma involving the Eyelid and Conjunctiva: A Case Series.** *Jan P. Ulloa, M. P. Ghassibi, M. Fernandez, S. R. Dubovy.* Ophthalmology, Bascom Palmer Eye Institute, Miami, FL
- 3359 — B0635 Effective Immunopathology Protocol for Diagnostic Challenges of Patients Suspected of Having Ocular Citriline Pemphegoid (OCP), the MERSI Experience.** *Jing Hua^{2,3}, A. Ahmed^{2,3}, K. Small^{2,3}, T. Zhao^{2,3}, S. D. Anesi^{2,3}, C. Foster^{2,1}.* ¹Ophthalmology, Harvard Medical School, Cambridge, MA; ²Massachusetts Eye Research and Surgery Institution, Waltham, MA; ³Ocular Inflammation and Uveitis Foundation, Weston, MA
- 3360 — B0636 The effect and mechanism of long non-coding RNA DUXAP8 as a ceRNA to regulate IL-6 expression in sebaceous gland carcinoma.** *Xin Song¹, H. Wang², R. Jia¹, X. Fan¹.* ¹Ophthalmology, Shanghai Jiao Tong University School of Medicine Shanghai 9th People's Hospital, Shanghai, China; ²Shanghai Jiao Tong University School of Medicine, Shanghai, China ✕
- 3361 — B0637 Eyelid Sebaceous Carcinoma and HER2 expression.** *Alexandre Odashiro^{1,2}, P. Odashiro^{1,2}, A. T. Dias³, P. Zoroquiain², D. Miyamoto³, M. N. Burnier².* ¹Department of Pathology, Laval University, Quebec, CA, Quebec city, QC, Canada; ²Ocular Pathology Laboratory, MUHC-McGill University, Montreal, QC, Canada
- 3362 — B0638 Somatostatin Receptor-2 Expression in Sebaceous Carcinoma of the Ocular Adnexae.** *Sander R. Dubovy¹, M. Fernandez¹, J. P. Ulloa¹, R. K. Lee¹, M. Nadji², N. L. Block³, A. V. Schally^{2,3}.* ¹Bascom Palmer Eye Institute, University of Miami, Miami, FL; ²Pathology, University of Miami Miller School of Medicine, Miami, FL; ³Pathology, Veterans Administration Hospital, Miami, FL
- 3363 — B0639 Eyelid Sebaceous Carcinoma and Program cell death ligand 1 expression.** *Patricia Odashiro^{1,2}, A. Odashiro^{1,2}, A. T. Dias³, P. Zoroquiain², D. Miyamoto³, M. N. Burnier².* ¹Department of Pathology, Laval University, Quebec, CA, Quebec city, QC, Canada; ²Ocular Pathology Laboratory, MUHC-McGill University, Montreal, QC, Canada
- 3364 — B0640 Evaluating ex-vivo ocular treatment depth from a low-cost, reusable, CO2-based cryotherapy system.** *Donald U. Stone¹, C. Eberhart¹, A. Vizcaino¹, B. Surtees², S. Lee², N. Durr².* ¹Department of Ophthalmology, Johns Hopkins University, Riyadh, Saudi Arabia; ²Biomedical Engineering, Johns Hopkins University, Baltimore, MD
- 3365 — B0641 Combined SLO-OCT for non-surgical cancer nano-theranostics.** *SUMAN MANNA¹, M. Goswami¹, X. Wang¹, P. Zhang¹, W. Xiao², K. Lam², E. N. Pugh¹, R. J. Zawadzki¹.* ¹Cell Biology and Human Anatomy, UC Davis, Davis, CA; ²UC Davis Comprehensive Cancer Center, Department of Biochemistry and Molecular Medicine, UC Davis, Sacramento, CA
- 3366 — B0642 Imaging hemozoin and amyloid beta in the retina of individuals with malaria using polarised light.** *Rachel Redekop¹, C. Cookson³, D. DeVries^{1,4}, M. C. Campbell^{1,2}.* ¹Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; ²Optometry, University of Waterloo, Waterloo, ON, Canada; ³Academic and Admin Services, University of Victoria, Victoria, BC, Canada; ⁴Physics, Queen's University, Kingston, ON, Canada *CR
- 3367 — B0643 The effects of amyloid-β deposits on retinal tissue assessed from polarization properties.** *Tao Jin¹, L. Emptage¹, D. DeVries¹, M. Kitor¹, M. C. Campbell^{1,2}.* ¹Department of Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; ²School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada *CR

Room 309

Tuesday, May 09, 2017 1:00 PM-2:30 PM

348 VSS at ARVO - Functional Brain Imaging in Development and Disorder

This symposium will feature four talks that apply functional brain imaging to the study of both visual development and visual disorders. Functional brain imaging, primarily fMRI, enables non-invasive and quantitative assessment of neural function in the human brain. The four talks in the symposium will cover topics that include the reorganization of visual cortex in blindness, studies of cortical response in children with amblyopia, the normal development of population receptive fields in visual cortex, and the effect of early cortical damage on visual development.

Moderators: David H. Brainard and Lynne Kiorpes

— 1:00 **Post-retinal structure and function human blindness.** *Geoffrey K K. Aguirre.* Neurology, University of Pennsylvania, Philadelphia, PA

— 1:20 **Neuroimaging the typical and atypical developing visual brain: dorsal vulnerability and cerebral visual impairment.** *Janette Atkinson.* Faculty of Brain Sciences, University College London, London, United Kingdom

— 1:40 **Development of retinotopic representations in visual cortex during childhood.** *Tessa Dekker.* Psychology & Language Sciences, University College London, London, England, United Kingdom; Insitute of Ophthalmology, University College London, London, United Kingdom

— 2:00 **Neural correlates of motion perception deficits in amblyopia.** *Deborah Giaschi.* Ophthal & Vis Sciences, University of British Columbia, Vancouver, BC, Canada

Room 310

Tuesday, May 09, 2017 1:00 PM-2:30 PM

349 Chinese Ophthalmological Society Workshop

In this symposium, advancing information on how genes can be effectively manipulated and delivered will be discussed. Current status and issues on cell and gene therapy of eye diseases will be evaluated. Scientific breakthroughs, innovative technologies, novel approaches, and emerging translational challenges will be reviewed.

Moderators: Ningli Wang, Emily Chew, Ke Yao, Calvin Pang

— 1:00 **Welcome and Overview - Craig Crosson**

— 1:12 **Ningli Wang**

— 1:24 **Terete Borrás**

— 1:36 **Whole-exome sequencing implicates UBE 3D in AMD of East Asian populations - Xiaoxin Li**

— 1:48 **Neuroprotection in Glaucoma - Xinghuai Sun**

— 2:00 **Molecular Genetics of Polypoidal Choroidal Vasculopathy - Zhenglin Yang**

— 2:12 **Epigenetics and Metabolomics of Diabetic Retinopathy - Xinyuan Zhang**

— 2:18 **Genetic predisposition in early onset high myopia - Zibing Jin**

— 2:24 **Discussion - Speakers and Discussants: Zhimin Zhou, Ting Xie, Fuxing Yu, Guoping Fan Jianxing Ma, Fenglin, Chuangqing Ding**

Room 314

Tuesday, May 09, 2017 1:00 PM-2:30 PM

350 How to discuss your animal research work with non-scientists

Communicating the importance of our vision research to the wider community is vital for science research advocacy. However, many of us use animals in our research and are nervous to discuss that aspect of our work. Learn how to confidently speak about your work that involves animals and explain why you need to use animals to your family, friends and the public. We will cover the challenges of doing animal research, a history of how animal research has evolved in the past 50 years in terms of ethical protections, regulation, minimization of pain and suffering, common threads of misinformation about animal research and the benefits of animal research worldwide including in US, UK, EU, China, India and South Africa.

Moderators: Juliet A. Moncaster and Wenbo Zhang

— 1:00 **Animal Research: How is it regulated and why do we need to talk about it?** *Anne Deschamps.* FASEB, Bethesda, MD

— 1:25 **Animals in research policies in U.K, E.U., China, India and South Africa.** *Dave Lewis.* University of Leeds, Leeds, United Kingdom

— 1:50 **Effectively Communicating the Value of Using Mouse Models in Ocular Research.** *Patsy Nishina.* The Jackson Laboratory, Bar Harbor, ME

— 2:10 **Rescuing vision through gene-based treatments using large animal models.** *Jean Bennett.* Ophthalmology, University of Pennsylvania, Philadelphia, PA; Center for Cellular and Molecular Therapeutics, The Children’s Hospital of Philadelphia, Philadelphia, PA *CR, ♂

Room 316

Tuesday, May 09, 2017 1:00 PM-2:30 PM

351 Clinician-scientist forum: How to become a successful clinician-scientist

Internationally renowned clinician-scientists at various stages in their careers will share their experiences and provide valuable advice on how to become a successful clinician-scientist. An NEI extramural representative will be available to discuss clinician-scientist specific funding mechanisms.

Moderators: Richard J. Blanch and Jennifer R. Chao

— 1:00 **Introduction**

— 1:01 **NEI and the role of clinician-scientists in vision research.** *Paul A. Sieving.* National Eye Institute, NIH, Bethesda, MD

— 1:11 **What makes a productive mentor - mentee relationship.** *Randy Kardon.* Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; Surgery/Ophthalmology, Department of Veterans Affairs Medical Center, Iowa City, IA *CR

— 1:21 **Overcoming obstacles to an academic career - a personal perspective.** *Harminder S. Dua.* Ophth B Floor Eye ENT Centre, University of Nottingham, Nottingham, United Kingdom

— 1:31 **Finding available academic jobs and what to look for.** *Justis Ehlers.* Cole Eye Institute-Retina Service, Cole Eye Institute, Cleveland Clinic, Cleveland, OK *CR

— 1:41 **How to get help writing your first grant.** *Pradeep Ramulu.* Ophthalmology, Johns Hopkins University, Baltimore, MD

— 1:51 **Research and career development opportunities at NEI.** *Neeraj Agarwal.* Division of Extramural Research, National Eye Institute NIH, Bethesda, MD

— 2:01 **Q & A**

— 2:27 **Closing Remarks**

Tuesday Workshops/SIGs
1:00 pm – 2:30 pm

Ballroom 1

Tuesday, May 09, 2017 1:00 PM-2:30 PM

Clinical/Epidemiologic Research / Cornea / Glaucoma / Retina

352 Global Prevalence of Blindness and Vision Impairment: Magnitude, Temporal Trends, and Projections: are we on track to meet VISION 2020 and WHO Global Action Plan goals and beyond? - SIG

Since 1990, global blindness/vision impairment age-standardized prevalence decreased, yet global numbers affected are rising. New causal estimates in 2015 and projections to 2030 by the Global Vision Database and their implications are discussed.

Moderator: Rupert R. Bourne

Global Prevalence of Blindness and Distance and Near Vision Impairment in 2015: Magnitude, Temporal Trends, and Projections. *Rupert R. Bourne.* Vision & Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom

The causal contribution to the global and regional burden of vision impairment and blindness worldwide and emerging concerns: The Global Vision Database. *Jost B. Jonas.* Department of Ophthalmology, Medical Faculty Mannheim, Mannheim, Germany

Utilising the data from the Global Vision Database to guide epidemiological and clinical research and intervention strategies now and into the future. *Hugh Taylor.* Melbourne School of Populations and Global Health, University of Melbourne, Melbourne, VIC, Australia

Ballroom 3

Tuesday, May 09, 2017 1:00 PM-2:30 PM

Multidisciplinary Ophthalmic Imaging Group / Cornea / Glaucoma / Retina

353 Optical Coherence Tomography Guided Ophthalmic Surgery: Next-Generation Advances - SIG

Panel discussion of next-generation technologies for real-time intraoperative OCT. A panel of leading intraoperative OCT technologists and clinicians will discuss advances in intra-operative OCT and how they enable novel ocular surgeries.

Moderators: Joseph A. Izatt and Cynthia A. Toth

Current State of Intraoperative OCT. *Anthony N. Kuo.* ¹Ophthalmology, Duke University, Durham, NC, ²Biomedical Engineering, Duke University, Durham, NC *CR

Intraoperative B-scan OCT: Alternatives to the Microscope. *Karen M. Joos.* Vanderbilt Eye Institute, Vanderbilt University Medical Center, Nashville, TN *CR

Novel OCT Guided Microsurgical tools: Micrometer Resolution Visualization Enables Micrometer Resolution Tool Control. *Jin U. Kang.* ¹Electrical Engineering, Johns Hopkins University, Baltimore, MD, ²Computer Engineering, Johns Hopkins University, Baltimore, MD

Ballroom 4

Tuesday, May 09, 2017 1:00 PM-2:30 PM

Visual Psychophysics/Physiological Optics

354 Far peripheral vision: Review vision beyond 80o, where many people don't notice if there is a loss, but some intraocular lens patients report dark shadows - SIG

The extent of knowledge about this visual region will be discussed, including the limiting visual field, motion sensitivity, object detection, light paths, retina characteristics, negative dysphotopsia, and whether there may be a link to myopia

Moderator: Michael Simpson

Visual Fields. *Chris A. Johnson.* University of Iowa, Iowa City, IA

Peripheral Vision - Clinical Implications. *James Wolffsohn.* Aston University, Birmingham, United Kingdom

Far peripheral vision. *Paul H. Artes.* Plymouth University, Plymouth, United Kingdom

Room 307

Tuesday, May 09, 2017 1:00 PM-2:30 PM

Retinal Cell Biology / Retina

355 New in vitro Models to Study AMD Pathogenesis: Step Aside ARPE19 - SIG

There are no good in vitro models to study AMD pathogenesis. Here, we compare the impact and relevance pluripotent stem (ES & iPS) cell derived 2D and 3D RPE/retina/choroid constructs & primary RPE to study AMD pathogenesis in vitro.

Moderators: Kapil Bharti and Deborah A. Ferrington

Human pluripotent stem cells as an in vitro model to study RPE related diseases. *Heli Skottman.* University of Tampere, Tampere, Finland

Genome surgery in RPE derived from patient specific stem cells. *Stephen H. Tsang.* Columbia University Medical Center, New York, NY

Live-cell imaging of primary polarized RPE monolayers reveals novel mechanisms that could contribute to AMD. *Aparna Lakkaraju.* University of Wisconsin School of Medicine and Public Health, Madison, WI

Room 308

Tuesday, May 09, 2017 1:00 PM-2:30 PM

Glaucoma / Anatomy and Pathology/Oncology / Multidisciplinary Ophthalmic Imaging / Retina

356 New advancements in SD-OCT assessment of neuroretinal rim and fiber layer tissue for glaucoma detection and follow-up - SIG

Imaging using spectral-domain optical coherence tomography (SD-OCT) plays an increasing role in glaucoma management. This SIG will discuss the assessment of new parameters such as three-dimensional neuroretinal rim measurements or SD-OCT angiography.

Moderators: Ludwig M. Heindl, Anton B. Hommer and Claude F. Burgoyne

Organizer: *Ludwig M. Heindl.* Department of Ophthalmology, University of Cologne, Cologne, Germany

Organizer: *Anton B. Hommer.* Hera Hospital, Vienna, Austria

A change of paradigm: Overview on Bruch's membrane based neuroretinal rim measurement by SD-OCT. *Balwantray C. Chauhan.* Department of Ophthalmology and Visual Sciences, Dalhousie University, Halifax, NS, Canada

Characteristics in SD-OCT based morphology of small and large discs. *Philip Enders.* Department of Ophthalmology, University of Cologne, Cologne, Germany

Localized changes in SD-OCT measurements as a predictor of localized functional change in glaucoma. *Stuart K. Gardiner.* Devers Eye Institute Research Laboratories, Portland, OR

Diagnostic performance of a novel three-dimensional neuroretinal rim parameter for glaucoma using high-density volume scans. *Teresa C. Chen.* Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA

Combining SD-OCT with OCT angiography in glaucoma assessment. *David Huang.* Casey Eye Institute, Oregon Health & Science University, Portland, OR

Room 324

Tuesday, May 09, 2017 1:00 PM-2:30 PM

Immunology/Microbiology / Cornea

357 Mechanisms of ocular surface immunity in graft vs host disease and sjogren syndrome - SIG

Graft vs. Host Disease and Sjogren Syndrome are distinct severe immune-mediated diseases of the ocular surface. Comparing immune mechanisms that underlie these conditions will lead to the understanding of inflammation in ocular surface diseases.

Moderators: Victor L. Perez and Reza Dana

“Immune mechanisms of goblet cell loss in ocular surface inflammation”. *Stephen C. Pflugfelder.* Ophthalmology, Ocular Surface Center Baylor College of Medicine, Houston, TX

“Innate immune mechanisms of ocular surface inflammation: Role of neutrophil extracellular traps.”. *Sandeep Jain.* Ophthalmology, Illinois Eye and Ear Infirmary, University of Illinois Chicago, Chicago, IL *CR

“A significant role of mesenchymal stem cells in the development of fibrosis in response to ocular surface inflammation .” *Yoko Ogawa.* Ophthalmology, Keio University School of Medicine, Tokyo, Tokyo, Japan

Tuesday Workshops/SIGs
1:00 pm – 2:30 pm

 Ballroom 2

Tuesday, May 09, 2017 2:30 PM-3:45 PM

**360 Study of COmparative Treatments
for REtinal Vein Occlusion 2
(SCORE2): Primary Results**

To present the rationale, design and primary results of the Study of COmparative Treatments for REtinal Vein Occlusion 2 (SCORE2), a multicenter, phase 3 clinical trial funded by the National Eye Institute. SCORE2 was designed to investigate whether bevacizumab is non-inferior to aflibercept for the treatment of macular edema associated with central retinal vein occlusion or hemiretinal vein occlusion.

 — 2:30 **Background and Rationale:**
Ingrid Scott
3368 — 2:35 Study Design and Methods

of SCORE2. *Michael S. Ip.* Doheny Eye Institute, University of California - Los Angeles, Los Angeles, CA *CR

3369 — 2:45 Primary Results. *Ingrid U. Scott.*

Ophthal & Public Hlth Sci, Penn State College of Medicine, Hershey, PA

3370 — 3:05 Interesting Cases from SCORE2.

Barbara A. Blodi. Ophthalmology, Univ of Wisconsin-Madison, Madison, WI

 — 3:15 **Discussion**

Tuesday – All Posters

Exhibit/Poster Hall

Tuesday, May 09, 2017 2:45 PM-3:45 PM

361 All Posters and Networking

All presenters will be at their posters.

All Posters
2:45 pm – 3:45 pm

Ballroom 2

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Cornea

362 Corneal Tissue Engineering and Molecular Biology**Moderators: James L. Funderburgh and Rabab Sharif**

3371 — 3:45 Limbal Stromal Stem Cell Therapy for Acute and Chronic Superficial Corneal Pathologies: Early Clinical Outcomes of The Funderburgh Technique. *Sayan Basu, M. Damala, V. Singh.* Tej Kohli Cornea Institute, L V Prasad Eye Institute, Hyderabad, India ✕

3372 — 4:00 A Randomized Controlled Trial of Cultivated Limbal Epithelial Cells Compared to Mesenchymal Stem Cells for the Treatment of Corneal Failure due to Limbal Stem Cell Deficiency. *Margarita Calonge^{1,2}, J. Herrerias^{1,2}, I. Pérez^{1,2}, I. Fernández¹, S. Galindo^{1,2}, T. Nieto-Miguel^{2,1}, M. López-Paniagua^{1,2}, M. Alberca³, J. García-Sancho³, A. Sánchez³.* ¹IOBA (Institute of Applied Ophthalmobiology), University of Valladolid, Valladolid, Spain; ²CIBER-BBN (Biomedical Research Networking Centre in Bioengineering, Biomaterials and Nanomedicine), Carlos III National Institute of Health, Valladolid, Spain; ³IBGM (Institute of Molecular Biology and Genetics), University of Valladolid and National Research Council (CSIC), Valladolid, Spain ✕

3373 — 4:15 Regenerative Potential of Stem Cell-Derived Exosomes. *Golnar Shojaati^{1,2}, M. L. Funderburgh¹, M. Mann¹, I. Khandaker¹, J. L. Funderburgh¹.* ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Ophthalmology, University of Zurich, Zurich, Switzerland

3374 — 4:30 Gene Therapy of Mucopolysaccharidosis Type VII (MPS VII) with CRISPR/Cas9 Genome Editing. *Winston W. Kao¹, T. Ferreira¹, Y. Yuan¹, F. Dong¹, Y. Hu², M. Call¹, V. J. Coulson-Thomas^{1,3}, J. Zhang¹, T. Rice¹.* ¹Ophthalmology, University of Cincinnati, Cincinnati, OH; ²Developmental Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH; ³Optometry School, University of Houston, Houston, TX

3375 — 4:45 A versatile approach to modulate collagen fibrillogenesis to alter optical and biological properties of corneal implants. *Shoumyo Majumdar^{1,4}, X. Wang^{2,4}, J. J. Chae^{2,4}, J. Sohn³, J. Qin³, J. Elisseff².* ¹Materials Science and Engineering, Johns Hopkins University, Baltimore, MD; ²Wilmer Eye Institute, Johns Hopkins School of Medicine, Baltimore, MD; ³Biomedical Engineering, Johns Hopkins University, Baltimore, MD; ⁴Translational Tissue Engineering Center, Johns Hopkins University, Baltimore, MD

3376 — 5:00 Targeting plasma membrane repair in corneal wound healing. *Heather L. Chandler¹, R. F. Wehrman², A. J. Gemensky-Metzler¹.* ¹The Ohio State University, Columbus, OH; ²Iowa State University, Ames, IA

3377 — 5:15 The Development of an Ocular Wound Chamber for the Treatment of Ocular Wounds and Periorbital Tissue. *Gina L. Griffith¹, J. McDaniel¹, E. Eriksson², A. Johnson¹.* ¹Ocular Trauma, United States Army Institute for Surgical Research, San Antonio, TX; ²Harvard Medical School, Boston, MA

Ballroom 1

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Retinal Cell Biology

363 Macular degeneration-cell biology**Moderator: Michael H. Farkas**

3378 — 3:45 Expression of complement and other inflammatory pathway genes is coordinated in the human RPE cell transcriptome. *Paul N. Bishop^{1,2}, S. McHarg¹, N. Brace¹, A. W. Langford-Smith³, R. Unwin¹, R. Perveen^{1,4}, G. C. Black^{1,4}, A. Day¹, S. J. Clark¹.* ¹Faculty of Biology, Medicine & Health, University of Manchester, Manchester, United Kingdom; ²Manchester Royal Eye Hospital, CMFT, Manchester Academic Health Sciences Centre, Manchester, United Kingdom; ³Healthcare Science Research Institute, Manchester Metropolitan University, Manchester, United Kingdom; ⁴St. Mary's Hospital, CMFT, Manchester Academic Health Sciences Centre, Manchester, United Kingdom

3379 — 4:00 Retinal degeneration with choroidal hypoplasia in aged Aldh1a1^{-/-} mice. *So Goto^{2,1}, A. Onishi², K. Misaki³, S. Yonemura³, H. Sakaguchi⁴, K. Nishida¹, M. Takahashi².* ¹Ophthalmology, Osaka Univ Graduate School, Suita, Japan; ²Laboratory for Retinal Regeneration, RIKEN Center for Developmental Biology, Kobe, Japan; ³Electron Microscope Laboratory, RIKEN Center for Developmental Biology, Kobe, Japan; ⁴Advanced Device Medicine, Osaka University Graduate School of Medicine, Suita, Japan

3380 — 4:15 Protein homeostasis in the retinal pigment epithelium in age-related macular degeneration. *Alison L. Szabo, M. Lajko, S. Bello Rojas, A. A. Fawzi.* Department of Ophthalmology, Northwestern University Feinberg School of Medicine, Chicago, IL

3381 — 4:30 PGC-Ibeta promotes oxidative damage and dysfunction of the retinal pigment epithelium. *Magali Saint-Geniez^{1,2}, Q. Charles^{2,3}, M. Rosales^{1,2}, A. Khadka², G. Gnanaguru^{1,2}, J. Iacovelli^{1,2}.* ¹Ophthalmology, Harvard Medical School, Boston, MA; ²Schepens Eye Research Institute, Massachusetts Eye and Ear Infirmary, Boston, MA; ³Boston University School of Medicine, Boston, MA

3382 — 4:45 High-resolution and multispectral imaging of autofluorescent retinal pigment epithelium (RPE) granules. *Thomas Ach¹, S. Hong⁴, R. Heintzmann^{6,7}, J. Hillenkamp¹, K. R. Sloan⁵, N. S. Dey⁴, G. Gerig⁴, T. Smith³, C. Curcio², K. Bermond¹.* ¹Dept of Ophthalmology, University Hospital Wuerzburg, Wuerzburg, Germany; ²Department of Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ³Department of Ophthalmology, New York University School of Medicine, New York, NY; ⁴Department of Computer Science & Engineering, New York University Tandon School of Engineering, New York, NY; ⁵Computer and Information Sciences, University of Alabama at Birmingham, Birmingham, AL; ⁶Leibniz Institute of Photonic Technology, Jena, Germany; ⁷Friedrich-Schiller University Jena, Institute of Physical Chemistry and Abbe Center of Photonics, Jena, Germany *CR

3383 — 5:00 Mechanistic Insight into the Effects of the α CT1 Peptide on RPE Cell Integrity in Models of AMD. *Elisabeth Obert¹, G. Ghatnekar⁴, R. Gourdie³, B. Rohrer^{1,2}.* ¹Ophthalmology, Medical University of South Carolina, Charleston, SC; ²Ralph Johnson VA Medical Center, Charleston, SC; ³Virginia Tech Carilion Research Institute, Roanoke, VA; ⁴FirstString Research Inc., Mt. Pleasant, SC *CR

3384 — 5:15 β A3/A1-Crystallin/SLC36A4/V-ATPase complex in the RPE is a novel therapeutic target for AMD. *Peng Shang^{1,2}, M. Valapala³, S. L. Hose¹, J. Wan¹, J. Qian¹, Y. V. Sergeev⁴, J. Zigler, Jr.¹, D. Sinha¹.* ¹Ophthalmology, Wilmer Eye Institute, The Johns Hopkins University School of Medicine, Baltimore, MD; ²Tongji Eye Institute, Tongji University, Shanghai, China; ³Indiana University School of Optometry, Bloomington, IN; ⁴National Eye Institute, National Institutes of Health, Bethesda, MD

Ballroom 3

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Retina

364 Retinal gene therapy and stem cell transplantation

Moderator: Jose A. Sahel

3385 — 3:45 One Year Results of a Phase I/IIa Study of SAR422459 in Patients with Stargardt Macular Degeneration (SMD). David J. Wilson¹, J. A. Sahel², R. G. Weleber¹, L. R. Erker¹, A. K. Lauer¹, T. Stout³, I. S. Audo², S. Mohand-Said², P. Barale², L. Titeux⁴, R. BUGGAGE⁴.

¹Ophthalmology, Casey Eye Institute-OHSU, Portland, OR; ²Ophthalmology, Centre Hospitalier National d'Ophthalmologie des Quinze-Vingts, Paris, France; ³Ophthalmology, Baylor College of Medicine, Houston, TX; ⁴Sanofi, Chilly-Mazarin, France *CR, ✗

3386 — 4:00 Choroideremia Gene Therapy Phase II Clinical Trial: 6-Month Results. Byron L. Lam, J. Verriotto, N. Gregori, J. L. Davis. Bascom Palmer Eye Institute, University of Miami, Miami, FL ✗

3387 — 4:15 Gene Therapy with the Caspase Activation and Recruitment Domain (CARD) Slows the Retina Degeneration of the Sod2 Knock-Out Mouse Model of Geographic Atrophy. Cristhian J. Ildefonso², B. M. Bowman², M. Biswal¹, C. M. Ahmed¹, Q. Li², A. S. Lewin^{1,2}. ¹Molecular Genetics & Microbiol/Lewin Lab, Univ of Florida Coll of Medicine, Gainesville, FL; ²Ophthalmology, University of Florida College of Medicine, Gainesville, FL *CR

3388 — 4:30 Delivery of CR2-fH using AAV vector therapy as a treatment strategy in mouse model of choroidal neovascularization. Baerbel Rohrer^{1,2}, G. Schnabolk¹, B. Annamalai¹, N. Parsons¹, E. Obert¹, A. S. Lewin³, S. Tomlinson¹. ¹Med Univ of South Carolina, Charleston, SC; ²Ralph H. Johnson VA Medical Center, Charleston, SC; ³University of Florida Gainesville, Gainesville, FL *CR

3389 — 4:45 Seeing The Invisible With Intraoperative OCT In Surgical Vitreoretinal Animal Research For Upcoming Clinical Applications. Boris V. Stanzel^{1,2}, J. Amaral², A. Maminishkis², Z. Liu³, T. Ilmarinen⁴, H. Hongisto⁴, R. Zhou¹, V. A. Barathi², R. W. Beuerman⁵, E. Y. Wong⁴, H. Skottman⁴, K. Bharti², G. S. Tan^{1,5}. ¹Surgical Retina, Singapore National Eye Centre, Singapore, Singapore; ²National Eye Institute, Bethesda, MD; ³Ophthalmology, National University of Singapore, Singapore, Singapore; ⁴BioMediTech, University of Tampere, Tampere, Finland; ⁵Singapore Eye Research Institute, Singapore, Singapore *CR

3390 — 5:00 Two-Photon Polymerization of High-Resolution 3D, Biodegradable Photoreceptor Cell Scaffolds. Kristan S. Worthington¹, J. R. Thompson¹, B. J. Green², S. J. Bunn², E. E. Kaalberg¹, R. M. Johnston¹, L. A. Wiley¹, R. F. Mullins¹, E. M. Stone¹, C. A. Guymon², B. Tucker¹. ¹Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ²Chemical and Biochemical Engineering, The University of Iowa, Iowa City, IA

Ballroom 4

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Glaucoma

365 Capillaries, Blood Flow, OCT Angiography

Moderators: Ruikang K. Wang and Yali Jia

3391 — 3:45 Changes in the Radial Peripapillary Capillaries (RPCs) in human retina during "physiological aging": the forgotten vascular bed in glaucoma pathogenesis. Tailoi Chan-Ling¹, S. Ahn¹, M. Koina², M. Uddin¹, T. Maddess³, S. Adamson¹, M. Barbosa². ¹Department of Anatomy & Histology, University of Sydney, Sydney, NSW, Australia; ²ACT Pathology, Garran, ACT, Australia; ³Diagnostics for Eye Diseases Group, Australian National University, Canberra, NSW, Australia

3392 — 4:00 Investigation of optic nerve head microvascular changes in primary open angle glaucoma and chronic angle closure glaucoma using OCT-angiography. Luciano C. Custo Greig¹, K. Qiu^{1,2}, S. Awasthi¹, J. B. Miller¹, S. Brauner¹, S. H. Greenstein¹, A. V. Turalba¹, L. R. Pasquale^{1,3}, L. Q. Shen¹. ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ophthalmology, Tianming Ophthalmology and Optometry Clinic, Kunming, China; ³Channing Division of Network Medicine, Brigham and Women's Hospital, Boston, MA

3393 — 4:15 Peripapillary Capillary Density in Anterior Ischemic Optic Neuropathy Compared to that in Severe Primary Open-Angle Glaucoma. Masoud A. Fard¹, S. Moghimi¹, Y. Stawan^{2,3}, L. Geyman⁴, T. Y. Chui², R. B. Rosen², R. Ritch². ¹Ophthalmology, Tehran University of Medical Science, Farabi Eye Hospital, Tehran, Iran (the Islamic Republic of); ²Einhorn Clinical Research Center, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ³Ophthalmology, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand; ⁴Icahn School of Medicine at Mount Sinai, New York, NY *CR

3394 — 4:30 Radial Peripapillary Capillary Plexus Perfusion and Regional Visual Field Loss in Glaucoma. Liang Liu, Y. Jia, O. Tan, J. WANG, B. Edmunds, H. L. Takusagawa, M. Parikh, J. C. Morrison, D. Huang. Casey Eye Institute, Oregon Health & Science University, Portland, OR *CR, ✗

3395 — 4:45 Measurement of macular capillary network in glaucoma: An optical coherence tomography angiography (OCT-A) study. Kelvin H. Wan^{1,2}, A. Lam², C. K. Leung².

¹Department of Ophthalmology, Tuen Mun Hospital, Tuen Mun, Hong Kong; ²Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong *CR

3396 — 5:00 The Rate of Macular Microvascular Dropout is Faster in Glaucoma Eyes than Glaucoma Suspect and Healthy Eyes: A Longitudinal Study. Takuhei Shoji^{1,2}, L. M. Zangwill¹, T. Akagi^{1,3}, L. J. Saunders¹, A. Yarmohammadi¹, P. C. Manalastas¹, R. C. Pentead¹, F. Medeiros⁴, R. N. Weinreb¹. ¹Hamilton Glaucoma Center, Department of Ophthalmology and Shiley Eye Institute, University of California, San Diego, San Diego, CA; ²Department of Ophthalmology, Saitama Medical University, Iruma, Japan; ³Department of Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine, Kyoto, Japan *CR, ✗

3397 — 5:15 Live imaging of retinal pericytes: evidence for early calcium uptake, capillary constriction and vascular dysregulation in ocular hypertension glaucoma. Luis Alarcon-Martinez, J. Cueva Vargas, N. A. Belforte, D. Villafranca-Baughman, A. Di Polo. Department of Neuroscience, University of Montreal Hospital Research Center (CRCHUM), Montreal, QC, Canada

Hall G

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Retina

366 AMD imaging II and visual function

Moderator: James C. Folk

3398 — 3:45 Machine learning to predict the individual progression of AMD from imaging biomarkers. Ursula Schmidt-Erfurth¹, H. Bogunovic¹, S. Klmscha¹, X. Hu¹, T. Schlegl¹, A. Sadeghipour¹, B. Gerendas¹, A. Osborne², S. M. Waldstein¹. ¹Department of Ophthalmology, Medical University of Vienna, Vienna, Austria; ²Genentech, Inc., South San Francisco, CA *CR

3399 — 4:00 Time-resolved fundus autofluorescence in dry age-related macular degeneration. Lydia Sauer¹, L. Kreilkamp¹, S. Peters¹, D. Meller¹, P. S. Bernstein², M. Hammer¹. ¹Department of Ophthalmology, University Hospital Jena, Jena, Germany; ²Department of Ophthalmology and Visual Sciences, University of Utah, John A. Moran Eye Center, Salt Lake City, UT

3400 — 4:15 Foveal vs. Total Geographic Atrophy as a Predictor of Visual Acuity in AMD. Saghar Bagheri¹, I. Koulouri¹, L. Saad^{2,3}, D. G. Vavvas¹. ¹Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA; ²Harkness Eye Institute, Columbia University Medical Center, New York, NY; ³Alkeus Pharmaceuticals, Boston, MA *CR

3401 — 4:30 Topographic correlation of retinal layer thickness with mesopic and scotopic fundus controlled perimetry in early and intermediate age-related macular degeneration. Marlene Sassmannshausen¹, J. Steinberg¹, R. Fimmers², M. Fleckenstein¹, F. G. Holz¹, S. Schmitz-Valckenberg¹. ¹Eye Hospital, University Bonn, Bonn, Germany; ²University Bonn, Institute of Biostatistics, Bonn, Germany *CR

3402 — 4:45 Correlation of Dark Adaptation with Macular Morphology in Age-related Macular Degeneration. Deeba Husain¹, I. Lains^{1,2}, J. B. Miller¹, D. Park¹, E. Tsikata³, S. Davoudi¹, S. Rahmani¹, J. Pierce¹, R. Silva¹, T. C. Chen³, I. K. Kim¹, D. Vavvas¹, J. W. Miller¹. ¹Retina Service/Ophthal, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ophthalmology, Universidade de Coimbra, Coimbra, Portugal; ³Glaucoma Service/Ophthalmology, mass eye and ear, Boston, MA *CR

3403 — 5:00 Associations of retinal and choroidal thickness with visual acuity at year 5 in the Comparison of Age-Related Macular Degeneration Treatment Trials (CATT). Wenlan Zhang², G. Ying¹, D. F. Martin³, M. G. Maguire¹, C. A. Toth², G. J. Jaffe². ¹Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, Duke University, Durham, NC; ³Ophthalmology, Cleveland Clinic, Cleveland, OH *CR, X

Room 301

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Physiology/Pharmacology

367 Intraocular pressure

Moderators: W Daniel Stamer, Raghu R. Krishnamoorthy and Caterina Gagliano

3404 — 3:45 Rapid reversal of corticosteroid-induced ocular hypertension by netarsudil. W Daniel Stamer¹, G. Li¹, V. Agrahari², A. K. Mitra², C. Kocczynski³. ¹Duke University, Durham, NC; ²University of Missouri-Kansas City, Kansas City, MO; ³Aerie Pharmaceuticals, Durham, NC *CR

3405 — 4:00 Neuroprotective effects of inhibitors of Acid-Sensing ion channels (ASIC) in optic nerve crush model in rodents. Adnan Dibas¹, D. Stankowska¹, B. Mueller¹, O. Hidehiro², T. Yorio¹. ¹north texas eye institute, Fort worth, TX; ²Osaka Medical School, Osaka, Japan

3406 — 4:15 Evaluation of modern transpalpebral transscleral tonometry before and after keratorefractive surgery. Margarita Rozhdestvenskaya¹, A. Illarionova², A. Dashevsky¹, K. E. Koliar³. ¹Tonom GmbH, Muenster, Germany; ²Ophthalmology, Russian State Medical University, Moscow, Russian Federation; ³Medical Engineering and Technomathematics, Aachen University of Applied Sciences, Juelich, Germany; ⁴Dashevsky Eye Clinic, Munich, Germany *CR

3407 — 4:30 Late-onset Ocular Hypertension after Pars Plana Vitrectomy: Five-Year Results of a Multicenter Chart-Review Study. Teresio Avitabile¹, C. Gagliano¹, A. Longo¹, C. Mariotti², F. Boscia³, V. Bonfiglio¹, A. Russo¹, M. R. Fallico¹, G. Parisi¹, M. Reibaldi¹. ¹Eye Clinic, University of Catania, Catania, Italy, Catania, Italy; ²Università Politecnica delle Marche, Ancona, Italy; ³Università degli studi di Sassari, Sassari, Italy

3408 — 4:45 IOP Asymmetry in Nonhuman Primates (NHPs) Measured with Continuous Telemetry. Jessica V. Jasien¹, D. Turner¹, J. S. Morris², C. A. Girkin³, J. C. Downs³. ¹Vision Science, University of Alabama at Birmingham, Birmingham, AL; ²Biostatistics, University of Texas MD Anderson Cancer Center, Houston, TX; ³Ophthalmology, University of Alabama at Birmingham, Birmingham, AL

3409 — 5:00 Both Endothelin A (ET_A) and Endothelin B (ET_B) Receptors Are Involved in Neurodegeneration in a Rodent Model of Glaucoma. Raghu R. Krishnamoorthy, N. R. McGrady, S. He, D. L. Stankowska. North Texas Eye Research Center, UNT Health Science Center, Fort Worth, TX

Room 308

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Visual Neuroscience

368 Beyond the retina: Central visual circuits - Minisymposium

Vision is initiated in the retina. From there, signals from multiple channels pass to a number of brain regions where they are integrated and eventually form visual percepts. The topics to be covered in this minisymposium address the circuitry and plasticity of visual processing of various visual brain regions. Speakers will discuss dLGN, sub-cortical and cortical circuits and the integration of signal diversity established by retinal ganglion cell output. These speakers will emphasize the use of optogenetics and new transgenic tools that are rapidly advancing our understanding of the how the visual percept is formed.

Moderators: Ulrike Grunert and William Guido

3410 — 3:45 Beyond the retina: Central visual circuits. Peter W. Campbell. Anatomical Sciences & Neurobiology, University of Louisville, Louisville, KY

3411 — 4:05 Top-down input to V1 is gated by subcortical modulation. Sandra Kuhlman. Biological Sciences, Carnegie Mellon University, Pittsburgh, PA; Center for Neural Basis of Cognition, Pittsburgh, PA

3412 — 4:25 State-dependent regulation of visual cortex function. Jess Cardin. Yale School of Medicine, New Haven, CT

3413 — 4:45 Connecting the retina to the brain: specificity of subcortical targeting. Tania A. Seabrook. Department of Neurobiology, Stanford University School of Medicine, Stanford, CA

3414 — 5:05 Eye dominance and Acuity are Independent in a Murine Model of Amblyopia. Aaron W. Mcgee. University Southern California, Los Angeles, CA

Room 309

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Clinical/Epidemiologic Research

369 Refractive Error: Risk Factors to Intervention Studies

Moderators: Fiona Stapleton and Lucy Mudie

3415 — 3:45 Early life factors for myopia in the Twins Early Development Study (TEDS). Katie M. Williams^{1,2}, E. Yonova², M. J. Simcoe², J. Vehof^{1,2}, P. G. Hysi^{1,2}, C. J. Hammond^{1,2}. ¹Department of Ophthalmology, King's College London, London, United Kingdom; ²Department of Twin Research & Genetic Epidemiology, King's College London, London, United Kingdom

3416 — 4:00 Risk Factors for Different Severities of Myopia and Hyperopia among Multiethnic Preschool Children. Xuejuan Jiang^{1,2}, D. Stram², K. Tarczy-Hornoch^{3,4}, J. Katz⁵, S. Saw^{6,7}, P. Mitchell⁸, K. A. Rose⁹, R. Varma¹. ¹Ophthalmology, University of Southern California, Los Angeles, CA; ²Preventive Medicine, University of Southern California, Los Angeles, CA; ³Ophthalmology, University of Washington, Seattle, WA; ⁴Seattle Children's Hospital, Seattle, WA; ⁵International Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ⁶Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore; ⁷Singapore Eye Research Institute, Singapore, Singapore; ⁸Centre for Vision Research, The Westmead Institute, Sydney, ACT, Australia; ⁹Discipline of Orthoptics, University of Technology Sydney, Ultimo, NSW, Australia

3417 — 4:15 Lifestyle and hyperopia: the Generation R study. *Adriana Roth¹, W. Tideman¹, J. Polling^{1,2}, B. Spek³, M. Verkaik-Rijneveld⁴, V. Jaddoe¹, C. Klaver^{1,5}.* ¹Ophthalmology & Epidemiology, Erasmus MC, Rotterdam, Netherlands; ²Faculty of Health, University of Applied Sciences, Utrecht, Netherlands; ³Clinical Epidemiology, Biostatistics & Bioinformatics, University of Amsterdam, Amsterdam, Netherlands; ⁴The Rotterdam Eye Hospital, Rotterdam, Netherlands; ⁵Ophthalmology, Radboudumc, Nijmegen, Netherlands

3418 — 4:30 Spectacle correction and reading ability in a school-based vision study in inner-city Baltimore. *Lucy Mudie¹, A. Huang¹, R. Mukherjee¹, N. Madden², R. Slavin², J. Oweye¹, D. S. Friedman¹, M. X. Repka¹, M. E. Collins¹.* ¹Wilmer Eye Institute, Johns Hopkins, Baltimore, MD; ²School of Education, Johns Hopkins University, Baltimore, MD ✉

3419 — 4:45 Pseudomyopia in China: Prevalence and impact of inaccurate spectacle power among Chinese children of different ages. *Catherine Jan^{2,1}, M. Kang², S. Li², P. Mitchell³, K. A. Rose⁴, N. G. Congdon⁵, N. Wang².* ¹Psychological and Cognitive Sciences, Peking University, Beijing, China; ²Ophthalmology, Beijing Tongren Eye Center, Beijing, China; ³Ophthalmology, University of Sydney, Sydney, NSW, Australia; ⁴University of Technology Sydney, Sydney, NSW, Australia; ⁵Preventative Eyecare, Zhongshan Ophthalmic Centre, Guangdong, China

3420 — 5:00 Living experiences of people with refractive error - A qualitative study from Nepal. *Himal Kandel¹, J. Khadka¹, M. Shrestha², P. Dhungana², R. Kaiti³, R. Poude⁴, A. Pradhan², K. Pradhan², B. Nepal³, K. Pesudovs¹.* ¹Optometry, Flinders University, Bedford Park, SA, Australia; ²Tilganga Institute of Ophthalmology, Kathmandu, Nepal; ³Dhulikhel Hospital, Kathmandu University, Kavre, Nepal

3421 — 5:15 Ten-year changes in axial length in the Beaver Dam Eye Study. *Kristine E. Lee, B. E. Klein, R. Klein, M. Rechek.* Ophthalmology & Visual Sciences, University of Wisconsin-Madison, Madison, WI

Room 314

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Genetics Group

370 New Insights and Animal models**Moderator: Michael A. Walter**

3422 — 3:45 Alternative splicing of mRNA regulated by Musashi is crucial for photoreceptor development and function. *Jesse Sundar^{1,2}, P. Stoilov¹, V. Ramamurthy^{1,2}.* ¹Biochemistry and Molecular Biology, West Virginia University, Morgantown, WV; ²Ophthalmology, West Virginia University, Morgantown, WV

3423 — 4:00 Complex interaction and Hardy-Weinberg disequilibrium of ABCA4 disease-causing alleles provides insights into the pathogenesis of retinopathy. *Ana Fakin^{1,2}, V. Cipriani^{1,2}, S. Lambertus³, N. Bax³, A. G. Robson^{1,2}, K. Fujinami^{1,4}, J. Chiang⁵, A. T. Moore^{1,6}, M. Michaelides^{1,2}, G. E. Holder^{1,2}, C. C. Hoyng³, A. R. Webster^{1,2}.* ¹UCL Institute of Ophthalmology, London, United Kingdom; ²Moorfields Eye Hospital, London, United Kingdom; ³Department of Ophthalmology, Donders Institute for Brain, Cognition and Behaviour, Radboud university medical center, Nijmegen, Netherlands; ⁴National Institute of Sensory Organs, National Hospital Organization, Tokyo Medical Center, Tokyo, Japan; ⁵Casey Molecular Diagnostic laboratory, Portland, OR; ⁶Department of Ophthalmology, UCSF School of Medicine, San Francisco, CA

3424 — 4:15 Genetic Variation in RRAGC Affects Progression Rate from Intermediate to Advanced Age-Related Macular Degeneration. *William K. Scott¹, P. Persad¹, R. J. Sardell¹, S. S. Pan¹, P. W. Gay¹, L. D. Adams¹, R. Laux², J. Fortun³, M. A. Brantley⁴, J. L. Kovach³, S. G. Schwartz², A. Agarwal^{1,5}, J. L. Haines², M. A. Pericak-Vance¹.* ¹John P. Hussman Institute for Human Genomics, University of Miami, Miami, FL; ²Department of Epidemiology and Biostatistics, Case Western Reserve University, Cleveland, OH; ³Bascom Palmer Eye Institute, University of Miami, Miami, FL; ⁴Ophthalmology and Visual Sciences, Vanderbilt University Medical Center, Nashville, TN; ⁵West Coast Retina, San Francisco, CA *CR

3425 — 4:30 Nature of the endophenotypes associated with the modifier for age-at-onset of glaucoma mapping at 20q13. *Vincent Raymond^{1,2}, P. Belleau¹, R. Arseneault¹, S. Dubois³, J. Anttil⁴, G. Côté⁴, M. Amyot⁵, F. Elian⁶, M. A. Walter⁶.* ¹Neurosciences, CHUL at CHU de Québec - Université Laval, Québec City, QC, Canada; ²Molecular Medicine, Université Laval, Québec City, QC, Canada; ³Endocrinology and Nephrology, CHUL at CHU de Québec - Université Laval, Québec City, QC, Canada; ⁴Ophthalmology, Université Laval, Québec City, QC, Canada; ⁵Ophthalmology, Université de Montréal, Montréal, QC, Canada; ⁶Medical Genetics, University of Alberta, Edmonton, AB, Canada

3426 — 4:45 Identification of Novel Genes Required for Eye Function via Systematic Screening of Knockout Mouse Lines by the International Mouse Phenotyping Consortium. *Ala Moshiri¹, B. Moore², A. Cooper², B. Leonard², S. Edwards², L. Sebbag², D. Imai¹, S. M. Griffey⁴, D. Clary³, L. R. Bower³, S. M. Thomas², T. Meehan⁶, M. J. Roux⁵, P. Reilly⁵, Y. Herculat⁵, C. J. Murphy^{2,1}.* ¹Ophthalmology, U.C. Davis, Sacramento, CA; ²Veterinary Surgical and Radiological Sciences, UC Davis, Davis, CA; ³Mouse Biology Program, UC Davis, Davis, CA; ⁴Comparative Pathology Laboratory, U.C. Davis, Davis, CA; ⁵PHENOMIN-Institut Clinique de la Souris, Institut de Genetique et de Biologie Moleculaire et Cellulaire, Strasbourg, France; ⁶International Mouse Phenotyping Program, European Bioinformatics Institute, Hinxton, United Kingdom

3427 — 5:00 A Mouse Model of Schnyder Corneal Dystrophy with the N100S Point Mutation. *Fei Dong¹, X. Jin², M. Boettler¹, S. Harrison¹, M. S. Abu-Asab³, S. Wang^{1,4}, Y. Hu⁶, M. M. Campos³, H. S. Kruth³, J. S. Weiss⁵, W. W. Kao¹.* ¹Ophthalmology, University of Cincinnati, Cincinnati, OH; ²Laboratory of Experimental Atherosclerosis, NIH, Bethesda, MD; ³Histopathology Core Facility, NIH/NEI, Bethesda, MD; ⁴Ophthalmology, the Second Hospital of Jilin University, Changchun, China; ⁵Department of Ophthalmology, Pathology and Pharmacology, Louisiana State University, New Orleans, LA; ⁶Division of Developmental Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

3428 — 5:15 Abnormal ocular development and reduced vision in zebrafish after morpholino-mediated knockdown of ARHGAP33. *Angela Gauthier^{1,2}, J. Borchert¹, A. Larson¹, J. L. Wiggs¹.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ophthalmology and Visual Science, Yale School of Medicine, New Haven, CT

Room 316

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Visual Psychophysics/Physiological Optics

371 Improving Retinal Imaging and Image Understanding- AO**Moderator: Nancy J. Coletta**

3429 — 3:45 Near-infrared autofluorescence imaging reveals the retinal pigment epithelial mosaic in the living human eye. *Charles E. Granger^{1,2}, D. R. Williams^{1,2}, E. A. Rossi³.* ¹The Institute of Optics, University of Rochester, Rochester, NY; ²Center for Visual Science, University of Rochester, Rochester, NY; ³Department of Ophthalmology, School of Medicine, University of Pittsburgh, Pittsburgh, PA *CR

3430 — 4:00 In vivo imaging of human retinal ganglion cells with AO-OCT. *Zhuolin Liu, K. Kurokawa, F. Zhang, D. T. Miller.* School of Optometry, Indiana University, Bloomington, IN

3431 — 4:15 Two-photon fluorescence lifetime ophthalmoscopy of intrinsic fluorophores on a cellular scale in the living macaque.

James Feeks^{1,2}, S. Walters^{1,2}, C. Schwarz², J. J. Hunter^{3,2}. ¹The Institute of Optics, University of Rochester, Rochester, NY; ²Center for Visual Science, University of Rochester, Rochester, NY; ³Flaum Eye Institute, University of Rochester, Rochester, NY *CR

3432 — 4:30 Spectral sensitivity of the cone photoreceptor intrinsic reflectance response.

Robert F. Cooper^{1,2}, W. S. Tuten^{1,2}, A. Dubra³, D. H. Brainard², J. I. Morgan^{1,4}. ¹Ophthalmology, Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ²Psychology, University of Pennsylvania, Philadelphia, PA; ³Ophthalmology, Stanford University, Stanford, CA; ⁴Ophthalmology, Center for Advanced Retinal and Ophthalmic Therapeutics, University of Pennsylvania, Philadelphia, PA *CR

3433 — 4:45 Differences in the distribution of cone density for younger vs. older healthy subjects. *Ann E. Elsner, J. A. Papay, S. A. Burns.* Optometry, Indiana University, Bloomington, IN

3434 — 5:00 Enhanced imaging of retinal vessels using a configurable aperture AOSLO.

Kaitlyn Sapoznik, T. Luo, R. L. Warner, A. De Castro, L. Sawides, S. A. Burns. Indiana University School of Optometry, Bloomington, IN

3435 — 5:15 Retinal cell refractive model describes the source of the contrast in split-detector ophthalmoscopy.

Andres Guevara-Torres^{1,2}, C. Schwarz¹, D. R. Williams^{1,2}, J. B. Schallek^{3,1}. ¹Center for Visual Science, University of Rochester, Rochester, NY; ²The Institute of Optics, University of Rochester, Rochester, NY; ³Flaum Eye Institute, University of Rochester, Rochester, NY *CR

3437 — 4:00 A novel type of multiple innervation and a complex relation between desmin and innervation in human extraocular muscles. *Fatima Pedrosa Domellof¹, J. Liu².*

¹Dept of Clinical Sciences, Ophthalmology, Umea University, Umea, Sweden; ²Dept of Integrative Medical Biology, Anatomy, Umea University, Umea, Sweden

3438 — 4:15 Effects of Glial Derived Neurotrophic Factor on Contractile Properties of Extraocular Muscle.

Linda K. McLoon, K. R. Fitzpatrick. Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN

3439 — 4:30 Identification of a novel putative variant in the EPHA2 gene on Chromosome 1p in a family with exotropia by whole exome sequencing.

Zia Chaudhuri^{1,3}, J. John³, S. Aneja², B. Thelma³. ¹Department of Ophthalmology, Lady Hardinge Medical College, University of Delhi, New Delhi, India; ²Department of Pediatrics, Lady Hardinge Medical College, University of Delhi, New Delhi, India; ³Department of Genetics, University of Delhi South Campus, New Delhi, India

3440 — 4:45 Factors associated with atypical postoperative drift following surgery for consecutive exotropia.

David A. Leske¹, S. R. Hatt¹, S. Maxfield¹, J. Jung^{1,2}, J. M. Holmes¹. ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Ophthalmology, Pusan National University Hospital, Yangsan, Korea (the Republic of)

3441 — 5:00 Effect of target parameters on fixational saccades in strabismic monkeys.

Suraj Upadhyaya, M. Pullela, S. Ramachandran, S. Adade, A. C. Joshi, V. E. Das. College of Optometry, University of Houston, Houston, TX

3442 — 5:15 Multiple Short Daily Periods of Normal Visual Experience Can Preserve Stereopsis in Optical Strabismus.

Janice M. Wensveen, E. L. Smith, L. Hung, B. Arumugam, R. Harwerth. College of Optometry, University of Houston-Main Campus, Houston, TX

Room 324

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

372 Strabismus: Basic and Clinical

Moderators: Paul D. Gamlin, Linda K. McLoon and Zia Chaudhuri

3436 — 3:45 Cross-sectional area measurement and fiber type distribution after bupivacaine injection in the rabbit extraocular muscle.

Luisa M. Hopker¹, J. Neves², D. Nascimento³, T. Mendonça¹, E. Zanoteli², N. Allemann¹. ¹Ophthalmology, Federal University of Sao Paulo, Curitiba, Brazil; ²University of Sao Paulo, Sao Paulo, Brazil; ³Hospital Evangelico de Curitiba, Curitiba, Brazil

↗ Refer to the Program Number in the Clinical Trial (CT) Registration Index. *CR Refer to the Program Number in the Commercial Relationships (CR) Index for Disclosures.

Exhibit/Poster Hall A0066-A0088

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Retinal Cell Biology

373 ROP: Basic mechanisms

Moderators: M Elizabeth Hartnett and Kip M. Connor

3443 — A0066 Gene delivery of vasostatin via a self-complementary adeno-associated virus 2 inhibits retinal neovascularization in a rat model of oxygen-induced retinopathy. Leilei Tu^{1,2}, J. Wang^{2,3}, M. Tai⁴, G. Dusting^{2,3}, G. Liu^{2,3}.
¹Department of ophthalmology, the First Affiliated Hospital of Jinan University, Guangzhou, China; ²Centre for eye research Australia, Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia; ³Ophthalmology, Department of Surgery, University of Melbourne, Melbourne, VIC, Australia; ⁴Institute of Biomedical Sciences, National Sun Yat-Sen University, Kaohsiung, Taiwan

3444 — A0067 Global Gene Expression Profiling Among Different Stages of Retinopathy of Prematurity. Inderjeet Kaur¹, S. Rathi¹, S. Jalali², D. Balakrishnan², P. P. Chhablani³, R. Kekunaya³, S. Chakrabarti¹. ¹Professor Brien Holden Eye Research Centre, L V Prasad Eye Institute, HYDERABAD, India; ²Smt. Kannuri Santhamma Centre for Vitreo retinal Diseases, L V Prasad Eye Institute, Hyderabad, India; ³Jasti V Ramanamma Children's Eye Care Centre, L V Prasad Eye Institute, Hyderabad, India

3445 — A0068 Characterisation of VEGF in a new model of oxygen-induced vitreoretinopathy. Tejas Kumar^{1,2}, L. Ah-Kye², S. Dando¹, S. Selvam², M. Fruttiger², P. McMenamin¹. ¹Department of Anatomy and Developmental Biology, Monash University, Melbourne, VIC, Australia; ²Department of Brain Sciences, Institute of Ophthalmology, London, United Kingdom

3446 — A0069 Early and late structural and functional findings of the Oxygen-Induced Retinopathy (OIR) mouse model. Marina Garcia Garrido, J. Haller, M. Hugger, J. Huber, N. Zippel, R. Herrmann. Boehringer Ingelheim Pharma GmbH & Co. KG, Biberach an der Riss, Germany *CR

3447 — A0070 Inhibition of micro RNA-21 (miR-21) halts retinal neovascularization by rescuing expression and function of tissue inhibitor of matrix metalloproteinase 3 (TIMP3). Shubhra Rajpurohit, M. Thounaojam, P. Malla, D. Gutsaeva, M. Bartoli. Ophthalmology, Augusta University, Augusta, GA

3448 — A0071 Inhibition of Uncoupling Protein 2 Promotes Physiologic Retinal Vascularization via Activation of GLUT1 and S6K1. Xiaokun Han^{1,2}, H. Wang¹, M. Hartnett¹. ¹Department of Ophthalmology, Moran Eye Center, University of Utah, Salt Lake City, UT; ²Department of Ophthalmology, The Fourth Affiliated Hospital of China Medical University, Shenyang, China

3449 — A0072 High dose vitamin A (HDVA) treatment increases revascularization and reduces neovascularization in a rat model of oxygen induced retinopathy (OIR). Julie A. Mocko¹, D. C. Oteson¹, Y. Wei², X. I. Couroucl², L. J. Frishman¹. ¹College of Optometry, University of Houston, Houston, TX; ²Section of Neonatology, Department of Pediatrics, Baylor College of Medicine, Houston, TX

3450 — A0073 Analysis of Wnt pathway components during combined intrauterine growth restriction and oxygen-induced retinopathy. Silke Becker¹, R. Brown¹, A. Brown², C. Fung², M. Hartnett¹. ¹John A. Moran Eye Center, University of Utah, Salt Lake City, UT; ²Department of Pediatrics, University of Utah, Salt Lake City, UT

3451 — A0074 Interleukin 1 Beta reduces hypoxia, prevents neovascularisation and promotes healthy vascular regeneration in oxygen induced retinopathy. Senthil Selvam^{1,2}, A. Scott², M. J. Radeke³, M. Fruttiger¹. ¹Institute of Ophthalmology, University College London, London, United Kingdom; ²NIHR Biomedical Research Centre, Moorfields Eye Hospital, London, United Kingdom; ³Neuroscience Research Institute, University of California Santa Barbara, Santa Barbara, CA *CR

3452 — A0075 TREM-1 blockade prevents vitreoretinal neovascularization in a mouse model of retinopathy of prematurity. Modesto A. Rojas¹, R. B. Caldwell¹, Z. Shen², A. Sigalov². ¹Vascular Biology Center, Augusta University, Augusta, GA; ²Signablock, Inc, Shrewsbury, MA *CR

3453 — A0076 Astrocytic Cx43 in Retinal Hypoxia: Gap junctions Vs Hemichannels. Miduturu Srinivas, A. Toychiev, S. A. Bloomfield, N. SLAVI. Biological Sciences, SUNY College of Optometry, New York, NY

3454 — A0077 Secretogranin III as a novel angiogenic target for retinopathy of prematurity. Michelle LeBlanc^{1,3}, W. Wang¹, X. Chen¹, N. B. Cabero², Y. Ji¹, H. Tian^{2,1}, W. Li^{1,3}. ¹Bascom Palmer Eye Institute, Miami, FL; ²University of Nevada Las Vegas, Las Vegas, NV; ³Everglades Biopharma, Miami, FL *CR

3455 — A0078 Characterisation of retinal vascular growth and retinal astrocytes in a novel oxygen-induced retinopathy murine model. Laura Ah-Kye¹, T. Kumar^{1,2}, S. Selvam¹, P. Naser^{1,2}, A. Dawood¹, P. McMenamin², M. Fruttiger¹. ¹Ophthalmology, UCL, London, United Kingdom; ²Monash University, Melbourne, VIC, Australia

3456 — A0079 Endothelial cell specific gene expression changes in Oxygen Induced Retinopathy. Alena Bartakova¹, G. Weiner¹, N. Ferrara², R. Daneman³, E. Nudleman¹. ¹Ophthalmology, Shiley Eye Institute, UCSD, La Jolla, CA; ²Pathology, UCSD, San Diego, CA; ³Pharmacology, UCSD, San Diego, CA

3457 — A0080 Systemic treatment by the Rho-kinase inhibitor Fasudil does not alter the mRNA levels of inflammatory markers after oxygen-induced retinal neovascularization in mice. Norbert Kociok¹, C. Brockmann¹, E. Jaroslawska-Setlak^{1,2}, S. Dege¹, C. Corkhill¹, A. M. Jossen¹. ¹Ophthalmology, Charite Universitätsmedizin Berlin, Berlin, Germany; ²Vitreoretinal Surgery, Medical University of Lublin, Lublin, Poland

3458 — A0081 Histopathologic Characterization of the Expression and Distribution of IGF-1 in Retinopathy of Prematurity. Maria Paula Fernandez¹, S. R. Dubovy¹, A. M. Berrocal², C. A. Harper³, R. K. Lee⁴. ¹Ocular Pathology, Bascom Palmer Eye Institute, Miami, FL; ²Pediatric Retina, Bascom Palmer Eye Institute, Miami, FL; ³Austin Retina Associates, Austin, Texas; ⁴University of Texas Health, Austin, TX; ⁵Bascom Palmer Eye Institute, Miami, FL

3459 — A0082 Effects of inhibition of neovascular signalling in a model of retinopathy of prematurity. Peter Heiduschka¹, T. Plagemann¹, A. F. Alex², N. Eter². ¹Research laboratory, Department of Ophthalmology, University of Muenster Medical Centre, Muenster, Germany; ²Department of Ophthalmology, University of Muenster Medical Centre, Muenster, Germany *CR

3460 — A0083 Retinal neurodegeneration and neovascularization are suppressed by HIF inhibitor topotecan in murine models of retinopathy. Yukihiro Miwa^{1,2}, M. Miyauchi^{1,2}, A. Ishida^{1,2}, Y. Katada^{1,2}, H. Kunimi^{1,2}, Y. Tomita^{1,2}, K. Tsubota¹, T. Kurihara^{1,2}. ¹Department of Ophthalmology, Keio University School of Medicine, Tokyo, Japan; ²Laboratory of Photobiology, Keio University School of Medicine, Tokyo, Japan

3461 — A0084 Inflammatory infiltrates in hyperoxia-induced proliferative retinopathy in C57BL/6J and C57BL/6N strains. Michelle Lajko¹, H. J. Cardona², J. M. Taylor², K. N. Farrow², A. A. Fawzi¹. ¹Ophthalmology, Northwestern University, Chicago, IL; ²Pediatrics, Northwestern University, Chicago, IL

3462 — A0085 Characterization of the neuroinflammatory response in the oxygen-induced retinopathy model of ischemic retinopathy. Kyle Marra^{1,2}, S. Murinello², F. Bucher², E. Aguilar², M. Friedlander². ¹Medicine, Bioengineering, University of California, San Diego, La Jolla, CA; ²Cell and Molecular Biology, The Scripps Research Institute, La Jolla, CA

3463 — A0086 Overexpression of spermine oxidase in retinal neurons aggravates vascular injury in a model of retinopathy of prematurity. Chintan Patel^{1,5}, P. PICHAVARAM^{2,5}, M. Cervelli³, R. B. Caldwell^{4,1}, S. Narayanan^{2,5}. ¹Vascular Biology Center, Augusta University, Augusta, GA; ²Department of Occupational Therapy, Augusta University, Augusta, GA; ³Department of Sciences, University Roma Tre, Rome, Italy; ⁴Veterans Administration, Augusta, GA; ⁵Vision Discovery Institute, Augusta University, Augusta, GA

3464 — A0087 Therapeutic Effects of Insulin-Like Growth Factor-1 in Hyperglycemic Retinopathy of Prematurity. Elizabeth P. Moran¹, R. Liegl¹, Z. Fu¹, Y. Sun¹, S. Burnim¹, S. Meng¹, C. Lofqvist², A. Hellstrom², L. E. Smith¹. ¹Ophthalmology, Boston Children's Hospital, Boston, MA; ²Ophthalmology, University of Gothenburg, Gothenburg, Sweden

3465 — A0088 Efficacy of novel hypoxia inducible factor-prolyl hydroxylase (HIF-PH) inhibitor in the prevention of retinopathy of prematurity (ROP). Jin Zhang^{2,1}, G. Hoppe², J. Wang², Y. Bolok², A. Sharma², J. E. Sears^{2,1}. ¹Cleveland Clinic Lerner College of Medicine, Cleveland, OH; ²Cole Eye Institute, Cleveland Clinic, Cleveland, OH

Exhibit/Poster Hall A0089-A0121

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Glaucoma

374 Trabecular Meshwork and Ciliary Body

Moderator: Terete Borrás

3466 — A0089 Dynamic changes of iridocorneal angle morphology during accommodation in healthy children. Moritz C. Daniel^{1,2}, B. MacPhee⁵, P. Ibanez⁵, N. Venturi⁷, A. M. Dubis³, M. Theodorou⁴, G. G. Adams⁵, M. Papadopoulos⁶, J. Brookes⁶, P. T. Khaw⁶, A. H. Dahlmann-Noor¹. ¹Department of Paediatric Ophthalmology and Strabismus, NIHR Moorfields Biomedical Research Centre at Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, United Kingdom; ²Eye Center, Medical Center, University of Freiburg, Freiburg, Germany; ³BRC at Moorfields Eye Hospital and UCL-Institute of Ophthalmology, London, United Kingdom; ⁴Department of Paediatric Ophthalmology and Strabismus, Moorfields Eye Hospital, London, United Kingdom; ⁵Moorfields Eye Hospital, London, United Kingdom; ⁶Glaucoma Service, Moorfields Eye Hospital, London, United Kingdom; ⁷Orthoptics, Moorfields Eye Hospital, London, United Kingdom

3467 — A0090 Comparison of Schlemm's Canal Giant Vacuoles between Eyes with Primary Open Angle Glaucoma and Age-matched Normals. Ariel Gelman¹, L. Gong^{1,2}, E. Cha¹, M. Johnson³, H. Gong¹. ¹Ophthalmology, Boston University School of Medicine, Boston, MA; ²Ophthalmology, Qingpu Branch of Zhongshan Hospital Affiliated to Fudan University, Shanghai, China; ³Biomedical Engineering, Northwestern University, Evanston, IL

3468 — A0091 Transcleral laser, ciliary muscle shortening & outflow pathway reorganization. Murray A. Johnstone, S. Padilla, K. Wen. Ophthalmology, University of Washington, Seattle, WA

3469 — A0092 Freeze-thaw Decellularization with Preserved Trabecular Meshwork Scaffold in an Ex Vivo Eye Perfusion Model. Susannah Waxman¹, Y. Dang¹, R. Loewen¹, C. Wang^{1,2}, A. Jensen¹, N. Loewen¹. ¹University of Pittsburgh, Pittsburgh, PA; ²Xiangya School of Medicine, Central South University, Changsha, China

3470 — A0093 Generation of a transient (non-germline transmission) Mgp conditional-Knockout (c-KO) in the trabecular meshwork of living mice. Priyadarsini Asokan¹, L. Rodriguez Estevez², T. Borrás^{1,2}. ¹Ophthalmology, Univ of NC at Chapel Hill, Chapel Hill, NC; ²Gene Therapy Center, Univ of NC at Chapel Hill, Chapel Hill, NC

3471 — A0094 Human microvascular endothelial cells (HMVECs) assume Schlemm's canal (HSC) cell characteristics after co-culture with human trabecular meshwork (HTM) cells and can be used to model conventional outflow. Karen Y. Torrejon^{1,2}, E. Papke², D. J. Bharali¹, M. Bergkvist¹, W. Stamer⁴, S. T. Sharfstein², Y. Xie², F. Ahmed¹, J. Danias³. ¹Glauconix Inc., Albany, NY; ²SUNY Polytechnic Institute, Albany, NY; ³Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY; ⁴Duke University, Durham, NC *CR

3472 — A0095 Histopathological findings in trabeculectomy specimens. Andres Lisker-Cervantes, L. Laneri Pusineri, R. Castañeda Diez. Asociación para Evitar la Ceguera en México I.A.P., Mexico City, Mexico

3473 — A0096 Morphologic Changes in Trabecular Meshwork Associated with Thapsigargin Induced Mouse Glaucoma Model. Ruiyi Ren^{1,2}, Y. ZHOU³, T. Le¹, E. Yang³, Y. Du³, H. Gong^{1,2}. ¹Ophthalmology, Boston University School of Medicine, Boston, MA; ²Anatomy and Neurobiology, Boston University School of Medicine, Boston, MA; ³Ophthalmology, University of Pittsburgh School of Medicine, Pittsburgh, PA

3474 — A0097 Treatment of refractory glaucoma using high-intensity focused ultrasound cycloablation. Chiara Del Noce, A. Bagnis, M. M. Iester, C. E. Traverso. DiNOGMI Clinica Oculistica, IRCCS Azienda Ospedaliera Universitaria San Martino - IST, Genoa, Italy

3475 — A0098 Clinical outcomes of combined cataract surgery with iStent implantation. Anna Djougarian¹, A. Angelilli^{1,2}, R. Rothman^{1,2}, C. H. Marcus^{1,2}, D. Hayes^{1,2}. ¹Ophthalmology, Northwell, Great Neck, NY; ²Glaucoma Consultants of Long Island, Bethpage, NY

3476 — A0099 Safety and Efficacy of iStent Insertion Performed by Resident Surgeons. Kevin Mays¹, K. F. Allen², B. B. Markowitz², S. Iverson². ¹University of South Carolina School of Medicine, Columbia, SC; ²Department of Ophthalmology, Palmetto Health - University of South Carolina Medical Group, Columbia, SC

3477 — A0100 Aqueous humor dynamics in uveitis: a comparative study in hypertensive uveitis. Pouya Alaghband^{1,2}, A. Baneke¹, E. Galvis¹, M. Madekurozwa³, B. Chu^{3,4}, D. Overby³, M. Stanford^{1,2}, K. Lim^{1,2}. ¹Ophthalmology, St Thomas Hospital, London, United Kingdom; ²Diabetes and Nutritional Sciences, King's College London, London, United Kingdom; ³Bioengineering, Imperial College London, London, United Kingdom; ⁴Bioengineering, Oxford University, Oxford, United Kingdom ✂

3478 — A0101 Effect of continuous eye perfusion on rat aqueous humor dynamics. Christopher L. Passaglia^{1,2}, K. Ficarrota¹. ¹Chemical and Biomedical Engineering Department, University of South Florida, Tampa, FL; ²Ophthalmology Department, University of South Florida, Tampa, FL *CR

3479 — A0102 Aqueous Angiography Based Comparison of High- and Low-Flow Regions for Alpha-Smooth Muscle Actin (α-SMA) and Versican in Post-Mortem Human Eyes. Sindhu Saraswathy¹, T. Bogarin^{1,2}, C. Mohindroo¹, B. A. Francis¹, J. C. Tan^{1,2}, D. R. Hinton³, R. N. Weinreb^{4,5}, A. S. Huang^{4,2}. ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, University of California Los Angeles, Los Angeles, CA; ³Pathology, University of Southern California, Los Angeles, CA; ⁴University of California, San Diego, La Jolla, CA; ⁵Shiley Eye Institute, San Diego, CA *CR

3480 — A0103 Steroid-Response in Primary Culture Scleral Cells, Implications for Distal Outflow Pathology. Thania Bogarin^{1,4}, S. Saraswathy¹, E. Tannous⁴, C. Zhang⁴, J. Gonzalez¹, J. C. Tan^{1,4}, D. R. Hinton³, R. N. Weinreb^{3,5}, J. J. Zheng⁴, A. S. Huang^{1,4}. ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, University of Southern California, Los Angeles, CA; ³Ophthalmology, University of California, San Diego, La Jolla, CA; ⁴University of California, Los Angeles, Los Angeles, CA; ⁵Shiley Eye Institute, San Diego, CA *CR

3481 — A0104 Differential miRNA Expression in Response to Mechanical Stress in Human Trabecular Meshwork Cells. Inas Helwa¹, M. Drewry¹, W. M. Johnson², W. Dismuke², I. F. Aboobakar², K. M. Perkumas², R. R. Allingham², M. A. Hauser^{2,3}, W. D. Stamer², Y. Liu¹. ¹Cellular Biology and Anatomy, Augusta University, Augusta, GA; ²Ophthalmology, Duke University Medical Center, Durham, NC; ³Medicine, Duke University Medical Center, Durham, NC

3482 — A0105 Role of FHOD1, EDNR and LPAR1 on the intraocular pressure lowering effects of miR-200c. Pedro Gonzalez, M. Parker, C. C. Luna. Ophthalmology, Duke University, Durham, NC

3483 — A0106 Clusterin, A Secretary Chaperone Protein, Regulates Phagocytic Activity And Apoptosis In Trabecular Meshwork Cells. Padmanabhan P. Pattabiraman, C. B. Toris. Ophthalmology, Case Western Reserve University, Cleveland, OH

3484 — A0107 New Role of Autophagy Genes in Trabecular Meshwork Mechanotransduction. Joshua Hirt, P. B. Liton. Ophthalmology, Duke University - Albert Eye Research Institute, Durham, NC

3485 — A0108 Role of Calponin in Regulating Contractile Activity of Trabecular Meshwork Cells. Arumugam Ramachandran Muralidharan¹, V. Rao^{1,2}. ¹Ophthalmology, Duke University School of Medicine, Durham, NC; ²Pharmacology and Cancer Biology, Duke University School of Medicine, Durham, NC

3486 — A0109 Elevated hydrostatic pressure selectively alters TGF- β 2, ET-1, and CTGF gene expression in human trabecular meshwork cells. Jonathan Lautz^{1,2}, E. B. Stubbs^{2,3}. ¹Program in Neuroscience, Loyola University Chicago, Hines, IL; ²Research, Edward Hines Jr. VA Hospital, Hines, IL; ³Ophthalmology, Loyola University Chicago Health Science Center, Maywood, IL

3487 — A0110 Inhibition of TGF β 2 using CRISPR interference in the trabecular meshwork. Weiming Mao¹, H. Webber¹, A. Nguyen², D. Goan². ¹North Texas Eye Research Institute, UNT Health Science Center, Fort Worth, TX; ²Texas College of Osteopathic Medicine, University of North Texas Health Science Center, Fort Worth, TX

3488 — A0111 Effects of Wnt/beta-catenin and SMAD/TGF-beta crosstalk on cadherins in the trabecular meshwork. Hannah Webber, W. Mao, A. F. Clark. North Texas Eye Research Institute, University of North Texas Health Science Center, Fort Worth, TX *CR

3489 — A0112 The effect of dexamethasone on myocilin, AXIN2 and sFRP1 expression in primary human trabecular meshwork cells. Jie J. Zheng, S. D. Ahadome, E. Tannous, C. Zhang. Department of Ophthalmology, Stein Eye Institute, UCLA, Los Angeles, CA

3490 — A0113 A peptide that disrupts fibronectin fibril assembly also affects collagen, fibrillin, and laminin extracellular matrix (ECM) assembly in human trabecular meshwork (HTM) cells. Mark S. Filla¹, D. M. Peters^{1,2}. ¹Pathology and Laboratory Medicine, University of Wisconsin-Madison, Madison, WI; ²Ophthalmology & Visual Sciences, University of Wisconsin-Madison, Madison, WI

3491 — A0114 Controlling Fibronectin Fibrillogenesis May Also Control IOP. Jennifer Faralli¹, M. S. Filla¹, D. M. Peters^{1,2}. ¹Pathology and Laboratory Medicine, University of Wisconsin, Madison, WI; ²Ophthalmology and Visual Sciences, University of Wisconsin, Madison, WI

3492 — A0115 Matricellular Protein Cysteine-Rich Angiogenic Inducer 61 (CCN1/CYR61) Attenuates Fibrogenic Response In Trabecular Meshwork Cells. Ishita Gupta^{1,2}, P. P. Pattabiraman². ¹Undergraduate Studies, Department of Biochemistry, Case Western Reserve University, Cleveland, OH; ²Department of Ophthalmology, Case Western Reserve University, Cleveland, OH

3493 — A0116 Suppression of Parvin-a in Human Trabecular Meshwork Downregulates Extracellular Matrix Components. Alexandra G. Castillejos^{1,2}, M. H. Kang¹, D. J. Rhee^{1,2}. ¹Ophthalmology Department, University Hospitals, Cleveland Heights, CA; ²School of Medicine, Case Western School of Medicine, Cleveland, OH

3494 — A0117 Tissue transglutaminase mediated ocular hypertension and effects of a small molecule crosslinking modulator. Urmimala Raychaudhuri, J. Millar, A. F. Clark. North Texas Eye Research Institute, University of North Texas Health Science Center, Fort Worth, TX

3495 — A0118 Extracellular Matrix Protein Phosphorylation-Mediated Regulation of Focal Adhesion Kinase Activity in Trabecular Meshwork Cells. Vasanth Rao¹, R. Maddala², A. Muralidharan². ¹Ophthal & Pharmacology, Duke University, Durham, NC; ²Ophthalmology, Duke University, Durham, NC

3496 — A0119 Different transduction efficiencies between single- and double-stranded Adeno-associated viruses (ssAAV & dsAAV) in the human trabecular meshwork extend across seven serotypes. Laura Rodriguez Estevez¹, P. Asokan¹, T. Borrás^{1,2}. ¹Ophthalmology, Univ of NC at Chapel Hill, Chapel Hill, NC; ²Gene Therapy Center, Univ of NC at Chapel Hill, Chapel Hill, NC

3497 — A0120 Visualizing stem cell delivery to trabecular meshwork using ultrasound/photoacoustic imaging with nanoparticles. C. R. Ethier^{1,2}, E. Snider^{1,2}, K. Kubelick¹, H. Yoon¹, S. Emelianov¹. ¹Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA; ²Biomedical Engineering, Emory University, Atlanta, GA

3498 — A0121 Mechanisms of Stem Cell Homing for Trabecular Meshwork Regeneration. Yiqin Du^{1,2}, Y. Zhou¹, H. YUN¹, E. Yang¹. ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Fox Center for Vision Regeneration, University of Pittsburgh, Pittsburgh, PA

Exhibit/Poster Hall A0352-A0411

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Cornea

375 Corneal Imaging, Topography, and Keratoconus

Moderator: Sara M. Thomasy

3499 — A0352 Keratoconus and cross linking: Analysis of 90 cases over 3 years. Julie FRANCOIS^{1,2}, S. Maxime^{1,2}, M. LUC^{1,2}, C. Goetz³, N. ouamara³, J. Perone¹. ¹Ophthalmology, Metz-Thionville Regional Hospital Center, Mercy Hospital, Metz, France; ²Lorraine University, Nancy, France; ³Clinical Research Support Unit, Metz-Thionville Regional Hospital Center, Mercy Hospital, Metz, France

3500 — A0353 Correlation between higher-order aberrations and visual acuity after crosslinking treatment for keratoconus: study of 90 cases. Marie-Soline LUC^{1,2}, S. Maxime^{1,2}, J. Francois³, C. Goetz⁴, N. ouamara⁴, J. Perone¹. ¹Ophthalmology, Metz-Thionville Regional Hospital Center, Mercy Hospital, Metz, France; ²Lorraine University, Nancy, France; ³Metz-Thionville Regional Hospital Center, Mercy Hospital, Clinical Research Support Unit, France; ⁴Clinical Research Support Unit, Metz-Thionville Regional Hospital Center, Mercy Hospital, Metz, France

3501 — A0354 Three-year outcomes of corneal crosslinking in progressive keratoconus. Takashi Kojima^{1,2}, T. Nakamura², A. TAMAOKI³, K. Ichikawa³. ¹Ophthalmology, Japanese Red Cross Gifu Hospital, Gifu, Japan; ²Ophthalmology, Nagoya Eye Clinic, Nagoya, Japan; ³Ophthalmology, JCHO Chukyo Hospital, Nagoya, Japan * ∇

3502 — A0355 Ten years of Specular Microscopy performed in a Cornea Service. Fernando C. Abib. Anatomy, Federal University of Parana, Curitiba, Brazil; Clinica de Olhos Prof. Dr. Fernando Abib, Curitiba, Brazil *CR

3503 — A0356 Effects of beam profile settings for corneal cross-linking in progressive keratoconus: 3-year-follow-up. Robert Herber, E. Spoerl, F. Raiskup, L. E. Pillunat. Department of Ophthalmology, Carl Gustav Carus University Hospital Dresden, Germany, Dresden, Germany

3504 — A0357 Corneal topography and aberrometry changes one-year after transepithelial corneal cross-linking using iontophoresis versus standard corneal cross-linking. sebastiano serra¹, G. Lombardo^{1,2}, D. Giannini¹, M. Lombardo¹. ¹Cornea and Cataract Department, Fondazione Bietti Roma, Rome, Italy; ²Vision Engineering Italy srl, Rome, Italy * ∇

- 3505 — A0358 Long-term follow-up of Corneal Collagen Crosslinking for Pellucid Marginal Degeneration.** *Christian Denisse Pinkus Herrera, E. O. Graue-Hernandez, A. J. Ramirez-Miranda, M. Urdapilleta, A. Navas.* Ophthalmology, Instituto De Oftalmologia Conde De Valenciana, Mexico City, Mexico
- 3506 — A0359 Twelve-months functional results and confocal microscopic corneal features in pediatric and adult progressive keratoconus treated with corneal collagen cross-linking.** *Chiara Bonzano, D. Musetti, R. Scotto, C. Cutolo, F. Licata, C. E. Traverso.* Clinica Oculistica, Di.N.O.G.M.I. University of Genoa and IRCCS Azienda Ospedaliera Universitaria San Martino IST, Genova, Italy
- 3507 — A0360 An OCT-based comprehensive classification system of corneal shape irregularities.** *Maolong Tang¹, Y. Li¹, J. M. Schallhorn², W. Chamberlain¹, D. Huang¹.* ¹Casey Eye Institute, Oregon Health and Science University, Portland, OR; ²Ophthalmology, USCF medical center, San Francisco, CA *CR
- 3508 — A0361 Improving OCT Reproducibility with an Automated Corneal Scan Quality Report.** *Esther Young, H. Bagherinia, P. Sha, M. H. Chen, M. K. Durbin.* R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR
- 3509 — A0362 The Repeatability of Corneal Power Measurements with SD-OCT.** *Yingjian Wang, H. Bagherinia, P. Sha, A. Fard.* R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR
- 3510 — A0363 Epithelial Thickness Measurements on CIRRUS™ HD-OCT.** *Patricia Sha, H. Bagherinia, M. K. Durbin.* R & D, Carl Zeiss Meditec, Inc, Emeryville, CA *CR
- 3511 — A0364 Assessment of opacities in donor corneas using optical coherence tomography.** *Narae Ko¹, P. Isaac², D. Gupta¹, M. Tramber², A. N. Kuo^{1,3}.* ¹Ophthalmology, Duke University, Durham, NC; ²Miracles In Sight, Winston-Salem, NC; ³Biomedical Engineering, Duke University, Durham, NC
- 3512 — A0365 Comparison of Ultrasound Pachymetry Versus Optical Coherence Tomography in Precut Descemet's Stripping Automated Endothelial Keratoplasty.** *Abigail Gordon, A. Golla, M. Weikert, L. Wang, S. Khandelwal.* Lion's Eye Bank of Texas, Cullen Eye Institute, Department of Ophthalmology, Baylor College of Medicine, Houston, TX *CR
- 3513 — A0366 Agreement between Automated and Manual Corneal Thickness Mapping for Pachymetry, Epithelium, and Stroma from iVue SD-OCT and Avanti SD-OCT.** *Xingwei Wang, K. A. Soules, Y. Wolfson, S. Luh, Y. Hsiao, B. K. Jang, Q. Zhou.* Optovue, Fremont, CO *CR
- 3514 — A0367 Repeatability and Reproducibility of Corneal Epithelial Thickness Mapping with iVue SD-OCT.** *Kelly A. Soules¹, L. M. Zangwill², N. A. Afshari², R. N. Weinreb², Y. Wolfson¹, X. Wang¹, B. K. Jang¹, Q. Zhou¹.* ¹Clinical Affairs, Optovue, Fremont, CA; ²Shiley Eye Institute, Department of Ophthalmology, UCSD, La Jolla, CA *CR
- 3515 — A0368 Comparison of Corneal Topography Performed by Orbscan II and CASIA Cornea/Anterior Segment Swept Source Optical Coherence Tomography.** *Omar Shakir^{1,2}, S. Grover².* ¹Ophthalmology, Yale University, New Haven, CT; ²Ophthalmology, University of Florida - Jacksonville, Jacksonville, FL
- 3516 — A0369 Intraobserver variability of post-mortem corneal thickness measurements by using a portable OCT system.** *Claudio Iovino¹, P. E. Napoli¹, M. Nio², R. Sanna¹, F. Paribello², E. d'Aloja², M. Fossarello¹.* ¹Department of Surgical Sciences, Eye Clinic, University of Cagliari, Cagliari, Italy; ²Department of Public Health, Clinical and Molecular Medicine -Forensic Science Unit-, University of Cagliari, Cagliari, Italy
- 3517 — A0370 Quantitative Analysis of Epithelial and Total Corneal Thickness in Keratoconus using Sub-Micrometer Axial Resolution Optical Coherence Tomography.** *Kirsten Carter¹, L. Haines¹, B. MacLellan², O. Kralj², A. Gawish³, P. Fieguth³, L. Sorbara⁴, K. K. Bizheva².* ¹School of Optometry and Vision Science, University of Waterloo, Milverton, ON, Canada; ²Department of Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; ³Systems Design Engineering Department, University of Waterloo, Waterloo, ON, Canada
- 3518 — A0371 Real time, non invasive, assessment of transepithelial delivery of riboflavin in the human cornea.** *Giuseppe Lombardo^{1,2}, M. Brownell³, V. Villari¹, N. Micali¹, E. E. Manche⁴, A. Abbate³, M. Lombardo².* ¹Istituto per i Processi Chimico-Fisici-IPCF, National Research Council, Messina (Me), Italy; ²Vision Engineering Italy srl, Rome, Italy; ³Independent, San Diego, CA; ⁴Department of Ophthalmology, Stanford University School of Medicine, Stanford, CA *CR
- 3519 — A0372 Precise Corneal Crosslinking (CXL) using a 5 kHz Amplified Femtosecond Laser.** *Eric R. Mikula¹, S. Bradford², D. J. Brown¹, T. Juhasz^{1,2}, J. Jester¹.* ¹Ophthalmology, University of California, Irvine, Irvine, CA; ²Biomedical Engineering, University of California, Irvine, Irvine, CA
- 3520 — A0373 Assessing the Effects of Pulsed, High Intensity UVA Crosslinking on Corneal Elasticity and Viscosity Using Atomic Force Microscopy.** *Wyndham M. Batchelor¹, V. Diakonisi¹, N. Likht², S. Sutnick¹, N. Ziebarth¹.* ¹Department of Biomedical Engineering, University of Miami, Coral Gables, FL; ²Florida Lions Eye Bank, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL
- 3521 — A0374 Evaluation of corneal symmetry after UV corneal crosslinking for keratoconus.** *hanan mofty¹, A. khaled², F. Carley³, S. harper³, A. Brahma³, D. Morley³, M. C. Hillarby².* ¹optometry, King Saud university, Riyadh, Saudi Arabia; ²Division of Pharmacy and Optometry, university of manchester, Manchester, United Kingdom; ³Manchester Royal Eye Hospital, Manchester, United Kingdom ✗
- 3522 — A0375 Efficacy, Safety, Clinical and topographic outcomes of two corneal crosslinking for the treatment keratoconus in an referral center.** *Ricardo Blas Medina, A. J. Ramirez-Miranda, E. O. Graue-Hernandez, J. Cabral, A. Escudero-Rodriguez.* Instituto de Oftalmologia Conde de Valenciana, Mexico City, Mexico
- 3523 — A0376 Save Sight Registries Keratoconus; Tracking the outcomes of corneal cross-linking for Keratoconus from routine clinical practice across Australia and New Zealand.** *Stephanie L. Watson^{1,2}, E. Chan^{3,4}, M. Daniell⁵, Y. Kerdraon^{1,2}, J. Males^{1,2}, N. Morlet^{7,2}, R. A. Mills⁵, D. Barthelmes⁶, M. Boesch⁸, A. Herrera Bond¹, A. Dinh¹, V. Nguyen¹, M. Garcia¹, M. C. Gillies¹.* ¹Ophthalmology, Save Sight Institute, University of Sydney, Bondi Junction, NSW, Australia; ²Sydney Eye Hospital, Sydney, NSW, Australia; ³Centre for Eye Research Australia, Melbourne, VIC, Australia; ⁴Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia; ⁵Flinders University, Adelaide, SA, Australia; ⁶Ophthalmology, University Hospital Zurich, Zurich, Switzerland; ⁷The University of Western Australia, Perth, WA, Australia; ⁸Private Practise, Zurich, Switzerland
- 3524 — A0377 Comparison of corneal epithelial thickness before and after corneal cross-linking surgery with and without intracorneal ring segments using optical coherence tomography.** *Lacey Haines¹, O. Kralj², S. Marschall³, A. Gawish⁴, P. Fieguth⁴, N. Singal⁵, H. Chew⁵, D. Rootman⁵, A. Slomovic⁵, W. Hatch⁵, K. K. Bizheva^{2,1}, L. Sorbara¹.* ¹School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada; ²Dept. of Physics and Astronomy, University of Waterloo, Waterloo, Ontario, Waterloo, ON, Canada; ³Oculus, Wetzlar, Germany; ⁴Systems Design Engineering Dept., University of Waterloo, Waterloo, ON, Canada; ⁵Dept. of Ophthalmology and Vision Sciences, University of Toronto, Waterloo, ON, Canada *CR, ✗
- 3525 — A0378 Sodium Hydroxymethylglycinate (SMG) for Therapeutic Tissue Crosslinking (TXL) of the Cornea: Antimicrobial Studies.** *Patrick B. Rapuano¹, S. Modak², L. H. Suh¹, S. Trokel¹, D. C. Paik¹.* ¹Ophthalmology, Edward S. Harkness Eye Institute of Columbia University, New York, NY; ²Surgery, Columbia University, New York, NY *CR

3526 — A0379 Sub-epithelium curvature:

A new method to compare efficacy of surface ablation between manual removal and epi-clear removal of epithelium. *Rachana C S¹, M. Francis¹, N. Pahuja², R. SHROFF², R. Shetty², A. Sinha Roy¹.*
¹Narayana Nethralaya Foundation, Bangalore, India; ²Refractive and Cornea, Narayana Nethralaya, Bangalore, India *CR

3527 — A0380 Automatic grading of corneal sub-basal nerves tortuosities.

Fabio Scarpa, P. Guimarães, A. Ruggeri. University of Padova, Padova, Italy

3528 — A0381 Automated analysis of corneal ulcer from external photography of the eye.

Tapan Patel¹, N. Prajna², L. Dudeja², N. Valikodath¹, M. A. Woodward¹.
¹Ophthalmology, Kellogg Eye Center, Ann Arbor, MI; ²Aravind Eye Care System, Madurai, India

3529 — A0382 Detection of corneal subbasal nerve plexus changes in patients with multiple myeloma under immunomodulatory therapy by Confocal Laser Scanning Microscopy.

Anita Koschmieder¹, B. Kragf², S. Diwokoy², O. Stachs¹, R. F. Guthoff¹, A. G. Juenemann¹, C. Junghans², H. M. Escobar².
¹Ophthalmology, University of Rostock, Rostock, Germany; ²Oncology, University of Rostock, Rostock, Germany

3530 — A0383 Automated analysis of *in vivo* confocal microscopy images of corneal nerves.

Stuti L. Misra¹, J. D. Oakley², C. N. McGhee¹, E. F. Wang¹, D. Patel¹, P. M. Tarwater³, J. L. Mankowski¹.
¹Department of Ophthalmology, The University of Auckland, Auckland, New Zealand; ²Voxeleron LLC, Pleasanton, CA; ³Department of Biostatistics, UTHealth School of Public Health, The University of Texas, El Paso, TX; ⁴Department of Molecular and Comparative Pathobiology, Johns Hopkins University, Baltimore, MD *CR

3531 — A0384 Screening of tear molecular markers for early detection of keratoconus by quantitative mass spectrometry.

Krishnatej Nishtala¹, L. Zhou³, R. Shetty^{1,2}, K. Kumar¹, R. W. Beuerman³, A. Ghosh^{1,3}.
¹GROW Research Laboratory, Narayana Nethralaya Foundation, Bangalore, India; ²Narayana Nethralaya Eye Hospital, Bangalore, India; ³Singapore Eye Research Institute, Singapore, Singapore

3532 — A0385 Qualitative effects of a novel nano-lipid artificial tear on tear lipid dynamics.

Matthew J. Kowalski, J. S. Fogt, P. E. King-Smith, J. T. Barr. College of Optometry, The Ohio State University, Columbus, OH *CR

3533 — A0386 Comparative expression of inflammatory markers in corneal tissue of patients with keratoconus vs healthy corneal tissue.

Paulina Camacho, A. Robles-Contreras, O. Fernandez, A. Babayan Sosa, R. Velasco, D. Raya, E. Alegria, C. Pacheco Del Valle. Fundacion Hospital Nuestra Senora de la Luz, Mexico City, Mexico

3534 — A0387 Grading of ocular surface inflammation using anterior segment angiography: pixel densitometry index.

Abigail Kaye^{1,2}, B. Steger³, M. Brunner², C. E. Willoughby¹, Y. Zeng², V. Romano².
¹Department of Eye and Vision Science, University of Liverpool, London, United Kingdom; ²Department of Corneal and External Eye Diseases, St.Paul's Eye Unit, Liverpool, United Kingdom; ³Department of Innsbruck, Medical University of Innsbruck, Innsbruck, Austria

3535 — A0388 Quantification of Inflammatory Cells in the Corneal Sub-basal Layer in Type 2 Diabetes by In Vivo Confocal Microscopy (IVCM).

Reza A Badian^{1,2}, T. Utheim^{3,4}, S. Allgeier⁵, X. Liu⁶, B. Köhler⁵, N. S. Lagali⁷.
¹Faculty of Vision and Health Sciences, University College of Southeast Norway, Kongsberg, Norway; ²The Norwegian Dry Eye Clinic, Oslo, Norway; ³Department of Medical Biochemistry, Unit of Regenerative Medicine, Oslo University Hospital, Oslo, Norway; ⁴Department of Ophthalmology, Vestre Viken Hospital Trust, Drammen, Norway; ⁵Institute of Applied Computer Science/Automation, Karlsruhe Institute of Technology, Karlsruhe, Germany; ⁶Oeyelegesenteret, Tromsøe, Norway; ⁷Department of Ophthalmology, Faculty of Health Sciences, Linköping University, Linköping, Sweden

3536 — A0389 Fluorescence Depth Measurements of Rose Bengal Diffused into Cornea and pHEMA measured by Two-photon Fluorescence Microscopy.

James Germann¹, R. Gutierrez-Contreras¹, C. Dorronsoro¹, I. E. Kochevar², S. Marcos¹.
¹VIOBIO, Instituto de Óptica “Daza de Valdés”, CSIC, Madrid, Spain; ²Massachusetts General Hospital, Wellman Center for Photomedicine, Boston, MA

3537 — A0390 Phase-resolved fluorometer for fluorescence lifetime measurements in the human eye.

Alex Meyer¹, A. Sridhar², R. Babu², U. B. Kompella³, S. P. Srinivas¹.
¹Optometry, Indiana University, Bloomington, IN; ²Computer Science, DSCE, Bangalore, India; ³Pharmaceutical Sciences, University of Colorado, Denver, CO

3538 — A0391 In vivo confocal microscopy assessment of the Descemet-stromal interface after Descemet's membrane endothelial keratoplasty.

Sikandar Aziz¹, J. Cabrerizo^{1,2}.
¹Department of Ophthalmology, Rigshospitalet-Glostrup, University of Copenhagen, Copenhagen, Denmark; ²Copenhagen Eye Foundation, Copenhagen, Denmark

3539 — A0392 The use of TeraHertz scanning system as a quantitative tool in the evaluation of corneal edema.

Yu-Chi Liu¹, L. Ke², E. Teo¹, G. Yam¹, J. Mehta³.
¹Ophthalmology, Singapore Eye Research Institute, Singapore, Singapore; ²The Agency for Science, Technology and Research, Institute of Materials Research & Engineering, Singapore, Singapore; ³Singapore National Eye Centre, Singapore, Singapore

3540 — A0393 Comparison of keratometry measurements using the *iDesign*® Advanced WaveScan Studio System, manual and auto-keratometers.

Janice Tarrant, Y. wang, S. Kasthurirangan. Abbott Medical Optics, Martinez, CA *CR

3541 — A0394 Limitations of Portable Cameras for Detecting Anterior Segment Pathology.

Maria A. Woodward, L. M. Niziol, D. C. Musch, P. P. Lee. Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI

3542 — A0395 The association between central and peripheral corneal astigmatism based on Fourier analysis in normal eyes.

Vinod Maseedupally, K. Ho, K. Tran, H. A. Swarbrick. School of Optometry and Vision Science, The University of New South Wales, Sydney, NSW, Australia

3543 — A0396 Evaluation of corneal tomography parameters with Pentacam.

Adriana Ribeiro De Almeida, R. M. Léda, E. D. Feijó, A. Pereira, A. P. Bittencourt. Hospital Oftalmológico de Anápolis, Anápolis, Brazil

3544 — A0397 Evaluation of pterygium advancement using anterior corneal aberration: pilot study.

Keiichiro Minami¹, T. Tokunaga¹, K. Okamoto², K. Miyata¹.
¹Miyata Eye Hospital, Miyakonono, Japan; ²Tomey Corporation, Nagoya, Japan *CR

3545 — A0398 Hardware Modifications to Enhance the Eye Surface Profiler.

Brett A. Davis, P. V. Rajasingam, M. J. Collins, A. J. Shaw, H. J. McNeill. School of Optometry, Queensland University of Technology, Kelvin Grove, QLD, Australia

3546 — A0399 Corneal Imaging and Densitometry Measurements in Healthy Volunteers Across Different Age Groups.

khaled alzhahrani¹, F. Carley², A. Brahma², D. Morley², M. Hillarby¹.
¹School of Health Sciences - Division of Pharmacy & Optometry / Faculty of Biology, Medicine and Health, University of Manchester, Manchester, United Kingdom; ²Cornea, Manchester Royal Eye Hospital, Manchester, Manchester, United Kingdom x⁷

3547 — A0400 Topographic Indices and Pachimetry in healthy adolescents obtained with Sirius topographer.

Emilia Cantera¹, M. Cortes^{2,1}, R. Sacco³, A. Micera².
¹Ospedale Israelitico Roma, Rome, Italy; ²IRCS GB Bietti Eye Foundation, Rome, Italy; ³Campus Bio Medico di Roma, Rome, Italy

3548 — A0401 Change in intraocular pressure following cataract extraction is unrelated to preoperative anterior chamber angle, and to lens thickness as measured by Pentacam.

Richard Hession, B. Tannen. Ophthalmology, Mount Sinai School of Medicine, New York, NY

- 3549 — A0402 Can Keratoconic Patients See in 3 D?** *Rosalina Maria Antunes-Foschini, E. M. Rocha.* Ophthalmology, Hospital das Clínicas - Fac Medicina Ribeirao Preto - USP, Ribeirão Preto, Brazil
- 3550 — A0403 Topographic Elevation Data to Design Scleral Lenses.** *Louise Sclafani¹, D. Slater³, B. Lay⁴, C. W. Sindr².* ¹Ophthalmology, University Of Chicago, Chicago, IL; ²Ophthalmology, University Of Iowa, Iowa City, IA; ³Eyeprint Prosthetic, Lakewood, CO; ⁴Adcis, St. - Contest, France *CR
- 3551 — A0404 An artificial intelligence method to estimate region of biomechanical weakness in keratoconic corneas.** *Tushar Grover, R. Shetty, A. Sinha Roy.* Narayana Nethralaya, Bangalore, India *CR
- 3552 — A0405 Automatic estimation of optimal Region Of Interest for morphometry assessment in corneal endothelium images.** *Alfredo Ruggeri, F. Scarpa.* Dept of Information Engineering, University of Padua, Padua, Italy
- 3553 — A0406 Increased Prevalence of Homosexuals in the Keratoconus Population.** *Lisa Marten¹, S. L. Johnson¹, M. A. Reilly³, W. E. Sponse².* ¹South TX Eye Institute, San Antonio, TX; ²Dr. William E. Sponsel, MD, San Antonio, TX; ³Biomedical Engineering, The Ohio State University, Columbus, OH; ⁴UIW Rosenberg School of Optometry, San Antonio, TX
- 3554 — A0407 Total, corneal, and internal high order aberrations in monocular diplopia patients without anterior segment abnormality.** *Young Joo Park^{1,2}, J. Kim², H. Jeon², H. Yang^{1,2}, J. Hwang^{1,2}, W. Wee¹, J. Hyon^{1,2}.* ¹Department of Ophthalmology, Seoul National University Hospital, Seoul, Korea (the Republic of); ²Department of Ophthalmology, Seoul National University Bundang Hospital, Seongnam, Korea (the Republic of)
- 3555 — A0408 Atopic dermatitis as a high risk of recurrent protrusion after penetrating keratoplasty in keratoconic eyes.** *Masahiro Yamaguchi, Y. Hiratsuka, T. Funaki, S. Nakatani, A. Matsuda, A. Murakami.* Ophthalmology, Juntendo University, Bunkyo-ku, Japan
- 3556 — A0409 Exome sequencing analysis in three Bedouin families with Keratoconus.** *Wesley Goar^{1,4}, P. Majdalani², C. C. Seary^{3,4}, S. Whitmore^{5,4}, A. P. DeLuca^{5,4}, A. Imtira⁶, E. M. Stone^{5,4}, R. Pavari², T. E. Scheetz^{5,4}, V. Sheffield^{3,4}.* ¹Pediatrics and Ophthalmology, University of Iowa, Iowa City, IA; ²Microbiology, Immunology, and Genetics, Ben-Gurion University in The Negev, Beersheba, Israel; ³Pediatrics, University of Iowa, Iowa City, IA; ⁴Stephen A. Wynn Institute for Vision Research, University of Iowa, Iowa City, IA; ⁵Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ⁶Medicine, Ben-Gurion University in The Negev, Beersheba, Israel
- 3557 — A0410 Arginase, P4H and iNOS expression and the effect of iNOS inhibitor 1400W on urea, hydroxyproline and nitrite formation of keratoconus keratocytes.** *Tanja Stachon¹, L. Latta¹, A. Langenbacher², B. Seitz¹, N. Szentmáry^{1,3}.* ¹Department of Ophthalmology, Saarland University Medical Center, Homburg, Germany; ²Experimental Ophthalmology, Saarland University, Homburg, Germany; ³Department of Ophthalmology, Semmelweis University, Budapest, Hungary
- 3558 — A0411 Keratoconus Endophenotypes in a Healthy Aging Population.** *Claire L. Wong¹, E. Yonova¹, K. M. Williams^{1,2}, M. J. Simcoe¹, D. Kozareva¹, C. J. Hammond^{1,2}.* ¹Twin Research and Genetic Epidemiology, King's College London, London, United Kingdom; ²Ophthalmology, King's College London, London, United Kingdom
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- Exhibit/Poster Hall B0118-B0133
- Tuesday, May 09, 2017 3:45 PM-5:30 PM
- Biochemistry/Molecular Biology**
- 376 Ocular gene expression, proteomics and lipidomics**
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- Moderator: Heithem M. El-Hodiri**
- 3559 — B0118 Samd7, a photoreceptor-specific component of the polycomb repressive complex, plays an essential role in repressing non-rod genes expression through H3K27me3 regulation in rod photoreceptors.** *Takahisa Furukawa¹, S. Kubo¹, M. Furuhashi¹, A. Ueno¹, T. Kon¹, T. Chaya¹, S. Ueno², Y. Omori¹.* ¹Molecular and Developmental Biology, Osaka Univ. Inst for Protein Rsrch, & JST, CREST, Suita, Japan; ²Nagoya Univ School of Med, Nagoya, Japan
- 3560 — B0119 Age-related transcription changes in photoreceptor neurons are light-dependent.** *Vikki Weake.* Biochemistry, Purdue University, West Lafayette, IN
- 3561 — B0120 Heterochromatin Protects Retinal Pigment Epithelial Cells from Oxidative Stress.** *Lili Gong¹, R. Qi^{1,2}, Q. Sun¹, F. Liu¹, Z. Luo¹, Q. Nie^{1,2}, X. Gong¹, Y. Liu¹, L. Zhang¹, X. Tang¹, Y. Liu¹, D. W. Li^{1,2}.* ¹Zhongshan Ophthalmic Center, Sun Yat-sen University, GUANGZHOU, China; ²College of Life Sciences, Hunan Normal University, Changsha, China
- 3562 — B0121 Exploring the protein-protein interactions of the p53 apoptosis effector protein PERP.** *Samantha J. McDonnell¹, I. Prior², L. I. Paraoan¹.* ¹Eye and Vision Sciences, University of Liverpool, Liverpool, United Kingdom; ²Cellular and Molecular Physiology, University of Liverpool, Liverpool, United Kingdom
- 3563 — B0122 Mining for novel genes related to uveitis in a large network with a shortest path algorithm.** *Jian Zhang.* Shanghai First People's Hospital, Shanghai, China
- 3564 — B0123 Peripherin-2 and Rom-1 Have Opposing Effects on Rod Outer Segment Targeting of Two Misfolded Peripherin-2 Mutants in Rods.** *Elvir Becirovic^{1,2}, S. Böhm^{1,2}, L. Riedmayr^{1,2}, A. Gießl³, C. Schön^{1,2}, S. Michalak^{1,2}, M. Biel^{1,2}.* ¹Center for Integrated Protein Science Munich CiPSM, Munich, Germany; ²Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-Universität München, Munich, Germany; ³Department of Biology, Animal Physiology, Friedrich-Alexander Universität Erlangen-Nürnberg, Erlangen-Nürnberg, Germany
- 3565 — B0124 The $\beta 2$ -subunit of the Na,K-ATPase is lipid modified by palmitoylation in retinal neurons.** *Emily Sechrest¹, J. Murphy¹, D. Sokolov³, S. Kolandaivelu¹.* ¹Department of Ophthalmology, West Virginia University Eye Institute, Morgantown, WV; ²Department of Pharmaceutical Sciences, West Virginia University, Morgantown, WV; ³West Virginia University, Morgantown, WV
- 3566 — B0125 Epigenetic modifications associated with Hyperhomocysteinemia; potential role in Blood Retinal Barrier dysfunction.** *Amany M. Tawfik^{1,2}, K. Elmasry^{1,2}, Y. Liu², M. A. Al-Shabraway^{1,2}.* ¹Oral Biology, Augusta Univ (AU), Augusta, GA; ²Cellular Biology and Anatomy, Augusta Uni, Augusta, GA
- 3567 — B0126 miRNA profile of human retinal endothelial cells in starvation or angiogenic stimulation with and without VEGF inhibitors.** *Johanna Madeleine Walz^{1,2}, T. Wecker¹, P. Zhang¹, B. Cakir¹, B. Grüning^{4,5}, H. Agostini¹, L. Faerber^{2,3}, C. Lange¹, G. R. Schlunck¹, A. Stahl¹.* ¹Eye Center, Medical Center, Faculty of Medicine, University of Freiburg, Freiburg, Germany; ²Department of Pharmacology and Toxicology, University of Regensburg, Regensburg, Germany; ³Novartis Pharma GmbH, Nuremberg, Germany; ⁴Department of Computer Science, University of Freiburg, Freiburg, Germany; ⁵Center for Biological Systems Analysis (ZBSA), University of Freiburg, Freiburg, Germany *CR
- 3568 — B0127 RPE miR-204 or -211 Knock Out Alters Cell Morphology And Function.** *Congxiao Zhang¹, H. Zhao¹, N. Hotaling², K. Miyagishima¹, R. Zhou¹, L. Dong³, A. Maminishkis¹, K. Bharti², S. S. Miller¹.* ¹SERPD/OGVFB, NEI/NIH, Bethesda, MD; ²OSCTRU/OGVFB/NEI, Bethesda, MD; ³Genetic Engineering Facility/NEI, Bethesda, MD
- 3569 — B0128 Optimization of mouse photoreceptor isolation and micro-fluidic single cell capture for downstream molecular analysis.** *Jonathan Fuerst, M. I. Kautzmann, W. C. Gordon, N. G. Bazan.* Neuroscience Center of Excellence, Louisiana State University Health New Orleans, New Orleans, LA

3570 — B0129 Differential effects of mutations in the miR183/96/182 cluster on zebrafish sensory tissues. Joseph Fogerty¹, K. M. Patterson^{1,2}, B. D. Perkins¹. ¹Ophthalmic Research, Cleveland Clinic, Cleveland, OH; ²John Carroll University, Cleveland, OH

3571 — B0130 Ex vivo expansion and characterization of rat Meibomian gland progenitor cells. chengyou zuo^{1,2}, J. Li^{1,2}, Y. Qu^{1,2}, C. Jia^{1,2}, S. Ou^{1,2}, X. He^{1,2}, J. Bu^{1,2}, Z. LIU^{1,2}, W. Li^{1,2}. ¹Eye Institute of Xiamen University, Xiamen, China; ²Fujian Provincial Key Laboratory of Ophthalmology and Visual Science, Xiamen, China

3572 — B0131 Tear Cytokine Profile in a Scandinavian Cohort of Congenital Aniridia. Erlend C. Landsend⁴, H. Pedersen³, Ø. Utheim⁴, H. Aass¹, B. Tashbayev², N. S. Lagali², D. A. Dartt⁶, R. C. Baraas³, T. Utheim^{3,1}. ¹Department of Medical Biochemistry, Oslo University Hospital, Oslo, Norway; ²The Norwegian Dry Eye Clinic, Oslo, Norway; ³Faculty of Health Sciences, National Centre for Optics, Vision and Eye Care, University College of Southeast Norway, Kongsberg, Norway; ⁴Department of Ophthalmology, Oslo University Hospital, Oslo, Norway; ⁵Department of Clinical and Experimental Medicine, Linköping University, Linköping, Sweden; ⁶Department of Ophthalmology, Harvard Medical School, Boston, MA

3573 — B0132 Quantitative proteome study of Chlamydia trachomatis ocular serovar B proteins associated with trachomatous trichiasis. Elisabeth Stein¹, J. Mihailovic², A. Inic-Kanada¹, K. Smiljanic², M. Perusko³, S. Trifunovic³, N. Schuerer¹, D. Stanic-Vucinic², E. Ghasemian¹, T. Barisani-Asenbauer¹, T. Cirkovic -Velickovic². ¹Laura Bassi Centre of Expertise, Medical University of Vienna, Vienna, Austria; ²Center of Excellence for Molecular Food Sciences, University of Belgrade - Faculty of Chemistry, Belgrade, Serbia; ³Faculty of Chemistry, Innovation Center, Belgrade, Serbia

3574 — B0133 Histochemical and immunohistochemical characterization of lipid synthesis in meibomian glands. Anne McMahon, J. C. Wojtowicz, I. A. Butovich. Ophthalmology, UT Southwestern Medical Center, Dallas, TX

3574a — B0133a RPE targeted overexpression of mutant S163R CIQTNF5 in various mouse models of RPE/photoreceptor dysfunction. Astra Dinculescu, F. M. Dyka, S. Min, R. M. Stupay, W. Smith, W. W. Hauswirth. Ophthalmology, University of Florida, Gainesville, FL *CR

Exhibit/Poster Hall B0134-B0145

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Biochemistry/Molecular Biology

377 Visual cycle and phototransduction

Moderators: Roxana A. Radu and Vladimir J. Kefalov

3575 — B0134 Dephosphorylation of visual pigments by PP2A is required for timely dark adaptation of rods and cones. Alexander V. Kolesnikov¹, T. Orban², K. Palczewski², V. J. Kefalov¹. ¹Ophthalmology and Visual Sciences, Washington University in St Louis, St Louis, MO; ²Pharmacology, Case Western Reserve University, Cleveland, OH

3576 — B0135 Pyruvate Kinase M2: Function, Regulation and Role in Rod Photoreceptor cells. Raju V. Rajala^{1,2}, C. Kooker^{3,1}, Y. Wang¹, A. Rajala¹. ¹Ophthal/Dean McGee Eye Inst, Univ of Oklahoma Hlth Sci Ctr, Oklahoma City, OK; ²Physiology, University of Oklahoma Health Sciences Center, Oklahoma City, OK; ³Oklahoma Center for Neuroscience, University of Oklahoma Health Sciences Center, Oklahoma City, OK

3577 — B0136 Scavenger Receptor Class B Proteins Mediate Carotenoid Uptake into the Primate Retina. Raji Shyam, P. P. Vachali, K. Nelson, A. Gorusupudi, P. S. Bernstein. Ophthalmology, University of Utah, Salt Lake City, UT

3578 — B0137 Carotenoid-apolipoprotein Interaction Studies using a Surface Plasmon Resonance Biosensor. Preejith P. Vachali, B. Li, S. Longo, P. S. Bernstein. Ophthalmology and Visual Science, Moran Eye Center, Salt Lake City, UT

3579 — B0138 RPE65 Has a Secondary Activity as the Lutein to meso-Zeaxanthin Isomerase in the Vertebrate Eye. Paul S. Bernstein¹, R. Shyam¹, A. Gorusupudi¹, K. Nelson¹, M. Horvath². ¹Ophthalmology and Visual Sciences, Moran Eye Center/University of Utah School of Medicine, Salt Lake City, UT; ²Biology, University of Utah, Salt Lake City, UT

3580 — B0139 Interphotoreceptor retinoid-binding protein (IRBP) promotes RPE uptake and esterification of all-trans-retinol in the interphotoreceptor matrix (IPM). Minghao Jin, S. Li, M. Lee. Ophthalmology & Neuroscience Center, LSU School of Medicine, New Orleans, LA

3581 — B0140 Imaging Carotenoids in the Chicken Retina by Confocal Resonance Raman Microscopy. Binxing Li, P. P. Vachali, A. Gorusupudi, K. Nelson, J. M. Frederick, P. S. Bernstein. Ophthalmology and Visual Sciences, Univ of UT Sch Med/Moran Eye Ctr, Salt Lake City, UT

3582 — B0141 A New Role for Taurine in Retina: Modulation of Bisretinoid Formation. Hye Jin Kim¹, J. Zhao¹, J. R. Sparrow^{1,2}. ¹Ophthalmology, Columbia University Medical Center, NY, NY; ²Pathology and Cell Biology, Columbia University Medical Center, NY, NY

3583 — B0142 Targeted Deletion of Elongation Very Long-Chain Fatty Acid Like 1 (ELOVL1) in Mouse RPE Resulted in Acceleration of the Visual Cycle. Songhua Li¹, K. Sato¹, H. P. Hilton¹, J. L. Dunaief², M. Jin¹. ¹Ophthalmology and Neuroscience, LSU Health Sciences Center, New Orleans, LA; ²Ophthalmology, Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA

3584 — B0143 Structure and function of the aa108-126 mobile loop of RPE65. T. Michael Redmond, S. Uppal, T. Liu, S. Gentleman, E. Poliakov. LRCMB, NEI, NIH, Bethesda, MD

3585 — B0144 The Retinol Binding Protein Receptor 2 (Rbpr2) is required for Photoreceptor Health and Visual Function in Zebrafish. Glenn P. Lobo^{2,3}, G. Pauer¹, S. A. Hagstrom¹, J. Lipschutz². ¹Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²Nephrology, Medical University of South Carolina, Charleston, SC; ³Ophthalmology, Medical University of South Carolina, Charleston, SC

3586 — B0145 In vivo measurements and modeling of light-dependent lengthening and increased reflectivity of the mouse rod photoreceptor outer segments: G-protein activation-based optophysiology. Robert J. Zawadzki^{1,2}, P. Zhang², M. Goswami², E. N. Pugh². ¹Ophthalmology & Vision Science, University of California Davis, Sacramento, CA; ²Cell Biology and Human Anatomy, UC Davis, Davis, CA

Exhibit/Poster Hall B0146-B0160

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Biochemistry/Molecular Biology

378 Cellular mechanisms of retinal diseases and ocular therapeutics

Moderators: Deborah A. Ferrington and Astra Dinculescu

3587 — B0146 Upregulation of pro-inflammatory genes accompanies photoreceptors demise in canine models of retinal degeneration. Tatyana Appelbaum, E. Santana, G. D. Aguirre. Clinical Studies, U of Penn School Vet Med, Philadelphia, PA

3588 — B0147 Crx-L253X mutation produces dominant photoreceptor defects in TVRM65 mice. Courtney D. Linne, P. A. Ruzycski, A. Hennig, S. Chen. Ophthalmology and Visual Sciences, Washington University School of Medicine, St. Louis, MO

3589 — B0148 TFIIB-ERCC2 Is Essential For Photoreceptor Gene Expression and Development. Xiaodong Zhang, P. A. Ruzycski, A. Hennig, M. Yang, S. Chen. Ophthalmology and Visual Sciences, Washington University School of Medicine, Saint Louis, MO

3590 — B0149 Hyper-stability of mutant mRNA causes pathogenic overexpression of mutant CRX in autosomal dominant retinopathies. Inez Oh¹, X. Zhang¹, N. Tran², S. Chen¹. ¹Ophthalmology and Visual Sciences, Washington University School of Medicine, Saint Louis, MO; ²Harvard University, Cambridge, MA

3591 — B0150 Disease-causing mutations of CLDN19 alter gene expression in retinal pigment epithelia (RPE) and diminish visual function. Tao Xu^{1,2}, S. Wang¹, R. A. Adelman³, S. Peng², L. J. Rizzolo¹. ¹Surgery/Ophthalmology, Yale university, New Haven, CT; ²Aier School of Ophthalmology, Central South University, Chang Sha, China; ³Ophthalmology, Yale University, New Haven, CT

3592 — B0151 Cold Shock Proteins Expression in the Retina Following Exposure to Hypothermia. Ignacio M. Larrayoz¹, M. Rey-Funes², D. S. Contartese², F. Rolón², A. Sarotto², V. B. Dorfman³, C. F. Loidl², A. Martinez⁴. ¹Biomarkers and Molecular Signaling, Center for Biomedical Research of La Rioja (CIBIR), Fundación Rioja Salud, Logroño, Spain; ²Neuropatología Experimental, Instituto de Biología Celular y Neurociencia “Prof. E. De Robertis” (IBCN), Facultad de Medicina, UBA, Buenos Aires, Argentina; ³Centro de Estudios Biomédicos, Biotecnológicos, Ambientales y Diagnóstico (CEBBAD), Universidad Maimónides, Buenos Aires, Argentina; ⁴Angiogenesis, CIBIR, Fundación Rioja Salud, Logroño, Spain

3593 — B0152 Impaired Reductive Carboxylation of the Retinal Pigment Epithelium in Sorsby Fundus Dystrophy. Abbi Engel¹, K. Knight¹, M. Manson¹, B. Anand-Apte², J. Hurley¹, J. Du^{3,4}, J. R. Chao¹. ¹Ophthalmology, University of Washington, Seattle, WA; ²Ophthalmic Research, Cleveland Clinic, Cleveland, OH; ³Ophthalmology, Western Virginia University, Morgantown, WV

3594 — B0153 Comparison of complement pathway activation and synapse loss in young and aged mice undergoing light induced retinal degeneration. Sarah W. Gooding¹, M. A. Chrenek¹, J. T. Sellers¹, J. H. Boatright^{1,2}. ¹Ophthalmology, Emory University, Atlanta, GA; ²Atlanta VAMC, Atlanta, GA

3595 — B0154 Modeling Pharmacological Treatment of Retinitis Pigmentosa with Heterozygous Tvrn4 Rhodopsin Mutant Mice. Robin H. Schmidt¹, P. E. Girardot¹, J. T. Sellers¹, M. A. Chrenek¹, J. H. Boatright^{1,2}. ¹Ophthalmology, Emory University, Atlanta, GA; ²Atlanta VA Center of Excellence in Vision and Neurocognitive Rehabilitation, Atlanta, GA

3596 — B0155 Galectin-1 involvement in neovascular retinopathies. Magali Evelin E. Ridano¹, P. V. Subirada Caldarone¹, M. C. Paz¹, V. E. Lorenc^{1,2}, J. C. Stupirski⁴, L. Gramajo³, J. D. Luna Pinto³, D. O. Croci⁴, G. A. Rabinovich⁴, M. C. Sanchez¹. ¹Clinical Biochemistry, CIBICI CONICET, Cordoba, Argentina; ²Department of Ophthalmology, The Johns Hopkins School of Medicine, Baltimore, MD; ³VER Foundation, Private Eye Center Romagosa, Cordoba, Argentina; ⁴Immunopathology Laboratory, IBYME CONICET, Buenos Aires, Argentina

3597 — B0156 Functional assessment of AIPL1 variations identified in Leber Congenital Amaurosis patients. Almudena Sacristan Reviriego¹, J. Bellingham¹, C. Prodromou², J. van der Spuy¹. ¹UCL Institute of Ophthalmology, London, United Kingdom; ²University of Sussex, Brighton, United Kingdom

3598 — B0157 Phenotypic Identification of Vitamin D Receptor Agonists as Regulators of Developmental Angiogenesis and miR21 in the Zebrafish Eye. Breandan N. Kennedy¹, S. Merrigan¹, E. Dillon¹, G. Cagney¹, S. Hampton². ¹Sch of Biomolecular and Biomedical Sci, University College Dublin, Dublin, Ireland; ²Tetricus Science Park, KalVista Pharmaceuticals Ltd, Wilts, United Kingdom

3599 — B0158 Antiviral activity of a 45 nucleotide DNA aptamer during HSV-1 infection of the cornea. Tejabhram Yadavalli¹, N. Thakkar¹, D. Jaishankar^{1,2}, A. Agelidis¹, D. Shukla^{1,3}. ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Bioengineering, University of Illinois at Chicago, Chicago, IL; ³Microbiology and Immunology, University of Illinois at Chicago, Chicago, IL

3600 — B0159 Influence of charge, hydrophobicity, and hydrodynamic radius on vitreous pharmacokinetics of large molecules. Susan Crowell¹, K. Wang², L. Dickmann³, C. A. Boswell¹, D. B. Yadav¹, M. Maia⁴, W. Shatz⁵, A. Famil², K. Rajagopal², D. Tesar², R. F. Kelley². ¹Preclinical and Translational Pharmacokinetics and Pharmacodynamics, Genentech, South San Francisco, CA; ²Drug Delivery, Genentech, South San Francisco, CA; ³Clinical Pharmacology, Genentech, South San Francisco, CA; ⁴Bioanalytical Assay Services, Genentech, South San Francisco, CA; ⁵Protein Chemistry, Genentech, South San Francisco, CA *CR

3601 — B0160 Narrow spectrum kinase inhibitors (NSKIs) are superior to corticosteroid in both in vitro and in vivo inflammatory eye models. Claire Walshe¹, M. R. Foster¹, Y. Solanke¹, S. Sirohi¹, G. Devarajan², J. V. Forrester², I. Crane², S. Webber¹. ¹Topivert Pharma, London, United Kingdom; ²The Institute of Medical Sciences, University of Aberdeen, Aberdeen, United Kingdom *CR

Exhibit/Poster Hall B0161-B0173

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Immunology/Microbiology

379 Clinical virology

Moderator: Penny A. Asbell

3602 — B0161 Efficacy and safety of dexamethasone/povidone-iodine ophthalmic suspension in adenoviral conjunctivitis. Reza M. Haque¹, A. Ahuja², W. Liu¹, A. Narvekar¹. ¹Shire, Lexington, MA; ²Seth GS Medical College & K.E.M. Hospital, Mumbai, India *CR, ✎

3603 — B0162 Corneal subepithelial infiltrate in epidemic keratoconjunctivitis is associated with polymorphisms of group D human adenovirus E3 CR1 genes and fibrotic inflammation. Nobuyo Yawata^{1,2}, G. Gonzalez³, A. Arundhati⁴, K. Woon¹, G. Low⁵, S. S. Daud⁶, N. McGovern⁵, Y. Liu^{7,2}, J. Siak^{8,1}, F. Ginhoux⁵, H. Watanabe⁹, K. Aoki⁹, J. Mehta^{7,4}, M. Yawata^{6,10}. ¹Ocular Inflammation & Immunology, Singapore Eye Research Institute, Singapore, Singapore; ²Ophthalmology and Visual Sciences Academic Clinical Program, Duke-NUS Medical School, Singapore, Singapore; ³Research Center for Zoonosis Control, Hokkaido University, Sapporo, Japan; ⁴Singapore National Eye Centre, Singapore, Singapore; ⁵Singapore Immunology Network, A*STAR, Singapore, Singapore; ⁶Yong Loon Lin School of Medicine, National University of Singapore, Singapore, Singapore; ⁷Singapore Eye Research Institute, Singapore, Singapore; ⁸Bioengineering and Bioinformatics, Hokkaido University Graduate School of Information Science and Technology, Sapporo, Japan; ⁹Ophthalmology, Hokkaido University Graduate School of Medicine, Sapporo, Japan; ¹⁰Singapore Institute for Clinical Sciences, A*STAR, Singapore, Singapore

3604 — B0163 Evaluation of multiplex real-time polymerase chain reaction for the detection of HSV-1 & 2 and VZV in the diagnosis of viral keratitis. Joveeta Joseph Ruben¹, S. Madhuri Guda¹, B. Sontam¹, B. Bagga², R. Konduri¹, S. Sharma¹. ¹Jhaveri Microbiology Centre, L.V.Prasad Eye Institute, Hyderabad, India; ²Tej Kohli Cornea Institute, L.V.Prasad Eye Institute, Hyderabad, India

3605 — B0164 Ocular Features of Zika Virus in Infants with Microcephaly in Colombia and Venezuela. J Fernando Arevalo^{1,3}, J. B. Yepez², F. A. Murati², M. Pettito², C. Peñaranda⁴, J. De Yepez², G. Maestre⁵. ¹Retina Division, The Wilmer Eye Institute-Johns Hopkins University, Baltimore, MD; ²Clinica de Ojos de Maracaibo, Maracaibo, Venezuela, Bolivarian Republic of; ³Ophthalmology, Johns Hopkins Bayview Medical Center, Baltimore, MD; ⁴Clinica oftalmológica Peñaranda, Cucuta, Colombia; ⁵Biomedical Sciences, University of Texas Rio Grande Valley School of Medicine, Brownsville, TX

3996 — B0165 Prevalence and Diversity of Giant Viruses Among Contaminated Contact Lens Cases. Ibrahim O. Sayed-Ahmed, J. Maestre-Mesas, E. Perez, M. Piqueras, S. K. Bhattacharya, D. Miller. Bascom Palmer Eye Institute, Miami, FL

3607 — B0166 Bilateral Acute Retinal Necrosis Shown in Patients with Viral Encephalitis: a Possible Potential Pathogen Related with Pig. Xiaoyan Peng^{2,1}, F. Hu^{3,1}, N. Wang^{2,1}. ¹Eye Center, Beijing Tongren Hospital, Beijing, China; ²Beijing Institute of Ophthalmology, Beijing, China; ³Capital Medical University Affiliated Beijing Tongren Hospital, Beijing, China

3608 — B0167 Ebola Virus Persistence in Ocular Tissues and Fluids (EVICT) II Study: Cataract Surgery and RT-PCR Outcomes in Ebola Virus Disease Survivors. Jessica Shantha¹, M. Teshome², J. Mattia², R. Garry³, M. J. Vandy², S. Yeh⁴. ¹UCSF, UCSF Proctor Foundation, San Francisco, CA; ²Lowell and Ruth Gess Eye Hospital, Freetown, Sierra Leone, Freetown, Sierra Leone; ³School of Medicine, Tulane, New Orleans, LA; ⁴Emory University, Atlanta, GA

3609 — B0168 Ebola Virus Persistence in Ocular Tissues and Fluids (EVICT) Study: Baseline Characteristics and Primary Findings from Ocular Fluid of Ebola Survivors in Sierra Leone. Steven Yeh¹, J. Shantha^{2,1}, J. Mattia², R. Garry⁴, M. J. Vandy⁵. ¹Ophthalmology, Emory Eye Center, Atlanta, GA; ²Ophthalmology, Proctor Foundation, University of California San Francisco, San Francisco, CA; ³Ophthalmology, Lunsar Baptist Eye Hospital, Freetown, Sierra Leone; ⁴Tulane University, New Orleans, LA; ⁵National Eye Programme, Connaught Government Hospital, Freetown, Sierra Leone *CR

3610 — B0169 Merkel cell polyomavirus detection by next-generation sequencing of the anophthalmic socket. Michal B. Gutowski, M. A. Prendes, L. Akileswaran, A. Lee, C. B. Chambers, R. N. Van Gelder. Ophthalmology, University of Washington, Seattle, WA

3611 — B0170 Similar outcomes for oral and intravenous treatment of acute retinal necrosis. Julijana Baltinas^{1,2}, S. Lightman^{2,3}, P. J. McCluskey¹, O. Tomkins-Netzer^{2,3}. ¹University of Sydney, Sydney, NSW, Australia; ²Moorfields Eye Hospital, London, United Kingdom; ³UCL Institute of Ophthalmology, London, United Kingdom

3612 — B0171 A comparison of visual outcomes and clinical management of CMV retinitis in HIV and non-HIV positive patients. Seema Ghelani¹, P. Bhat¹, Y. I. Leiderman¹, J. I. Lim¹, L. J. Ulanski¹, W. F. Mieler¹, D. A. Goldstein², A. Lobo¹. ¹Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ²Department of Ophthalmology, Northwestern University Feinberg School of Medicine, Chicago, IL

3613 — B0172 Variation of Ophthalmic Manifestations in Congenital TORCH Infection: A 5-Year Review. Atchara Amphornphruet^{1,2}, N. Rangseechamrat^{1,2}, M. Suwansirikul^{1,2}, R. Chan³. ¹ophthalmology, College of Medicine, Rangsit university, Bangkok, Thailand; ²Ophthalmology, Queen Sirikit Natinal Institute of Child Health, Bangkok, Thailand; ³Ophthalmology and Visual Science, Illinois Eye and Ear Infirmary, University of Illinois, Chicago, IL

3614 — B0173 OKG-0301, a Novel Ribonuclease, Demonstrates Antiviral Activity against Adenovirus in the Ad5/NZW Rabbit Ocular Model. Eric G. Romanowski, K. A. Yates, R. M. Shanks, J. E. Romanowski, R. P. Kowalski. The Charles T. Campbell Ophthalmic Microbiology Laboratory, UPMC Eye Center, University of Pittsburgh, Pittsburgh, PA *CR

Exhibit/Poster Hall B0174-B0189

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Immunology/Microbiology

380 Mechanisms of viral infections

Moderator: Ashok Kumar

3615 — B0174 Epithelial cells exhibit myeloid antigens during acute HSV-1 keratitis. Derek J. Royer², D. J. Carr^{2,1}. ¹Microbiology & Immunology, Univ of Oklahoma Health Sci Ctr, Oklahoma City, OK; ²Ophthalmology, University of Oklahoma Health Sciences Center, Oklahoma City, OK

3616 — B0175 Role of M1 and M2 macrophages in herpes simplex virus-1 infectivity *in vitro* and *in vivo*. Dong Hyun T. Lee, H. Ghiasi. Center for Neurobiology and Vaccine Development, Ophthalmology Research, Department of Surgery, Cedars Sinai Medical Center, Los Angeles, CA

3617 — B0176 Subsets of immunoprotective $\gamma\delta$ T cells in the cornea during early HSV-1 infection. Steffani Fitzpatrick¹, R. Lausch¹, R. Barrington^{1,2}. ¹Microbiology and Immunology, University of South Alabama, MOBILE, AL; ²Center for Lung Biology, University of South Alabama, Mobile, AL

3618 — B0177 Plasmacytoid Dendritic Cells Modulate Corneal Inflammation Through Transforming Growth Factor (TGF)- β 1. Victor G. Sendra¹, A. Jamali¹, M. J. Lopez¹, D. L. Harris¹, P. Hamrah^{1,2}. ¹Tufts Medical Center, Boston, MA; ²Ophthalmology, Cornea Service, New England Eye Center, Boston, MA

3619 — B0178 Dual role for autophagy in herpes simplex virus infection of the cornea. Deepak Shukla, N. Thakkar, D. Jaishankar. Ophthal/Visual Sciences, University of Illinois at Chicago, Chicago, IL

3620 — B0179 Evaluation of conjunctival and lacrimal gland inflammation after corneal herpes simplex virus-1 infection. Pushpa Rao², S. Gaddipati^{1,2}, B. Burugula^{1,2}, A. Jerome², R. L. McKown³, G. W. Laurie⁴, S. Suvas^{1,2}.

¹Ophthalmology, Wayne state university School of medicine, Detroit, MI; ²Anatomy and Cell Biology, Wayne State University School of Medicine, Detroit, MI; ³Department of Integrated Science and Technology, James Madison University, Harrisonburg, VA; ⁴Department of Cell Biology and Ophthalmology, University of Virginia, Charlottesville, VA

3621 — B0180 The CXCL10/CXCR3 Chemokine Pathway is Required for the Generation and Protective Function of Tissue-Resident Memory CD103⁺CD8⁺T_{RM} Cells Against Recurrent Ocular Herpes. Lbachir BenMohamed, A. B. Nesburn, R. Srivastava. Gavin Herbert Eye Institute, Univ of California-Irvine, Irvine, CA

3622 — B0181 Binding of HSV-1 UL20 to Golgi-specific Zinc-finger protein affect virus infectivity and latency-reactivation. Shaohui Wang¹, K. Mott¹, K. Wawrowsky¹, B. Luscher², H. Ghiasi¹. ¹Cedars Sinai Medical Center, Los Angeles, CA; ²Penn State University, University Park, PA

3623 — B0182 Pharmacological inhibition of heparanase blocks release of HSV-1 from corneal epithelium. Alex Agelidis, J. Hopkins, D. Shukla. University of Illinois at Chicago, Chicago, IL

3624 — B0183 Evaluation of the neuropeptide expression profile in the trigeminal ganglia after corneal herpes simplex virus 1 infection in C57BL/6 mice. Andrew Jerome¹, B. Burugula^{2,1}, S. Gaddipati^{2,1}, P. Rao¹, S. Suvas^{2,1}. ¹Anatomy and Cell Biology, Wayne State University School of Medicine, Detroit, MI; ²Ophthalmology, Wayne State University School of Medicine, Detroit, MI

3625 — B0184 Replication of cytomegalovirus in human trabecular meshwork cells. Daisuke Shimizu, D. Miyazaki, Y. Inoue. Division of ophthalmology, Tottori university, Yonago, Japan

3626 — B0185 Pyroptosis Inducer, Gasdermin D, is Stimulated Intraocularly in Mice with Retrovirus-Induced Immunosuppression (MAIDS) During Experimental Murine Cytomegalovirus (MCMV) Retinitis. Jessica Carter¹, Q. Richardson¹, G. Jasso¹, C. Alston^{1,2}, R. D. Dix². ¹Biology, Georgia State University, Atlanta, GA; ²Emory University, Decatur, GA

3627 — B0186 Photoreceptor cell death following choroidal murine cytomegalovirus (MCMV) infections of deeply immunosuppressed mice. Ming Zhang, B. Marshall, J. Mo, S. B. Smith, Z. Dong. Cellular Biology & Anatomy, Augusta University, Augusta, GA

3628 — B0187 Varicella-zoster virus (VZV) infection of ARPE-19 cells provides a novel *in vitro* model to study VZV uveitis. Katherine Lee, C. Graybill, D. Claypool, M. Levin. Pediatrics, University of Colorado Denver, Aurora, CO

3629 — B0188 ZIKA virus efficiently replicates in human retinal pigment epithelium and disturbs its permeability. *Vasiliki Kalatzis¹, N. Erkilic¹, K. Damodar¹, J. Molés², C. Fourier-Wirth³, N. Nago², P. Van de Perre², Y. Simonin², S. Salinas².* ¹Inserm U1051, Montpellier, France; ²Inserm UMR1058, Montpellier, France; ³Etablissement Francais du Sang, Montpellier, France

3630 — B0189 Human Asymptomatic Epitopes Identified from the Herpes Simplex Virus Tegument Protein VP13/14 (UL47) Preferentially Recall Polyfunctional Effector Memory CD44^{high}CD62L^{low}CD8⁺T_{EM} Cells and Protect “Humanized” HLA-A*02:01 Transgenic Mice Against Ocular Herpes. *Anthony Nesburn, R. Srivastava, L. BenMohamed.* Gavin Herbert Eye Institute, University of California Irvine, Irvine, CA

Exhibit/Poster Hall B0190-B0204

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Lens

381 Lens Physiology and Biomechanics II

Moderator: Kulandaiappan Varadaraj

3631 — B0190 Cortical cataracts: The case for mechanical stress. *Ralph Michael¹, J. D'Antin¹, L. Pinilla Cortés¹, L. Pareja Aricó¹, R. I. Barraquer^{1,2}.* ¹Institut Universitari Barraquer, Universitat Autònoma de Barcelona, Barcelona, Spain; ²Centro de Oftalmología Barraquer, Universitat Internacional de Catalunya, Barcelona, Spain

3632 — B0191 Best Practices for Estimating Lens Mechanical Properties Using a Compression Test. *Matthew A. Reilly^{1,2}, A. Cleaver³, A. Rede¹, L. Rodriguez⁴, G. Rice⁵.* ¹Biomedical Engineering, The Ohio State University, Columbus, OH; ²Ophthalmology and Visual Science, The Ohio State University, Columbus, OH; ³Mechanical Engineering, Tufts University, Medford, MA; ⁴Biomedical Engineering, University of Texas Health Science Center at San Antonio, San Antonio, TX; ⁵Biology, University of Texas at San Antonio, San Antonio, TX

3633 — B0192 Patterns of accommodation in natural anisometropia. *Apoorva Karsolia, L. R. Stark.* Marshall B Ketchum University, Fullerton, CA

3634 — B0193 Simulating crystalline lens accommodation ex vivo without scleral support. *Caroline Dong¹, A. Bernal², G. Scarcelli¹.* ¹University of Maryland, College Park, Columbia, MD; ²BIONIKO, Miami, FL *CR

3635 — B0194 Myo/Nog Cells are Present on the Zonules Between the Ciliary Body and Lens. *Jacquelyn V. Gerhart¹, P. G. FitzGerald², R. Getts³, L. Werner⁴, N. Mamalis⁴, M. George-Weinstein¹.* ¹Research, Phila. College of Osteopathic Medicine, Wynnewood, PA; ²UC DAVIS, Davis, CA; ³Genisphere, LLC, Hatfield, PA; ⁴John Moran Center, University of Utah, Salt Lake City, UT

3636 — B0195 Cholesterol bilayer domain in eye lens health. *Witold K. Subczynski¹, J. Widomska², L. Mainali¹, M. Raguz².* ¹Biophysics, Medical College on Wisconsin, Milwaukee, WI; ²Biophysics, Medical University of Lublin, Lublin, Poland; ³Medical Physics and Biophysics, University of Split, Split, Croatia

3637 — B0196 Amounts of phospholipids and cholesterol in lipid domains formed in intact lens membranes: Methodology development and its application to studies of porcine lens membranes. *Laxman Mainali¹, M. Raguz², W. J. O'Brien³, W. K. Subczynski¹.* ¹Biophysics, Medical College of Wisconsin, Milwaukee, WI; ²Medical Physics and Biophysics, University of Split, Split, Croatia; ³Ophthalmology, Medical College of Wisconsin, Milwaukee, WI

3638 — B0197 Evidence of Transient Receptor Potential Vanilloid 1 (TRPV1) Channel-mediated Signaling in Lens Epithelium. *Amrital Mandal¹, M. Shahidullah^{1,2}, N. A. Delamere^{1,2}.* ¹Physiology, College of Medicine, Univ of Arizona, Tucson, AZ; ²Department of Ophthalmology & Vision Science, University of Arizona, Tucson, AZ

3639 — B0198 Maintaining Epithelial Cell Viability in Whole Lens Cultures ex vivo. *Bharat Kumar, M. A. Reilly.* Biomedical Engineering, The Ohio State University, Columbus, OH

3640 — B0199 Src Family Tyrosine Kinase Signaling in Lens Epithelium is Linked to Calcium-activated Adenylate Cyclase. *Mohammad Shahidullah^{1,2}, A. Mandal¹, N. A. Delamere^{1,2}.* ¹Physiology, Univ of Arizona, College of Medicine, Tucson, AZ; ²Ophthalmology and Visual Sciences, University of Arizona, Tucson, AZ

3641 — B0200 Effects of Combined Circadian Rhythm Disruption and Alcohol on Murine Lens Structure. *Kristin J. Al-Ghoul¹, R. M. Voigt², C. B. Forsyth², A. Keshavarzian².* ¹Anatomy & Cell Biology, Rush University Medical Center, Chicago, IL; ²Internal Medicine, Section of Gastroenterology, Rush University Medical Center, Chicago, IL

3642 — B0201 Crystalline lens change peculiar to diabetes. *Hiroshi Sasaki, N. Hatsusaka, H. Miyashita, N. Shibata, Y. Seki, T. Shibata, H. Osada, H. Ishida, M. Kojima, E. Kubo.* Department of Ophthalmology, Kanazawa Medical University, Kahoku-gun, Japan

3643 — B0202 Pax6 Sumoylation Is Enhanced In Cataract Lenses. *Fangyuan Liu¹, Y. Liu¹, Z. Luo¹, Q. Nie¹, X. Gong¹, L. Gong¹, L. Zhang¹, X. Tang¹, Y. Liu¹, D. W. Li^{1,2}.* ¹Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ²Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE

3644 — B0203 Expression of SUMO Isoforms in Different Compartments of Mouse Eye. *YUNFEI LIU¹, Q. Nie¹, F. Liu¹, Z. Luo¹, X. Gong¹, L. Gong¹, L. Zhang¹, X. Tang¹, Y. Liu¹, D. W. Li^{1,2}.* ¹Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ²Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE

3645 — B0204 Expression of the Sumoylation Enzymes in the Ocular Tissues of Mice. *Qian Nie¹, L. Wang^{1,2}, Z. Huang^{1,2}, D. W. Li^{1,2}.* ¹College of Life Sciences, Hunan Normal University, Changsha, China; ²Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE

Exhibit/Poster Hall B0271-B0304

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Retina

382 Retinal vascular diseases II (excluding diabetes)

3646 — B0271 Quantitative Analysis of Retinal Capillary Density and Foveal Avascular Zone Area Using Optical Coherence Tomography Angiography of Normal Eyes. *Sean T. Garrity¹, N. A. Iafe¹, N. Phasukkijwatana¹, X. Chen², D. Sarraf¹.* ¹Ophthalmology, UCLA, Los Angeles, PA; ²Retina, Tufts Medical Center/Ophthalmic Consultants of Boston, Boston, MA *CR

3647 — B0272 Hyperbaric Therapy for Central Retinal Artery Occlusion: Is It Really Worth It? A Cost Benefit Analysis. *Paymohn Mahdavi, B. P. Bielory, R. G. Josephberg.* Ophthalmology, New York Medical College, New York, NY

3648 — B0273 Anti-VEGF treatment of macular edema using a treat-and-extend regimen in retinal vein occlusion in clinical practice: 18 months follow-up. *Manar Addou Regnard, A. Glacet-Bernard, R. Sekfali, A. Miere, E. SOUIED.* ophthalmology, Centre hospitalier intercommunal de créteil, Paris, France

3649 — B0274 Real life experience of combined fixed-dosing and Treat and Extend protocols for intravitreal Afibercept injections for Macular Oedema secondary to Central Retinal Vein Occlusion (CRVO). *Caspar Geenen, K. El-Assal, D. Steel, D. Varma, A. Kotagiri, J. Smith, M. T. Sandinha, M. S. Habib.* Ophthalmology, City Hospitals Sunderland NHS Foundation Trust, Durham, United Kingdom

3650 — B0275 Retinal Artery Occlusion after Intravascular Procedure: Case Series and Literature Review. *Soo Chang Cho¹, C. Jung¹, J. Lee², S. Kim³, K. Park¹, N. Ryoo¹, S. Woo¹.* ¹Seoul National University Bundang Hospital, Seongnam, Korea (the Republic of); ²Asan Medical Center, Seoul, Korea (the Republic of); ³Samsung Medical Center, Seoul, Korea (the Republic of)

3651 — B0276 Regulation of neurovascular coupling in proliferative retinopathy through a functional interaction between ROR α and semaphorin 3E. *Chi-Hsiu Liu, Y. Sun, Z. Wang, S. Meng, S. Burnim, J. Chen.* Ophthalmology, Boston Children's Hospital, Boston, MA

3652 — B0277 Central Retinal Vein Occlusion in Younger Patients: Causes, Presentation and Outcomes. *Kirin Khan, A. Thomas, A. Rothman, S. Fekrat.* Duke University, Durham, NC

3653 — B0278 Topical bromfenac as an adjunctive treatment with intravitreal ranibizumab for macular edema associated with branch retinal vein occlusion. *Yoshitsugu Saishin, Y. Ito, M. Kakinoki, M. Ohji.* Ophthalmology, Shiga University of Medical Science, Otsu, Japan *CR, ✗

3654 — B0279 Comparison Of Spectral Domain Optical Coherence Tomography Findings Between Sickie-Cell Disease And Thalassaemic Patients. *Mahmut Oğuz Ulusoy¹, H. Türk², S. Kivanc³.* ¹Ophthalmology, Baskent University School Of Medicine Konya Research Hospital, Konya, Turkey; ²Ophthalmology, Tarsus State Hospital, Mersin, Turkey; ³Ophthalmology, Uludağ university School of Medicine, Bursa, Turkey

3655 — B0280 Endothelial-specific SIRT1 Deletion Inhibits Retinal Vascular Endothelial Cell Migration. *Yong Lin^{1,2}, J. Liu¹, L. Li¹, J. Ye¹, P. Reinach¹, J. Qu¹, D. Yan¹.* ¹School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China; ²State Key Laboratory Cultivation Base and Key Laboratory of Vision Science, Ministry of Health of the People's Republic of China, Zhejiang Provincial Key Laboratory of Ophthalmology and Optometry, Wenzhou, China

3656 — B0281 Lack of predictive value of retinal oxygen saturation for visual outcome after anti-VEGF treatment in central retinal vein occlusion. *Signe K. Jeppesen, T. Bek.* Ophthalmology, Aarhus Universitetshospital, Aarhus C, Denmark

3657 — B0282 Ranibizumab versus aflibercept for macular edema due to central retinal vein occlusion: 18-month results in real-life data. *Irini Chatziralli^{1,4}, G. Theodosiadis³, M. Moschos², A. Chatziralli⁴, P. Mitropoulos⁴, P. Theodosiadis¹.* ¹2nd Department of Ophthalmology, University of Athens, Agios Dimitrios, Greece; ²1st Department of Ophthalmology, University of Athens, Athens, Greece; ³2nd Department of Ophthalmology, Henry Dunant Hospital, Athens, Greece; ⁴2nd Department of Ophthalmology, Ophthalmiatrion Athinon, Athens, Greece

3658 — B0283 Ocular vascular occlusion: a diagnostic window to thrombophilia and thrombotic events. *Frini Makadia¹, I. Schlam¹, M. Rothschild¹, R. Hutchins², R. Sisk², P. Wang¹, C. J. Glueck¹.* ¹Internal Medicine, The Jewish Hospital, Cincinnati, OH; ²Ophthalmology, University of Cincinnati, Cincinnati, OH

3659 — B0284 Retinal artery occlusion and cardiovascular events. *Alexandre Palacin¹, E. Matamoros¹, J. Neau³, M. Boissonnot¹, N. Leveziel^{1,2}.* ¹Ophthalmology, CHU Poitiers, Mont de Marsan, France; ²INSERM 1084, Poitiers, France; ³Neurology, CHU Poitiers, Poitiers, France

3660 — B0285 Retinal Vascular Abnormalities in a Large Cohort of Patients Affected by Neurofibromatosis Type-1: a Study Using OCT-angiography. *Raffaele Parrozzani¹, E. Pilotto¹, G. Miglionico², L. Frizziero¹, F. Leonardi¹, E. convento¹, S. Trainiti¹, S. Pulze², E. Midena^{1,2}.* ¹Department of Ophthalmology, University of Padova, Padova, Italy; ²G.B. Bietti Foundation, IRCCS, Roma, Italy

3661 — B0286 Age threshold for increased risk of RVO among Koreans. *Shin Koun¹, H. Kyung Do², S. Song¹.* ¹Department of ophthalmology, Kangbuk Samsung hospital, Seoul, Korea (the Republic of); ²Department of Biostatistics, Catholic University College of Medicine, Seoul, Korea (the Republic of)

3662 — B0287 Novel mouse model of CRVO induced by intraperitoneal injection of Rose Bengal with laser radiation. *Kazutaka Hirabayashi^{1,2}, Y. Iesato¹, A. Imai¹, Y. Toriyama¹, S. Takayuki², K. Akiko², Y. Ichikawa-Shindo², H. Kawate², M. Tanaka², A. Yamauchi³, T. Murata¹, S. Takayuki².* ¹Department of ophthalmology Shinshu Univ., NAGANO, Japan; ²Department of Cardiovascular research, Shinshu Univ., Nagano, Japan; ³Japan Bio Products Co., Fukuoka, Japan

3663 — B0288 TLR4-mediated Necroptosis of Microglia Contributes to Ischemia-induced Retinal Angiogenesis. *Chang He, Z. Huang, J. Wang, T. Zhou, X. Sun, X. Liu.* Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

3664 — B0289 Capillary loss Gap on Optical Coherence Tomography Angiography is Associated with Persistent Macular Edema in Branch Retinal Vein Occlusion. *kotaro tsuboi, Y. Ishida, M. Kamei.* Ophthalmology, Aichi Medical University, Nagakute, Japan

3665 — B0290 In Vivo Molecular Imaging of Retinal Hypoxia in a Mouse Model of Laser-induced Retinal Vein Occlusion (RVO). *Md Imam Uddin¹, A. Jayagopal², G. W. McCollum¹, J. S. Penn¹.* ¹Ophthalmology, Vanderbilt University School of Medicine, Nashville, TN; ²Hoffmann-La Roche Ltd, Basel, Switzerland

3666 — B0291 Use of the Ischemic Index on Widefield Fluorescein Angiography to Characterize a Central Retinal Vein Occlusion as Ischemic or Non-Ischemic. *Akshay S. Thomas¹, M. K. Thomas², S. Fekrat^{1,3}.* ¹Ophthalmology, Duke University, Durham, NC; ²Aquatic Ecology, Eawag: Swiss Federal Institute of Aquatic Science and Technology, Dübendorf, Switzerland; ³Ophthalmology, Durham VA Medical Center, Durham, NC

3667 — B0292 Effect of Inspra (Eplerenon) on structural and functional outcome in central serous chorioretinopathy. *Katrin Fasler¹, J. Gunzinger¹, D. Barthelmes¹, M. Roos², S. Zweifel¹.* ¹Ophthalmology Department, University Hospital, Zurich, Switzerland; ²Biostatistics, University of Zurich, Zurich, Switzerland

3668 — B0293 Neovascular Glaucoma Management: Practice Patterns of Glaucoma and Retina Specialists in the United States. *Arthi Venkat, R. P. Singh, J. Eisengart, M. Hu, J. Ehlers, A. Babiuch.* Ophthalmology, Cleveland Clinic Foundation - Cole Eye Institute, Cleveland, OH *CR

3669 — B0294 Low dose aldosterone exposure causes increased retinal edema following laser-induced retinal vein occlusion in mice. *Michael J. Allingham, N. Tserentsoodol, P. Saloupis, S. W. Cousins.* Ophthalmology, Duke University Eye Center, Durham, NC

3670 — B0295 Caffeine preferentially protects against oxygen-induced retinopathy. *Shuya Zhang¹, R. Zhou¹, B. Li¹, H. Li¹, C. Wang¹, Y. Wang¹, X. Gu¹, D. Zhong¹, L. Tang¹, Y. Ge¹, Y. Huo², J. Lin³, X. Liu¹, J. Chen¹.* ¹School of Optometry and Ophthalmology, Wenzhou Medical University, Wenzhou, China; ²Department of Cellular Biology and Anatomy, Medical College of Georgia, Augusta, ME; ³Icahn School of Medicine at Mount Sinai, New York, NY

3671 — B0296 Extension of peripheral non-perfusion in retinal vein occlusion treated with intravitreal dexamethasone implant. *Sandra Rezar, K. Eibenberger, W. Buehl, M. Georgopoulos, G. Weigert, U. Schmidt-Erfurth, S. Sacu.* Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria *CR, ✗

3672 — B0297 Accelerated Anti-VEGF Dosing for Treatment of Resistant Macular Edema in Patients with Retinal Vein Occlusions. Tara Bryant, Y. J. Kim, A. Seethala Thangappan, M. Subramanian. Ophthalmology, Boston Medical Center, Boston, MA

3673 — B0298 Characterization of a Laser Induced Branch Retinal Vein Occlusion in a Rat Model. Konstantinos Nikolakopoulos, L. Kowalczyk, T. Favez, C. Martin, F. Behar-Cohen, J. Pournaras. Hôpital Ophtalmique Jules-Gonin, Lausanne, Switzerland

3674 — B0299 Real-life effectiveness of Ranibizumab in RVO patients in a prospective, non-interventional trial over 12 months (OCEAN study). Josep Callizo¹, T. Bertelmann¹, J. Voegeler², S. Schmitz-Valckenberg³, G. Spital⁴, N. Feltgen¹, S. Liakopoulos⁵, F. Ziemssen⁶. ¹Ophthalmology, Georg-August University, Goettingen, Germany; ²Novartis Pharma, Nuernberg, Germany; ³Ophthalmology, University of Bonn, Bonn, Germany; ⁴Ophthalmology, St. Franziskus-Hospital, Muenster, Germany; ⁵Ophthalmology, University Hospital of Cologne, Cologne, Germany; ⁶Ophthalmology, Eberhard-Karls University of Tuebingen, Tuebingen, Germany *CR, ✗

3675 — B0300 Optical coherence tomography angiography and “en-face” optical coherence tomography in retinal vein occlusion. Alexandros Deligiannidis, D. Velazquez Villoria, J. lorenzo carrero. POVISA hospital, Vigo, Spain

3676 — B0301 5 Pearls of Early Treatment in BRVO. Varun Chaudhary¹, R. Tadayoni², E. Zangvil³. ¹McMaster University & St. Joseph’s Healthcare Hamilton, Hamilton, ON, Canada; ²Paris 7-Sorbonne Paris Cité, Paris, France; ³Novartis, Basel, Switzerland *CR

3677 — B0302 Multimodal Imaging of Retinal Vein Occlusions using Optical Coherence Tomography Angiography and En Face Optical Coherence Tomography. Michael J. Heiferman, P. L. Nesper, M. Gill, A. A. Fawzi. Department of Ophthalmology, Northwestern University, Chicago, IL

3678 — B0303 Identification of genes and pathways involved in mouse retinal muller cell by RNAseq analysis. Lili Xu¹, Y. Gou², D. McMahon¹. ¹Biological Science, Vanderbilt University, Nashville, TN; ²Center for Quantitative Scienc, Vanderbilt University, Nashville, TN

3679 — B0304 Macular Choroidal Thickness in Unilateral Commotio Retinae. Marie Burke¹, P. Lieu², J. Boss¹, G. W. Abrams¹. ¹Ophthalmology, Kresge Eye Institute, Wayne State University, Detroit, MI; ²Ophthalmology, Kellogg Eye Institute, University of Michigan, Ann Arbor, MI

Exhibit/Poster Hall B0305-B0329

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Retina

383 Macular diseases (non-inherited)

Moderator: William R. Freeman

3680 — B0305 Unilateral Occlusive Juxtafoveolar Telangiectasis: A 27-year Natural History Study. Sawzan R. Nowlaty, D. M. Alhamad. Vitreoretinal Division, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia

3681 — B0306 Optical Coherence Tomography Angiography of Treatment-naïve Quiescent Choroidal Neovascularization in Pachychoroid Neovascularopathy. Adriano Carnevali^{1,2}, V. Capuano³, R. Sacconi^{4,2}, L. Querques², A. marchese², A. Rabiolo², E. Souied³, V. Scorcia¹, F. Bandello², G. Querques². ¹University “Magna Graecia” Catanzaro, Catanzaro, Italy; ²Ophthalmology, Department of Ophthalmology, University Vita-Salute, IRCCS Ospedale San Raffaele, Milan, Italy; ³Department of Ophthalmology, Centre Hospitalier Intercommunal de Créteil, Université Paris Est Créteil, Creteil, France; ⁴Eye clinic, Department of Neurological, Biomedical and Movement Sciences, University of Verona, Verona, Italy *CR

3682 — B0307 Optical Coherence Tomography Angiography in Hydroxychloroquine Toxicity. Priya Sharma¹, M. Pefkianaki¹, M. K. Adam², A. Ho², J. Hsu², J. Maguire², C. D. Regillo², C. G. Affel¹, E. Affel¹, J. A. Haller¹. ¹Ophthalmology, Wills Eye Hospital, Philadelphia, PA; ²MidAtlantic Retina, Wills Eye Hospital, Philadelphia, PA *CR

3683 — B0308 Assessing macular functional changes post epiretinal membrane peeling using microperimetry:3 month outcomes. Rashmi Nair^{2,1}, B. Bahrami^{2,1}, T. Hong², A. Chang^{2,1}. ¹Medicine, University of Sydney, Sydney, NSW, Australia; ²Research, Sydney Institute of Vision Science, Sydney, NSW, Australia ✗

3684 — B0309 OCT Angiography to Distinguish Choroidal Neovascularization from Macular Inflammatory Lesions in Multifocal Choroiditis. polina astroz evtouchenko¹, A. Miere¹, S. Mrejen², R. Sekfali¹, E. SOUIED¹, C. JUNG¹, S. nghiem-buffet², S. Y. Cohen^{1,2}. ¹Ophthalmology, Centre Hospitalier intercommunal de Créteil, Créteil, France; ²Centre Imagerie Laser, Paris, France

3685 — B0310 Detection of Hydroxychloroquine toxicity based on AAO 2016 Guidelines. Mustafa Iftikhar¹, Z. Rentiya¹, E. Schonbach¹, N. Junaid¹, S. Kherani¹, B. Usmani¹, I. Rashid¹, M. Ahmed¹, M. Petri², H. P. Scholl^{3,1}, S. A. Shah¹. ¹Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Department of Rheumatology, Johns Hopkins University School of Medicine, Baltimore, MD; ³Department of Ophthalmology, University of Basel, Basel, Switzerland *CR

3686 — B0311 Comparison of Potential Acuity Meter to Retinal Acuity Meter in Patients with Retinal Disorders. Joseph Ho, W. R. Freeman. Ophthalmology, UCSD Shiley Eye Institute, La Jolla, CA

3687 — B0312 Distribution and progression patterns of retinal low-reflective intraretinal spaces in Type 2 Idiopathic Macular Telangiectasia. Ferenc B. Salló^{2,1}, I. Leung^{2,8}, U. E. Wolf-Schnurrbusch³, B. Liu^{4,2}, K. Gocho⁵, V. Krivosic⁶, T. Peto^{7,8}, A. M. Dubis^{1,2}, D. Pauleikhoff⁹, T. E. Clemons¹⁰, M. Paques^{11,12}, E. Chew¹³, A. Gaudric⁶, A. C. Bird¹⁴. ¹Visual Neuroscience, UCL Institute of Ophthalmology, London, United Kingdom; ²Research & Development, Moorfields Eye Hospital, London, United Kingdom; ³University of Bern, Bern, Switzerland; ⁴Zhongshan Ophthalmic Centre, Sun Yat-sen University, Guangzhou, China; ⁵Nippon Medical University, Chiba Hokusoh Hospital, Chiba, Japan; ⁶Service d’Ophtalmologie, Hôpital Lariboisière, AP-HP, Université Paris Diderot, Paris, France; ⁷Queen’s University Belfast, Belfast, United Kingdom; ⁸NIHR Biomedical Research Centre for Ophthalmology, at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ⁹St. Franziskus Hospital, Münster, Germany; ¹⁰The EMMES Corporation, Rockville, MD; ¹¹CHNO des Quinze-Vingts, Paris, France; ¹²Institut de la Vision, Paris, France; ¹³National Eye Institute, National Institutes of Health, Bethesda, MD; ¹⁴Inherited Eye Disease, Moorfields Eye Hospital, London, United Kingdom

3688 — B0313 Pneumatic Vitreolysis (PVL) for the Treatment of Vitreomacular Traction Syndrome (VMT). Calvin E. Mein^{1,2}, C. K. Chan^{3,4}. ¹Ophthalmology, U. of TX Health Science Center, San Antonio, TX; ²Retinal Consultants of San Antonio, San Antonio, TX; ³Ophthalmology, Loma Linda University, Loma Linda, CA; ⁴Ophthalmology, Southern California Desert Retina Consultants, Palm Desert, CA

3689 — B0314 Quantitative fundus autofluorescence associated with a diseased Bruch membrane in pseudoxanthoma elasticum. Martin Gliem^{1,2}, P. Mueller^{1,2}, J. Birtel^{1,2}, R. P. Finger^{1,2}, F. G. Holz^{1,2}, P. Charbel Issa³. ¹University Eye Hospital Bonn, Bonn, Germany; ²Center for Rare Diseases Bonn (ZSEB), Bonn, Germany; ³Oxford Eye Hospital, Oxford, United Kingdom *CR, ✗

3690 — B0315 Characterisation of phenotypes of poppers maculopathy and their link with the visual prognosis and the resolution of OCT changes. Laure Van Bol, R. KURT, P. A. Keane, B. Pal, S. Sivaprasad. Medical retina, Moorfields Eye Hospital, London, United Kingdom *CR

3691 — B0316 Clinical findings used by ophthalmology residents for the presumptive diagnosis of macular hole in a reference center in Mexico. Jorge Eduardo A. Aceves Velazquez, R. Matsui-Serrano. General Ophthalmology, Conde de Valenciana, Ciudad de Mexico, Mexico

3692 — B0317 Safety of consecutive same-day bilateral intravitreal dexamethasone (Ozurdex) implant administration for cystoid macular edema. James B. Colchao¹, K. Kapoor². ¹Eastern Virginia Medical School, Norfolk, VA; ²Wagner Macula & Retina Center, Virginia Beach, VA

3693 — B0318 Does intravitreal Ocriplasmin degrade intraretinal extracellular matrix molecules? Declan C. Murphy, M. Felembam, N. Hunt, S. N. Baker, M. Lako, D. Steel. Newcastle University, Institute of Genetic Medicine, Newcastle University, United Kingdom

3694 — B0319 Short term efficacy and safety of intravitreal preservative-free triamcinolone acetonide for the treatment of macular edema. Piero Fontana¹, A. Fusca¹, S. Zanchi². ¹Ophthalmology, ASST Bergamo EST, Seriate, Italy; ²Ophthalmology, Clinica Castelli, Bergamo, Italy

3695 — B0320 Gli1 expression in human epiretinal membranes. Sohee Jeon, W. Lee. Seoul St Mary's Hospital, Seoul, Korea (the Republic of)

3696 — B0321 Ocriplasmin for the treatment of vitreomacular traction with or without macular hole - predictors of success. Janine Lenk, E. Mathé, L. E. Pillunat, D. Sandner. Ophthalmology, University of Dresden, Dresden, Germany

3697 — B0322 Full-Thickness Macular Hole (FTMH) and Vitreomacular Traction (VMT): Comparison of visual results in patients receiving pars plana vitrectomy (PPV) for FTMH in one eye and ocriplasmin in the contralateral eye. Gregory Gahn¹, A. M. Khanani², V. H. Gonzalez³, J. I. Markoff⁴, H. Khalaf⁵. ¹University of Nevada, Reno School of Medicine, Reno, NV; ²Sierra Eye Associates, Reno, NV; ³Valley Retina Institute, McAllen, TX; ⁴Wills Eye Hospital, Philadelphia, PA; ⁵Thomas Jefferson Medical College, Philadelphia, PA *CR

3698 — B0323 Preferential Hyperacuity Perimeter (PHP) in Vitreoretinal Interface Disorders. Alessa Crossan, J. kim, M. gendy, V. medic, K. Packard, D. P. Han, J. Kim. ophthalmology, medical college of wisconsin, Milwaukee, WI *CR

3699 — B0324 Characterization of Persistent Fetal Vasculature in β A3-KO Models and Determine the Role of Integrin in the Pathological Condition. Shylaja Hegde, O. Srivastava. Optometry and Vision Science, University of Alabama, Birmingham, Birmingham, AL

3700 — B0325 Safety and Efficacy of Intravitreal Ocriplasmin in Diabetic Macular Edema with Vitreomacular Adhesion - results of a guided intravitreal injection method. João Coelho^{1,2}, B. Pessoa¹, N. A. Correia¹, J. Melo Beirão^{1,3}, A. Meireles^{1,3}. ¹Ophthalmology, Centro Hospitalar Universitário do Porto, Santo Tirso, Portugal; ²Physiology and Cardiothoracic Surgery, Faculdade Medicina Universidade do Porto, Porto, Portugal; ³Ophthalmology, Instituto de Ciências Biomédicas Abel Salazar, Universidade do Porto, Porto, Portugal

3701 — B0326 Biomechanical modeling of macular hole formation and development. Anissa Frank¹, A. Jung¹, M. Staat¹, M. Engelbert², A. Dashevsky³, C. Haritoglou³, M. M. Maier⁴, K. E. Kotliar¹. ¹Medical Engineering and Technomathematics, Aachen University of Applied Sciences, Juelich, Germany; ²NYU School of Medicine, New York, NY; ³Eye clinic Herzog Carl Theodor, Munich, Germany; ⁴Ophthalmology, Technische Universität München, Munich, Germany; ⁵Dashevsky Eye Clinic, Munich, Germany

3702 — B0327 Relationship of Retinal Tear Location and Incidence of Epiretinal Membrane Formation. Fuad Makkouk, A. Elkeeb. University of Texas Medical Branch, Galveston, TX

3703 — B0328 ORBIT: A Phase IV Clinical Study - Efficacy and Safety Outcomes From Ocriplasmin Intravitreal Injection. Brian C. Joondeph^{1,2}, A. M. Khanani³, J. S. Duker^{4,5}, D. S. Boyer^{6,7}, J. Heier⁸, P. K. Kaiser⁹, M. W. MacCumber^{10,11}, D. J. Pieramici^{12,13}. ¹Colorado Retina Associates, PC, Denver, CO; ²Rocky Vista University College of Osteopathic Medicine, Parker, CO; ³Sierra Eye Associates, Reno, NV; ⁴New England Eye, Boston, MA; ⁵Tufts University School of Medicine, Boston, MA; ⁶Retina-Vitreous Associates Medical Group, Los Angeles, CA; ⁷University of Southern California/Keck School of Medicine, Los Angeles, CA; ⁸Ophthalmic Consultants of Boston, Boston, MA; ⁹Cole Eye Institute, Cleveland, OH; ¹⁰Illinois Retina Associates, Chicago, IL; ¹¹Rush University Medical Center, Chicago, IL; ¹²California Retina Consultants, Santa Barbara, CA; ¹³California Retina Research Foundation, Santa Barbara, CA *CR, \times

3704 — B0329 Improvement in baseline amplitude of the scotopic b-wave after release of vitreomacular traction (VMT): Further substudy analysis from the OASIS trial (1). Joseph I. Markoff^{1,2}, D. G. Birch³, P. Kozma⁴, R. Sergott^{1,2}. ¹Visual Physiology, Wills Eye Hospital, Philadelphia, Moorestown, NJ; ²Thomas Jefferson Medical College, Philadelphia, PA; ³Retina Foundation of the Southwest, Dallas, TX; ⁴ThromboGenics NV, Leuven, Belgium *CR, \times

Exhibit/Poster Hall B0485-B0527

Tuesday, May 09, 2017 3:45 PM-5:30 PM

Clinical/Epidemiologic Research

384 Glaucoma

Moderator: X. Raymond Gao

3705 — B0485 Glaucoma prevalence over time in Japanese from Kyoto Glaucoma Screening Cohort. Yoko Ikeda¹, K. Mori¹, M. Ueno¹, K. Yoshi², Y. Maruyama¹, K. Imai¹, M. Nakano³, S. Kinoshita⁴, C. Sotozono¹. ¹Ophthalmology, Kyoto Prefectural Univ of Med, Kamigyo-ku, Japan; ²Mathematics and Statistics in Medical Sciences, Kyoto Prefectural University of Medicine, Kyoto, Japan., Kyoto, Japan; ³Genomic Medical Science., Kyoto Prefectural University of Medicine, Kyoto, Japan, Kyoto, Japan; ⁴Frontier Medical Science and Technology for Ophthalmology., Kyoto Prefectural University of Medicine, Kyoto, Japan., Kyoto, Japan *CR

3706 — B0486 Assessing prevalence and progression of ocular hypertension and glaucoma in a tertiary referral uveitis service. Robert J. Barry¹, S. Madhusudhan², I. Masood³, P. Shah^{4,5}, A. K. Denniston⁴. ¹Academic Unit of Ophthalmology, University of Birmingham, Institute for Inflammation and Ageing, Birmingham, United Kingdom; ²Department of Ophthalmology, Royal Liverpool University Hospital, Liverpool, United Kingdom; ³Birmingham & Midland Eye Centre, City Hospital, Sandwell and West Birmingham Hospitals NHS Trust, Birmingham, United Kingdom; ⁴Department of Ophthalmology, Queen Elizabeth Hospital, University Hospitals Birmingham NHS Foundation Trust, Birmingham, United Kingdom; ⁵Birmingham Institute for Glaucoma Research, Institute of Translational Medicine, University Hospitals Birmingham NHS Foundation Trust, Birmingham, United Kingdom

3707 — B0487 Primary open-angle glaucoma prevalence and adherence - a prospective cohort study based on a health insurance data base. Stefanie Frech¹, D. Kreft^{2,3}, N. Grabow⁴, R. F. Guthoff¹, G. Doblhammer-Reiter^{2,3}. ¹Department of Ophthalmology, Rostock University Medical Center, Rostock, Germany; ²Institute for Sociology and Demography, University of Rostock, Rostock, Germany; ³Rostock Center for the Study of Demographic Change, Rostock, Germany; ⁴Institute of Biomedical Engineering, Rostock University Medical Center, Rostock, Germany

- 3708 — B0488 Prevalence of glaucoma and visual field changes in professional wind versus non-wind instrument players in the Philadelphia Orchestra.** *Shuai-Chun Lin, C. X. Zheng, M. Waisbourd, J. Molineaux, L. Zeng, T. Zhan, K. Rahmatnejad, A. RESENDE, A. Mantravadi, L. A. Hark, J. I. Markoff, G. L. Spaeth, L. Katz.* Ophthalmology, Wills Eye Hospital, Wynnewood, PA
- 3709 — B0489 Frequency of a diagnosis of glaucoma in individuals who consume coffee, tea, and/or soft drinks.** *Connie Wu¹, A. Wu¹, V. Tseng^{2,3}, F. Yu^{2,4}, A. Coleman^{2,3}.* ¹Ophthalmology, Warren Alpert Medical School of Brown University, Providence, RI; ²Stein Eye Institute, David Geffen School of Medicine at UCLA, Los Angeles, CA; ³Department of Epidemiology, Fielding School of Public Health at UCLA, Los Angeles, CA; ⁴Department of Biostatistics, Fielding School of Public Health at UCLA, Los Angeles, CA *CR
- 3710 — B0490 A protective association of selective serotonin reuptake inhibitors and a harmful association of calcium channel blockers for primary open-angle glaucoma identified in a healthcare database analysis.** *Anthony P. Khawaja¹, T. P. Dryja², Z. Wei³, D. Song³, H. Tian³, K. Kahler³, W. Zheng².* ¹Glaucoma Service, Moorfields Eye Hospital, London, United Kingdom; ²Novartis Institutes for BioMedical Research, Cambridge, MA; ³Novartis Pharmaceutical Company, New Jersey, MA *CR
- 3711 — B0491 Retrospective analysis of baseline factors influencing the rate of glaucoma progression leading to an inability to drive.** *Sameer Trikha, E. Bloch, R. Petrarca, A. Vlavianos, A. Kulkarni.* Ophthalmology Department, King's College Hospital NHS Foundation Trust, London, United Kingdom
- 3712 — B0492 Are Diabetes, Hypertension, and Obesity Associated with Primary Open Angle Glaucoma? A meta-analysis of 13 population-based studies in Asia.** *Ching-Yu Cheng^{1,2}, Y. Tham¹, L. Vijaya³, N. Wang^{4,5}, C. Pan⁶, R. C. Khanna⁷, S. Thapa⁸, M. He^{9,10}, R. R. Bourne¹¹, J. B. Jonas¹².* ¹Ocular Epidemiology Research Group, Singapore Eye Research Institute, Singapore, Singapore; ²Ophthalmology & Visual Sciences Academic Clinical Program, Duke-NUS Medical School, Singapore, Singapore; ³Medical and Vision Research Foundation, Sankara Nethralaya, Chennai, India; ⁴Beijing Tongren Eye Center, Beijing Tongren Hospital, Beijing, China; ⁵Beijing Ophthalmology and Visual Science Key Laboratory, Beijing, China; ⁶School of Public Health, Medical College of Soochow University, Suzhou, China; ⁷L. V. Prasad Eye Institute, Banjara Hills, Hyderabad, India; ⁸Nepal Glaucoma Eye Clinic, Tilganga Institute of Ophthalmology, Kathmandu, Nepal; ⁹State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Guangzhou, China; ¹⁰Centre for Eye Research Australia, Melbourne, VIC, Australia; ¹¹Vision & Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom; ¹²Department of Ophthalmology, Faculty of Clinical Medicine Mannheim, University of Heidelberg, Mannheim, Germany
- 3713 — B0493 Variations in body mass index and the incidence of glaucoma: the SUN study.** *Javier Moreno-Montanes¹, A. Fernández-Montero², A. Gea², E. Toledo², L. Moreno-Galarraga², B. Alfonso-Bartolozzi¹, M. Martinez².* ¹Ophthalmology, Clinica Universidad de Navarra, Pamplona, Spain; ²Department of Preventive Medicine and Public Health, Universidad de Navarra, Pamplona, Spain *CR
- 3714 — B0494 Association between Open-Angle Glaucoma and Hypothyroidism: A Meta-Analysis.** *Hyoung Won Bae, E. Kang, G. Seong, C. Kim.* Department of Ophthalmology, Yonsei University College of Medicine, Seoul, Korea (the Republic of)
- 3715 — B0495 Relationship between renal function and disc hemorrhage.** *Jae Yeun Lee, K. Shin, J. Kim.* Department of Ophthalmology, Kangbuk Samsung Hospital, Seoul, Korea (the Republic of)
- 3716 — B0496 Association between glaucoma risk factors and posterior vitreous detachment.** *Elizabeth Y. Lee, S. Bains, E. Sogbesan.* Department of Surgery, Ophthalmology, McMaster University, Hamilton, ON, Canada
- 3717 — B0497 Quantifying Factors Related to Severe Vision Loss in African Americans with Primary Open-Angle Glaucoma.** *Allison Rhodes¹, Q. J. Cui¹, M. Pistilli², E. Daniel², P. SANKAR¹, E. G. Miller-Ellis¹, V. Addis¹, A. Lehman¹, M. G. Maguire², J. M. O'Brien¹.* ¹Department of Ophthalmology, University of Pennsylvania, Scheie Eye Institute, Philadelphia, PA; ²Department of Ophthalmology, University of Pennsylvania, Center for Preventive Ophthalmology and Biostatistics, Philadelphia, PA
- 3718 — B0498 Racial Differences in the Effect of Hormone Therapy on Incident Open-Angle Glaucoma.** *Thasarat S. Vajaranant¹, R. Ray⁹, L. R. Pasquale², P. M. Maki⁵, J. A. Mares³, R. Ritch⁴, E. W. Gower⁷, M. N. Haan⁶, R. D. Jackson⁸.* ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Department of Ophthalmology, Harvard Medical School, Boston, MA; ³Department of Ophthalmology and Visual Sciences, University of Wisconsin, Madison, WI; ⁴The New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ⁵Psychiatry, University of Illinois at Chicago, Chicago, IL; ⁶Department of Epidemiology and Biostatistics, University of California at San Francisco, San Francisco, CA; ⁷Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill Chapel Hill, NC; ⁸Center for Clinical and Translational Research, Ohio State University, Columbus, OH; ⁹Women's Health Initiative Central Coordinating Center, Seattle, WA
- 3719 — B0499 Racial Differences in Optic Nerve Anatomy Among Patients with a Normal Retinal Nerve Fiber Layer Thickness.** *Wyatt Messenger, M. Dikopf, M. Ali, A. A. Aref.* Ophthalmology, University of Illinois at Chicago, Chicago, IL
- 3720 — B0500 Exfoliation syndrome impacts risk and mortality of chronic obstructive pulmonary disease (COPD): Utah Project on Exfoliation Syndrome (UPEXS).** *Ashlie A. Bernhise¹, B. Wirostko¹, R. R. Allingham², R. Ritch³, K. Curtin⁴, J. Wong⁴.* ¹Ophthalmology, Moran Eye Center, University of Utah, Salt Lake City, UT; ²Ophthalmology, Duke University, Durham, SC; ³Ophthalmology, Einhorn Clinical Research Center, New York Eye and Ear Infirmary of Mount Sinai, New York City, NY; ⁴Epidemiology, Department of Medicine and Huntsman Cancer Institute, University of Utah, Salt Lake City, UT x³
- 3721 — B0501 Risk of inguinal hernia (IH) is increased in male patients with exfoliation syndrome: The Utah Project on Exfoliation Syndrome (UPEXS).** *Brian Besch¹, R. R. Allingham², J. Wong³, K. Curtin³, R. Ritch⁵, B. M. Wirostko⁴.* ¹University of Utah School of Medicine, Salt Lake City, UT; ²Duke University Medical Center, Durham, NC; ³Department of Medicine and Huntsman Cancer Institute, Salt Lake City, UT; ⁴Moran Eye Center, University of Utah, Salt Lake City, UT; ⁵Einhorn Clinical Research Center, New York Eye and Ear Infirmary of Mount Sinai, New York, NY
- 3722 — B0502 Relationship between Glomerular filtration rate and Primary Open-Angle Glaucoma: the Singapore Chinese Eye Study.** *Yih Chung Tham¹, C. Sabanayagam^{1,2}, T. Aung^{3,2}, T. Wong², C. Cheng^{1,2}.* ¹Ocular Epidemiology, Singapore Eye Research Institute, Singapore, Singapore; ²Duke-NUS Medical School, Singapore, Singapore; ³Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore

3723 — B0503 Association between normal tension glaucoma and allergic rhinitis in Korean population based study. *Areum Jeong, M. Sagong, J. Son, J. Lee, E. Cho, H. Kim, S. Cha.* Ophthalmology, Yeungnam university hospital, Daegu, Korea (the Republic of)

3724 — B0504 The Ocular Hypertension Treatment Study Calculator in an African American Population. *Prithvi Sankar, Q. J. Cui, C. Breen, F. Woo, F. Vilson, A. Williams, D. May, A. Petrides, R. Lee, E. G. Miller-Ellis, A. Lehman, V. Addis, J. M. O'Brien.* Scheie Eye Institute, Philadelphia, PA

3725 — B0505 Barriers to medication compliance in an urban underserved population. *Avni Badami, K. Kosteva, M. Fiorello, B. Eliassirad, M. Desai.* Ophthalmology, Boston Medical Center, Boston, MA

3726 — B0506 Lower levels of adherence to topical glaucoma medications are associated with increased risk of visual field progression. *Donald S. Fong¹, M. Batech², C. Mattox³, T. Luong², J. Jimenez², J. Campbell⁴, H. Chandwani¹.* ¹Ophthalmology, Kaiser Permanente Southern California, Baldwin Park, CA; ²Research & Evaluation, Southern California Permanente Medical Group, Pasadena, CA; ³Research & Evaluation, Southern California Permanente Medical Group, Santa Fe Springs, CA; ⁴Allergan, pl., Irvine, CA; ⁵Ophthalmology, Tufts University School of Medicine, Boston, MA *CR

3727 — B0507 Impact of self-efficacy and demographic factors on adherence to treatment in glaucoma patients of African descent. *Sameerah Alkhairy¹, F. Chu¹, K. Ramezani¹, E. McIntyre¹, B. Sutton², J. Torbit², S. Bigatti³, L. Racette¹.* ¹Eugene and Marilyn Glick Eye Institute, Indiana University, Indianapolis, IN; ²Indiana University School of Optometry, Indianapolis, IN; ³Social and Behavioral Sciences, Indiana University Fairbanks School of Public Health, Indianapolis, IN

3728 — B0508 Understanding Patient Understanding: Differences in Patient Self-Reported Compliance in a Resident-Run Glaucoma Clinic. *Bilal Yousufzai, A. Gasch, R. Choi.* Ophthalmology, Georgetown University, Falls Church, VA

3729 — B0509 Paraprofessionals' perceptions of a brief, glaucoma-specific motivational interviewing training program. *OLIVIA J. KILLEEN¹, S. Miller², C. MacKenzie², M. Heisler¹, K. Resnicow³, P. Newman-Casey⁴.* ¹Department of Ophthalmology & Visual Sciences, University of Michigan, Kellogg Eye Center, Ann Arbor, MI; ²Department of Psychiatry, University of Michigan, Ann Arbor, MI; ³Department of Epidemiology, University of Michigan School of Public Health, Ann Arbor, MI; ⁴Department of Internal Medicine, University of Michigan Medical School, Ann Arbor, MI; ⁵Department of Health Behavior & Health Education, University of Michigan School of Public Health, Ann Arbor, MI *CR

3730 — B0510 Philadelphia Telemedicine Glaucoma Detection and Follow-up Study: Visit 1 and Visit 2 Satisfaction Survey Results. *Charles E. Brodowski¹, D. Johnson², S. Sapru², L. A. Hark², J. S. Myers², S. Fudemberg², A. Mantravadi², J. Henderer², V. Doyle², J. Molineaux², M. Divers², C. Burns², J. A. Haller², L. Katz².* ¹Sidney Kimmel Medical College, Philadelphia, PA; ²Glaucoma Research, Wills Eye Hospital, Philadelphia, PA ✗

3732 — B0512 Trends and Predictors of Depression among Participants in the Collaborative Initial Glaucoma Treatment Study (CIGTS). *David C. Musch^{1,2}, L. M. Niziol¹, B. W. Gillespie³, N. K. Janz⁴.* ¹Ophthalmology & Visual Sciences, University of Michigan, Ann Arbor, MI; ²Epidemiology, University of Michigan, Ann Arbor, MI; ³Biostatistics, University of Michigan, Ann Arbor, MI; ⁴Health Behavior & Health Education, University of Michigan, Ann Arbor, MI ✗

3733 — B0513 Visual field testing, 15 year trends in a large health maintenance organization. *Elad Ben-Artzi¹, A. Cohen², A. Porath², M. Goldenfeld^{1,2}, H. Levkovitch-Verbin^{1,2}.* ¹Goldschleger Eye Institute, Sheba Medical Center, Tel Hashomer, Israel; ²Maccabi Healthcare Services, Tel Aviv, Israel

3734 — B0514 Longitudinal Changes in Central Corneal Thickness in the Tema Eye Survey (TES). *Samantha E. Tulenko¹, J. Mwanza¹, L. Mathenge², K. Barton³, L. W. Herndon², A. Hall⁵, H. Y. Kim⁶, A. Spratt⁴, G. Hay-Smith⁷, D. L. Budenz¹.* ¹University of North Carolina - Chapel Hill, Wake Forest, NC; ²Duke University, Durham, NC; ³Moorefields Eye Hospital, London, United Kingdom; ⁴Beraja Medical Institute, Coral Gables, FL; ⁵The Glaucoma Center, Bowie, MD; ⁶Kaiser Permanente, Los Angeles, CA; ⁷Moreton Eye Group, Brisbane, QLD, Australia

3735 — B0515 Central Asian and Asian Caucasian RNFL distribution. *Assel Talaspayeva¹, A. S. Khouri².* ¹Kazakh Research institute of eye diseases, Almaty, Kazakhstan; ²Ophthalmology, Rutgers New Jersey Medical School, Newark, NJ

3736 — B0516 Supplemental Recruitment Methods for the Primary Open-Angle African American Glaucoma Genetics Study. *Rebecca J. Salowe¹, L. O'Keefe¹, S. Merriam¹, R. Lee¹, P. SANKAR¹, E. G. Miller-Ellis¹, A. Lehman¹, V. Addis¹, W. Murhpy³, J. D. Henderer², M. G. Maguire¹, J. M. O'Brien¹.* ¹Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, Temple University, Philadelphia, PA; ³Windell Murphy, MD, Upper Darby, PA

3737 — B0517 Glaucoma demographics in Mexican American families: The San Antonio Family Eye Study (SAFES). *Kent L. Anderson¹, M. A. Schmutz^{1,1}, D. B. Kay¹, A. H. Nguyen¹, K. S. Nagi^{3,1}, R. Duggirala², J. Blangero², M. P. Johnson².* ¹Ophthalmology, University of Texas Health Science Center, San Antonio, TX; ²South Texas Diabetes and Obesity Institute, University of Texas Rio Grande Valley School of Medicine, Harlingen, TX; ³San Antonio Eye Center, San Antonio, TX; ⁴Ophthalmology, University of California at Irvine, Irvine, CA

3738 — B0518 Comparison of Prices of Glaucoma Medications, Laser Trabeculoplasty, and Incisional Glaucoma Surgery in 20 Countries. *Peter Y. Zhao¹, R. Rahmathullah², A. L. Robin^{3,1}, J. D. Stein⁴.* ¹Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ²International Eye Foundation, Kensington, MD; ³Ophthalmology and International Health, Johns Hopkins University, Baltimore, MD; ⁴Center for Eye Policy and Innovation, University of Michigan, Ann Arbor, MI *CR

3739 — B0519 Long-term efficacy and safety assessment of patients treated by prostaglandin eyedrops. Final results of the FREE survey. *Iwona Grabska-Liberek¹, M. Economou², J. J. Rouland².* ¹Ophthalmology Clinic Postgraduate Centre of Medical Education, Warszawa, Poland; ²Ophthalmology, CHRU Lille Hôpital Huriez, Lille, France; ³S:T Eriks Ögonssjukhus, Stockholm, Sweden *CR

3740 — B0520 Long-term outcomes in an Italian APAC cohort of patients. *Laura Dallorto, C. Lavia, G. Consolandi, G. Pignata, T. Rolle, A. Fea.* Department of Surgical Sciences, University of Torino, Eye Clinic, Torino, Italy

3741 — B0521 Different factors associated with vision related quality of life in glaucoma patients in Brazilian population. *Mariana Kawamuro, L. Machado, N. Tigani, V. Bergamo, L. M. Souza, A. Paranhos Jr., T. S. Prata, C. P. Gracitelli.* Universidade Federal de São Paulo, São Paulo, Brazil

3742 — B0522 Quality of Life Among Glaucoma Patients: Key Clinical and Demographic Variables. *Lavanya Uruthiramoorthy¹, D. Lizotte¹, M. Malvankar¹, C. Hutnik².* ¹Epidemiology and Biostatistics, University of Western Ontario, Markham, ON, Canada; ²Ivey Eye Institute, London Health Sciences Centre, London, ON, Canada

3743 — B0523 A new tool for fast assessment of ocular surface disease in glaucoma patients. *Santiago Ortiz-Perez¹, A. Anton-Lopez², C. Baudouin³.* ¹Ophthalmology, Hospital Clinic Barcelona - Casa Maternidad, Barcelona, Spain; ²Ophthalmology-Glaucoma, Institut Catala de Retina, Barcelona, Spain; ³Ophthalmology, CHNO des Quinze-Vingts, Paris, France *CR, ✗

3744 — B0524 Postoperative Intraocular Pressure Dynamics after Femtosecond Assisted Cataract. *David A. Terrell¹, M. Chaku^{1,2}, B. R. Sullivan^{1,2}.* ¹Ophthalmology, Loyola, Oak Park, IL; ²Ophthalmology, Hines VA, Maywood, IL

3745 — B0525 Long-term outcomes of glaucoma drainage implants in Vogt-Koyanagi-Harada disease. *Brandon J. Wong, G. M. Richter, N. A. Rao, D. C. Rodger.* Ophthalmology, USC Roski Eye Institute, Los Angeles, CA

3746 — B0526 Herpetic uveitis and its association with secondary glaucoma and/or ocular hypertension in the Instituto de Oftalmología “Fundación Conde de Valenciana” in the period 2010-2015. *Andres Uriostegui Rojas, D. Diarte, M. Salgado Canseco, M. Pedroza-Seres.* Uvea, Instituto de Oftalmología “Fundación Conde de Valenciana”, Ciudad de Mexico, Mexico ✕

3747 — B0527 Peripheral lymphocytes as a source of biomarkers in POAG. *Stefano Gandolfi¹, N. Ungaro¹, L. Varano¹, R. aldigeri¹, P. petronini², S. lamonica².* ¹Ophthalmology, University of Parma, Parma, Italy; ²Medicine, Univ. of Parma, Pathology, Parma, Italy

Hall G

Tuesday, May 09, 2017 5:45 PM-7:00 PM

**385 ARVO/Champalimaud Award
Lecture**

The António Champalimaud Vision Award, established by the Champalimaud Foundation in 2006, honors outstanding contributions to the preservation and understanding of sight. The work of the four awardees has shone light on the connection between the two fundamental organs responsible for vision — the eye and the brain — and their ground-breaking work has greatly advanced the understanding of the visual system. The Antonio Champalimaud Vision Award winners are selected because they are leaders in contributing to high-impact overall vision research.

- 5:45 **John Flanagan, 2016 Awardee**
- 6:03 **Christine Holt, 2016 Awardee**
- 6:21 **Carol Mason, 2016 Awardee**
- 6:39 **Carla Shatz, 2016 Awardee**

Tuesday, Lecture
5:45 pm – 7:00 pm

Wednesday

May 10, 2017

ARVO
2017

Global Connections
in Vision Research

MAY 7 - 11 | BALTIMORE

Wednesday, May 10

Room	7-8:30am		8:30-10:15am		11am-12:45pm		1-2:30pm		2:45 - 3:45		3:45-5:30pm		5:45-6:30pm		6:45-7:30pm	
	Papers/Minisymposia		Papers/Minisymposia		Papers/Minisymposia		Cross-Sectional Group/Workshops/SIGs		Papers/Minisymposia		Papers/Minisymposia		Papers/Minisymposia		Papers/Minisymposia	
Hall G		406 Diabetic retinal imaging [RE] #3775-3780		433 Retinal prostheses [RE] #4264-4270		460 Update on Automated Screening for Diabetic Retinopathy: Validation and Implementation — SIG [RE, IM, MOI]		472 Clinical posterior segment imaging [RE] #4748-4754		490 Cogan Award Lecture #5100		491 Friedenwald Award Lecture #5101				
Ballroom 1		403 Stem Cells: new approaches and disease modeling [RC] #3755-3761		430 Diabetic Retinopathy [RC] #4245-4251		461 New knowledge of genetics and cell biology of exfoliation syndrome, a disorder of elastic tissue and ECM associated with ocular and systemic disease, offers novel means to treatment and prevention — SIG [GL]		469 An eye on the eye microvasculature — Minisymposium [RC, RE] #4729-4733								
Ballroom 2		402 Dry Eye II [CO] #3748-3754		429 Corneal Epithelium in Health and Disease [CO] #4238-4244		462 Predictive testing for age-related macular degeneration (AMD): Are we there yet? — SIG [CL, BI, RE, GEN]		468 Conjunctiva, Lacrimal and Meibomian glands and contact lenses [CO] #4722-4728								
Ballroom 3		404 AMD clinical research [RE] #3762-3767		431 Vitreoretinal surgery II and endophthalmitis [RE] #4252-4256		463 Emerging Therapeutic Modalities in Retinal Diseases — SIG [RE, CO, GL, IM, PH, RC]		470 Retinopathy of Prematurity [RE] #4734-4740								
Ballroom 4		405 Trabecular Meshwork, Ciliary Body and Anterior Segment Imaging [GL] #3768-3774		432 Structure-Function Relationships I [GL] #4257-4263		464 Establishing a Vision and Eye Health Surveillance System for the Nation #4718-4721		471 Visual Fields, Vision Function, Psychophysics I [GL] #4741-4747								
Room 301		407 Inflammation and eye — Minisymposium [PH, CO, GL, IM, RC, RE] #3781-3785		434 Membrane domains: Polarity, trafficking and assembly in the eye — Minisymposium [LE, AP, BI, CO, GL, RC] #4271-4275		465 Leveling the Playing Field: Are we decreasing the disparities between minority and non minority individuals? [GEN, GL, PH]		473 Drug delivery II [PH] #4755-4760								
Room 307		408 Lens Epithelial Cells and PCO [LE] #3786-3792		435 ERG: Advances, Disease and Injury [VN] #4276-4282		466 Idea to patents: Project to company		474 Low Vision Devices and Rehabilitation [LV] #4761-4766								
Room 308		409 Corneal Endothelium and Fuchs Corneal Dystrophy [CO] #3793-3799		436 Improving Care for Diabetic Retinopathy [CL] #4283-4289		467 Grant writing tips for pre- and post-doctoral fellows: The nuts and bolts		475 The bench and the bedside: Who is the instructor? — Minisymposium [IM, CO, RE, VI] #4767-4771								
Room 309		410 Vision and driving: Lessons learned and future directions — Minisymposium [CL, GL, LV, VI] #3800-3803		437 Basic investigations in the treatment of ocular infections [IM] #4290-4296		468 Vulnerable populations in medical research: Ethical dilemmas and practical approaches		476 Ocular Transcriptomics and proteomics [BI] #4772-4778								
Room 310		411 All of the eye is a stage and immune cells are merely players — Minisymposium [IM, AP, RC] #3804-3808		438 Color vision, low vision [VI] #4297-4303		469 But I'm not from the US or EU — international funding opportunities		477 Corneal Surgery: Techniques and outcomes [CO] #4779-4784								
Room 314		412 Novel ophthalmic instrumentation and imaging [MOI] #3809-3815		413 New Genes and Loci [GEN] #3816-3822		464 Highlighting Successful Technologies in Sustained Drug Delivery in Ophthalmology: New Polymer Science and Particle Engineering Platforms that Drive Future Promising Extended Release Therapies — SIG [GL, RE]		478 Visual functions and processes conserved across species — Minisymposium [AP, CO, EY, GEN, LE, MOI, PH, RC, VI, VN] #4785-4789								
Room 316				414 Amblyopia II [EY] #3823-3829		465 Role of LXR in Inflammation and cholesterol metabolism in the retina — SIG [RC]										
Room 321																
Room 324																
Room 328		401 Breakfast with the Experts														

Wednesday, May 10 ■ Posters

8:30–10:15am

Session Number	Session Title	Program Number	Board Number
415	Oculoplastics [EY, AP]	3830 - 3849	A0001 - A0020
416	Optic Neuropathy [EY]	3850 - 3873	A0021 - A0044
417	Clinical microbiology [IM]	3874 - 3901	A0045 - A0072
418	Corneal Stroma and Keratocytes [CO]	3902 - 3915	A0098 - A0111
419	Ocular Surface Health and Disease [CO]	3916 - 3953	A0155 - A0192
420	Molecular mechanisms in uveal melanoma [AP,GEN]	3954 - 3972	A0241 - A0259
421	Imaging: Optic Nerve Head and Nerve Fiber Layer [GL, MOI]	3973 - 4027	A0282 - A0336
422	Diabetic Retinopathy: New Targets and Emerging Therapies [RC]	4028 - 4051	B0001 - B0024
423	Angiogenesis: Basic Mechanisms [RC, AP]	4052 - 4080	B0025 - B0053
424	Drug and gene therapy and delivery [PH]	4081 - 4122	B0081 - B0122
425	ipRGCs and Circadian Rhythms [VN]	4123 - 4147	B0242 - B0266
426	Retinal detachment (clinical) [RE]	4148 - 4174	B0443 - B0469
427	Retinal prostheses [RE, LV, MOI]	4175 - 4208	B0531 - B0564
428	Spatial and temporal vision [VI, VN]	4209 - 4237	B0670 - B0698

11am–12:45pm

Session Number	Session Title	Program Number	Board Number
440	Corneal Biomechanics [CO]	4311 - 4353	A0112 - A0154
441	Conjunctival cell/Biol and Meibomian glands [CO, AP]	4354 - 4400	A0193 - A0239
442	Uveal melanoma clinical studies [AP]	4401 - 4422	A0260 - A0281
443	Physiological and myopic ocular biometry [AP,MOI]	4423 - 4440	A0401 - A0418
444	Drug delivery I [PH]	4441 - 4467	B0054 - B0080
445	Gene editing and gene therapies [BI]	4468 - 4509	B0123 - B0164
446	Genetics of retinal dystrophies and Functional Analysis [GEN]	4510 - 4529	B0165 - B0184
447	Photoreceptor degeneration and retinal rescue strategies [RC, LV]	4530 - 4555	B0185 - B0210
448	Stem cells and tissue engineering for retinal repair [RC, CO, RE]	4556 - 4586	B0211 - B0241
449	Pharmacological Intervention and Cellular Mechanisms [GL]	4587 - 4615	B0288 - B0316
450	Macular edema clinical and translational [RE]	4616 - 4634	B0489 - B0507
451	Macular diseases (inherited) [RE, MOI, RC, VI]	4635 - 4657	B0508 - B0530
452	Low Vision Populations, Services and Treatments [LV]	4658 - 4689	B0565 - B0596
453	Vision in aging and disease [VI]	4690 - 4717	B0642 - B0669

3:45–5:30pm

Session Number	Session Title	Program Number	Board Number
479	Cornea and Anterior Chamber [CL]	4790 - 4814	A0073 - A0097
480	Imaging technology and applications [MOI, VI]	4815 - 4861	A0337 - A0383
481	Animal imaging [MOI]	4862 - 4878	A0384 - A0400
482	Clinical electrophysiology [VN]	4879 - 4898	B0268 - B0287
483	Glaucoma: Biochemical and molecular disease mechanisms [BI]	4899 - 4919	B0317 - B0337
484	Surgery and Wound Healing [GL]	4920 - 4974	B0338 - B0392
485	Laser Therapy and MIGS [GL, LV]	4975 - 4999	B0393 - B0417
486	Vitreoretinal surgery novel approaches and vitreoretinal interface [RE]	5000 - 5024	B0418 - B0442
487	Diabetic retinopathy clinical and surgical [RE]	5025 - 5043	B0470 - B0488
488	Eye Care Delivery and Economic Research [CL]	5044 - 5088	B0597 - B0641
489	Pupil [EY, VN]	5089 - 5099	B0699 - B0709

Poster board numbers correspond to poster location in Exhibit Hall
A = Poster Area A, B = Poster Area B

2:45–3:45pm: All Posters and Networking — authors will be present at poster boards

Room 328

Wednesday, May 10, 2017 7:00 AM-8:30 AM

401 Breakfast with the experts

Advance registration required. Trainees, students and junior faculty will benefit from this unique opportunity to network and gain valuable information from those who have been in your shoes! This very popular program offers informal discussions over breakfast on a wide range of topics to provide personal guidance, insight and skills to help you advance your career! Topics will focus on professional development, career guidance, and best practices of interest to basic and clinical trainees and clinician-scientists. A number of the roundtable topics will be specifically tailored to the needs of clinician-scientists.

Ballroom 2

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Cornea

402 Dry Eye II**Moderators: Anat Galor and Yuichi Hori**

3748 — 8:30 The link between pain syndromes and dry eye in patients with traumatic brain injury. *Charity J. Lee^{1,2}, R. C. Levitt^{1,3}, E. Vanner², W. J. Feuer², C. D. Sarantopoulos^{1,3}, E. R. Felix^{1,4}, A. Galor^{1,2}.* ¹Miami Veterans Administration Medical Center, Miami, FL; ²Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ³Department of Anesthesiology, Perioperative Medicine and Pain Management, University of Miami Miller School of Medicine, Miami, FL; ⁴Department of Physical Medicine and Rehabilitation, University of Miami Miller School of Medicine, Miami, FL

3749 — 8:45 Sicca, Anxiety and Depression (SAD) Study. *Maya Bitan¹, D. Olson², M. Li³, G. Koch³, R. Davis².* ¹Ophthalmology, Marshall University, Huntington, WV; ²Ophthalmology, University of North Carolina, Chapel Hill, NC; ³Biostatistics, University of North Carolina, Chapel Hill, NC

3750 — 9:00 Evaluation of the Inflammatory Cytokines Expression Level on Ocular Surface in Office Workers; the Osaka Study. *Yuichi Uchino¹, M. Uchino¹, N. Yoko², M. Dogru¹, M. Kawashima¹, A. Komuro², H. Kato², Y. Sonomura², S. Kinoshita³, K. Tsubota¹.* ¹Ophthalmology, Keio University School of Medicine, Tokyo, Japan; ²Department of Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ³Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan

3751 — 9:15 A One-Day, Randomized, Double-masked Study to Evaluate Instantaneous Efficacy of Lubricin (150 µg/mL) Eye Drops. *Tannin A. Schmidt¹, B. D. Sullivan^{2,3}, A. Lambiase⁴, D. A. Sullivan⁵, G. Jay⁶, E. R. Truitt², A. Bruscolini⁷, M. Sacchetti⁷, F. Mantelli⁷.* ¹Faculty of Kinesiology, University of Calgary, Calgary, AB, Canada; ²Lubris Biopharma, Seattle, WA; ³TearLab, Corp., San Diego, CA; ⁴Department of Sense Organs, Sapienza University, Rome, Italy; ⁵Department of Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School, Boston, MA; ⁶Rhode Island Hospital, Department of Emergency Medicine, Alpert School of Medicine, and School of Engineering, Brown University, Providence, RI; ⁷Dompé farmaceutici S.p.A., Milan, Italy *CR, ✗

3752 — 9:30 A Randomized Trial on Safety and Efficacy of a Novel Topical Combined Inhibitor of Janus Kinase 1/3 and Spleen Tyrosine Kinase for GVHD-associated Ocular Surface Disease. *Ahmad Kheirkhah¹, A. Di Zazzo¹, V. Sattipitakul¹, M. Fernandez¹, D. Magilavy², R. Dana¹.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Rigel Pharmaceuticals, Inc., San Francisco, CA *CR, ✗

3753 — 9:45 In Vivo Confocal Microscopy in Patients with Dry Eye Disease Demonstrates Decreased Peripheral Corneal Nerve Density and Correlation to Clinical Signs. *Adam Tanaka¹, Z. salem², G. Dieckmann^{1,2}, P. Kataguir^{1,2}, S. Aggarwal³, R. T. Muller^{1,2}, B. Cavalcanti³, A. Cruzat³, A. Kheirkhah³, P. Hamrah^{1,2}.* ¹Center for Translational Ocular Immunology, Tufts Medical Center, Boston, MA; ²Cornea Service, New England Eye Center, and Department of Ophthalmology, Tufts Medical Center, Boston, MA; ³Cornea and Refractive Surgery Service, Massachusetts Eye & Ear Infirmary, Department of Ophthalmology, Harvard Medical School, Boston, MA *CR

3754 — 10:00 Conjunctival dendritic cell maturation and goblet cell density in aqueous tear deficiency. *Stephen C. Pflugfelder, F. Bian, W. Farley, M. E. Stern, C. S. De Paiva.* Ophthal-Ocular Surf Ctr, Baylor College of Medicine, Houston, TX

Ballroom 1

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

403 Stem Cells: new approaches and disease modeling**Moderators: Nady Golestaneh and Dennis O. Clegg**

3755 — 8:30 An optimized non-integrative protocol generates urine cell-derived human iPSC cells for the study of genetic eye diseases. *Lin Cheng¹, Q. Lei¹, K. Jin¹, M. Xiang^{1,2}.* ¹State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ²Center for Advanced Biotechnology and Medicine and Department of Pediatrics, Rutgers University-Robert Wood Johnson Medical School, Piscataway, NJ

3756 — 8:45 Suspension Culture of Urine-Derived iPSC for Generating Human Retinal Pigment Epithelium in Serum-Containing Medium. *Maria Laggner¹, Y. Chen¹, A. Pollreis¹, R. Grillari^{2,3}, U. Schmidt-Erfurth¹.* ¹Ophthalmology, Medical University of Vienna, Vienna, Austria; ²Aging and Immortalization Research, Department of Biotechnology, University of Natural Resources and Life Sciences, Vienna, Austria; ³Evercyte GmbH, Vienna, Austria *CR

3757 — 9:00 Selection of human iPSC cell-derived photoreceptors by targeting of cell surface antigen CD73. *Olivier Goureau, A. Slembrouck, C. Nanteau, O. Rabesandratana, G. Orioux, S. Reichman, G. Gagliardi.* Institut de la Vision, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS UMR 7210, Paris, France

3758 — 9:15 Recapitulation of the Human Fetal Crumbs Complex in human iPSCs-derived Retinas and Retinal Pigment Epithelium. *Peter M. Quinn¹, T. M. Buck¹, C. Alves¹, C. Ohonin¹, S. M. Chuva de Sousa Lopes³, H. Mikkers², J. Wijnholds¹.* ¹Ophthalmology, Leiden University Medical Center, Leiden, Netherlands; ²Molecular Cell Biology, Leiden University Medical Center, Leiden, Netherlands; ³Anatomy and Embryology, Leiden University Medical Center, Leiden, Netherlands

3759 — 9:30 Oculocutaneous albinism patient derived retinal pigment epithelium faithfully recapitulate disease phenotype in vitro. *Aman George, R. Sharma, R. Dejene, M. Abu-Asab, K. Bharti, B. P. Brooks.* OGVFB, NIH, Bethesda, MD

3760 — 9:45 3D tissue engineered RPE/“choroid” to identify mechanism of AMD-disease initiation and progression. *Min Jae Song, R. Quinn, R. Dejene, K. Bharti.* National Eye Institute, Olney, MD

3761 — 10:00 RPE autonomous molecular events are sufficient for drusen biogenesis and extracellular matrix alterations in hiPSC-derived models of macular degeneration. *Ruchira Singh^{1,2}, S. Dalvi^{1,2}, L. MacDonald^{1,2}, S. Hung³, A. W. Hewitt³, A. Pebay³, D. S. Williams⁴, C. A. Galloway^{1,2}.* ¹Ophthalmology and Biomedical Genetics, University of Rochester, Rochester, NY; ²Center for Visual Science, University of Rochester, Rochester, NY; ³Department of Ophthalmology, Centre for Eye Research Australia, East Melbourne, VIC, Australia; ⁴Jules Stein Eye Institute, UCLA, Los Angeles, CA

Ballroom 3

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Retina

404 AMD clinical research**Moderator: Itay Chowers**

3762 — 8:30 The impact of the vitreomacular interface (VMI) in neovascular AMD (nAMD) in a treat and extend regimen (TE) with exit strategy. *Marion R. Munk, P. Arendt, S. Yu, A. Ebnetter, S. Wolf, M. Zinkernagel.* Dept of Ophthalmology, Inselspital, University Hospital Bern, Bern, Switzerland *CR

3763 — 8:45 Ranibizumab in pigment epithelial tears secondary to AMD - a prospective, multicenter, investigator-initiated trial (RIP Study). *Tim U. Krohne¹, P. P. Fang¹, A. Oishi¹, S. Bedar¹, P. K. Heymer¹, C. R. Clemens², S. König², N. Eter³, A. Wolf², F. G. Holz¹.* ¹Ophthalmology, University of Bonn, Bonn, Germany; ²Ophthalmology, Ludwig Maximilian University of Munich, Munich, Germany; ³Ophthalmology, University of Muenster, Muenster, Germany *CR, ✕

3764 — 9:00 Plasma Mass-spectrometry Metabolomics in Age-related Macular Degeneration. *Ines Lains^{1,2}, R. S. Kelly⁵, J. Lasky-Su², R. Silva^{2,3}, J. N. Murta^{2,4}, J. B. Miller¹, I. K. Kim¹, D. vavvas¹, J. W. Miller¹, D. Husain¹.* ¹Massachusetts Eye and Ear Infirmary, Boston, MA; ²Faculty of Medicine, University of Coimbra, Coimbra, Portugal; ³Association for Innovation and Biomedical Research on Light and Image, Coimbra, Portugal; ⁴Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal; ⁵Systems Genetics and Genomics Unit, Channing Division of Network Medicine Brigham and Women's Hospital and Harvard Medical School, Boston, MA *CR

3765 — 9:15 Visual function endpoints in early and intermediate dry age-related macular degeneration for use as clinical trial endpoints. *Kimberly Cocce, S. Stinnett, L. Vajzovic, A. Horne, C. A. Toth, S. W. Cousins, E. M. Lad.* Ophthalmology, Duke Eye Center, Durham, NC *CR, ✕

3766 — 9:30 A Phase 2 Study (EMERGE) Evaluating Repeated Intravitreal Administration of ICON-1 in Patients With Choroidal Neovascularization (CNV) Secondary to Age-related Macular Degeneration (AMD). *Christine R. Gonzales¹, G. Burian².* ¹Retina and Vitreous Center, Ashland, OR; ²GB Biomed Advisors, Oberwil, Switzerland *CR, ✕

3767 — 9:45 Controlled and Extended Release of Bioactive Aflibercept from a Biodegradable Microsphere-Hydrogel Ocular Drug Delivery System. *Wenqiang Liu¹, B. Lee², W. F. Mieler³, J. J. Kang-Mieler¹.* ¹Biomedical Engineering, Illinois Institute of Technology, Chicago, IL; ²Research Resource Center, University of Illinois at Chicago, Chicago, IL; ³Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL *CR

Ballroom 4

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Glaucoma

405 Trabecular Meshwork, Ciliary Body and Anterior Segment Imaging

Moderators: Kate E. Keller and Darryl R. Overby

3768 — 8:30 Predicting the Outcome of Laser Peripheral Iridotomy for Primary Angle Closure Suspect Eyes using Anterior Segment Optical Coherence Tomography. *Victor T. Koh¹, M. Keshthkaran², P. T. Chew¹, M. D. Aquino¹, C. Sng¹.* ¹Ophthalmology, National University Hospital, Singapore, Singapore; ²Ophthalmology, National University of Singapore, Singapore, Singapore

3769 — 8:45 Non-invasive in vivo mapping of aqueous outflow and lymphatic drainage from the eye. *Kirsten Cardinell¹, Y. H. Yucel^{1,2}, X. Zhou¹, N. Gupta^{1,2}.* ¹Keenan Research Centre for Biomedical Science, St. Michael's Hospital, Toronto, ON, Canada; ²Departments of Laboratory Medicine and Pathobiology, and Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada

3770 — 9:00 Aqueous Angiography: Real-time, Live Human and Non-Human Primate Aqueous Humor Outflow Imaging. *Alex S. Huang^{1,2}, M. Li^{5,6}, D. Yang^{5,6}, B. Xu², A. Camp^{3,4}, H. wang^{5,6}, N. Wang^{5,6}, R. N. Weinreb^{3,4}.* ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²University of California, Los Angeles, Los Angeles, CA; ³University of California, San Diego, La Jolla, CA; ⁴Shiley Eye Institute, San Diego, CA; ⁵Ophthalmology, Beijing Tongren Hospital, Beijing, China; ⁶Capital Medical University, Beijing, China *CR

3771 — 9:15 Contractile features of the distal aqueous drainage tract. *James C. Tan¹, J. Gonzalez¹, M. K. Ko¹, A. Masedunskas², R. Weigert², Y. Hong¹.* ¹UCLA Department of Ophthalmology, Doheny Eye Institute, Pasadena, CA; ²School of Medical Sciences, University of New South Wales, Kensington, NSW, Australia; ³National Cancer Institute, National Institutes of Health, Bethesda, MD; ⁴Surgery, University of Southern California Keck School of Medicine, Los Angeles, CA

3772 — 9:30 Role of Primary Cilia in Trabecular Meshwork Cell Function. *Ankur Jain¹, W. Zhu², Q. Zhang¹, M. H. Kuehn², A. F. Clark³, V. Sheffield¹.* ¹Pediatrics, University of Iowa, Iowa City, IA; ²Ophthalmology, University of Iowa, Iowa City, IA; ³Cell Biology and Immunology, UNT Health Science Center, Fort Worth, TX

3773 — 9:45 Stretch-Dependent Pore Formation in Glaucomatous Schlemm's Canal Cells. *Darryl R. Overby¹, S. Braakman¹, A. Spenlehauer¹, J. R. Rodrigues¹, C. Teal¹, A. T. Read², W. Stamer³, C. R. Ethier².* ¹Department of Bioengineering, Imperial College London, London, United Kingdom; ²Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology & Emory University School of Medicine, Atlanta, GA; ³Duke Eye Center, Duke University School of Medicine, Durham, NC

3774 — 10:00 Transplantation of iPSC-TM decreases IOP in aged sGC^{-/-} mice. *Wei Zhu^{1,2}, E. S. Buys³, M. H. Kuehn^{2,4}.* ¹Pharmacology Department, Qingdao University, Qingdao, China; ²Department of Ophthalmology and Visual Sciences, the University of Iowa, Iowa City, IA; ³Department of Anesthesia, Massachusetts General Hospital Research Institute, Boston, MA; ⁴Veterans Affairs Medical Center, Center for the prevention and treatment of visual loss, Iowa City, IA

Hall G

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Retina

406 Diabetic retinal imaging

Moderators: Thomas W. Gardner and Michael D. Abramoff

3775 — 8:30 Validation of EyeArt Automated Diabetic Retinopathy Screening System on large cohort of mydriatic and non mydriatic telescreening data from EyePACS. *Kaushal Solanki¹, M. Bhaskaranand¹, C. Ramachandra¹, S. Bhat¹, M. G. Nittala², S. R. Sadda³, J. Cuadros².* ¹Eyenuk, Inc., Woodland Hills, CA; ²EyePACS LLC, Berkeley, CA; ³Doheny Eye Institute, Los Angeles, CA *CR

3776 — 8:45 Catastrophic Failure in Image-Based Convolutional Neural Network Algorithms for Detecting Diabetic Retinopathy. *Stephanie K. Lynch¹, A. Shah², J. C. Folk¹, X. Wu², M. D. Abramoff^{1,3}.* ¹Ophthalmology & Visual Sciences, University of Iowa Hospitals & Clinics, Iowa City, IA; ²Electrical and Computer Engineering Department, University of Iowa, Iowa City, IA; ³IDx LLC, Iowa City, IA *CR

3777 — 9:00 Visualization from microscope-integrated swept-source OCT in vitreoretinal surgery for diabetic tractional retinal detachment. *Hesham Gabr^{1,2}, X. Chen¹, T. H. Mahmoud¹, L. Vajzovic¹, S. Hsu¹, A. Dandridge¹, K. Sleiman¹, O. Carrasco-Zevallos³, C. Viehland³, J. A. Izatt³, C. A. Toth^{1,3}.* ¹Ophthalmology, Duke University, Durham, NC; ²Ophthalmology, Ain-Shams University, Cairo, Egypt; ³Biomedical Engineering, Duke University, Durham, NC *CR, ✕

3778 — 9:15 Early regional patterns of retinal oxygen saturation and peripapillary microvascular perfusion in type II diabetic patients without retinopathy. *Julia Hafner, L. Ginner, S. Prager, R. A. Leitgeb, C. Mitsch, C. Scholda, U. Schmidt-Erfurth.* Ophthalmology and Optometry, Medical University Vienna, Vienna, Austria *CR

3779 — 9:30 Fractal Analysis of Optical Coherence Tomography Angiography in Diabetic Retinopathy With and Without Macular Edema. *Suruchi Bhardwaj¹, E. Tsui¹, S. Zahid¹, N. Mehta¹, E. Young¹, S. Agemy³, P. M. Garcia², R. B. Rosen², J. A. Young¹.* ¹Ophthalmology, NYU School of Medicine, New York, NY; ²Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ³Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY *CR

3780 — 9:45 Ganglion Cell Complex (GCC) Thickness in Type I Diabetics, a 36 Month Retrospective Study. *Loka Thangmathesvaran¹, K. Duong², B. Szirth¹, A. S. Khouri¹.* ¹Rutgers University- New Jersey Medical School, Monmouth Junction, NJ; ²SUNY College of Optometry, New York City, NY

Room 301

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Physiology/Pharmacology / Cornea / Glaucoma / Immunology/Microbiology / Retinal Cell Biology / Retina

407 Inflammaging and eye - Minisymposium

This minisymposium of six presentations will provide a general view of the inflammation and age-related ocular diseases.

Moderators: Filippo Drago, Teresio Avitabile and W. Daniel Stamer

— 8:30 Introduction

3781 — 8:35 Aging and ocular surface immunity. *Reza Dana.* Schepens Eye Research Institute, Boston, MA; Ophthalmology, Harvard Medical School- Mass Eye and Ear, Boston, MA

3782 — 8:55 From DNA damage to functional changes of the trabecular meshwork in aging and glaucoma. *Stefano Gandolfi.* Ophthalmology, University of Parma, Parma, Italy

3783 — 9:15 Aging changes in retinal microglia and their relevance to age-related retinal disease. *Wai T. Wong.* Unit on Neuron-Glia Interactions, National Eye Institute, NIH, Gaithersburg, MD

3784 — 9:35 Parainflammation, chronic inflammation, and age-related macular degeneration. *Heping Xu.* Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom *CR

3785 — 9:55 Retinal ganglion cell apoptotic pathway in glaucoma: Initiating and downstream mechanisms. *Hani Levkovitch-Verbin.* Ophthal-Goldschleger Eye Inst, Goldschleger Eye Institute, Tel-Hashomer, Israel

Room 307

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Lens

408 Lens Epithelial Cells and PCO

Moderators: Lisa A. Brennan and Frank J. Lovicu

3786 — 8:30 Regulation of TGF-β bioavailability in lens. *Mahbubul Shihan, M. Pathania, Y. Wang, M. K. Duncan.* Biological Sciences, University of Delaware, Newark, DE

3787 — 8:45 TGFβ-induced EMT leading to cataractogenesis requires Nox4 activity. *Shannon J. Das^{1,2}, E. Collinson^{1,2}, K. Jandeleit-Dahm³, H. Schmidt⁴, F. J. Lovicu^{1,2}.* ¹Anatomy and Histology, University of Sydney, Sydney, NSW, Australia; ²Bosch Institute, Sydney, NSW, Australia; ³Medicine, Monash University, Melbourne, VIC, Australia; ⁴Pharmacology, Maastricht University, Maastricht, Netherlands

3788 — 9:00 Role of HIF-1α in TGF-β2 Induced Epithelial to Mesenchymal Transition in Lens Epithelial Cells. *Rooban B. Nahomi, R. H. Nagaraj.* Ophthalmology, University of Colorado Denver, Aurora, CO

3789 — 9:15 PCO and the TGFβ paradox. *Linda Musil.* Biochemistry & Molecular Biology, Oregon Health & Science Univ, Portland, OR

3790 — 9:30 Sulforaphane promotes ER stress, autophagy and cell death: implications for posterior capsule opacification. *Michael Wormstone¹, H. Liu^{1,2}, A. J. Smith¹, S. Ball¹, Y. Bao³, R. Bowater¹, N. Wang².* ¹School of Biological Sciences, University of East Anglia, Norwich, United Kingdom; ²Beijing Institute of Ophthalmology, Beijing Tongren Hospital, Beijing, China; ³Norwich Medical School, University of East Anglia, Norwich, United Kingdom

3791 — 9:45 Extracellular vimentin secreted in response to injury induces emergence of fibrosis-causing myofibroblasts. *Janice L. Walker^{1,2}, A. A. Alwibit¹, A. R. Romisher¹, B. Bleaken¹, A. Menko^{1,2}.* ¹Pathology/Anatomy&Cell Biology, Thomas Jefferson University, Philadelphia, PA; ²Ophthalmology, Thomas Jefferson University, Philadelphia, PA

3792 — 10:00 Ankyrin-G Deficiency Disrupts Lens Epithelial Phenotype, Morphogenesis and Shape in Mouse. *Rasihah Pratheepa kumari¹, V. Bennett^{2,3}, V. Rao^{1,4}.* ¹Ophthalmology, Duke University, Durham, NC; ²Biochemistry, Cell Biology, Neurobiology, Duke University, Durham, NC; ³Howard Hughes Medical Institute, Durham, NC; ⁴Pharmacology and Cancer Biology, Duke University, Durham, NC

Room 308

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Cornea

409 Corneal Endothelium and Fuchs Corneal Dystrophy

Moderators: Sanjay V. Patel and Noriko Koizumi

3793 — 8:30 Preclinical randomized controlled study comparing long-term stored human corneas in an innovative bioreactor versus standard organ-culture. *Thibaud Garcin¹, F. Forest^{2,3}, P. Verhoeven⁴, J. Pugnier⁵, T. Peyragrosse⁵, F. Rogues⁵, P. Herbepin², S. Acquart⁶, F. Cognasse⁶, C. Perrache², Z. He², P. Gain¹, G. Thuret^{1,7}.* ¹Ophthalmology Department, University Hospital., Laboratory "Corneal Graft Biology, Engineering And Imaging" Ea2521, University Jean Monnet., Saint Etienne, France; ²Laboratory "Corneal Graft Biology, Engineering And Imaging" Ea2521, University Jean Monnet., Saint Etienne, France; ³Pathology Department, University Hospital., Saint Etienne, France; ⁴Microbiology Department, University Hospital., Saint Etienne, France; ⁵Graft Coordinator Team, University Hospital, Saint Etienne, France; ⁶Eye Bank Of St-Etienne, French Blood Center., Saint Etienne, France; ⁷Institut Universitaire De France, Paris, France., Paris, France *CR

3794 — 8:45 Elevation of aqueous IL-12 and IFNγ is associated with progressive endothelial cell loss after penetrating keratoplasty. *Takefumi Yamaguchi, T. Suzuki, K. Higa, N. Nakayama, Y. Yagi-Yaguchi, Y. Satake, J. Shimazaki.* Ophthalmology, Tokyo Dental College, Chiba, Japan

3795 — 9:00 Transcriptomic analysis of human corneal endothelial cells during in vitro expansion. *Ricardo F. Frausto², G. S. Peh¹, B. L. George¹, J. Mehta¹, A. J. Aldave².* ¹Ocular Tissue Eng & Stem Cell Group, Singapore Eye Research Institute, Singapore, Singapore; ²Ophthalmology, Stein Eye Institute, UCLA, Los Angeles, CA

3796 — 9:15 Investigating the presence of Fuchs endothelial corneal dystrophy in patients with myotonic dystrophy, type 1. *Nelson Winkler¹, M. Milone¹, H. Raja², R. Aleff³, S. V. Patel¹, M. P. Fautsch¹, E. Wieben³, K. Baratz¹.* ¹Department of Ophthalmology, Mayo Clinic, Rochester, MN; ²Department of Ophthalmology, University of California, San Diego, San Diego, CA; ³Department of Biochemistry and Microbiology, Mayo Clinic, Rochester, MN; ⁴Department of Neurology, Mayo Clinic, Rochester, MN

3797 — 9:30 Involvement of the p38 mitogen-activated protein kinase pathway in Fuchs endothelial corneal dystrophy. *Takako Onishi¹, N. Okumura¹, K. Hashimoto¹, T. Tourtas², U. Schlotzer-Schrehardt², F. E. Kruse², N. Koizumi¹.* ¹Biomedical Engineering, Doshisha University, Kyotanabe, Japan; ²Ophthalmology, University of Erlangen-Nürnberg, Erlangen, Germany *CR

3798 — 9:45 Mitochondrial fragmentation and upregulation of PINK1 and Parkin-mediated mitophagy in Fuchs Endothelial Corneal Dystrophy. *Shivakumar Vasanth¹, T. Miyai¹, A. Benischke¹, Y. Chen¹, M. Price², F. Price², U. V. Jurkunas¹.* ¹Ophthalmology, Harvard Medical School, Schepens Eye Research Institute/ Mass Eye and Ear, Boston, MA; ²Price Vision Group, Indianapolis, IN

3799 — 10:00 Corneal endothelial cell and guttae interaction in Fuchs endothelial corneal dystrophy. *Viridiana Kocaba¹, K. Katikireddy¹, M. Price², F. Price², U. V. Jurkunas¹.* ¹Cornea Center of Excellence, Schepens Eye Research Institute, Boston, MA; ²Price Vision Group, Indianapolis, IN

Room 309

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Clinical/Epidemiologic Research / Glaucoma / Low Vision / Visual Psychophysics/Physiological Optics

410 Vision and driving: Lessons learned and future directions - Minisymposium

This minisymposium will review research on vision and driving done from a variety of approaches including on-road driving assessments, driving monitoring systems, self-reported driving, records of motor vehicle collisions, and driving simulators. Speakers will discuss how vision or eye disease affect the ability to perform various tasks related to safe driving or the risk of collision.

Moderators: Lisa J. Keay and Ellen E. Freeman

— 8:30 Introduction

3800 — 8:33 Vision and cognition factors for poor driving performance in older populations. *Sheila West.* Ophthalmology, Johns Hopkins Wilmer Eye Inst, Baltimore, MD

3801 — 8:53 Visual and ophthalmic risk factors for motor vehicle collision involvement by older drivers. *Cynthia Owsley.* Ophthalmology, University of Alabama Birmingham, Birmingham, AL

3802 — 9:13 Glaucoma and driving as measured by a driving simulator. *Felipe Medeiros.* Ophthalmology, U. California San Diego, La Jolla, CA *CR

3803 — 9:33 The effect of visual impairment on driving performance. *Joanne Wood.* School of Optometry, Queensland University of Technology, Brisbane, QLD, Australia

— 9:53 Discussion

Room 310

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Immunology/Microbiology / Anatomy and Pathology/Oncology / Retinal Cell Biology

411 All of the eye is a stage and immune cells are merely players - Minisymposium

Our understanding of the function of immune cells as well as the faithful discrimination of their subpopulations in the eye has been an emerging area in eye research. How various immune cell types crosstalk with peripheral nerves, macroglia, blood-ocular barriers and neurons in the retina, and other cell types in the choroid has led to new discoveries in mechanisms that underpin the maintenance of the health of ocular tissues.

Moderators: Paul McMenamin, Daniel Saban and Florian Sennlaub

— 8:30 Introduction

3804 — 8:33 Who are the players and who is located in which ocular tissue niche or stage? *Paul McMenamin.* Dept of Anatomy & Dev Biology, Monash University, Melbourne, VIC, Australia

3805 — 8:43 Mast cells in the choroid and AMD. *Gerard A. Luty.* Wilmer Eye Inst, Johns Hopkins University, Baltimore, MD

3806 — 9:03 A distinction with a difference: Microglia versus monocyte-derived cells in the degenerating retina. *Daniel Saban.* Immunology, Duke University, Durham, NC *CR

3807 — 9:23 The AMD genetic-risk promotes pathogenic mononuclear phagocyte accumulation and degeneration. *Florian Sennlaub.* Institut de la Vision - UMRS 986, Inserm, Paris, France

3808 — 9:43 Dendritic cell and macrophage ontogeny. *Florent Ginhoux.* Singapore Immunology Network (SIgN), Singapore, Singapore

— 10:13 Discussion

Room 314

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Multidisciplinary Ophthalmic Imaging Group 412 Novel ophthalmic instrumentation and imaging

Moderators: Mahnaz Shahidi, Hao F. Zhang and Stacey S. Choi

3809 — 8:30 Optical photon reassignment super-resolution scanning laser ophthalmoscopy. *Theodore DuBose¹, F. LaRocca¹, S. Farsiu^{1,2}, J. A. Izatt^{1,2}.* ¹Biomedical Engineering, Duke University, Durham, NC; ²Ophthalmology, Duke University, Durham, NC *CR

3810 — 8:45 Partial Field Holography. *Tilman Schmolz¹, D. Bublitz¹, N. D. Shemonski², L. Omlor³, C. Nieten¹, M. J. Everett².* ¹Corporate Research & Development, ZEISS AG, Jena, Germany; ²Research and Development, Carl Zeiss Meditec, Inc., Dublin, CA; ³Corporate Research & Development, ZEISS AG, Oberkochen, Germany *CR

3811 — 9:00 Polarization-multiplexed, dual-beam swept source optical coherence tomography angiography. *Jianlong Yang, Y. Jia, D. Huang, G. Liu.* Casey Eye Institute, Oregon Health & Science Univeristy, Portland, OR *CR

3812 — 9:15 Towards large field of view, high resolution imaging of the retina with adaptive optics scanning laser ophthalmoscopy. *Marie Laslandes, M. Salas, A. Wartak, C. K. Hitzenberger, M. Pircher.* Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria

3813 — 9:30 Microscope-integrated OCT at 800 kHz line rate for high speed 4D imaging of ophthalmic surgery. *Oscar Carrasco-Zevallos¹, C. Viehland¹, B. Keller¹, A. N. Kuo², C. A. Toth^{2,1}, J. A. Izatt^{1,2}.* ¹Biomedical Engineering, Duke University, Durham, NC; ²Ophthalmology, Duke University Medical Center, Durham, NC *CR

3814 — 9:45 A Method for Combined Retinal Vascular and Tissue Oxygen Tension Imaging. *Mahnaz Shahidi, A. Felder, J. Wanek, N. P. Blair, M. R. Tan.* Ophthalmology & Visual Sciences, University of Illinois at Chicago, Chicago, IL *CR

3815 — 10:00 Oxygen Signal Extraction from Bulk Retinal Tissue using Hyperspectral Image Mapping Spectrometry. *Jason G. Dwight¹, C. Y. Weng², M. E. Pawlowski¹, T. S. Tkaczyk¹.* ¹Bioengineering, Rice University, Houston, TX; ²Ophthalmology, Baylor College of Medicine, Houston, TX

Room 321

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Genetics Group

413 New Genes and Loci**Moderators: Janey L. Wiggs and Subhabrata Chakrabarti****3816 — 8:30 Homozygosity mapping and Genetic analysis of autosomal recessive Retinal Dystrophies in 144 consanguineous Pakistani Families.** *lin li^{1,2}, Y. Chen², X. Jiao², J. Hejtmancik².*¹Ophthalmology, Shanghai Ninth People's Hospital, Shanghai JiaoTong University School of Medicine, Shanghai, China; ²Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health, Bethesda, MD**3817 — 8:45 Evaluation of ATXN2 intermediate polyglutamine expansions in primary open-angle glaucoma.** *Shi Song Rong¹, L. R. Pasquale^{1,2}, J. L. Wiggs¹.* ¹Ophthalmology, Massachusetts Eye and Ear, Harvard Medical School, Boston, MA; ²Channing Division of Network Medicine, Department of Medicine, Brigham & Women's Hospital and Harvard Medical School, Boston, MA**3818 — 9:00 Mutations in spliceosome-associated protein homolog CWC27 lead to a spectrum of syndromic and nonsyndromic retinal degeneration disease.** *Rui Chen¹, M. xu¹, Y. Xie², H. Abouzeid³, C. Gordon⁴, A. Fiorentino⁵, Z. Sun⁶, A. Lehman⁶, C. Ayuso⁷, A. J. Hardcastle⁵, R. Sui⁸, R. Allikmets², D. F. Schorderet³.* ¹Molecular and Human Genetics, Baylor College of Medicine, Houston, TX; ²Department of Ophthalmology, Columbia University, New York, NY; ³Institute for Research in Ophthalmology, Sion, Switzerland; ⁴Université Paris Descartes, Institut Imagine, Paris, France; ⁵Institute of Ophthalmology, University College London, London, United Kingdom; ⁶Department of Medical Genetics, The University of British Columbia, Vancouver, BC, Canada; ⁷Department of Genetics, Instituto de Investigacion Sanitaria-University Hospital Fundacion Jimenez Diaz (IIS-FJD), Madrid, Spain; ⁸Department of Ophthalmology, Peking Union Medical School, Beijing, China**3819 — 9:15 Rare variants in methionine synthase reductase are associated with iridociliary cysts.** *Lev Prasov¹, S. Garnai^{1,3}, C. Gherasim⁷, R. Banerjee⁴, S. E. Moroi¹, H. Pawar^{1,9}, A. Ozel⁸, J. Z. Li⁸, F. Rozsa¹, L. Fine⁵, V. Elner¹, L. R. Pasquale², R. Ritch⁶, J. E. Richards^{1,10}.* ¹Ophthalmology, University of Michigan, Ann Arbor, MI; ²Mass Eye and Ear Infirmary, Harvard Medical School, Boston, MA; ³Harvard Medical School, Boston, MA; ⁴Biological Chemistry, University of Michigan, Ann Arbor, MI; ⁵Ophthalmic Consultants of Boston, Boston, MA; ⁶New York Eye and Ear Infirmary, New York, NY; ⁷University of Utah, Ann Arbor, MI; ⁸Human Genetics, University of Michigan, Ann Arbor, MI; ⁹Natera, San Carlos, CA; ¹⁰Epidemiology, University of Michigan, Ann Arbor, MI**3820 — 9:30 Landscape of Mutations in 25 Glaucoma, Anterior Segment Dysgenesis, Myopia and Optic Atrophy-Associated Genes in Primary Congenital Glaucoma.** *meha kabra¹, G. Pyatal¹, A. K. Mandal², S. Senthil², I. Kaur¹, S. Chakrabarti¹.* ¹Kallam Anji Reddy Molecular Genetics Laboratory, Prof. Brien Holden Eye Research Centre, L V Prasad Eye Institute, Hyderabad, India, Hyderabad, India; ²Jasti V Ramanamma Childrens Eye Care Centre, L V Prasad Eye Institute, Hyderabad, India, Hyderabad, India**3821 — 9:45 Involvement of the novel gene IFT43 in causing early onset non-syndromic retinal degeneration.** *Pooja Biswas¹, J. L. Duncan², M. Ali³, M. A. Naeem⁴, S. Riazuddin^{4,5}, J. Hejtmancik⁶, S. Riazuddin^{3,7}, R. Ayyagari¹.* ¹Shiley Eye Institute, University of California San Diego, La Jolla, CA; ²Ophthalmology, University of California San Francisco, San Francisco, CA; ³Ophthalmology, Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ⁴Ophthalmology, National Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, Pakistan; ⁵Ophthalmology, Allama Iqbal Medical College, University of Health Sciences, Lahore, Pakistan; ⁶Ophthalmic Genetics and Visual Function Branch, National Eye Institute, National Institutes of Health, Bethesda, MD; ⁷McKusick-Nathans Institute of Genetic Medicine, Johns Hopkins University School of Medicine, Baltimore, MD *CR**3822 — 10:00 Association of ANGPT1 with Primary Open Angle Glaucoma.** *Jessica Cooke Bailey¹, P. Gharahkhani², S. W. Tompson³, T. Souma^{4,5}, O. Sigg⁶, T. L. Young³, A. P. Tanna⁷, L. R. Pasquale⁸, S. E. Quaggin^{4,5}, S. MacGregor², J. E. Craig⁶, J. L. Haines¹, J. L. Wiggs⁸.* ¹Epidemiology & Biostatistics, Case Western Reserve University, Cleveland, OH; ²QIMR Berghofer Medical Research Institute, Brisbane, QLD, Australia; ³Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI; ⁴Feinberg Cardiovascular Research Institute, Northwestern University, Chicago, IL; ⁵Division of Nephrology/Hypertension, Northwestern University, Chicago, IL; ⁶Department of Ophthalmology, Flinders University, Adelaide, SA, Australia; ⁷Department of Ophthalmology, Northwestern University Feinberg School of Medicine, Chicago, IL; ⁸Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA

Room 324

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Eye Movements/Strabismus/Amblyopia/ Neuro-Ophthalmology**414 Amblyopia II****Moderators: Eileen E. Birch and David G. Hunter****3823 — 8:30 An Evaluation of a School-Based Screening Program to Detect Amblyopia and Refractive Errors in Kindergarten Children.** *Mayu Nishimura^{1,2}, D. Maurer², A. M. Wong¹.* ¹Ophthalmology and Vision Sciences, Hospital for Sick Children, Toronto, ON, Canada; ²Psychology, Neuroscience and Behaviour, McMaster University, Hamilton, ON, Canada**3824 — 8:45 Amblyopia in children with high AC/A ratio esotropia.** *Jaime Tejedor^{1,2}, F. Gutiérrez-Carmona¹.* ¹Ophthalmology, Hospital Ramon y Cajal, Madrid, Spain; ²Neuroscience, Universidad Autónoma de Madrid, Madrid, Spain**3825 — 9:00 Adultlike Sensitivity to Curvatures of V2 Neurons in Infant Monkeys.** *Bin Zhang¹, Y. Wang², X. Tao², G. Shen², E. L. Smith², I. Ohzawa³, Y. M. Chino².* ¹College of Optometry, Nova Southeastern University, Plantation, FL; ²College of Optometry, University of Houston, Houston, TX; ³Osaka University, Osaka, Japan**3826 — 9:15 The Role of Interocular Suppression in the Etiology of Amblyopia and its Response to Treatment.** *Eileen E. Birch^{1,3}, K. R. Kelly¹, R. Jost¹, A. De La Cruz^{1,2}.* ¹Retina Foundation of the Southwest, Dallas, TX; ²School of Optometry, University of Houston, Houston, TX; ³Ophthalmology, UT Southwestern Medical Center, Dallas, TX

3827 — 9:30 Binocular outcomes following binocular treatment for childhood amblyopia.

Krista R. Kelly, R. Jost, E. E. Birch. Retina Foundation of the Southwest, Dallas, TX

3828 — 9:45 A Randomized Trial of a Binocular iPad Game Versus Part-Time Patching In Children 13 To 16 Years Of Age With Amblyopia.

Vivian Manh¹, J. M. Holmes⁴, E. L. Lazar², R. Kraker², D. K. Wallace³, M. T. Kulp⁵, J. Galvin⁵, B. Shah⁶, P. L. Davis⁷. ¹Ophthalmology, Seattle Children's Hospital, Seattle, WA; ²Jaeb Center for Health Research, Tampa, FL; ³Duke Eye Center, Durham, NC; ⁴Mayo Clinic, Rochester, MN; ⁵College of Optometry, The Ohio State University, Columbus, OH; ⁶The Eye Specialist Center, LLC, Munster, IN; ⁷Progressive Eye Care, Lisle, IN [✗]

3829 — 10:00 A dichoptic augmented-reality paradigm as a treatment for adult amblyopes.

Wen Wen¹, X. Sun¹, H. Liu¹, X. Li². ¹Ophthalmology, EENT Hospital, Fudan University, Shanghai, China; ²California NanoSystems Institute, Los Angeles, CA

Exhibit/Poster Hall A0001-A0020

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Eye Movements/Strabismus/Amblyopia/
Neuro-Ophthalmology**415 Oculoplastics****Moderator: Christopher M. Knapp**

3830 — A0001 The Brow position changes of Korean in relation to age. *Seon Tae Kim, W. Ryu, Y. Kwon, H. Ahn.* Ophthalmology, Dong-A university hospital, Busan, Korea (the Republic of)

3831 — A0002 Incidence of Development of Bilateral Lower Eyelid Involutional Entropion and Ectropion. *Jennifer T. Perry, M. E. Migliori.* Ophthalmology, Brown University, Providence, RI

3832 — A0003 Does upper eyelid-blepharoplasty influence color vision? *Elisa Untch, E. Spoerl, L. E. Pillunat, F. Sommer.* Dept. of Ophthalmology, University of Dresden, Dresden, Germany

3833 — A0004 Effect of botulinum toxin type A treatment on eyelid pressure in patients with blepharospasm. *Koji Namiguchi, A. Shiraishi.* Ophthalmology, Ehime University, Graduate School of Medicine, Toon-city, Japan

3834 — A0005 A comparative study of full-thickness blepharotomy vs. transconjunctival eyelid lengthening in the correction of upper eyelid retraction in Graves' Orbitopathy. *Allan C. Pieroni Goncalves, T. Nogueira, M. R. Monteiro.* Ophthalmology, University of Sao Paulo Medical School, Sao Paulo, Brazil ✗

3835 — A0006 RVL-1201 Ophthalmic Solution improves the superior field of vision in subjects with upper eyelid ptosis. *charles slonim^{2,1}, M. silverberg², B. Butler^{2,1}, W. Stringer^{2,1}, L. Butler¹, R. Patel¹, J. Brace^{2,1}.* ¹Point Guard Partners LLC, Tampa, FL; ²Revitalid Inc., Tampa, FL *CR, ✗

3836 — A0007 Antimetabolite Application Route During Trabeculectomy Increases Risk of Postoperative Ptosis. *Joshua L. Jones¹, A. Gross¹, M. L. Pfeiffer^{1,2}, E. Crowell^{1,2}, N. P. Bell^{1,2}, R. M. Feldman^{1,2}, L. S. Blieden^{1,2}.* ¹Ruiz Department of Ophthalmology and Visual Science, McGovern Medical School at The University of Texas Health Science Center at Houston, Houston, TX; ²Robert Cizik Eye Clinic, Houston, TX

3837 — A0008 Dry Eye in Patients Undergoing External Levator Advancement Surgery. *Christine Zemsky, L. Ghadiali, N. Rudnick, B. J. Winn.* Ophthalmology, Columbia University, Harkness Eye Institute, New York, NY

3838 — A0009 3D Printing for Low-cost Rapid Prototyping of Eyelid Crutches. *Michael G. Sun, D. Rojdamrongratana, M. Rosenblatt, V. K. Aakalu, C. Yu.* Ophthalmology, University of Illinois at Chicago, Chicago, IL

3839 — A0010 Modified Second Stage Hughes Tarsconjunctival Reconstruction for Lower Eyelid Defects. *Shruti Aggarwal, C. Shah.* Ophthalmology, University of Virginia, Charlottesville, VA

3840 — A0011 Factors affecting ectropion rates following facial reconstruction. *Young Seol^P, P. Rizzuto¹.* ¹Ophthalmic Plastic Surgery, Warren Alpert Medical School of Brown University, Providence, RI; ²Ophthalmology, Warren Alpert Medical School of Brown University, Providence, RI

3841 — A0012 Congenital Nasolacrimal Duct Obstruction Intervention Type and Outcomes from a Single Institution. *Saba Alniemi, H. Ralay-Ranaivo, M. Mets.* Ophthalmology, Northwestern University - Lurie Children's Hospital, Chicago, IL

3842 — A0013 Balloon dilation in endoscopic dacryocystorhinostomy vs. traditional endoscopic dacryocystorhinostomy for acquired nasolacrimal duct obstruction. *Abdallah Mahrous¹, P. Petrakos¹, A. Kacker², G. J. Lelli¹.* ¹Ophthalmology, Weill Cornell Medicine, New York, NY; ²Otorhinolaryngology, Weill Cornell Medicine, New York, NY

3843 — A0014 Quality of life assessment in patients with nasolacrimal duct obstruction after nasolacrimal duct intubation guided by dacryoendoscope. *Atsushi Shiraishi¹, T. Kamao¹, E. Ishikawa², N. Takahashi³, X. Zheng¹.* ¹Ophthalmology, Ehime Univ School of Medicine, Toon, Japan; ²Ophthalmology,, Ehime Prefectural Central Hospital, Matsuyama, Japan; ³Ophthalmology, Uwajima City Hospital, Uwajima, Japan

3844 — A0015 Assessment of visual function after nasolacrimal duct intubation for nasolacrimal duct obstruction. *Tomoyuki Kamao¹, E. Ishikawa², N. Takahashi³, X. Zheng¹, A. Shiraishi¹.* ¹Ophthalmology, Ehime University Graduate School of Medicine, Toon-city, Japan; ²Ophthalmology, Ehime Prefectural Central Hospital, Matsuyama, Japan; ³Ophthalmology, Uwajima City Hospital, Uwajima-city, Japan

3845 — A0016 A pilot study on the effects of patient selected music on patients undergoing ophthalmic plastic surgery. *Masih Ahmed, A. Ollerton, J. Abboud, J. Sivak-Callcott, J. Nguyen.* Ophthalmology, West Virginia University, Morgantown, WV

3846 — A0017 Practice Patterns of Ophthalmic Plastic and Reconstructive Surgeons at Academic Medical Centers: Prophylactic Antibiotic Administration to Patients with Orbital Fractures. *Samuel Beckstead, I. U. Scott, M. Wilkinson.* Ophthalmology, Penn State Hershey Medical Center, Hershey, PA

3847 — A0018 Ophthalmic Complications of Functional Endoscopic Sinus Surgery in Patients Presenting to a Tertiary Care Center. *Imtiaz A. Chaudhry¹, W. Al-Rashed², T. M. Bosley³, F. Shamsi⁴, Y. Arat⁵.* ¹Houston Oculoplastics Associates, Memorial Herman Med Plaza TX Med Ctr, Houston, TX; ²Ophthalmology, Al-Imam Muhammad Ibn Saud Islamic University, Riyadh, Saudi Arabia; ³Ophthalmology, King Saud University, Riyadh, Saudi Arabia; ⁴Research Department, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia; ⁵Ophthalmology, Hospital, Ankara, Turkey

3848 — A0019 The Epidemiology and Surgical Outcomes of Facial Nerve Palsy in a Population-Based Cohort. *Sarah Alshami^{1,3}, D. Hodge², E. Bradley¹.* ¹Department of Ophthalmology, Mayo Clinic, Rochester, MN; ²Department of Health Sciences Research, Mayo Clinic, Jacksonville, FL; ³University of Missouri - Kansas City School of Medicine, Kansas City, MO

3849 — A0020 Presumed preservative-related punctal congestion. *Thalmon Campagnoli, Y. Bian, S. Scofield-Kaplan, L. Ghadiali, C. Zemsky, B. J. Winn.* Columbia University - Harkness Eye Institute, New York, NY

Exhibit/Poster Hall A0021-A0044

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Eye Movements/Strabismus/Amblyopia/Neuro-
Ophthalmology**416 Optic Neuropathy****Moderator: Anastasia Pilat**

3850 — A0021 A comparison of OCT peripapillary and disc measures among non-arteritic ischemic optic neuropathy (NAION), open-angle glaucoma (OAG), and healthy controls. *Thet Naing¹, S. Lee¹, L. Shi^{2,1}, J. Ode¹, R. Ritch³, D. Hood^{1,2}.* ¹Psychology, Columbia University, New York, NY; ²Ophthalmology, Columbia University, New York, NY; ³Ophthalmology, New York Eye & Ear Infirmary, New York, NY *CR

3851 — A0022 Utility of optical coherence tomographic angiography in evaluation of afferent neuro-ophthalmic disease. *Eric D. Gaier^{1,2}, A. L. Gilbert^{1,2}, J. F. Rizzo^{1,2}, D. M. Cestari^{1,2}, J. B. Miller^{1,2}.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ophthalmology, Harvard Medical School, Boston, MA *CR

- 3852 — A0023 A prospective, randomized clinical trial evaluating the effect of transcorneal electrical stimulation on visual function.** *Olivia Y. Wang¹, A. P. Murchison², L. A. Hark¹, B. T. Leiby³, S. Siraj², S. Kale², D. Kim¹, K. Shair², R. Sergott², M. Moster², L. Donoso², J. R. Bilyk², J. A. Haller².* ¹Sidney Kimmel Medical College, Philadelphia, PA; ²Research, Wills Eye Hospital, Philadelphia, PA; ³Biostatistics, Thomas Jefferson University, Philadelphia, PA ✂
- 3853 — A0024 A Decision Analytic Approach for the Management of a Patient with Suspected Giant Cell Arteritis.** *Mikel Mikhail¹, L. A. Levin^{1,2}.* ¹Ophthalmology, McGill University, Montreal, QC, Canada; ²Ophthalmology and Visual Science, University of Wisconsin, Madison, WI *CR
- 3854 — A0025 Histologic markers for determining prognosis in patients with treated or healing giant cell arteritis.** *Harris C. Sultan^{1,2}, P. Chevez-Barrios², A. G. Lee^{2,1}.* ¹Ophthalmology, University of Texas Medical Branch, Galveston, TX; ²Ophthalmology, Houston Methodist Hospital, Houston, TX
- 3855 — A0026 Systematic review and meta-analysis of the association between giant cell arteritis and herpes viruses.** *Magdalena Niestrata-Ortiz^{1,2}, B. Dhillon², E. Kaczmarek³.* ¹Ophthalmology, Northampton General Hospital, London, United Kingdom; ²Ophthalmology, Edinburgh University, Edinburgh, United Kingdom; ³Poznan University of Medical Sciences, Poznan, Poland
- 3856 — A0027 Aetiologies of Giant Cell Arteritis: A Systematic Review of the Literature from 1995 to 2015.** *Christian El-Hadad¹, A. Dan¹, Z. Chaudhry¹, M. Gans¹, S. chorff¹, A. Chaudhry², T. Landry³.* ¹Ophthalmology, McGill University, Montreal, QC, Canada; ²McGill University, Montreal, QC, Canada; ³Library, McGill University Health Center, Montreal, QC, Canada
- 3857 — A0028 Very Poor Visual Acuity in Non-Arteritic Anterior Ischemic Optic Neuropathy (NAION).** *Michael Dattilo¹, T. Tian¹, B. B. Bruce², K. Narayana¹, J. Peragallo³, N. J. Newman⁴, V. Biousse⁵.* ¹Ophthalmology, Emory University, Atlanta, GA; ²Ophthalmology, Neurology, and Epidemiology, Emory University, Atlanta, GA; ³Ophthalmology and Pediatrics, Emory University, Atlanta, GA; ⁴Ophthalmology, Neurology, and Neurological Surgery, Emory University, Atlanta, GA; ⁵Ophthalmology and Neurology, Emory University, Atlanta, GA
- 3858 — A0029 Characterization of retinal function, microstructure, microvascular networks, and microcirculation in acute non-arteritic anterior ischemic optic neuropathy.** *Amanda D. Henderson^{2,1}, S. P. Burke², P. Monsalve², G. Gregori², H. Jiang², V. Porciatti², B. L. Lam², L. E. Vazquez², J. Wang².* ¹Neuro-Ophthalmology, Wilmer Eye Institute/ Johns Hopkins University, Baltimore, MD; ²Ophthalmology, Bascom Palmer Eye Institute, Miami, FL *CR
- 3859 — A0030 Brachial artery flow-mediated vasodilation, carotid artery intimal medial thickness and carotid artery plaques in hypertensive patients with NAION.** *Wenhui Zhu^{1,2}, T. Chen², L. Jin², H. Wang³, N. G. Congdon².* ¹Ophthalmology, First Affiliated Hospital of Sun Yat-sen University, Guangzhou, China; ²Zhongshan Ophthalmic Center, Guangzhou, China; ³School of Medicine, Stopford Building, University of Manchester, Manchester, United Kingdom
- 3860 — A0031 A New Model of Rat NAION.** *Clarke Nelson¹, J. Kao², S. L. Bernstein¹.* ¹Ophthalmology and Visual Sciences, University of Maryland, Baltimore, MD; ²Physiology, University of Maryland, Baltimore, MD
- 3861 — A0032 Neutralizing Antibodies Against Adeno-associated virus (AAV)2 Capsids in LHON Gene Therapy Clinical Trial Patients: An Update.** *Rajeshwari D. Koilkonda, W. J. Feuer, J. Schiffman, J. L. Davis, V. Porciatti, P. Gonzalez, B. L. Lam, J. Guy.* Ophthalmology, Bascom Palmer Eye Institute, Miami, FL ✂
- 3862 — A0033 Monte Carlo Simulation of Propagation of Axonal Loss Within the Optic Nerve in Leber Hereditary Optic Neuropathy.** *Razek Georges Coussa¹, P. Merat², L. A. Levin^{1,3}.* ¹Ophthalmology, McGill University, Montreal, QC, Canada; ²Department of Electrical and Computer Engineering, McGill University, Montreal, QC, Canada; ³Ophthalmology, University of Wisconsin, Madison, WI *CR
- 3863 — A0034 Visual function changes in patients with Leber's hereditary optic neuropathy during one year of follow-up.** *Vincenzo Parisi¹, L. Ziccardi¹, F. sadun⁶, A. De Negr², C. la morgia^{3,4}, P. Barboni⁵, V. Carelli^{3,4}.* ¹Visual Neurophysiology & Neuroophthalmology, GB Bietti Eye Foundation-IRCCS, Rome, Italy; ²Azienda San Camillo-Forlanini, Rome, Italy; ³IRCCS Istituto delle Scienze Neurologiche di Bologna, Bellaria Hospital, Bologna, Italy; ⁴Dipartimento di Scienze Biomediche e Neuromotorie (DIBINEM), Neurology Unit, University of Bologna, Bologna, Italy; ⁵IRCCS Istituto Scientifico San Raffaele, Milan, Italy; ⁶Ospedale San Giovanni Evangelista, Tivoli, Italy
- 3864 — A0035 Multicolor SLO image analysis of patients with LHON.** *Anne S. Irvine¹, K. G. Falavarjani^{1,4}, R. Karanjia^{2,3}, A. A. Sadun³.* ¹Neuro-ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, University of Ottawa, Ottawa, ON, Canada; ³Ophthalmology, Doheny Eye Institute UCLA David Geffen School of Medicine, Los Angeles, CA; ⁴Eye Research Center, Rassoul Akram Hospital, Tehran, Iran (the Islamic Republic of)
- 3865 — A0036 Preliminary Baseline Characteristics of Patients with Leber Hereditary Optic Neuropathy (LHON) Enrolled in the RESCUE and REVERSE Clinical Gene Therapy Trials.** *Patrick Yu-Wai-Man^{1,2}, N. J. Newman³, R. Sergott^{4,5}, M. Scannell Bryan⁶, V. Carelli^{7,8}, T. Klopstock^{9,10}, M. Moster^{4,11}, A. A. Sadun^{12,13}, J. A. Sahel^{14,15}, C. Vignat^{14,16}, S. Uretsky¹⁷.* ¹Wellcome Trust Centre for Mitochondrial Research, Institute of Genetic Medicine, Newcastle University, Newcastle Upon Tyne, United Kingdom; ²NIHR Biomedical Research Centre at Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, United Kingdom; ³Departments of Ophthalmology, Neurology and Neurological Surgery, Emory University School of Medicine, Atlanta, GA; ⁴Neuro-Ophthalmology Service, Wills Eye Hospital, Philadelphia, PA; ⁵Optic Nerve Research Center, Philadelphia, PA; ⁶Optic Nerve Research Center, University of Illinois at Chicago, Chicago, IL; ⁷IRCCS Institute of Neurological Sciences of Bologna, Bellaria Hospital, Bologna, Italy; ⁸Department of Biomedical and Neuromotor Sciences (DIBINEM), University of Bologna, Bologna, Italy; ⁹Department of Neurology, Friedrich-Baur-Institute, Munich, Germany; ¹⁰University Hospital of LMU, Munich, Germany; ¹¹Departments of Neurology and Ophthalmology, Sidney Kimmel Medical College of Thomas Jefferson University, Philadelphia, PA; ¹²Doheny Eye Institute, Los Angeles, CA; ¹³Department of Ophthalmology, UCLA, Los Angeles, CA; ¹⁴Centre Hospitalier National d'Ophthalmologie des Quinze-Vingts, Paris, France; ¹⁵Department of Ophthalmology, The University of Pittsburgh School of Medicine, Pittsburgh, PA; ¹⁶Fondation Ophthalmologique Rothschild, Paris, France; ¹⁷GenSight Biologics, Paris, France *CR, ✂
- 3866 — A0037 Electrophysiology changes in Nutritional Amblyopia.** *Harshad P. Patel.* Ophthalmology, Kresge Eye Institute, Royal Oak, MI
- 3867 — A0038 Analysis of retinal nerve fiber layer microvasculature in non-glaucomatous optic neuropathy using optical coherence tomography angiography (OCTA).** *Arjun T. Reddy^{1,2}, V. Patel^{1,2}, B. Sylvester^{1,3}, Z. Chu⁴, A. Kashan^{1,2}, R. K. Wang⁴, G. M. Richter^{1,2}.* ¹USC Roski Eye Institute, Los Angeles, CA; ²Keck School of Medicine of the University of Southern California, Los Angeles, CA; ³University of Southern California, Los Angeles, CA; ⁴University of Washington, Seattle, WA *CR

3868 — A0039 Ischemic Optic Neuropathy in Cardiac Surgery: Incidence and Risk Factors in the United States from the National Inpatient Sample 1998-2013. Steven Roth^{1,2}, D. S. Rubin³, M. Matsumoto⁴, H. Moss⁵, C. E. Joslin^{2,5}, A. Tung³.
¹Anesthesiology, Univ of Illinois, Chicago, IL; ²Ophthalmology, University of Illinois, Chicago, IL; ³Anesthesia and Critical Care, University of Chicago, Chicago, IL; ⁴Pritzker School of Medicine, University of Chicago, Chicago, IL; ⁵School of Public Health, University of Illinois, Chicago, IL

3869 — A0040 New Approaches To Treating Traumatic Optic Neuropathy. Galina Dvorianchikova¹, B. Tse¹, W. Tao¹, S. Pappas¹, R. Brambilla², D. V. Ivanov¹, D. T. Tse¹, D. Pelaez¹.
¹Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Miami Project to Cure Paralysis, University of Miami Miller School of Medicine, Miami, FL

3871 — A0042 The roles of autophagy and mTOR in the neuro-protection of optic nerve crush models in rats. Rong-Kung Tsai^{1,2}, Y. Wen¹.
¹Institute of Eye Research, Tzu-Chi Medical Center, Hualien, Taiwan; ²Institute of Medical Sciences, Tzu Ci University, Hualien, Taiwan

3872 — A0043 Quadratic analysis of inner and outer macular layers using SD-OCT in band atrophy of the optic nerve and correlation with 10-2 standard automated perimetry. Rafael B. de Araujo, M. Oyamada, L. C. Zacharias, R. C. Preti, M. R. Monteiro. Ophthalmology, Universidade de São Paulo, São Paulo, Brazil

3873 — A0044 Association between obstructive sleep apnea and optic neuropathy: A Taiwanese Population-Based bidirectional cohort Study. Ming-Hui Sun², Y. J. Liao¹, C. Lin¹, J. Wei³.
¹Ophthalmology, Byers Eye Institute Stanford University, Palo Alto, CA; ²Ophthalmology, Chang Gung Memorial Hospital, Taoyuan, Taiwan; ³Division of Allergy, Immunology and Rheumatology, Chung Shan Medical University Hospital, Taichung, Taiwan; ⁴Management Office for Health Data, China Medical University Hospital, Taichung, Taiwan

Exhibit/Poster Hall A0045-A0072

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Immunology/Microbiology

417 Clinical microbiology

3874 — A0045 Eight-Year Longitudinal Trends in Methicillin Resistance and Resistance to Other Antibiotics Among Staphylococci From the ARMOR Surveillance Study. Heleen H. DeCory¹, C. M. Sanfilippo¹, P. A. Asbell¹.
¹Medical Affairs, Bausch + Lomb, Rochester, NY; ²Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY *CR

3875 — A0046 Comparative Surveillance Trends in Fluoroquinolone and Aminoglycoside Nonsusceptibility among Ocular Isolates. Zubair Ansari, H. W. Flynn, J. Stringham, D. Miller. The Bascom Palmer Eye Institute, Miami, FL

3876 — A0047 Clinical features and outcomes of patients with culture positive endophthalmitis after penetrating keratoplasty. Kimberly D. Tran, N. A. Yannuzzi, N. Si, W. She, H. W. Flynn. Ophthalmology, Bascom Palmer Eye Institute, Miami, FL

3877 — A0048 Clinical outcomes and management of endophthalmitis caused by Staphylococcus epidermidis: comparison of most recent decade with the prior decade[1]. Harry W. Flynn, N. A. Yannuzzi, N. Patel, N. Relhan, K. D. Tran, N. Si, D. Miller. Ophthalmology, Bascom Palmer Eye Institute, Miami, FL

3878 — A0049 Culture positive infectious endophthalmitis associated with intravitreal injection. Nicolas A. Yannuzzi, N. Gregori, N. Patel, N. Relhan, N. Si, D. Miller, H. W. Flynn. Ophthalmology, Bascom Palmer Eye Institute, Miami, FL

3879 — A0050 Microbiological assessment and antibiotic susceptibility of species isolated from forceps used for suture removal after penetrating keratoplasty. Nikisha Kothari¹, G. R. Gameiro¹, F. Cabot^{1,2}, L. Chang¹, E. Perez^{1,3}, D. Miller^{1,3}, S. H. Yoo^{1,2}.
¹Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²Bascom Palmer Eye Institute, Ophthalmic Biophysics Center, Miami, FL; ³Bascom Palmer Eye Institute, Ocular Microbiology Laboratory, Miami, FL

3880 — A0051 Late Onset Infectious Keratitis after Laser in situ Keratomileusis. Megan Law, S. D. McLeod, S. Schallhorn, J. M. Schallhorn. Ophthalmology, UCSF, San Francisco, CA

3881 — A0052 The Microbiologic Profile of Dacryocystitis. Stella Chung, L. Rafailov, R. Turbin, P. D. Langer. Rutgers New Jersey Medical School, Kyoto, Japan

3882 — A0053 Improved method to identify efficiently microorganisms in ocular infections. Herlinda Mejia-Lopez, C. A. Patoja-Meléndez, M. Ortiz-Casas, V. M. Bautista-de Lucio. Research Unit, Inst of Ophthalmology “Conde de Valenciana”, Mexico City, Mexico

3883 — A0054 Bactec™ blood culture bottles allied to MALDI-TOF mass spectrometry: Rapid etiologic diagnosis of bacterial endophthalmitis. Tatiana Tanaka¹, L. M. Oliveira¹, B. F. Ferreira¹, J. M. Kato¹, F. Rossi², K. D. Correa², S. L. Pimentel¹, J. H. Yamamoto¹, J. N. Junior².
¹Ophthalmology, University of São Paulo, São Paulo, Brazil; ²Central Laboratory Division, University of São Paulo, São Paulo, Brazil

3884 — A0055 Contamination of eyedrops used for diagnostic purposes in outpatients clinics: Are we aware? Sertac Argun Kivanc¹, B. Akova Budak¹, M. Ulusoy³, B. Guler², A. A. Yucel¹, M. Kivanc².
¹Ophthalmology, Uludag University, Bursa, Turkey; ²Biology, Anadolu University, Eskisehir, Turkey; ³Ophthalmology, Baskent University, Konya, Turkey

3885 — A0056 Corneal Fungal Infections: Evaluation and Treatment. Davide Borroni¹, A. Pandey², I. Lace¹, E. Drucka¹, A. Zemitis¹.
¹Ophthalmology, Riga Stradins University, Riga, Latvia; ²Cornea, Lumbini Eye Institute, Lumbini, Nepal

3886 — A0057 The Use of Amphotericin B or Fluconazole Supplementation in Optisol-GS Stored at 35 Degrees Celsius. Jody Simon. Ophthalmology, Cleveland Clinic, Cleveland, OH; Ophthalmology, LSU Health Sciences New Orleans, New Orleans, LA

3887 — A0058 Antimicrobial efficacy of photodynamic therapy with TONS04 against pathogenic filamentous fungi. Taichiro Chikama¹, K. Sueoka¹, J. Ko¹, Y. Kiuchi¹, T. Sakaguchi², A. Obana³.
¹Ophthalmology, Hiroshima Univ Grad Sch of Biomed Sci, Minami-ku, Japan; ²Virology, Hiroshima University Graduate School of Biomedical Sciences, Hiroshima, Japan; ³Ophthalmology, Seirei Hamamatsu General Hospital, Hamamatsu, Japan

3888 — A0059 Invasive Orbital Aspergillosis in Immunocompetent Patients from the Northeastern United States. J. D. Diaz, S. K. Freitag, M. Durand. Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA

3889 — A0060 Frequency of toxoplasmic retinal lesions in Eye Bank retinas. Deise F. Fialho da Costa¹, F. D. Fowler¹, H. Nascimento¹, A. S. Toledo¹, J. D. Dias³, M. J. Nobrega⁶, C. M. Garrido⁴, F. A. Nobrega⁶, L. V. Rizzo², C. Silveira⁵, A. G. Commodaro¹, R. Belfort¹.
¹Departamento de Oftalmologia e Ciências Visuais, Universidade Federal de São Paulo, São Paulo, Brazil; ²Instituto Israelita de Ensino e Pesquisa, Hospital Israelita Albert Einstein, São Paulo, Brazil; ³Banco de Olhos de Chapecó, Hospital Regional do Oeste, Chapecó, Brazil; ⁴Banco de Olhos do Amazonas, Fundação Hospital Adriano Jorge, Manaus, Brazil; ⁵Clinica Silveira, Erechim, Brazil; ⁶Banco de Olhos de Joinville, Joinville, Brazil

3890 — A0061 Intraocular Gnathostomiasis : Clinical Profile and Management of Eight Cases. Vinata Rajendran, E. Rishi, H. Shah. Vitreo-Retina, Sankara Nethralaya, Chennai, India, Chennai, India

3891 — A0062 Acanthamoeba Keratitis: Are Recent Infections More Severe? Sophia Siu, C. J. Rapuano, P. Nagra, K. Hammersmith. Wills Eye Hospital, Philadelphia, PA

3892 — A0063 Tear concentration of neuropeptides in subjects with trichomatous trichiasis. *Hadeel AL Chalabi, E. Ghasemian, A. Inic-Kanada, E. Stein, N. Schuerer, T. Barisani-Asenbauer.* OCUVAC - Center of Ocular Inflammation and Infection; Laura Bassi Centers of Expertise, Center for Pathophysiology, Infectiology and Immunology; Medical University of Vienna, Vienna, Austria

3893 — A0064 The role of *Demodex folliculorum* in chronic, treatment resistant blepharitis and clinical outcome. *Berna Akova Budak¹, S. Kivanc¹, O. Alver², A. A. Yuce¹, B. Ener², U. Tuzemen².* ¹Ophthalmology, Uludag Univ Faculty of Med, Bursa, Turkey; ²Microbiology, Uludag University, Bursa, Turkey

3894 — A0065 Research on sustained subtenon drug delivery approach as adjunctive therapy for treating severe endophthalmitis. *Duan Viqin^{1,2}, Y. Yang¹, X. Huang^{1,2}, D. Lin^{1,2}.* ¹AIER School of Ophthalmology Central South University, Changsha, China; ²ChangSha AiEr Hospital, ChangSha, China

3895 — A0066 Effect of 0.1% Fluorescein dye on Riboflavin Photodynamic Antimicrobial Therapy for inhibition of Methicillin-Resistant *Staphylococcus aureus*. *Nidhi Relhan¹, H. A. Durkee¹, M. C. Aguilar¹, A. Arboleda¹, N. Nolan¹, A. Martinez¹, G. Amescua², H. W. Flynn², D. Miller^{2,3}, J. A. Parel^{1,4}.* ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine, Miami, FL; ³Ocular Microbiology Laboratory, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴CHU Sart-Tillman, Department of Ophthalmology, University of Liege, Liege, Belgium

3896 — A0067 Efficacy of high fluence ultraviolet light A (UVA) photoactivation of riboflavin in vitro as a therapy for keratitis. *Lorena Zendejas Reyes¹, A. Tarfff², R. Yee³, M. D. Cano², L. Di Meglio², P. Gupta², W. May², A. Casadevall², Y. Zhang², A. Behrens².* ¹Cornea, Asociación para Evitar la Ceguera en México "Hospital Luis Sánchez Bulnes" IAP, Mexico City, Mexico; ²Ophthalmology, The Wilmer Ophthalmological Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ³Molecular Microbiology & Immunology, Johns Hopkins University, Baltimore, MD

3897 — A0068 Bactericidal activity of photoactivated riboflavin, ultraviolet light A, and hydrogen peroxide against stationary phase methicillin-resistant *Staphylococcus aureus* (MRSA) for potential use in bacterial keratitis. *Ashley Behrens¹, R. Yee², A. Tarfff¹, M. D. Cano¹, P. Gupta¹, L. Di Meglio¹, W. May¹, A. Casadevall², Y. Zhang².* ¹Ophthalmology, The Wilmer Ophthalmological Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Molecular Microbiology & Immunology, Johns Hopkins University, Baltimore, MD

3898 — A0069 Bactericidal ultraviolet light A (UVA) photoactivation of riboflavin potentiated by low levels of hydrogen peroxide in vitro: a potential novel therapy for methicillin sensitive and multidrug resistant-methicillin resistant *Staphylococcus aureus* keratitis. *Andreina Tarfff¹, R. Yee², L. Di Meglio¹, P. Gupta¹, M. D. Cano¹, W. May¹, A. Casadevall², Y. Zhang², A. Behrens¹.* ¹Ophthalmology, The Wilmer Ophthalmological Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Molecular Microbiology & Immunology, Johns Hopkins University, Baltimore, MD

3899 — A0070 Impact of Riboflavin Photodynamic Antimicrobial Therapy (PDAT) on *S. aureus* Virulence Factors. *Darlene Miller, H. A. Durkee, M. C. Aguilar, A. Arboleda, N. Relhan, G. Amescua, J. A. Parel.* Bascom Palmer Eye Institute, Univ of Miami Miller Sch of Med, Miami, FL

3900 — A0071 Does Corneal Cross-linking Prevent *Fusarium* Keratitis? *Jawaher M. Alshehri¹, M. Hillarby¹, S. Shawcross¹, A. Brahma², F. Carley², H. Radhakrishnan¹.* ¹Faculty of Biology, Medicine and Health, The University of Manchester, Manchester, United Kingdom; ²Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester Academic Health Science Centre, Manchester, United Kingdom

3901 — A0072 Toxic Keratitis. *Urvija Choudhary, H. Nagaraj, R. Deshmukh, R. Shetty.* Cornea, Narayana Nethralaya, Bangalore, India

Exhibit/Poster Hall A0098-A0111

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Cornea

418 Corneal Stroma and Keratocytes

Moderator: Vickery E. Trinkaus-Randall

3902 — A0098 Proteomic comparison of keratoconus with and without vernal keratoconjunctivitis in individuals from Saudi Arabia. *Shukti Chakravarti², A. Mahale⁴, G. Sathe³, J. W. Foster³, V. Shinde³, A. Pandey³, C. Eberhart¹, A. S. Jun², S. A Al-Swailem⁴, D. U. Stone², A. Maktabi¹.* ¹Ophthalmology, Pathology, Johns Hopkins Sch of Medicine, Baltimore, MD; ²Wilmer Eye Institute, Baltimore, MD; ³Medicine, Johns Hopkins School of Medicine, Baltimore, MD; ⁴King Khaled Eye Specialist Hospital, Riyadh City, Saudi Arabia

3903 — A0099 AKT and mTOR differential signaling in keratoconus compared to donor stromal cells. *Vishal Shinde¹, J. W. Foster¹, Y. J. Daoud², U. Soiberman², S. Chakravarti¹.* ¹Gastroenterology, Johns Hopkins School of Medicine, Baltimore, MD; ²Johns Hopkins School of Medicine, Baltimore, MD

3904 — A0100 Molecular insights into ECM and collagen assembly disruptions in keratoconus. *James W. Foster¹, V. Shinde¹, U. Soiberman², Y. J. Daoud², F. Alsaleh², G. Sathe³, J. Wan¹, J. Qian², A. S. Jun², A. Pandey³, S. Chakravarti^{1,2}.* ¹Johns Hopkins School of Medicine, Baltimore, MD; ²Wilmer Eye Institute, Baltimore, MD; ³Institute of Genetic Medicine, Baltimore, MD

3905 — A0101 The generation and characterization of a novel mouse line, Cdh2-rtTA (*Cdh2^{rtTA}*), for genetic manipulation of stem cell niche tissues. *Yujin Zhang¹, L. Zhang¹, D. G. Ogando¹, Y. Okada^{1,2}, Y. Wang¹, W. W. Kao³, Y. Hu⁴, J. A. Bonanno¹, C. Liu¹.* ¹Optometry, Indiana University School of Optometry, Bloomington, IN; ²Wakayama Medical University, Wakayama, Japan; ³Ophthalmology, university of Cincinnati, Cincinnati, OH; ⁴Division of Developmental Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

3906 — A0102 Banding patterns: exploring a new feature in corneal stroma organization. *Vincent M. Borderie^{1,2}, D. Ghoubay^{1,2}, C. Georgeon¹, R. Bocheux³, G. Latour⁵, T. Nguyen³, F. Andreiuolo¹, M. Schanne-Kleir¹, J. Sahel^{1,2}, K. Grieve^{1,2}.* ¹Ophthalmology, CHNO des Quinze-Vingts, Paris, France; ²Institut de la Vision, Paris, France; ³Institut Langevin, Paris, France; ⁴Laboratoire d'Optique et Biosciences, Ecole Polytechnique, Palaiseau, France; ⁵Laboratoire Imagerie et Modélisation en Neurobiologie et Cancérologie, Univ. Paris-Sud, Orsay, France *CR

3907 — A0103 In vivo observation of keratocyte activation in a model of endothelial keratopathy. Yujuan Wang, J. Chen, Z. Jiang. Zhongshan Ophthalmic Center, Guangzhou, China

3908 — A0104 Effects of the heat shock protein inhibitor, 17AAG, on corneal stromal haze using an in vivo rabbit phototherapeutic keratectomy model. Sydney G. Edwards¹, P. Kass², M. Ali¹, A. Marangakis¹, V. K. Raghunathan¹, C. J. Murphy^{1,3}, S. M. Thomas¹. ¹Department of Surgical and Radiological Sciences, University of California, Davis, Davis, CA; ²Department of Population Health & Reproduction, School of Veterinary Medicine, University of California, Davis, Davis, CA; ³Department of Ophthalmology and Vision Science, School of Medicine, University of California, Davis, CA, Davis, CA

3909 — A0105 Galectin-1 and -3 as prospective biomarkers in keratoconus patients. Rossen M. Hazarbasanov¹, F. Costa Andrade², J. Covre¹, M. Serapião dos Santos¹, M. S. Campos¹, J. A. Gomes¹, C. Damas Gil². ¹Ophthalmology and Visual Sciences, Paulista School of Medicine, Federal University of Sao Paulo, São Paulo, Brazil; ²Morphology and Genetics, Paulista School of Medicine, Federal University of Sao Paulo, São Paulo, Brazil

3910 — A0106 Increased Posterior Collagen Fibril Spacing is the Main Contributor to the Greater Thickness of the Peripheral Human Cornea. Jan P. Bergmanson, A. R. Burns. Univ of Houston Coll of Optometry, Houston, TX

3911 — A0107 Engineering of a curved corneal stromal substitute. Noémie Parent^{1,2}, J. Bérubé^{1,2}, J. Bourget³, M. Mounier³, T. Veres³, S. Proulx^{1,2}. ¹Department of Ophthalmology, Université Laval, Quebec, QC, Canada; ²Centre CUO-LOEX, Centre de recherche du CHU de Québec, Quebec, QC, Canada; ³Functional Nanomaterials Group Leader Life Sciences Division, National Research Council of Canada, Boucherville, QC, Canada

3912 — A0108 Depth-dependent Corneal Suprastructure by Fourier-transformed Second Harmonic Generation Microscope. Sheng-Lin Lee, Y. CHEN, C. Dong. Physics, National Taiwan University, Taipei, Taiwan

3913 — A0109 Assessing the Origin of Extracellular Matrix Proteins Released from the Cornea in Response to Injury. Somshuvra Bhattacharya, G. Chandrasekher. Pharmaceutical Sciences, South Dakota State University, Brookings, SD

3914 — A0110 Fluoroquinolone pretreatment in corneal cross-linking induces stromal apoptosis. Irene C. Kuo¹, M. osaba², V. E. Reviglio². ¹Ophthalmology, Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Eye Research & Pathology Department, Catholic University of Córdoba, Córdoba, Argentina

3915 — A0111 Clinicopathologic Correlation of Secondary Corneal Amyloid Deposition. Mark P. Ghassibi, M. P. Fernandez, E. C. Alfonso, R. K. Forster, S. R. Dubovy. Bascom Palmer Eye Institute, University of Miami, Miami, FL

Exhibit/Poster Hall A0155-A0192

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Cornea

419 Ocular Surface Health and Disease

Moderators: Cintia S. De Paiva and Louis Tong

3916 — A0155 Commensal Bacteria Modulate Ocular Surface Inflammatory Response to Liposaccharide. Changjun Wang^{1,2}, F. Bian¹, Y. Xiao¹, S. Ken T¹, M. Zaheer¹, S. C. Pflugfelder¹, C. S. De Paiva¹. ¹Ophthalmology, Baylor College of Medicine, Houston, TX; ²Ophthalmology, 2nd Affiliated Hospital of Zhejiang University, School of Medicine, Eye Institute, Hangzhou, China

3917 — A0156 Assessing the ocular microbiome in severe ocular surface diseases using 16S rRNA sequencing. William S. Gange¹, J. A. Thompson¹, G. R. Kuffel², M. J. Zilliox², C. J. Joyce³, C. S. Bouchard¹. ¹Ophthalmology, Loyola University Medical Center, Chicago, IL; ²Loyola Genomics Facility, Loyola University Medical Center, Maywood, IL; ³Clinical Research Office, Loyola University Medical Center, Maywood, IL

3918 — A0157 Bacterial flora of the meibum in elderly patients with meibomian gland dysfunction. Tomo Suzuki^{1,2}, K. Maeda³, C. Sotozono¹, S. Kinoshita⁴. ¹Department of Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan; ²Ophthalmology, Kyoto City Hospital Organization, Kyoto, Japan; ³The Research Foundation for Microbial Diseases of Osaka University, Osaka, Japan; ⁴Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan

3919 — A0158 Confocal Microscopy and Optical Coherence Tomography to Evaluate Implanted Titanium Back Plate Type Keratoprosthesis. Heather A. Durkee¹, G. Amescua², A. Gibbons², F. Valenzuela², M. P. Fernandez³, M. C. Aguilar¹, N. Relhan¹, A. Arboleda¹, V. L. Perez², D. Miller³, J. A. Parel^{1,4}. ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Ocular Surface Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ³Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Ocular Microbiology Laboratory, Miami, FL; ⁴CHU Sart-Tillman, Department of Ophthalmology, University of Liège, Belgium, Belgium; ⁵Ocular Pathology Laboratory, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL

3921 — A0160 Relationship between the Ocular Surface and the Nose and Throat Microbiomes in Children. Kara M. Cavuoto, T. C. Chang, C. J. Osgian, E. C. Alfonso, A. Galor, D. Miller. Univ of Miami Sch of Medicine, Miami, FL

3922 — A0161 microRNA Nanomedicines in Sjögren's Syndrome Dry Eye Disease. Sinéad Connolly^{1,4}, Q. Pilson², S. Cryan³, J. Ni Gabhann⁴, C. Murphy^{1,2}. ¹Department of Ophthalmology, Royal College of Surgeons in Ireland, Dublin, Ireland; ²Department of Ophthalmology, Royal Victoria Eye and Ear Hospital, Dublin, Ireland; ³School of Pharmacy, Royal College of Surgeons in Ireland, Dublin, Ireland; ⁴Department of Molecular and Cellular Therapeutics, Royal College of Surgeons in Ireland, Dublin, Ireland

3923 — A0162 Reduced micro-RNA21 expression correlates with enhanced peripheral IL-23p19 levels patients with primary Sjögren's syndrome. Joan Ni Gabhann^{1,2}, Q. Pilson^{2,1}, C. Murphy^{2,1}. ¹Ophthalmology, Royal College of Surgeons in Ireland, Dublin, Ireland; ²Ophthalmology, Royal Victoria Eye and Ear Hospital, Dublin, Ireland

3924 — A0163 Factors associated with contact lens intolerance in keratoconus. Preeji Sudharman¹, F. Stapleton¹, J. Kokkinakis^{1,2}, M. Willcox¹. ¹School of Optometry and Vision Science, University of New South Wales, Randwick, NSW, Australia; ²The Eye Practice, Sydney, NSW, Australia

3925 — A0164 Efficacy of two-month treatment with cord blood serum eye drops in severe dry eye patients: an in vivo confocal microscopy study. Giuseppe Giannaccare¹, P. Versura¹, M. Buzzzi², M. Fresina¹, C. Velati², E. C. Campos¹. ¹DIMES, University of Bologna, Bologna, Italy; ²Emilia Romagna Cord Blood Bank-Transfusion Service, Alma Mater Studiorum University of Bologna and S.Orsola-Malpighi Teaching Hospital, Bologna, Italy, Bologna, Italy

3926 — A0165 A comparison of clinical characteristics, diagnostic criteria and quality of life indices in primary Sjögren's syndrome. Conor Murphy, Q. Pilson, J. Ni Gabhann. Ophthalmology, RCSI, Dublin, Ireland *CR

3927 — A0166 The use of ProKera® for the Treatment of Patients with Sjögren's Syndrome or Graft-versus-Host Disease. Vincent Palladino, N. Fuerst, I. Macchi, S. Orlin, M. Massaro-Giordano, M. Sulewski, V. Y. Bunya. Ophthalmology, University of Pennsylvania, Philadelphia, PA *CR

3928 — A0167 Comparison Of Ocular Surface Characteristics Between Patients After Laser In Situ Keratomileusis (Lasik) And Sjogren Syndrome. Carlos Medina^{1,2}, L. C. Escaf³. ¹Sociedad de Cirugia Ocular, Bogota, Colombia; ²Bogota, Unisanitas, Bogota, Colombia; ³Bolivar, Clinica Del Caribe, Barranquilla, Colombia *X

- 3929 — A0168 Pre-clinical evaluation of a novel phospholipid nanoemulsion based lubricant eye drops.** Howard Ketelson, R. Rangarajan. Novartis Pharmaceuticals Corporation, Dallas, TX *CR
- 3930 — A0169 Inkjet-Printed Graphene Sensors for the Bedside Detection of Tear Film pH.** Jackson Abou Chehade, R. Iezzi. Ophthalmology, Mayo Clinic, Rochester, MN
- 3932 — A0171 Interactions of essential fatty acids with the non-polar and polar lipids of the tear film.** Poonam Mudgil. School of Medicine, Western Sydney University, Penrith, NSW, Australia
- 3933 — A0172 Sex related difference in tear protein profile and cytokine expression begin at a young age in humans.** Piera Versura¹, M. Piazzzi², G. Giannaccare¹, M. Fresina¹, V. Forlani¹, L. Cocco², E. C. Campos¹. ¹DIMES, Ophthalmology Unit, Alma Mater Studiorum University of Bologna, Bologna, Italy; ²DIBINEM, Alma Mater Studiorum University of Bologna, Bologna, Italy
- 3934 — A0173 Tear fluid neutrophils and NETs: Implications in the pathogenesis of ocular graft vs host disease.** ILANGOVARAJU¹, S. AN¹, D. Yarma², A. Pradeep³, B. Surenkhuu¹, A. Lopez¹, A. D'costa¹, C. Mun¹, A. Ahn¹, S. Sinha¹, S. Gulati¹, S. Jain¹. ¹Ophthalmology and Visual Sciences, University of Illinois-Chicago, LIERI, Chicago, IL; ²Orthopedics, Rush University, Chicago, IL
- 3935 — A0174 The impact of BAK on the human tear film proteome: a pilot study.** Benjamin Haden, D. M. Robertson, M. Zhu. Ophthalmology, UT Southwestern, Carrollton, TX
- 3936 — A0175 Metabolic activity of human corneal epithelial cells after exposure to artificial tear-like formulations with varying pH and osmolalities.** Lakshman N. Subbaraman, Y. Hwang, L. Liu, D. McCanna, L. W. Jones. CCLR, School of Optometry & Vision Science, University of Waterloo, Waterloo, ON, Canada
- 3937 — A0176 Construction of a 2-D Photonic Crystal Glucose Sensor for Sensing Glucose in Tears.** ruan jiali¹, C. Chen², S. Qian¹. ¹eye, EENT hospital of FUDAN university, Shanghai, China; ²Shanghai Polytechnic University, Shanghai, China
- 3938 — A0177 Femtosecond Laser Assisted Pterygium Surgery (FLAPS).** Matthias Fuest^{2,1}, Y. Liu^{2,3}, G. Yam^{2,4}, M. T. Coroneo⁵, J. Mehta^{2,3}. ¹Ophthalmology, RWTH Aachen University, Aachen, Germany; ²Tissue Engineering and Stem Cell Group, Singapore Eye Research Institute, Singapore, Singapore; ³Singapore National Eye Centre, Singapore, Singapore; ⁴Eye-ACP, Duke-NUS Graduate Medical School, Singapore, Singapore; ⁵Faculty of Medicine, University of New South Wales, Sydney, NSW, Australia ✕
- 3939 — A0178 Enhancing pterygium fibroblasts culture: a serial explant technique using extracellular matrix coating.** Denise Loya, E. Camacho-Martinez, J. Zavala, J. C. Hernandez, J. E. Valdez. Ophthalmology and Visual Sciences Institute, School of Medicine of the Tecnologico de Monterrey, Monterrey, Mexico
- 3940 — A0179 Atopy and Ocular Surface Squamous Neoplasia.** Lily Zhang^{1,2}, C. Mercado², A. Galor^{2,3}, G. Wang⁴, C. Karp². ¹University of Miami Miller School of Medicine, Miami, FL; ²Department of Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ³Miami Veterans Administration Medical Center, Miami, FL; ⁴John P. Hussman Institute for Human Genomics, Miami, FL
- 3941 — A0180 Clusterin Seals the Ocular Surface Barrier Disrupted by Chemical Stress.** Shrayan K. Chintala¹, J. T. Barr², M. Fini¹, S. Jeong^{3,4}. ¹Proteris Biotech, Inc., Pasadena, CA; ²College of Optometry, The Ohio State University, Columbus, OH; ³USC Institute for Genetic Medicine, Keck School of Medicine of USC, Los Angeles, CA; ⁴USC Roski Eye Institute and Department of Ophthalmology, Keck School of Medicine, Los Angeles, CA *CR
- 3942 — A0181 Mechanism of Ocular Surface Staining by Clinical Dyes.** Shimwu Jeong^{1,6}, J. Kim², M. Ngan³, A. Webster¹, J. T. Barr⁴, P. Argueso⁵, M. Fini¹. ¹USC Institute for Genetic Medicine, Keck School of Medicine of USC, Los Angeles, CA; ²USC Dornsife College of Letters, Arts & Sciences, University of Southern California, Los Angeles, CA; ³Keck School of Medicine of USC, Los Angeles, CA; ⁴The Ohio State University College of Optometry, Columbus, OH; ⁵The Schepens Eye Research Institute, Massachusetts Eye & Ear and Department of Ophthalmology, Harvard Medical School, Boston, MA; ⁶USC Roski Eye Institute and Department of Ophthalmology, Keck School of Medicine of USC, Los Angeles, CA *CR
- 3943 — A0182 Amniotic Membrane Transplantation for Ocular Involvement in Mycoplasma Induced Rash and Mucositis.** Samantha Herretes¹, A. Cham¹, M. Cossack¹, E. Stahl^{1,2}. ¹Ophthalmology, University of Missouri - Kansas City, Kansas City, MO; ²Ophthalmology, University of Kansas, Kansas City, KS *CR
- 3944 — A0183 Microbiological contamination of amniotic membrane tissue before and after decontamination.** Henning Thomasen¹, K. steuhl¹, D. Meller². ¹Department of Ophthalmology, University Hospital Essen, Essen, Germany; ²Department of Ophthalmology, University of Jena, Jena, Germany *CR
- 3945 — A0184 The expression of prostaglandin E2 receptor 3 in the eyelid epidermis of patients with Stevens-Johnson syndrome/toxic epidermal necrolysis.** Hiroki Mieno, M. Ueta, K. Yamada, Y. Yamanaka, T. Nakayama, A. Watanabe, S. Kinoshita, C. Sotozono. Kyoto Prefectural University of Medicine, Kyoto, Japan
- 3946 — A0185 Influence of lipopolysaccharide on proinflammatory gene expression in human corneal, conjunctival and meibomian gland epithelial cells.** Afsun Sahin^{1,2}, W. R. Kam², R. R. Darabad², Y. Liu², D. A. Sullivan². ¹Department of Ophthalmology, Eskisehir Osmangazi University Medical School, Eskisehir, Turkey; ²Schepens Eye Research Institute, Boston, MA
- 3947 — A0186 Characterization of inflammatory changes in lacrimal glands in a mouse model of type 2 diabetes.** Laura Soriano-Romani^{1,2}, O. Galvin³, R. Jones³, S. Cheetham³, Y. Diebold^{1,2}. ¹Ocular Surface Group, IOBA - University of Valladolid, Valladolid, Spain; ²Biomedical Research Networking Center on Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), Valladolid, Spain; ³RenaSci Ltd, Nottingham, United Kingdom
- 3948 — A0187 The Role of the Oxytocin and Secretin Receptors in Modulating Inflammation in Ocular Surface Tissues.** Aliaa Abdelhakim¹, M. Anwar², L. Rosko², J. Todaro¹, T. Nagasaki¹, R. Ludwig³, M. Welch^{2,3}, B. J. Winn¹. ¹Harkness Eye Institute, Columbia University Medical Center, New York, NY; ²Department of Psychiatry, Columbia University Medical Center, New York, NY; ³Department of Pediatrics, Columbia University Medical Center, New York, NY
- 3949 — A0188 Activation of the brain in normal subjects in response to an ocular surface stimulus.** Stephanie Cox¹, M. Bolding², J. J. Nichols¹. ¹School of Optometry, University of Alabama at Birmingham, Hoover, AL; ²Department of Radiology, University of Alabama at Birmingham, Birmingham, AL
- 3950 — A0189 Comparative nerve architecture and CGRP content between rat and guinea pig corneas.** Jiucheng He, T. L. PHAM, H. E. Bazan. Ophthalmology & Neuroscience Ctr, LSU Health Sciences Center, New Orleans, LA
- 3951 — A0190 A Novel Experimental Model for Corneal Neuropathic Pain: The Ciliary Nerve Ligation Approach.** Yashar Seyed-Razavi¹, M. J. Lopez¹, T. Yamaguchi³, P. Hamrah^{1,2}. ¹Center for Translational Ocular Immunology, Ophthalmology, Tufts Medical Center, Boston, MA; ²Cornea Service, New England Eye Center, Ophthalmology, Tufts Medical Center, Boston, MA; ³Ophthalmology, Tokyo Dental College, Ichikawa General Hospital, Chiba, Japan
- 3952 — A0191 Quantifying UV light absorption and exposure within various structures of the eye.** Helena Gali, H. Fukuoka, N. A. Afshari. Shiley Eye Institute, University of California San Diego, La Jolla, CA
- 3953 — A0192 Detectability of Belmonte pneumatic corneal chemical stimuli in asymptomatic participants.** Varadharajan Jayakumar, T. L. Simpson. Optometry & Vision Science, University of Waterloo, Waterloo, ON, Canada

Exhibit/Poster Hall A0241-A0259

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Anatomy and Pathology/Oncology

420 Molecular mechanisms in uveal melanoma

Moderator: Zelia M. Correa

3954 — A0241 Characterization and prognostic significance and of small epithelioid cell populations in uveal melanoma. Pablo Zoroquain, J. Mansure, C. Garcia, M. Saornil, W. April, M. N. Burnier. Pathology, McGill University, Montreal, QC, Canada

3955 — A0242 Expression of anaplastic lymphoma kinase in uveal melanoma. Jacqueline Coblentz, P. T. Logan, A. T. Dias, E. Esposito, J. Mansure, M. N. Burnier. Ocular Pathology, McGill University, Westmount, QC, Canada

3956 — A0243 The effect of SIRT1 inhibition by EX527 on uveal melanoma cells. Debra-Meghan Sanft^{1,2}, S. Aldrees², S. Bergeron², J. Lasiste², D. Miyamoto², M. N. Burnier^{2,1}. ¹Ophthalmology, McGill University, Montreal, QC, Canada; ²MUHC-McGill University Ocular Pathology Laboratory, Montreal, QC, Canada

3957 — A0244 Searching for genes predisposing to bilateral Uveal Melanoma (bUM) by exome sequencing of three unrelated cases. Antonio Pineiro¹, P. Silva², L. Loidi², M. Santiago-Varela¹, M. F. Bande¹, M. Pardo³, M. Blanco¹. ¹Unidad de Retina Quirúrgica y Tumores Intraoculares del Adulto, Complejo Hospitalario Universitario de Santiago, Santiago de Compostela, Spain; ²Fundación Xenómica, Santiago de Compostela, Spain; ³Grupo de Obesidómica, Fundación Ramón Domínguez, Santiago de Compostela, Spain

3958 — A0245 MicroRNA-1 Regulates GNAQ Expression in Uveal Melanoma Cells. Dongsheng Yan¹, L. Wang¹, J. Wang¹, X. Chen¹, D. Hu². ¹School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China; ²The New York Eye and Ear Infirmary, New York Medical College, New York, NY

3959 — A0246 Microenvironmental Regulation of the Liver Inflammasomes in Uveal Melanoma Favors Metastatic Growth. Vanessa M. Morales^{1,2}, Z. K. Goldsmith¹, N. Patel¹, B. A. King¹, H. E. Grossniklaus³, M. W. Wilson^{1,4}. ¹Ophthalmology, Hamilton Eye Institute, University of Tennessee Health Science Center, Memphis, TN; ²Microbiology, Immunology and Biochemistry, UTHSC, Memphis, TN; ³Ophthalmology, Emory University, Atlanta, GA; ⁴Surgery, St. Jude Childrens Research Hospital, Memphis, TN

3960 — A0247 PKC-delta as a Survival Regulator in Uveal Melanoma. Bradley Gao¹, M. Kibe¹, K. Yuan¹, H. E. Grossniklaus², M. W. Wilson^{1,3}, V. M. Morales^{1,4}. ¹Ophthalmology, Hamilton Eye Institute, UTHSC, Memphis, TN; ²Ophthalmology, Emory University, Memphis, TN; ³Surgery, St. Jude Childrens Research Institute, Memphis, TN; ⁴Microbiology, Immunology and Biochemistry, UTHSC, Memphis, TN

3961 — A0248 Evaluation of Germline Variants in the Promotor Region of Macrophage Migration Inhibitory Factor (MIF) in Uveal Melanoma Patients. Stanley Park, B. Romney, K. Walker, R. Pilarski, L. Schoenfeld, F. Davidorf, C. M. Cebulla, M. H. Abdel-Rahman. Ophthalmology, Ohio State, Columbus, OH

3962 — A0249 Comparison of FISH and Cytogenomic Microarray Analysis for Detection of Chromosomal Abnormalities in Uveal Melanoma. Faris Hashem^{1,2}, N. Hariri^{3,4}, J. Solomon³, J. Thorson³, M. Dell'Aquila^{5,6}, B. Korn¹, D. Kikkawa¹, M. H. Goldbaum¹, J. Lin^{1,3}. ¹Ophthalmology, Shiley Eye Institute, University of California San Diego, La Jolla, CA; ²Ophthalmology, University of Tabuk, Tabuk, Saudi Arabia; ³Pathology, University of California San Diego, La Jolla, CA; ⁴Pathology, University of Tabuk, Tabuk, Saudi Arabia; ⁵Medical Genetics, Medicine, University of California San Diego, La Jolla, CA; ⁶Cytogenetics/Cytogenomics Laboratory, University of California San Diego, La Jolla, CA

3963 — A0250 Differential expression of DNA repair genes in prognostically-good and bad Uveal Melanoma. Mehmet Dogrusoz¹, A. Ruschel Trasel², S. I. van Pelt¹, S. G. van Duinen³, P. A. van der Velden¹, G. P. Luyten¹, M. J. Jager¹. ¹Ophthalmology, LUMC, The Hague, Netherlands; ²Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil; ³Pathology, LUMC, Leiden, Netherlands

3964 — A0251 Metformin inhibits survival, migration, and vascular endothelial growth factor production in uveal melanoma cells. Bruna Duarte Moron de Andrade, J. Lasiste, D. Miyamoto, C. Pancini Rezende, C. Mastromonaco, M. N. Burnier. MUHC - McGill University Ocular Pathology Laboratory, Montreal, QC, Canada

3965 — A0252 Protein kinase signaling pathways in metastatic uveal melanoma. Jose M. M. Caminal¹, E. Cabre², A. Vinyals², M. Goma³, J. Piulats⁴, M. Varela³, D. Lorenzo¹, O. Subira¹, M. Paules³, L. Arias¹, M. Rubio¹, E. Cobos¹, P. Garcia-Bru¹, B. Medeiros¹, N. Padron¹, A. Fabra². ¹Ophthalmology, University Hospital of Bellvitge, Hospitalet de Llobregat, Spain; ²Molecular Oncology, IDIBELL, Hospitalet de Llobregat, Spain; ³Pathology, University Hospital of Bellvitge, Hospitalet de Llobregat, Spain; ⁴Oncology, Catalan Institute of Oncology, Hospitalet de Llobregat, Spain

3966 — A0253 Outcomes of quercetin treatment on the metastatic profile of a uveal melanoma cell line. Laurenz L. Sonnentag, A. Kraus, M. Ranjbar, J. Lueke, S. Grisanti, A. Tura. Department of Ophthalmology, University of Luebeck, Luebeck, Germany

3967 — A0254 Expression of the programmed cell death ligand 1 (PD-L1) on uveal melanoma cells with Monosomy-3. Aysegul Tura, A. Kraus, M. Ranjbar, J. Lueke, S. Grisanti. Department of Ophthalmology, University of Luebeck, Luebeck, Germany

3968 — A0255 Uncovering the Mechanisms Behind Hepatic Microenvironment Remodeling in Metastatic Uveal Melanoma. Ioana Fugaru^{1,2}, J. Bérubé², N. Babchia³, C. Coulouarn³, F. Mouriaux³, S. Landreville^{1,2}. ¹Université Laval, Quebec, QC, Canada; ²Centre de Recherche du CHU de Québec-Université Laval, Quebec, QC, Canada; ³INSERM UMR991, Université de Rennes 1, Rennes, France

3969 — A0256 Liver Metastasis in Uveal Melanoma: Trends in Detection and Treatment. Lucy Xu, A. D. Singh. Cole Eye Institute, Cleveland, OH

3970 — A0257 Local recurrence of uveal melanoma increases the risk of metastatic disease in patients with abnormal copy number of chromosome 8. Mette Bagger^{1,2}, C. A. Espensen¹, M. T. Andersen², M. K. Andersen², S. Heegaard¹, J. F. Kiilgaard¹. ¹Ophthalmology, Copenhagen University Hospital, Gentofte, Denmark; ²Clinical Genetics, Copenhagen University Hospital, Copenhagen, Denmark

3971 — A0258 Hepatic arterial melphalan perfusion of liver predominant uveal melanoma metastasis. Annahita Amireskandari¹, G. Beasley², A. Kunkler¹, S. Kondapalli¹, T. Olencki³, M. Bloomston⁴, C. Schmid², M. H. Abdel-Rahman¹, R. Pilarski², F. Davidorf², C. M. Cebulla¹. ¹Ophthalmology, Ohio State University, Columbus, OH; ²Surgical Oncology, Ohio State University, Columbus, OH; ³Medical Oncology, Ohio State University, Columbus, OH; ⁴21st Century Oncology, Fort Myers, FL; ⁵Division of Human Genetics, Ohio State University, Columbus, OH

3972 — A0259 deciphering the role of extracellular vesicles in human uveal melanoma. Maria Santiago-Varela¹, D. Perez-Sotelo², N. Lago-Baameiro², M. F. Bande¹, S. Bravo², F. Ruiz-Oliva¹, M. Blanco¹, M. Pardo², A. Piñero¹. ¹Hospital de Conxo, Santiago de Compostela, Spain; ²Fundacion Ramon Dominguez, Santiago de Compostela, Spain

Exhibit/Poster Hall A0282-A0336

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Glaucoma**421 Imaging: Optic Nerve Head and Nerve Fiber Layer***Moderators: Xiang-Run Huang and Christian Y. Mardin*

3973 — A0282 Smartphone-based optic nerve head evaluation: mydriasis is what makes the difference. Maximilian W. Wintergerst, C. K. Brinkmann, R. P. Finger. Department of Ophthalmology, University of Bonn, Bonn, Germany *CR

3974 — A0283 Comparison between a Portable Electronic Device (PED) and Optical Coherence Tomography (OCT) to determine Cup-to-Disc Ratio (CDR) through a non-inferiority trial with masked data analysis. Andrea Sarmento^{1,2}, A. Sarmento¹, R. P. Lira^{1,2}. ¹UFPE, Recife, Brazil; ²Clinica Oftalmo Zona Sul, Recife, Brazil ✕

3975 — A0284 Philadelphia Telemedicine Glaucoma Detection and Follow-up Study: Methods and Visit 1 Results. Lisa A. Hark^{3,82}, L. Katz^{3,82}, M. Waisbourd³, J. S. Myers^{3,82}, D. Johnson¹, S. S. Fudemberg^{3,82}, A. Mantravadi^{3,82}, J. D. Henderer⁴, T. Dan Bui⁶, J. Lee⁵, J. A. Haller^{1,2}. ¹Research, Wills Eye Hospital, Lafayette Hill, PA; ²Ophthalmology, Thomas Jefferson University, Philadelphia, PA; ³Glaucoma Research, Wills Eye Hospital, Philadelphia, PA; ⁴Ophthalmology, Temple University Hospital, Philadelphia, PA; ⁵Drexel University School of Medicine, Philadelphia, PA; ⁶Sidney Kimmel Medical College, Philadelphia, PA ✕

3976 — A0285 Philadelphia Telemedicine Glaucoma Detection and Follow-Up Study: Unreadable Image Results at Visit 2. Sanika Udyaver¹, L. A. Hark², J. S. Myers², S. S. Fudemberg², R. Finkelman³, A. Mantravadi², J. D. Henderer⁴, D. Lee², B. Abramowitz², M. Mazon², J. A. Haller², L. Katz². ¹Sidney Kimmel Medical College, Philadelphia, PA; ²Glaucoma Research, Wills Eye Hospital, Philadelphia, PA; ³Muhlenberg College, Allentown, PA; ⁴Temple University, Philadelphia, PA ✕

3977 — A0286 Improved retinal imaging and through-put time in Tele-glaucoma versus traditional care: New Jersey Health Foundation prospective clinical trial. Nicole Mendez¹, S. Kommana², B. Szirth¹, A. S. Hourti¹. ¹Ophthalmology, Rutgers New Jersey Medical School, Newark, NJ; ²Temple University, Philadelphia, PA

3978 — A0287 Detecting glaucoma using the portable Optovue iVue SD-OCT: implications for an improved method in community screenings. Chris Cho¹, M. M. Liu¹, H. A. Quigley², J. L. Jefferys², A. W. Scott². ¹Johns Hopkins University School of Medicine, Baltimore, MD; ²Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, MD *CR

3979 — A0288 Novel atlas-based score for early glaucoma detection and stratification. Fantin Girard¹, F. Cheriet¹, M. Mekki², S. Yahiaoui², H. Chakor². ¹Polytechnique Montreal, Montreal, QC, Canada; ²DIAGNOS Medical Algeria, Alger, Algeria

3980 — A0289 Optic Disc Image Subtraction Detects Glaucoma Progression. Navid Amini, R. Alizadeh, N. Parivissut, E. Kim, K. Nouri-Mahdavi, J. Caprioli. Ophthalmology, Jules Stein Eye Institute at UCLA, Los Angeles, CA

3981 — A0290 Now you see it, now you don't: good within- and between-observer agreement in detecting disc haemorrhages with a Heidelberg retina tomograph image flicker method. Jibran Mohamed-Noriega^{1,2}, C. Gizzi², I. Treessi², T. Togano², C. Schweitzer², T. Ho², D. Garway-Heath². ¹Oftalmologia, Universidad Autónoma de Nuevo León, Monterrey, Mexico; ²NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom *CR

3982 — A0291 A Novel Quantitative Approach for Analyzing Glaucomatous Disc Hemorrhages: Identifying the Source of the Blood. Jonathan Chou¹, C. C. Cousins¹, J. B. Miller¹, L. Q. Shen¹, B. J. Song¹, M. O. Gordon², M. A. Kass², L. R. Pasquale¹. ¹Ophthalmology, Harvard Medical School/Massachusetts Eye & Ear, Boston, MA; ²Washington University, St. Louis, MO

3983 — A0292 Patterns, Percentage and Percentile of RNFL around the Bruchs Membrane in POAG. Ganesh P. Ambekar, H. Rathi, V. Nangia. Suraj eye institute, Nagpur, India

3984 — A0293 Structural parameters associated with location of peaks of peripapillary retinal nerve fiber layer thickness in young healthy eyes. Takehiro Yamashita¹, R. Asaoka², Y. Kii¹, H. Terasaki^{1,3}, H. Murata², T. Sakamoto¹. ¹Ophthalmology, Kagoshima University, Kagoshima, Japan; ²Ophthalmology, The University of Tokyo, Tokyo, Japan; ³Doheny Eye Institute, Los Angeles, CA f

3985 — A0294 Trend-based analysis of retinal nerve fiber layer thickness by optical coherence tomography in eyes with optic disc torsion. Kyeong Ik Na, Y. Kim, K. Park, J. Jeoung. Seoul National University Hospital, Seoul, Korea (the Republic of)

3986 — A0295 Strong influence of ocular, cardiovascular, anthropometric and lifestyle parameters on retinal nerve fiber layer thickness detected in the Gutenberg Health Study (GHS). Stefan Nickels¹, J. Lamparter^{1,2}, I. Schmidtman³, A. K. Schuster¹, P. S. Wild^{4,5}, H. Binder³, K. J. Lackner⁶, M. E. Beutel⁷, T. Münzel⁸, N. Pfeiffer¹, E. M. Hoffmann¹. ¹Department of Ophthalmology, University Medical Center Mainz, Mainz, Germany; ²Private practice “AugenZentrum Leinfelden”, Leinfelden-Echterdingen, Germany; ³Institute for Medical Biostatistics, Epidemiology and Informatics, University Medical Center Mainz, Mainz, Germany; ⁴Preventive Cardiology and Preventive Medicine, University Medical Center Mainz, Mainz, Germany; ⁵University Medical Center Mainz, Center for Thrombosis and Hemostasis (CTH), Mainz, Germany; ⁶Institute for Clinical Chemistry and Laboratory Medicine, University Medical Center Mainz, Mainz, Germany; ⁷Department of Psychosomatic Medicine and Psychotherapy, University Medical Center Mainz, Mainz, Germany; ⁸Center for Cardiology I, University Medical Center Mainz, Mainz, Germany

3987 — A0296 Improved diagnostic performance of optical coherence tomography with normalized deviations from individualized compared to age-corrected expected values of retinal nerve fiber layer thickness. Ivania Pereira^{1,2}, H. Resch², L. Wassermann², S. Holzer², G. Fischer¹, C. Vass². ¹CeMSIIS/ MBM, Medical University Vienna, Vienna, Austria; ²Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria *CR

3988 — A0297 Individualized normal limits of retinal nerve fiber layer measurement improve diagnostic performance of optical coherence tomography. Clemens Vass¹, I. Pereira^{2,1}, H. Resch¹, L. Wassermann¹, S. Holzer¹, G. Fischer². ¹Department of Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria; ²Center for Medical Statistics, Informatics and Intelligent Systems, Vienna, Austria *CR

3989 — A0298 Determinants of inter-eye asymmetry in circumpapillary retinal nerve fiber layer (cpRNFL) thickness in healthy and glaucoma patients. Lynn Shi^{1,2}, C. De Moraes³, D. Weng², R. Rajshekhar², R. Ritch⁴, D. Hood^{2,3}. ¹Ophthalmology, Columbia University College of Physicians and Surgeons, New York, NY; ²Psychology, Columbia University, New York, NY; ³Ophthalmology, Columbia University, New York, NY; ⁴Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY *CR

3990 — A0299 Effect of pupil dilation on retinal nerve fiber layer measurements in patients with glaucoma. Ji Liu¹, P. Ryg^{1,2}. ¹Ophthalmology, Yale University, New Haven, CT; ²Ophthalmology, University of California San Francisco, San Francisco, CA

3991 — A0300 The Effects of Refractive Error and Related Optic Nerve Head (ONH) Anatomical Parameters on Optical Coherence Tomography (OCT) Retinal Nerve Fiber Layer (RNFL) Deviation Map. *Neda Baniasadi^{1,2}, M. Wang¹, H. Wang^{1,3}, Q. Jin⁴, M. Mahd², L. Q. Shen⁵, L. R. Pasquale², T. Elze¹.* ¹Ophthalmology, Schepens Eye Research Institute, Mass. Eye and Ear, Harvard Medical School, Boston, MA; ²Biomedical Engineering and Biotechnology, University of Massachusetts, Lowell, MA; ³Institute for Psychology and Behavior, Jilin University of Finance and Economics, Changchun, China; ⁴Jilin University, Changchun, China; ⁵Ophthalmology, Mass. Eye and Ear, Harvard Medical School, Boston, MA *CR

3992 — A0301 Three year follow-up of serial structural and function testing in high myopes without elevated intraocular pressure. *Tiffany J. Au, M. Lee, K. Singh, R. Chang.* Stanford University, Stanford, CA

3993 — A0302 OCT can be used to assess optic nerve damage in most eyes with high myopia without the need for a high myopia normative group. *Zane Z. Zemborain¹, R. Jarukasetphon², D. Xin¹, S. Raouf¹, R. Ritch², D. Hood^{1,3}.* ¹Psychology, Columbia University, New York, NY; ²Ophthalmology, New York Eye and Ear, New York, NY; ³Ophthalmology, Columbia University College of Physicians and Surgeons, New York, NY *CR

3994 — A0303 Defining RNFB abnormality in peripapillary OCT en face imaging. *Bright S. Ashimatey, W. H. Swanson, B. J. King, S. A. Burns.* Optometry, Indiana University School of Optometry, Bloomington, IN *CR

3995 — A0304 Nerve Fiber Flux Analysis of Wide-Field Volumetric Scans by Swept-Source Optical Coherence Tomography. *Ou Tan, L. Liu, D. Huang.* Ophthalmology, Oregon Health & Science Univ, Portland, OR *CR, x²

3996 — A0305 Swept-source optical coherence tomography-based analysis of age-related changes in the peripheral retinal nerve fiber layer thickness. *Gozde Hondur^{1,2}, E. Goktas¹, L. Al-Aswad¹, G. Tezel¹.* ¹Ophthalmology, Columbia University, New York, NY; ²Glaucoma Service, Uluçanlar Ophthalmic Research and Training Hospital, Ankara, Turkey

3997 — A0306 Retinal Nerve Fiber Layer Defects on Ultrawide Field Imaging and Spectral-Domain Optical Coherence Tomography: Significance for Glaucoma Detection in Adult Diabetic Patients. *Brian J. Song^{1,3}, A. Hoguet^{1,3}, L. R. Pasquale^{1,3}, P. S. Silva^{2,3}, L. P. Aiello^{2,3}.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ophthalmology, Joslin Diabetes Center, Boston, MA; ³Ophthalmology, Harvard Medical School, Boston, MA *CR

3998 — A0307 Test-retest reproducibility for arcuate retinal nerve fiber layer volume, area, and thickness. *Anny Rodriguez¹, W. J. Feuer¹, G. R. Gameiro¹, S. Pachon¹, P. Monsalve¹, J. Mwanza², D. L. Budenz², L. E. Vazquez¹.* ¹Ophthalmology, University of Miami, Miami, FL; ²Ophthalmology, University of North Carolina, Chapel Hill, NC *CR

3999 — A0308 Computational Features Derived from Retinal Nerve Fiber Layer (RNFL) Thickness Maps in Detecting and Monitoring Glaucoma. *Mark Christopher, A. Belghith, C. Bowd, M. H. Goldbaum, L. J. Saunders, F. Medeiros, R. N. Weinreb, L. M. Zangwill.* Hamilton Glaucoma Center, Shiley Eye Institute, Department of Ophthalmology, University of California San Diego, La Jolla, CA *CR

4000 — A0309 A transparent deep learning method for diagnosis of early glaucoma with optical coherence tomography. *Wenji Wang¹, H. Zhu^{1,3}, Y. Wang², D. Garway-Heath³.* ¹State Key Laboratory of Software Development Environment, Beihang University, Beijing, China; ²Beijing Tongren Hospital, Capital Medical University, Beijing, China; ³National Institute for Health Research Biomedical Research Centre for Ophthalmology, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom *CR

4001 — A0310 Resolution in estimation of nerve fiber bundle loss as an angular segment of Pigment Epithelium Inner limit of the retina Minimal Distance (PIMD). *Camilla Sandberg Melin^{3,1}, F. Malmberg², P. G. Soderberg³.* ¹Center for Research and Development Region Gavleborg, Uppsala University, Gävle, Sweden; ²Center for Image Analysis, Dept. of Information Technology, Uppsala university, Uppsala, Sweden; ³Gullstrand lab, Ophthalmology, Dept. of Neuroscience, Uppsala University, Uppsala, Sweden

4002 — A0311 Angular structure of Pigment Epithelium Inner limit of the retina Minimal Distance (PIMD) in the optic nerve head allows detection of local nerve fiber bundle loss without calibration to the retinal structure. *Per G. Soderberg¹, F. Malmberg², C. Sandberg Melin^{1,3}.* ¹Ophthalmology, Dept of Neuroscience, Uppsala University, Uppsala, Sweden; ²Information technology, Uppsala University, Stockholm, Sweden; ³Ophthalmology, Gävle sjukhus, Gävle, Sweden

4003 — A0312 Relationship between Minimum-Rim Width at Bruch's Membrane Opening and Paracentral Visual Field Loss in Glaucoma. *Dian Li^{1,4}, M. Wang¹, T. Elze¹, E. I. Paschalis^{1,2}, E. Taniguchi³, D. Li³, A. V. Turalba¹, L. R. Pasquale^{1,6}, L. Q. Shen¹.* ¹Ophthalmology, Massachusetts Eye and Ear, Boston, MA; ²Boston Keratoprosthesis Laboratory, Massachusetts Eye and Ear - Schepens Eye Research Institute, Harvard Medical School, Boston, MA; ³Eye Hospital of Blumenau, Blumenau, Brazil; ⁴Schepens Eye Research Institute, Harvard Medical School, Boston, MA; ⁵Ophthalmology, Beijing China-Japan Friendship Hospital, Beijing, China; ⁶Channing Division of Network Medicine, Brigham and Women's Hospital, Boston, MA *CR

4004 — A0313 Difference of Primary Angle-Closure Glaucoma and Normal-Tension Glaucoma by Optical Coherent Tomography and Confocal Scanning Laser Ophthalmoscopy. *Sungsoon Hwang¹, M. Subramanian², E. Lee¹, S. Kim¹, J. Han¹, C. Kee¹.* ¹Ophthalmology, Samsung Medical Center, Seoul, Korea (the Republic of); ²Brian Allgood Army Community Hospital, Seoul, Korea (the Republic of)

4005 — A0314 Optic nerve head topography and peripapillary retinal nerve fibre layer (RNFL) thickness in patients with primary open angle glaucoma (POAG) and non arteritic anterior ischemic optic neuropathy (NAION) measured with SD-OCT. *Hemma Resch², L. Wassermann², I. Pereira¹, C. Mitsch², C. Vass².* ¹Center for Medical Statistics Informatics and Intelligent Systems, Section for Medical Information Management and Imaging, Medical University of Vienna, Austria, Vienna, Austria; ²Ophthalmology and Optometry, Medical University of Vienna, Austria, Vienna, Austria *CR

4006 — A0315 Asymmetry of optic nerve head parameters measured by confocal scanning laser ophthalmoscopy in myopic anisometropic eyes. *geng wang.* Shantou University and Chinese University of Hong Kong Joint Shantou International Eye Center, Shantou, China

4007 — A0316 Interocular asymmetry of minimum rim width and retinal nerve fiber layer thickness in healthy Brazilian individuals. *Camila Zangalli¹, A. S. Reis¹, J. R. Vianna², J. C. Vasconcellos¹, V. P. Costa¹.* ¹Glaucoma, University of Campinas, Campinas, Brazil; ²Dalhousie University, Halifax, NS, Canada

4008 — A0317 Relationship between Bruch's membrane opening of the optic nerve head and visual field severity in patients with open angle glaucoma in a latin population. *Daniela Alvarez, J. Gamiochipi-Arjona, P. Urzua-DeLaLuz, J. Jimenez-Roman.* Glaucoma, Asociacion Para Evitar la Ceguera en Mexico, IAP, Mexico City, Mexico

- 4009 — A0318 Reproducibility of Bruch's membrane opening-minimum rim width measurements with Spectralis optical coherence tomography.** Jiwoong Lee, K. Park. Ophthalmology, Pusan National University College of Medicine, Busan, Korea (the Republic of)
- 4010 — A0319 Automatic Detection of the Optic Nerve Head in Line Scanning Ophthalmoscope Images in CIRRUS™ HD-OCT.** Ali Fard, H. Bagherinia, S. Stock, J. Straub. R&D, Carl Zeiss Meditec, Dublin, CA *CR
- 4011 — A0320 Comparison of Bruch's membrane opening and scleral ring disc margin detection methods using DRI OCT Triton scan data.** Ying Dong, Q. Yang, W. Huang, C. A. Reisman. Topcon Adv Biomed Imaging Lab, Topcon Medical Systems, Oakland, NJ *CR
- 4012 — A0321 Non-retinal nerve fibre layers within the optic nerve head neuroretinal rim.** Lucas A. Torres, J. R. Vianna, F. S. Jarrar, Z. Butty, G. P. Sharpe, D. M. Hutchison, M. T. Nicolela, B. C. Chauhan. Dalhousie University, Halifax, NS, Canada *CR
- 4013 — A0322 Lamina cribrosa and optic nerve head geometry in older normal eyes with different levels of myopia.** Sara Nourani, A. S. Bhakta, D. Marrelli, H. M. Queener, N. B. Patel, J. Porter. College of Optometry, University of Houston, Houston, TX *CR
- 4014 — A0323 In vivo 3D analysis of the lamina cribrosa in glaucoma eyes.** Zwillingger Stephanie^{1,2}, F. Rossant³, J. A. Sahel¹, C. Baudouin^{2,1}, M. Paques¹. ¹Clinical Investigation Center 1423, Quinze-Vingts hospital, Paris, France; ²Ophthalmology III, Quinze-Vingts hospital, Paris, France; ³Lisite, ISEP, Issy-les-Moulineaux, France *CR
- 4015 — A0324 The African Descent and Glaucoma Evaluation Study (ADAGES): Racial differences in the posterior displacement of the anterior lamina cribrosa surface depth.** Akram Belghith¹, C. A. Girkin², R. N. Weinreb¹, F. Medeiros¹, C. Bowd¹, J. M. Liebmann³, M. A. Fazio², L. M. Zangwill¹. ¹Hamilton Glaucoma Center, University of California San Diego, San Diego, CA; ²School of Medicine, University of Alabama at Birmingham, Birmingham, AL; ³Bernard and Shirlee Brown Glaucoma Research Laboratory, Harkness Eye Institute, Columbia University Medical Center, New York, NY *CR
- 4016 — A0325 Factors Influencing OCT Central Anterior Lamina Cribrosa Surface Depth within a Normal Population: A Multi-Center Study.** Haomin Luo^{1,3}, H. Yang¹, S. K. Gardiner², C. Hardin¹, G. Sharpe⁴, J. Caprioli⁵, S. Demirel², C. A. Girkin⁶, J. M. Liebmann⁷, C. Y. Mardin⁸, H. A. Quigley⁹, A. Scheuerle¹⁰, B. Fortune², B. C. Chauhan⁴, C. F. Burgoyne¹. ¹Optic Nerve Head Research Lab, Devers eye Institute, Portland, OR; ²Discoveries in Sight Research Labs, Devers Eye Institute, Portland, OR; ³The 2nd Xiangya Hospital of Central South University, Changsha, China; ⁴Ophthalmology and Visual Sciences, Dalhousie University, Halifax, NS, Canada; ⁵Glaucoma, Jules Stein Eye Institute, UCLA, Los Angeles, CA; ⁶Ophthalmology, Univ of Alabama at Birmingham, Birmingham, AL; ⁷Ophthalmology, Columbia University Medical Center, New York, NY; ⁸Ophthalmology, University Erlangen-Nurnberg, Nurnberg, Germany; ⁹Ophthalmology, Johns Hopkins Wilmer Eye Inst, Baltimore, MD; ¹⁰Ophthalmology, University of Heidelberg, Heidelberg, Germany *CR
- 4017 — A0326 Correlation among optical properties, demography and biometric parameters in optic nerve head by Jones matrix OCT.** Yoshiaki Yasuno^{1,2}, Y. Hong^{1,2}, S. Makita^{1,2}, D. Kasaragod^{1,2}, A. C. Chan^{1,2}, M. Miura^{3,8,2}. ¹Computational Optics Group, Univ. Tsukuba, University of Tsukuba, Tsukuba, Japan; ²Computational Optics and Ophthalmology Group, Tsukuba, Japan; ³Dept Ophthalmology, Tokyo Med Univ, Ibaraki Med Ctr, Ami, Japan *CR
- 4018 — A0327 Comparison of Prelaminar Tissue Thickness and Anterior Prelaminar Depth in between Glaucoma Patients with and without Lamina Dot Sign.** Won June Lee, Y. Kim, J. Jeoung, K. Park. Ophthalmology, Seoul National University Hospital, Seoul, Korea (the Republic of)
- 4019 — A0328 The association between prelaminar tissue thickness and peripapillary choroidal thickness in untreated normal-tension glaucoma patients.** Ji-Hye Park¹, C. Yoo¹, J. Jung¹, M. J. Girard², J. Mari³, Y. Kim¹. ¹Ophthalmology, Korea University Medical Center, Seocho-gu, Seoul, Korea (the Republic of); ²National University of Singapore, Singapore, Singapore; ³University of French Polynesia, Tahiti, French Polynesia
- 4020 — A0329 Factors Influencing OCT Peripapillary Choroidal Thickness (ppCT) in a Normal Population: A Multi-Center Study.** Hongli Yang¹, H. Luo^{1,2}, S. K. Gardiner⁵, C. Hardin¹, G. Sharpe³, J. Caprioli⁴, S. Demirel⁵, C. A. Girkin⁶, J. M. Liebmann⁷, C. Y. Mardin⁸, H. A. Quigley⁹, A. Scheuerle¹⁰, B. Fortune², B. C. Chauhan³, C. F. Burgoyne¹. ¹Optic Nerve Head Research Lab, Devers Eye Institute, Portland, OR; ²The 2nd Xiangya Hospital of Central South University, Changsha, China; ³Department of Ophthalmology and Visual Sciences, Dalhousie University, Halifax, NS, Canada; ⁴Glaucoma, Jules Stein Eye Institute, UCLA, Los Angeles, CA; ⁵Devers Eye Institute, Portland, OR; ⁶Ophthalmology, Univ of Alabama at Birmingham, Birmingham, AL; ⁷Ophthalmology, Columbia University Medical Center, New York, NY; ⁸Ophthalmology, University Erlangen-Nurnberg, Nuremberg, Germany; ⁹Ophthalmology, Johns Hopkins Wilmer Eye Institute, Baltimore, MD; ¹⁰Ophthalmology, University of Heidelberg, Heidelberg, Germany *CR
- 4021 — A0330 Prevalence of Peripapillary Atrophy Defined by Optical Coherence Tomography in an Elderly Chinese Population.** Ya Xing Wang¹, Q. Zhang¹, L. Xu¹, J. B. Jonas². ¹Beijing Institute of Ophthalmology, Beijing Tongren Hospital, Beijing, China; ²Department of Ophthalmology, Medical Faculty Mannheim, Mannheim, Germany
- 4022 — A0331 Peripapillary choroidal thickness in pseudoexfoliation glaucoma versus primary open-angle glaucoma.** Ivo F. Gama^{1,2}, L. D. Almeida^{1,2}, I. Gonçalves^{1,2}, M. Monteiro-Grillo^{1,2}. ¹Ophthalmology, Hospital Santa Maria - Centro Hospitalar Lisboa Norte, Lisbon, Portugal; ²University of Lisbon, Faculty of Medicine of Lisbon, Lisbon, Portugal
- 4024 — A0333 Retinal and Optic Nerve Head Imaging of Ex Vivo Porcine Eyes using Spectralis SD-OCT.** Madhusudhanan Balasubramanian, S. Rajaraman. Electrical and Computer Engineering, The University of Memphis, Germantown, TN
- 4025 — A0334 The correspondence between OCT and histological measures in the optic nerve head region of a non-human primate model of glaucoma.** Kwame Antwi-Boasiako, L. Carter-Dawson, M. M. Gondo, R. S. Harwerth, N. B. Patel. College of Optometry, University of Houston, Houston, TX
- 4026 — A0335 Optical Coherence Tomography RNFL Contrast in Experimental Glaucoma Eyes.** Nimesh B. Patel, L. Carter-Dawson, R. S. Harwerth. College of Optometry, University of Houston, Houston, TX

4027 — A0336 Characterising the Microbead induced Chronic Experimental Glaucoma (EG) Model using optic coherence tomography (OCT) in non-human primates (NHP). Anita Chan^{1,3}, T. TUN³, S. Tun³, J. C. Allen², V. A. Barathi³, M. J. Girard⁴, T. Aung^{1,3}. ¹Ophthalmology, Singapore National Eye Center, Singapore, Singapore; ²Duke NUS GMS, Singapore, Singapore; ³Singapore Eye Research Centre, Singapore, Singapore; ⁴National University of Singapore, Singapore, Singapore

Exhibit/Poster Hall B0001-B0024

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

422 Diabetic Retinopathy: New Targets and Emerging Therapies

Moderators: Renu A. Kowluru and Jena J. Steinle

4028 — B0001 Secretogranin III as a novel disease-associated target for anti-angiogenic therapy of diabetic retinopathy. Wei Li^{1,4}, M. LeBlanc^{1,4}, W. Wang¹, X. Chen^{1,2}, N. B. Cabero³, C. Shen¹, Y. Ji¹, H. Tian^{1,4}, H. Wang⁵, R. Chen⁵. ¹Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²Ophthalmology, Zhongshan Hospital, Shanghai, China; ³School of Life Sciences, University of Nevada Las Vegas, Las Vegas, NV; ⁴Everglades Biopharma, Miami, FL; ⁵Baylor College of Medicine, Houston, TX *CR

4029 — B0002 Inhibition of Runx1 by the Ro5-3335 benzodiazepine derivative reduces aberrant retinal angiogenesis. Leo A. Kim^{1,2}, J. D. Lam², A. Sanchez², D. Amarnani², J. Cardona-Velez², J. Arboleda-Velasquez². ¹Retina Service, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Schepens Eye Research Institute, Boston, MA *CR

4030 — B0003 Administration of a gap junction coupler reduces retinal vascular cell loss associated with diabetic retinopathy. Dongjoon Kim¹, D. Lee¹, U. Mouritzen², B. D. Larsen³, S. Roy¹. ¹Medicine and Ophthalmology, Boston University School of Medicine, Boston, MA; ²Department of Clinical Development, Zealand Pharma A/S, Glostrup, Denmark; ³Department of Medicinal Chemistry, Zealand Pharma A/S, Glostrup, Denmark *CR

4031 — B0004 A novel regulator of cytosolic oxidative stress in the development of Diabetic retinopathy. Manish Mishra, R. A. Kowluru. Ophthalmology, Kresge Eye Institute, Detroit, MI

4032 — B0005 Role of activated monocytes in lysyl oxidase-mediated retinal vascular cell stiffening and inflammation associated with diabetes. Andrea P. Cabrera, X. Yang, K. Ghosh. Bioengineering, University of California, Riverside, Riverside, CA

4033 — B0006 Adipose Stem Cell Therapy for Early Retinal Complications of Diabetes in the Ins2Akita Mouse. William Evans, R. Periasamy, R. Rajesh Lenin, R. Gangaraju. University of Tennessee Health Science Center, Memphis, TN *CR

4034 — B0007 Overexpression of ELOVL4 stabilizes tight junctions and prevents VEGF-induced vascular permeability in diabetic retina and retinal cells. Nermin Kady¹, X. Liu², T. Lydic¹, S. Seregin³, A. Amalfitano⁴, V. A. Chiodo⁵, S. L. Boye⁵, W. Hauswirth⁵, M. B. Grant⁶, D. Antonetti², J. V. Busik¹. ¹Physiology, Michigan State university, East Lansing, MI; ²Ophthalmology and Visual Sciences, University of Michigan -Kellogg eye center, Ann arbor, MI; ³University of Michigan, Ann arbor, MI; ⁴Microbiology and Molecular Genetics, Michigan State University, East Lansing, MI; ⁵University of Florida, Gainesville, FL; ⁶Ophthalmology, University of Indiana, Bloomington, IN *CR

4035 — B0008 The miRNA451a/ATF2 signal pathway regulates mitochondrial function of RPE in diabetic conditions. yan shao^{1,2}, L. Dong², Y. Takahashi¹, X. Liu², Q. Chen¹, X. Li¹, J. Ma^{1,2}. ¹physiology, OUHSC, Oklahoma city, OK; ²Tianjin medical university eye hospital, Tianjin, China

4036 — B0009 Novel Mechanism which Promotes Diabetic Complications in Renal and Ocular Systems. Andrew T. Tsini^{1,2}, B. S. Betts-Obregon¹, R. Mortiz¹, R. LeBaron¹. ¹Biology, University of Texas San Antonio, San Antonio, TX; ²Biomedical Sciences, The University of Texas Rio Grande Valley School of Medicine, Edinburg, TX

4037 — B0010 Endoplasmic reticulum stress at the intersection of inflammation and hyperglycemia in mediating tight junction alterations in diabetic retinopathy. RAJI Rajesh Lenin, R. Gangaraju. Department of Ophthalmology, University of Tennessee, Memphis, TN

4038 — B0011 Role of Cathepsin-D in alteration of Endothelium-Pericyte interaction in Diabetic Retinopathy. Finny Monickaraj^{1,2}, P. McGuire³, A. Das^{1,2}. ¹Surgery/Ophthalmology, University of New Mexico, Albuquerque, NM; ²NMVA Health Care System, Albuquerque, NM; ³Cell Biology and Physiology, University of New Mexico School of Medicine, Albuquerque, NM

4039 — B0012 Activation Of The SIRT1-LXR Signalling Pathway In Retinal Pigmented Epithelial Cells Promotes Cholesterol Metabolism. Kiana Wood¹, S. Hammer¹, E. Crockett¹, M. B. Grant², J. V. Busik¹. ¹Michigan State University, East Lansing, MI; ²Indiana University, Indianapolis, IN

4040 — B0013 Role of high glucose-induced lysyl oxidase overexpression on Ras activity in rat retinal endothelial cells. Brian Chirn¹, D. Kim¹, P. C. Trackman², S. Roy¹. ¹Departments of Medicine and Ophthalmology, Boston University School of Medicine, Boston, MA; ²Department of Molecular and Cell Biology, Boston University Henry M. Goldman School of Dental Medicine, Boston, MA

4041 — B0014 Effect of a single injection of anti-VEGF agent on retinal edema in non-obese diabetic mice. Tamar Leibovitch^{1,4}, M. ben hemo^{1,4}, M. Brookman¹, O. Barinfeld^{1,4}, O. Muhsinoglu², S. Michowitz², N. Goldenberg-Cohen^{3,4}. ¹Tel Aviv University, Tel Aviv, Israel; ²Department of Neurosurgery, Rabin Medical Center - Beilinson Hospital, PetachTikva, Israel; ³Department of Ophthalmology, Bnai Zion Medical Center of Israel, Haifa, Israel; ⁴Krieger Eye Research Laboratory Felsenstein Medical Research Center, Beilinson Hospital, PetachTikva, Israel

4042 — B0015 Toll-like receptor-mediated up-regulation of xanthine oxidoreductase (XOD) contributes to oxidative stress and inflammation in the diabetic retina. Prerana Malla¹, M. Thounaojam¹, D. Gutsaeva¹, A. Tawfik², M. Bartoli¹. ¹Ophthalmology, Augusta University, Augusta, GA; ²Oral Biology, Dental College of Georgia, Augusta, GA

4043 — B0016 Hydrogen sulfide as a novel therapeutic for diabetic retinopathy. Claire Allen¹, J. L. Whatmore², M. E. Wood³, M. Whiteman², D. O. Bates¹. ¹Cancer Biology & Stem Cells, The University of Nottingham, Nottingham, United Kingdom; ²Medical School, University of Exeter, Exeter, United Kingdom; ³Biosciences, University of Exeter, Exeter, United Kingdom *CR

4044 — B0017 NFAT-dependency of IL-1β-induced diabetes-relevant behaviors in human retinal microvascular endothelial cells and Müller cells. Meredith J. Giblin¹, M. E. Capozzi², G. W. McCollum³, J. S. Penn^{3,1}. ¹Cell and Developmental Biology, Vanderbilt University, Nashville, TN; ²Molecular Physiology & Biophysics, Vanderbilt University, Nashville, TN; ³Department of Ophthalmology and Visual Sciences, Vanderbilt University, Nashville, TN

4045 — B0018 TLR4 inhibits insulin signaling, leading to increased apoptosis in mouse retina. Youde Jiang, L. Liu, E. Curtiss, J. J. Steinle. Anatomy and Cell Biology, Wayne State University, Detroit, MI

4046 — B0019 TLR-4 phosphorylation at tyrosine 674 is necessary for NF-κB and inflammasome activation in the diabetic retina and in retinal endothelial cells exposed to glucidic stress. Manuela Bartoli¹, M. Thounaojam¹, D. Gutsaeva¹, W. Jahng². ¹Ophthalmology, Augusta University, Augusta, GA; ²Petroleum Chemistry, American University, Yola, Nigeria

- 4047 — B0020 Role of N-methyl-D-aspartate receptor activation in Blood-Retinal barrier dysfunction: Potential role in Diabetic retinopathy.** Riyaz Mohamed¹, A. Ibrahim^{1,2}, N. M. El-Sherbiny², M. A. Al-Shabrawey¹, A. N. Tawfik¹. ¹Oral Biology department; Vision Discovery Institute, Augusta University, Augusta, GA; ²Department of Biochemistry and Clinical Biochemistry, Mansoura University, Mansoura, Egypt
- 4048 — B0021 Rap1 activation promotes vascular blood-retinal barrier.** Carla Jhoana Ramos, X. Liu, C. Lin, D. Antonetti. Ophthalmology and Visual Science, University of Michigan, Ann Arbor, MI
- 4049 — B0022 Genetically modified probiotics for oral delivery of Angiotensin-(1-7) confers protection against diabetic complications.** Qihong Li¹, Z. Liang¹, K. Xu¹, T. Du¹, P. Zhu¹, T. Prasad¹, S. Liao¹, M. Kulkarni¹, A. Verma¹, M. Raizada². ¹Ophthalmology, University of Florida, Gainesville, FL; ²Functional Genomics & Physiology, University of Florida, Gainesville, FL
- 4050 — B0023 Hypoxia-Inducible Factor 1-Regulated Angiogenic Cytokines in Proliferative Diabetic Retinopathy.** Haley Megarity¹, M. Deshpande¹, S. Babapoor-Farrokhran¹, B. Puchner¹, G. Semenza², S. Montaner³, A. Sodhi¹. ¹Ophthalmology, Johns Hopkins, Baltimore, MD; ²Pediatrics, Institute for Cell Engineering, Baltimore, MD; ³Pathology, School of Medicine, Baltimore, MD
- 4051 — B0024 Cell Therapy Model of Diabetic Retinopathy Using Vascular Progenitor Cells Derived from Human iPSC.** Tea Soon Park^{1,5}, I. A. Bhutto², L. Zimmerlin^{1,5}, I. Minn³, N. Ruzgar^{1,6}, M. Pomper³, M. A. Johnson⁴, G. A. Lutty², E. Zambidis^{1,5}. ¹Pediatric Oncology, Johns Hopkins University, Baltimore, MD; ²Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ³Department of Radiology, Johns Hopkins University, Baltimore, MD; ⁴Department of Ophthalmology, University of Maryland, Baltimore, MD; ⁵Institute for Cell Engineering, Johns Hopkins University, Baltimore, MD; ⁶Health Sciences, McMaster University, Toronto, ON, Canada *CR
- 4052 — B0025 Diabetes impairs TRPV2 channel activity in rat retinal arterioles.** Michael O'Hare, M. McGahon, H. Ferrin, G. McGeown, T. Curtis. School of Medicine, Queens University Belfast, Belfast, United Kingdom
- 4053 — B0026 Decorin^{-/-} Depicts Structural and Vascular Abnormalities in Adult Mouse Retina.** Shyam S. Chaurasia^{1,2}, R. R. Lim^{1,2}, S. Gupta¹, P. R. Sinha¹, R. R. Mohan^{1,2}. ¹Veterinary Medicine and Surgery, University of Missouri, Columbia, MO; ²Biomedical Sciences, University of Missouri, Columbia, MO
- 4054 — B0027 Lack of Raptor in the neural retina causes abnormalities in retinal vascular development, disorganization of retinal lamination and loss of visual acuity.** Dejuan Kong, H. Hager, L. Elghazi-Cras, X. Liu, P. E. Fort, T. W. Gardner, S. F. Abcouwer. Ophthalmology and Visual Science, University of Michigan, Kellogg Eye Center, Ann Arbor, MI
- 4055 — B0028 Caveolin-1 deficiency accelerates age-related loss of contractile smooth muscle cells on retinal arteries.** Alaina Reagan^{1,3}, S. Paude¹, M. H. Elliott^{1,3}. ¹Ophthalmology/Neuroscience, OU Health Science Center, Oklahoma City, OK; ²Biology, Cameron University, Lawton, OK; ³Dean McGee Eye Institute, Oklahoma City, OK
- 4056 — B0029 Effects of Inhibition of PDGF Family Ligands and Receptors on Pericytes and Blood Vessel Morphology in the Developing Mouse Retina.** rajeevalochan wudali, E. Cheung, G. Yancopoulos, C. Romano, I. Lobov. Ophthalmology, Regeneron Pharmaceuticals Inc., Tarrytown, NY *CR
- 4057 — B0030 Wnt inhibitors regulate hydrogen peroxide mediated tube formation and migration of human retinal microvascular endothelial cells.** Chi Zhang, S. D. Ahadome, E. Tannous, J. J. Zheng. Ophthalmology, UCLA, Los Angeles, CA
- 4058 — B0031 Endomucin depletion inhibits pathologic retinal vascularization in vivo.** Patricia A. D'Amore, C. Park-Windhol, M. Saint-Geniez. Ophthalmology, Mass. Eye and Ear, Harvard Medical School, Boston, MA *CR
- 4059 — B0032 eNOS Modulates Notch Responsiveness in a Context Specific Manner.** Denise M. McDonald, H. Stanikowski, N. Poulouse. Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom
- 4060 — B0033 Peptide Lv and Angiogenesis.** Gladys Y. Ko, L. Shi, M. L. Ko. Veterinary Integrative Biosciences, Texas A&M University, College Station, TX
- 4061 — B0034 Regulation of ocular angiogenesis by lncEGFL7OS through an epigenetic mechanism.** Bo Yu¹, Q. Zhou¹, C. Anderson¹, J. Ma¹, S. Wang^{1,2}. ¹Department of Cell and Molecular Biology, Tulane University, New Orleans, LA; ²Ophthalmology, Tulane University, New Orleans, LA
- 4062 — B0035 Role of Endothelial Nox4 in Retinal Vascular Development and Pathological Angiogenesis.** Xixiang Tang^{1,2}, J. J. Wang¹, S. X. Zhang^{1,3}. ¹Department of Ophthalmology and Ross Eye Institute / SUNY Eye Institute, University at Buffalo, State University of New York, Buffalo, NY; ²Advanced Medical Center, The Third Affiliated Hospital, Sun Yat-sen University, Guangzhou, China; ³Department of Biochemistry, University at Buffalo, State University of New York, Buffalo, NY
- 4063 — B0036 Human opticin reduces pathological preretinal neovascularization in the mouse model of oxygen-induced retinopathy.** Izabela P. Klaska¹, C. Orr², A. White², P. Villacampa Alcubierre¹, L. Abelleira Hervás¹, J. Hoke¹, C. V. Bunce³, R. Unwin⁴, G. Cooper⁴, P. N. Bishop², J. W. Bainbridge¹. ¹Genetics, University College London, Institute of Ophthalmology, London, United Kingdom; ²School of Biological Sciences, University of Manchester, Manchester, United Kingdom; ³King's College London, London, United Kingdom; ⁴School of Medical Sciences, Faculty of Biology, Medicine & Health, University of Manchester, Manchester, United Kingdom *CR
- 4064 — B0037 Comparison Between Retinal Vascular Morphology Of Full-Term Small Newborns For Gestational Age And Of Full-Term Appropriate Newborns For Gestational Age Using Retcam®.** Joao Paulo M. Gama, G. martines, M. costa, M. Frazão, H. Miranda, J. Chao, T. Aihara. Santa Casa of São Paulo Institute, Sao Paulo, Brazil
- 4065 — B0038 Hepatocyte growth factor (HGF) stimulates ocular neovascularization and vascular leakage and may contribute to NV and macular edema in ischemic retinopathies.** Valeria E. Lorenc, R. Formica, S. D. Fortmann, Y. Kanan, S. Hackett, P. A. Campochiaro. Ophthalmology, Johns Hopkins University, Wilmer Eye Institute, Baltimore, MD
- 4066 — B0039 Small molecule inhibition of ferrochelatase blocks ocular angiogenesis in vitro and ex vivo.** Trupti Shetty¹, S. Sardar Pasha², R. S. Sulaiman², H. D. Basavarajappa², K. Sishla², C. Briggs³, T. W. Corson². ¹Pharmacology, Indiana University, Indianapolis, IN; ²Ophthalmology, Indiana University, Indianapolis, IN; ³Biochemistry & Molecular Biology, Indiana University, Indianapolis, IN *CR
- 4067 — B0040 Fundamentally different mechanisms regulate angiogenesis in the retina and choroid.** Zaheer Ali¹, A. Mukwaya¹, A. Lennikov¹, B. Peebo¹, N. S. Lagali¹, Y. Cao², J. K. Olovsson³, L. Jensen¹. ¹Ophthalmology, Institute of Clinical and Experimental Medicine, Linköping University, Linköping, Sweden; ²Department of Microbiology, Tumor and Cell Biology, Karolinska Institute, Stockholm, Sweden; ³Physiology and Pharmacology, Karolinska Institute, Stockholm, Sweden; ⁴Cardiovascular medicine, Institute of Medical and Health Sciences, Linköping University, Linköping, Sweden

Exhibit/Poster Hall B0025-B0053

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

423 Angiogenesis: Basic Mechanisms

Moderator: Sarah X. Zhang

4052 — B0025 Diabetes impairs TRPV2 channel activity in rat retinal arterioles. Michael O'Hare, M. McGahon, H. Ferrin, G. McGeown, T. Curtis. School of Medicine, Queens University Belfast, Belfast, United Kingdom

4068 — B0041 Afibercept Action in a Rabbit Model of Chronic Retinal Neovascularization: Extended, Reversible Inhibition of Pathological Leak with Dose-dependent Duration. *Jingtai Cao, T. C. MacPherson, B. Iglesias, Y. Liu, N. Tirko, S. J. Wiegand, G. Yancopoulos, C. Romano.* Ophthalmology, Regeneron Pharmaceuticals Inc, Tarrytown, NY *CR

4069 — B0042 Co-administration of an Antibody to Angiopoietin2 Extends the Duration of the Anti-Vascular Leak Activity of Afibercept in a Model of Sustained Retinal Neovascularization (RNV). *Thomas C. MacPherson, B. Iglesias, Y. Liu, S. J. Wiegand, G. Yancopoulos, J. Cao, C. Romano.* Ophthalmology, Regeneron Pharmaceuticals Inc., New York, NY *CR

4070 — B0043 Hypoxic-Ischemic Insult Disrupts Normal Retinal Vascular Development. *Nader Sheibani¹, I. Zaitoun¹, P. Cengiz², U. Cikla², E. Udho², D. Zafer², C. M. Sorenson².* ¹Ophthalmology and Visual Sciences, Univ of Wisconsin-Madison, Madison, WI; ²Pediatrics, University of Wisconsin-Madison, Madison, WI

4071 — B0044 Oxidative stress suppresses choroidal revascularization via a Tp53-dependent pathway in oxygen-induced retinopathy (OIR). *Tianwei (Ellen) Zhou^{1,2}, T. Zhu³, S. Omri³, R. Rouget³, H. Tahiri², J. C. Rivera², S. Nattel^{1,3}, S. Chemtob^{3,82}.* ¹Pharmacology and Therapeutics, McGill University, Montreal, QC, Canada; ²Hôpital Maisonneuve-Rosemont, Montreal, QC, Canada; ³University of Montreal, Montreal, QC, Canada

4072 — B0045 A naturally fluorescent marker mouse for studying angiogenesis and glaucoma in vivo. *Terete Borras^{1,2}, P. Asokan¹, R. Mitra¹, Z. Han^{1,3}.* ¹Department of Ophthalmology, University of North Carolina, Chapel Hill, NC; ²Gene Therapy Center, University of North Carolina at Chapel Hill, Chapel Hill, NC; ³UNC Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, NC

4073 — B0046 Anti-angiogenic Effects of Doxazosin on Experimental Choroidal Neovascularization in Mice. *Wei Liu, J. Guo, X. Sun.* Shanghai First People's Hospital, Shanghai, China

4074 — B0047 Imaging of laser-induced choroidal neovascularization in mice using optical coherence tomography angiography. *Kazuki Nakagawa, H. Yamada, H. Mori, M. Ohnaka, K. takahashi.* Kansai Medical University Hospital, Hirakata, Japan

4075 — B0048 A new class of RNA interference therapeutic agent against (pro)renin receptor suppresses choroidal neovascularization. *Ye Liu^{1,2}, A. Kanda¹, E. T. Ishizuka¹, D. Wu¹, K. Noda¹, S. Ishida¹.* ¹Laboratory of Ocular Cell Biology and Visual Science, Hokkaido University Graduate School of Medicine; Department of Ophthalmology, Hokkaido University Graduate School of Medicine, Sapporo, Japan; ²Department of Ophthalmology, The Fourth Affiliated Hospital of China Medical University, China Medical University, Shenyang, China., Shenyang, China

4076 — B0049 Characterization of a Rabbit Model of Choroidal Neovascularization (CNV) and its Treatment with Lucentis®. *Craig B. Struble¹, M. Krueger¹, C. Rasmussen², A. Goulding², M. Neider², H. Wabers², P. Miller², I. Zaitoun³, N. Sheibani³, S. Van Adestine¹, A. Sharma¹, M. Nork².* ¹Covance Laboratories, Madison, WI; ²OSOD, LLC, Madison, WI; ³Ophthalmology, University of Wisconsin, Madison, WI

4077 — B0050 The role of fibrosis and endothelial mesenchymal transition (EndoMT) in choroidal neovascularization (CNV) pathogenesis. *Franco Aparecido Rossato, A. Mackey, Y. Ng.* Ophthalmology, Schepens Eye Research Institute and Mass Eye and Ear, Boston, MA

4078 — B0051 Hypoxia induces formation of capillaries that resemble leaky vessels in CNV. *Marina V. Tikhonovich^{1,2}, A. Biesemeier¹, U. Schraermeyer¹.* ¹Division of Experimental Vitreoretinal Surgery, Center for Ophthalmology, Tübingen, Germany; ²Faculty of medicine, Lomonosov Moscow State University, Moscow, Russian Federation

4079 — B0052 Renin-Angiotensin System (RAS) in Hematopoietic Stem/Progenitor Cells (HS/PC) Predicts Vaso-reparative Dysfunction and Progression of Diabetic Retinopathy (DR). *Yaqian Duan^{1,2}, E. Beli², S. Li Calzi², J. Quigley², R. Miller², L. Moldovan², T. Salazar², S. Hazra³, J. Al-Sabah², K. Chalam⁴, T. Le Phuong Trinh^{1,2}, R. Vyas⁵, M. Murray⁵, P. A. Parsons-Wingter⁵, G. Oudit⁶, M. B. Grant^{2,1}.* ¹Department of Integrative and Cellular Physiology, Indiana University School of Medicine, Indianapolis, IN; ²Department of Ophthalmology, The Eugene and Marilyn Glick Eye Institute, Indiana University School of Medicine, Indianapolis, IN; ³Department of Internal Medicine, University of Utah, Salt Lake City, UT; ⁴Department of Ophthalmology, University of Florida, Jacksonville, FL; ⁵Space Life Sciences Research Branch, NASA Ames Research Center, Moffett Field, CA; ⁶Department of Medicine, Mazankowski Alberta Heart Institute, University of Alberta, Edmonton, AB, Canada

4080 — B0053 Efficacy of a marine natural product on experimental ocular angiogenesis. *Xiaomeng Wang^{1,2}, B. Qiu², R. Patil^{3,4}, V. A. Barathi^{5,4}, W. Hunziker², H. Luesch^{6,7}, T. Y. Wong^{8,4}, W. Hong².* ¹Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore, Singapore; ²Institute of Molecular and Cell Biology, Singapore, Singapore; ³ratina, Singapore Eye Research Institute, Singapore, Singapore; ⁴Ophthalmology & Visual Sciences Academic Clinical Program (ACP), Duke-NUS Medical School, Singapore, Singapore; ⁵Translational Preclinical Model, Singapore Eye Research Institute, Singapore, Singapore; ⁶College of Pharmacy, University of Florida, Gainesville, FL; ⁷Oceanyx Pharmaceuticals, Inc., Alachua, FL; ⁸Singapore Eye Research Institute, Singapore, Singapore *CR

Exhibit/Poster Hall B0081-B0122

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Physiology/Pharmacology

424 Drug and gene therapy and delivery

Moderators: Antonino Asero and Giulia Malaguarnera

4081 — B0081 Characteristics of AAV2 mediated gene transfer in retinas after optic nerve injury. *Robert W. Nickells, C. Schlamp, H. M. Schmitt.* Ophthalmology & Visual Science, Univ of Wisconsin-Madison, Madison, WI

4082 — B0082 Tandem Delivery of Short Hairpin RNAs and Rhodopsin cDNA to Combat Retinal Degeneration in Autosomal Dominant Retinitis Pigmentosa. *Michael Massengill¹, D. Patel¹, W. A. Beltran², A. S. Lewin¹.* ¹Molecular Genetics and Microbiology, University of Florida, Gainesville, FL; ²University of Pennsylvania, Philadelphia, PA *CR

4083 — B0083 Multi-Characteristics Opsin and Nano-enhanced optical delivery enable vision restoration. *Samarendra Mohanty, S. Pradhan, S. Gajjeraman, S. Bhattacharya, W. Wright.* Nanoscope Technologies, LLC, Arlington, TX *CR

4084 — B0084 AAV5 made by rHSV complementation displays increased retinal transduction relative to AAV5 made by plasmid transfection. *Kevin T. Mccullough¹, L. Adamson-Small², J. Peterson¹, S. Boye¹, N. Clément², S. E. Boye¹.* ¹Ophthalmology, University of Florida, Gainesville, FL; ²Pediatrics, University of Florida, Gainesville, FL *CR

4085 — B0085 Evaluation of integrase-deficient vectors for lentiviral gene-transfer in corneal endothelium. *Daniel Thieme¹, S. Ellis², T. A. Fuchsluger¹, F. E. Kruse¹.* ¹Augenkllinik, Universitätsklinikum Erlangen, Erlangen, Germany; ²Oxford BioMedica, Oxford, United Kingdom *CR

- 4086 — B0086 Evaluation of *in silico* reconstructed ancestral adeno-associated virus for gene augmentation therapy in a mouse model of LCA.** Sarah Wassmer^{1,2}, B. Pawlyk⁵, J. Blake^{1,2}, M. Sandberg^{3,5}, E. A. Pierce^{4,3}, L. H. Vandenberghe^{1,2}. ¹Ophthalmology, Schepens Eye Research Institute /Grousbeck Gene Therapy Center, Boston, MA; ²Ophthalmology, Massachusetts Eye and Ear Infirmary / Harvard Medical School, Boston, MA; ³Ophthalmology, Harvard Medical School, Boston, MA; ⁴Ophthalmology, Ocular Genomics Institute, Massachusetts Eye and Ear Infirmary / Harvard Medical School, Boston, MA; ⁵Ophthalmology, Berman-Gund Laboratory, Massachusetts Eye and Ear Infirmary / Harvard Medical School, Boston, MA *CR
- 4087 — B0087 Directed Evolution of Enhanced AAV Capsid Variants Following Intravitreal Injection in Macaque.** Sanford L. Boye¹, S. Choudhury¹, D. Marsic², C. E. Strang⁴, J. J. Alexander³, C. Witherspoon¹, S. Zolotukhin², P. D. Gamlin⁵, S. E. Boye¹. ¹Ophthalmology, University of Florida, Gainesville, FL; ²Pediatrics, University of Florida, Gainesville, FL; ³Human Genetics, Emory University, Atlanta, GA; ⁴Psychology, University of Alabama Birmingham, Birmingham, AL; ⁵Ophthalmology, University of Alabama Birmingham, Birmingham, AL *CR
- 4088 — B0088 Riboswitch-mediated modulation of transgene expression following rAAV delivery to the mouse retina.** Chris Reid, D. M. Lipinski. Ophthalmology, Medical College of Wisconsin, New Berlin, WI
- 4089 — B0089 Novel AAV Variants Show Superior Gene Delivery in Human Retinal Cell Models.** Melissa A. Kotterman¹, T. Vazin¹, G. Beliakoff¹, R. Croze¹, M. Hassanipour¹, C. Schmitt¹, M. Wallroth¹, M. Quezada¹, D. V. Schaffer^{1,2}, D. Kirn¹. ¹4D Molecular Therapeutics, Emeryville, CA; ²University of California, Berkeley, Berkeley, CA *CR
- 4090 — B0090 Optimization of AAV-mediated Gene Delivery for Targeting Mitochondria in the Outer Retina and Müller glia.** Emilia Araujo Zin, C. Fortuny, N. P. Sabetfakhri, R. J. Choi, C. Dunlap, J. Flannery. University of California, Berkeley, Berkeley, CA
- 4091 — B0091 KCNJ13 Gene Augmentation Therapy to Treat Blindness due to Kir7.1 Defects.** Pawan K. Shahi^{1,2}, S. Stulo¹, D. J. Hermans¹, D. M. Pillers^{3,82}, B. R. Pattnaik^{4,2}. ¹Pediatrics, University of Wisconsin-Madison, Madison, WI; ²McPherson Eye Research Institute, Madison, WI; ³Pediatrics, Genetics, University of Wisconsin-Madison, Madison, WI; ⁴Pediatrics, Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI
- 4092 — B0092 An indirect gene therapy approach for Autosomal Dominant Optic Atrophy.** Cavit Agca¹, C. Kohler², C. Bippes¹, H. P. Scholl¹, A. Neutzner¹. ¹Department of Biomedicine, University Hospital Basel, Basel, Switzerland; ²Department of Ophthalmology, University of Basel, Basel, Switzerland
- 4093 — B0093 Potency assay for AAV-gene vectors in human iPSCs-derived retinas and donor retinas.** Thilo M. Buck, P. M. Quinn, C. Alves, E. Van Dijk, C. Ohonin, C. J. Boon, J. Wijnholds. Ophthalmology, Leiden University Medical Center, Leiden, Netherlands *CR
- 4094 — B0094 Rod outer segments influence the efficiency of AAV-mediated rod transduction.** Lolita Petit¹, S. Ma¹, S. Cheng¹, G. Gao², C. Punzo³. ¹Gene Therapy Center / Ophthalmology, University of Massachusetts Medical School, Worcester, MA; ²Gene Therapy Center / Microbiology and Physiological Systems, University of Massachusetts Medical School, Worcester, MA; ³Gene Therapy Center / Ophthalmology / Neurobiology, University of Massachusetts Medical School, Worcester, MA *CR
- 4095 — B0095 Nonclinical safety of SAR422459 following subretinal injection in both eyes of monkeys.** Patrick Benoit¹, K. Tenneson², T. Appelqvist³. ¹MS, Neurology & Ophthalmology unit, Sanofi, Chilly-mazarin, France; ²Charles River Laboratories, Montreal, QC, Canada; ³Translational Medicine and Early Development, Sanofi, Vitry/Alfortville, France *CR
- 4096 — B0096 Evaluation of electroretinography in cynomolgus monkeys after subretinal injection of rAAV.hPDE6A.** Tobias Peters^{1,2}, B. Wilhelm², B. niggemann³, S. Korte³, K. U. Bartz-Schmidt⁴, S. Michalak⁵, G. Ochakovski⁴, D. M. Fischer^{1,1}. ¹Institute for Ophthalmic Research, Centre for Ophthalmology, University of Tuebingen, Tuebingen, Germany; ²STZ eyetrial at the Centre for Ophthalmology,, University of Tuebingen, Germany, Tuebingen, Germany; ³Covance Preclinical Services GmbH, Muenster, Germany; ⁴University Eye Hospital, Centre for Ophthalmology, University of Tuebingen, Tuebingen, Germany; ⁵Center for Drug Research, Ludwig-Maximilians-Universität München, Munich, Germany *CR
- 4097 — B0097 Assessment of next-generation AAV variants in gerbil and non-human primate retina following intravitreal injection.** Annahita Keravala, Y. Tseng, T. Neal, M. Ni, C. Chavez, M. Gasm. Adverum Biotechnologies Inc, Menlo Park, CA *CR
- 4098 — B0098 Investigating the utility of mice as a model for developing clinically relevant dual AAV vectors to treat USH1B.** Kaitlyn Calabro¹, S. Boye¹, K. T. McCullough¹, S. Choudhury¹, P. D. Gamlin², S. E. Boye¹. ¹Department of Ophthalmology, University of Florida, Gainesville, FL; ²Department of Ophthalmology, University of Alabama at Birmingham, Birmingham, AL *CR
- 4099 — B0099 Retinal Ganglion Cell Gene Transfer Is Achieved Following Intrathecal Administration of AAV9.** Steven J. Gray^{1,2}, Z. Han¹, R. Bailey², A. Rozenberg², M. Zheng¹, R. Mitra¹. ¹Ophthalmology, University of North Carolina at Chapel Hill, Chapel Hill, NC; ²Gene Therapy Center, University of North Carolina at Chapel Hill, Chapel Hill, NC *CR
- 4100 — B0100 Non-inferiority of subretinal versus intravitreal injection regarding photoreceptor layer thickness.** Guy Alex Ochakovski¹, T. Peters³, S. Michalak², B. Wilhelm³, K. Bartz-Schmidt⁴, M. Fischer^{1,3}. ¹University Eye Hospital, Centre for Ophthalmology, University Hospital Tuebingen, Tuebingen, Germany; ²Center for Integrated Protein Science Munich CiPSM at the Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-Universität München, Munich, Germany; ³STZ eyetrial at the Centre for Ophthalmology, University Hospital Tuebingen, Tuebingen, Germany *CR
- 4101 — B0101 Ultrasound-mediated nanoparticle delivery across *ex vivo* bovine retina after intravitreal injection.** Di Huang, Y. Chen, I. D. Rupenthal. Ophthalmology, The University of Auckland, Auckland, New Zealand
- 4102 — B0102 Extended Release of Bevacizumab Through Nanoliposomes for Treating Ocular Angiogenesis.** Devi Kalyan Karumanchi^{2,1}, J. Benner¹, S. Cohen¹, Y. Skrypai², A. Thomas², A. Uwensuy², E. R. Gaillard². ¹The Drug Delivery Company, Baltimore, MD; ²Center for Biochemical and Biophysical Studies, Northern Illinois University, Dekalb, IL *CR
- 4103 — B0103 Sustained Release of Peptides to the Ocular Surface via NanoMT™ Wafer.** Shikha P. Barman¹, B. Hackett², K. L. Ward², L. Kaminski². ¹Executive, Integral BioSystems, Bedford, MA; ²Integral BioSystems, Bedford, MA *CR
- 4104 — B0104 Ultra high-field MR-Imaging of a biodegradable, subconjunctival drug delivery system - *in vitro*, *ex vivo* and *in vivo* examinations.** Franziska Kopp¹, S. Polei², K. Falke¹, T. Eickner³, N. Grabow³, M. Witt⁴, O. Stachs¹, R. F. Guthoff¹, T. Lindner². ¹Ophthalmology, University Medical Center Rostock, Rostock, Germany; ²Core Facility Multimodal Small Animal Imaging, University Medical Center Rostock, Rostock, Germany; ³Institute for Biomedical Engineering, University Medical Center Rostock, Rostock, Germany; ⁴Institute of Anatomy, University Medical Center Rostock, Rostock, Germany
- 4105 — B0105 Travoprost loaded lipid DNA-nanoparticles as a new and improved treatment for glaucoma.** Sven Schnichels¹, J. de Vries¹, A. Gruszka¹, K. U. Bartz-Schmidt¹, S. Dammeier¹, A. Herrmann³, M. S. Spitzer², J. Hurst¹. ¹University Eye Hosp Tuebingen, Centre for Ophthalmology Tuebingen, Tuebingen, Germany; ²University Eye Hospital, Hamburg, Germany; ³University Groningen, Groningen, Netherlands; ⁴Institute for Ophthalmic Research, Tuebingen, Germany *CR

4106 — B0106 A Single Center Study of the Plasma Pharmacokinetics of DEXTENZA™ (dexamethasone insert) 0.4 mg in Healthy Volunteers. Eugene B. McLaurin¹, D. G. Evans¹, R. Noecker², J. Metzinger³, D. Mulani³, J. H. Talamo³.
¹Total Eye Care, PA, Memphis, TN; ²Ophthalmic Consultants of Connecticut, Fairfield, CT; ³Ocular Therapeutix, Inc, Bedford, MA *CR

4107 — B0107 Lipid modified aptamers as vehicles for ophthalmic drug delivery. Lisa Strudel¹, J. Hurst¹, A. Gruska¹, U. Haged¹, J. de Vries¹, K. U. Bartz-Schmidt¹, A. Herrmann², M. S. Spitzer³, S. Schnichels¹.
¹University Eye Hospital, Department of Ophthalmology, Tübingen, Germany; ²University of Groningen, Zernike Institute for Advanced Materials, Groningen, Netherlands; ³University Medical Center Hamburg-Eppendorf, Hamburg, Germany *CR

4108 — B0108 An alternative and validated method for injection into the subretinal space via a transcleral posterior approach. Sachin Parikh^{1,2}, A. Le¹, J. Davenport^{1,2}, M. B. Gorin^{1,2}, A. Matyenia^{1,2}, S. Nusinowitz¹.
¹Stein Eye Institute, UCLA, Los Angeles, CA; ²Brain Research Institute, UCLA, Los Angeles, CA

4109 — B0109 A Retinal Ganglion Cell Targeting and Protecting Intraocular Drug Delivery System Using Unimolecular Nanoparticles. Lianwang Guo, L. Zhao, G. Chen, J. Li, Y. Fu, T. Mavlyutov, A. Yao, R. W. Nickells, S. Gong. University of Wisconsin, Madison, WI

4110 — B0110 Low-Frequency, Low-Intensity Ultrasound Exposure Safety in Animal Eyes. William Yan¹, X. Lin², M. He^{1,2}.
¹Ophthalmic Epidemiology, Centre for Eye Research Australia, East Melbourne, VIC, Australia; ²Department of Ophthalmology, University of Melbourne, Parkville, VIC, Australia; ³Ophthalmology, Zhongshan Ophthalmic Centre, Guangzhou, China

4111 — B0111 In vitro and In vivo Sustained Release of Dexamethasone from Intravitreal Implants. Janet Tully, M. Yang, S. Williams, S. Das, R. S. Verhoeven, R. Robeson, R. M. Schiffman, B. R. Yexxa. Envisia Therapeutics, Moorisville, NC *CR

4112 — B0112 Targeted delivery of triamcinolone acetonide and CLS011A to the posterior ocular tissues via suprachoroidal administration. Brian Burke¹, S. R. Patel¹, D. Taraborelli¹, C. B. Struble², G. Noronha¹.
¹Cleaside Biomedical, Alpharetta, GA; ²Covance, Madison, WI *CR

4113 — B0113 Development of a Poly-ε-lysine Contact Lens for Drug Delivery in the Management of Fungal Keratitis. Keri McLean^{1,2}, A. G. Gallagher^{1,3}, R. M. Stewart¹, D. A. Wellings³, H. E. Allison⁴, R. Williams¹.
¹Department of Eye and Vision Science, Institute of Ageing and Chronic Diseases, University of Liverpool, Liverpool, United Kingdom; ²Royal Liverpool and Broadgreen University Hospital Trust, Liverpool, United Kingdom; ³SpheriTech Ltd., Runcorn, Cheshire, United Kingdom; ⁴Department of Functional and Comparative Genomics, Institute of Integrative Biology, University of Liverpool, Liverpool, United Kingdom *CR

4114 — B0114 A New Hyaluronic Acid-Cyclodextrin Tropicamide Ophthalmic Formulation. Maria G. Saita, D. Aleo, B. Melilli, S. Mangiafico, M. Cro, S. Mangiafico. R&D, Medivis, Catania, Italy *CR

4115 — B0115 Modifications of Sunitinib-Loaded GB-102 Microparticles that Lengthen Drug Release: 9-Months Ocular Tolerability and PK in Rabbit Following IVT Dosing. Ming Yang¹, W. Peterson¹, Y. Yu¹, J. Kays¹, D. Cardona¹, D. Culp³, B. C. Gilger², D. McKenzie¹, A. Anonuevo¹, B. Hoang¹, C. Yu¹, J. Cleland¹.
¹Graybug Vision, Inc., Redwood City, CA; ²Clinical Sciences, North Carolina State University, Raleigh, NC; ³Powered Research, LLC, Durham, NC *CR

4116 — B0116 Sorbitan ester nanoparticles (SENS) as topical ocular cyclosporine delivery systems. Jesus Alvarez-Trabado^{1,2}, A. López-García^{1,3}, A. Sánchez², Y. Diebold^{1,3}.
¹Ocular Surface Group-IOBA, University of Valladolid, Valladolid, Spain; ²Department of Pharmacy and Pharmaceutical Technology, University of Santiago de Compostela, Santiago de Compostela, Spain; ³CIBER-BBN (Biomedical Research Networking Center on Bioengineering, Biomaterials and Nanomedicine), Valladolid, Spain

4117 — B0117 A novel BAK free, room temperature stable, swollen micelle microemulsion formulation of latanoprost. Ajay Khopade¹, A. Halder¹, M. Shah¹, V. Burade², H. Ruan³, P. pansare³, D. Desai⁴.
¹Formulation R&D, Sun Pharma Advanced Research Company Ltd, Baroda, India; ²Pharmacology, Sun Pharma Advanced Research Co. Ltd, Vadodara, India; ³Toxicology, Sun Pharma Advanced Research Co. Ltd, Vadodara, India; ⁴Systems Biology, Sun Pharma Advanced Research Co. Ltd, Vadodara, India *CR

4118 — B0118 Prodrugs of carbonic anhydrase inhibitors to enable continuous delivery from a depot for up to 6 months after subconjunctival delivery. Bryan Hoang¹, C. Crean², M. Yang¹, A. Anonuevo¹, W. Peterson¹, J. Cleland¹.
¹Graybug Vision Inc., Redwood City, CA; ²Chatham Biopharma Consulting LLC, Pittsboro, NC *CR

4119 — B0119 Carboxymethylated Hyaluronic acid (CMHA-S)-based Ocular Delivery of Antibiotics. Hee-Kyoung Lee^{1,2}, S. Luo^{1,2}, B. M. Wirostko¹, B. Mann¹.
¹EyeGate Pharma, Salt Lake City, UT; ²University of Utah, Salt Lake City, UT *CR

4120 — B0120 The Effect of Polyvinyl Pyrrolidone (PVP) on Gellan and Calcium Gluconate (CaG) Solution Ocular Gel Forming Properties. Kenneth W. Reed, N. Berger, M. Medley. Pharmaceutical Sciences, Belmont University, Nashville, TN *CR

4121 — B0121 Towards A DNA-Directed RNA Interference (ddRNAi) Therapy Delivered Intravitreally Using a Novel AAV Capsid to Treat Choroidal Neovascularization (CNV). David Suhy¹, S. Kao¹, M. A. Kotterman², A. Doan¹, V. Ufombah-Strings¹, C. Kloth¹, N. Suhy¹, P. Roelvink¹, D. Kirn², D. Schaffer².
¹Benitec Biopharma, Hayward, CA; ²4D Molecular Therapeutics, Emeryville, CA *CR

4122 — B0122 Year 2 results for a phase 3 trial of voretigene neparvovec in biallelic RPE65-mediated inherited retinal disease. Stephen R. Russell¹, J. Bennett², J. A. Wellman³, D. C. Chung³, K. A. High³, Z. Yu⁴, A. Tillman⁴, A. M. Maguire².
¹Ophthalmology, Univ of Iowa Hospitals & Clinics, Iowa City, IA; ²Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA; ³Spark Therapeutics, Philadelphia, PA; ⁴Statistics Collaborative, Inc., Washington, DC *CR, ✕

Exhibit/Poster Hall B0242-B0266

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Visual Neuroscience

425 ipRGCs and Circadian Rhythms

4123 — B0242 Tbr2 is necessary and sufficient for the specification and maintenance of non-image forming RGCs. Andreea Nistorica, D. Feldheim. University of California Santa Cruz, Santa Cruz, CA

4124 — B0243 Gap-junction networks of intrinsically photosensitive retinal ganglion cells (ipRGCs). Xiwu Zhao, K. Y. Wong. Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI

4125 — B0244 Immunotoxin-Induced Ablation of the Intrinsically Photosensitive Retinal Ganglion Cells in Rhesus Monkeys. Paul D. Gamlin¹, C. E. Strang¹, K. Chang¹, L. Hung², B. Arunugam², L. J. Frishman², E. L. Smith², L. A. Ostrin².
¹Vision Sci Rsch Ctr, Univ of Alabama at Birmingham, Birmingham, AL; ²University of Houston College of Optometry, Houston, TX

- 4126 — B0245 Three blind mice, see how they run: Light-dependent behavior in the absence of an optic nerve.** *Anna Matyina, S. Parikh, S. Nusinowitz, M. B. Gorin.* Jules Stein Eye Institute, UCLA, Los Angeles, CA
- 4127 — B0246 Novel Phototransduction Pathway in Intrinsically Photosensitive Retinal Ganglion Cells (ipRGCs).** *Zheng Jiang¹, W. W. Yue², Y. Sheng¹, L. Cao³, K. Yau¹.* ¹Department of Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD; ²Department of Physiology, University of California San Francisco, San Francisco, CA; ³College of Life Sciences, Peking University, Beijing, China
- 4128 — B0247 Probing the intraretinal influences of ipRGCs using chemogenetic manipulation.** *Nina Milosavljevic, A. E. Allen, J. Cahajic Kapetanovic, R. J. Lucas.* Faculty of Biology, Medicine and Health, The University of Manchester, Manchester, United Kingdom
- 4129 — B0248 C-terminal phosphorylation of mouse melanopsin regulates the kinetics of a subset of melanopsin mediated behaviors in mice.** *Preethi Somasundaram¹, G. Wyrick², D. B. Fernandez³, A. Ghahari⁴, C. Pinha², M. Simmonds-Richardson³, A. Rupp³, L. Cui³, Z. Wu⁴, L. Brown², T. C. Badea⁴, S. Hattar³, P. Robinson¹.* ¹University of Maryland Baltimore County, Halethorpe, MD; ²Washington State University, Pullman, WA; ³Johns Hopkins University, Baltimore, MD; ⁴National Institute of Health, Bethesda, MD; ⁵National Institute of Mental Health, Bethesda, MD
- 4130 — B0249 Circadian control of cone kinetics.** *Sahar Farajnia¹, M. D. Arietti¹, M. Kamermans^{1,2}.* ¹retinal signal processing, Netherlands institute for neuroscience, Amsterdam, Netherlands; ²Neurogenetics, Academic medical Center, Amsterdam, Netherlands
- 4131 — B0250 Mechanisms of light entrainment of the mammalian ciliary body circadian clock.** *Shunsuke Tsuchiya^{2,1}, E. Buhr², T. Higashide¹, K. Sugiyama¹, R. N. Van Gelder².* ¹Ophthalmology, Kanazawa University, Kanazawa, Japan; ²Ophthalmology, University of Washington, Seattle, WA
- 4132 — B0251 Light affects mood through a novel retina-brain circuit.** *Diego C. Fernandez¹, M. Fogerson², D. M. Berson², S. Hattar¹.* ¹Biology, Johns Hopkins University, Baltimore, MD; ²Department of Neuroscience, Brown University, Providence, RI
- 4133 — B0252 Physiological Effects of Ten Days of Total Darkness in Humans.** *Ashutosh Jnawali¹, B. T. Backus², E. M. Quinlan⁴, C. Llerena-Law³, S. Viswanathan², N. Joshi², J. Grygier², L. A. Ostrin¹.* ¹University of Houston College of Optometry, Houston, TX; ²College of Optometry, SUNY, New York, NY; ³College of Optometry, Nova Southeastern University, Fort Lauderdale, FL; ⁴Biology, University of Maryland, College Park, MD
- 4134 — B0253 Narrow blue-blocker eyewear significantly limits melatonin suppression and sleep quality reduction due to moderate light exposure before bedtime.** *Coralie Barrau, M. Swital, E. Poletto, T. Villette, M. Burgos.* Light & Vision Sciences, Essilor International R&D, Paris, France *CR
- 4135 — B0254 Human Melanopic Pupillary Responses Isolated from Outer Retinal Photoreceptor Input in LCA Patients with Severe Vision Loss.** *Jason Charng¹, S. G. Jacobson¹, E. Heon², A. J. Roman¹, D. B. McGuigan¹, R. Sheplock¹, M. S. Kosyk¹, A. V. Cideciyan¹.* ¹Scheie Eye Institute, Dept. of Ophthalmology, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA; ²Department of Ophthalmology and Vision Sciences, The Hospital for Sick Children, University of Toronto, Toronto, ON, Canada
- 4136 — B0255 Melanopsin-expressing ganglion cells in human retina.** *Ulrike Grunert^{1,2}, S. Nasir Ahmad^{1,2}, S. C. Lee^{1,2}, P. R. Martin^{1,2}.* ¹Save Sight Institute, University of Sydney, Sydney, NSW, Australia; ²Clinical Ophthalmology, University of Sydney, Sydney, NSW, Australia
- 4137 — B0256 Novel roles for ipRGC neurotransmitters, glutamate and PACAP, in pupil constriction and circadian photoentrainment.** *William T. Keenan, A. Wang, S. Hattar.* Biology, Johns Hopkins University, Baltimore, MD
- 4138 — B0257 Modulatory Effects of Melatonin on Intrinsically Photosensitive Retinal Ganglion Cells in the Rat.** *Shi-Jun Weng, W. Sheng, X. Gong, X. Yang, Y. Zhong.* Fudan University, Shanghai, China
- 4139 — B0258 A Circadian Clock Controls the Transmission of Scotopic Signals from the Rod to Rod Bipolar Cell in the Mouse Retina.** *Christophe P. Ribelayga, N. Jin, Z. Zhang, E. L. Silveira.* Ophthalmology & Visual Science, University of Texas McGovern Medical School at Houston, Houston, TX
- 4140 — B0259 A melanopsin contribution to the representation of spatial patterns in the mouse visual system.** *Annette E. Allen¹, R. Storchi¹, R. Bedford^{1,2}, F. P. Martial¹, R. J. Lucas¹.* ¹Faculty of Biology, Medicine and Health, University of Manchester, Manchester, United Kingdom; ²National Institute for Health Research, NHS, Manchester, United Kingdom
- 4141 — B0260 Retinal circadian clock modulates cone photoreceptor viability in mice.** *Kenkichi Baba¹, I. Piano², G. Gargini², P. Iuvone³, G. Tosini¹.* ¹Morehouse School of Medicine, Atlanta, GA; ²Università di Pisa, Pisa, Italy; ³Emory University, Atlanta, GA
- 4142 — B0261 Retinal remodeling throughout hibernation in the 13-lined ground squirrel.** *Benjamin S. Sajdak¹, B. A. Bell², A. E. Salmon¹, W. Li³, D. K. Merriman⁴, J. Carroll^{1,5}.* ¹Cell Biology, Neurobiology, & Anatomy, Medical College of Wisconsin, Milwaukee, WI; ²Ophthalmic Research, Cleveland Clinic, Cleveland, OH; ³Unit of Neurophysiology, National Eye Institute, Bethesda, MD; ⁴Biology, University of Wisconsin Oshkosh, Oshkosh, WI; ⁵Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI
- 4143 — B0262 Morphological and physiological diversity of M1 intrinsically photosensitive retinal ganglion cells.** *Seul Ki Lee, T. M. Schmidt.* Neurobiology, Northwestern University, Evanston, IL
- 4144 — B0263 Light-dark cycle drives the daily oscillation of gut microbe through ipRGCs.** *Shih-Kuo Chen, C. Lee.* Department of Life Science, National Taiwan University, Taipei, Taiwan
- 4145 — B0264 ipRGCs utilize non-overlapping circuits to drive phase shifts, masking and circadian photoentrainment.** *Jennifer Langel¹, A. Rupp², J. O'Donnell¹, S. Hattar¹.* ¹Biology, Johns Hopkins University, Baltimore, MD; ²University of Michigan, Ann Arbor, MI
- 4146 — B0265 Melanopsin sets the contrast detection threshold of M4 ipRGCs.** *Takuma Sonoda, T. M. Schmidt.* Neurobiology, Northwestern University, Evanston, IL
- 4147 — B0266 Molecular Analysis of the Visual Pigment Melanopsin Reveals Unique Regulation of Receptor Activation, Desensitization, & Resensitization.** *Juan Valdez-Lopez¹, E. Cameron², H. AlGrain¹, O. Awotunde¹, J. Flores¹, M. Gebreegziabher¹, P. Robinson¹.* ¹Biological Sciences, University of Maryland Baltimore County, Baltimore, MD; ²Stanford University, Stanford, CA

Exhibit/Poster Hall B0443-B0469

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Retina

426 Retinal detachment (clinical)**Moderator: Julia A. Haller**

4148 — B0443 Optical Subretinal Fluid Density as a Prognostic Biomarker for Macula Off Rhegmatogenous Retinal Detachment. *Brandon Kuley¹, T. Jenkins³, M. K. Adam^{3,4}, E. Rahimy², J. Hsu^{3,4}, S. Garg^{3,4}.* ¹Sidney Kimmel Medical College, Philadelphia, PA; ²Palo Alto Medical Foundation, Palo Alto, CA; ³Wills Eye Hospital, Philadelphia, PA; ⁴Mid Atlantic Retina, Plymouth Meeting, PA

4149 — B0444 Surgical outcomes of combined pars plana vitrectomy and scleral buckling in eyes with advanced Coats' disease and Coats'-like exudative retinal detachment associated with facioscapulohumeral muscular dystrophy. Austen N. Knapp¹, P. Rao², B. Todorich², A. Capone^{2, 1}. ¹Oakland University William Beaumont School of Medicine, Rochester, MI; ²Associated Retinal Consultants, William Beaumont Hospital, Royal Oak, MI

4150 — B0445 Outcomes of 25-gauge vitrectomy with relaxing retinectomy for retinal detachment secondary to proliferative vitreoretinopathy. Yi Jiang, J. I. Lim. Ophthalmology, University of Illinois - Chicago, Chicago, IL *CR

4151 — B0446 Anatomical outcome and associated factors after surgery for rhegmatogenous retinal detachment in two Argentine clinics. Jeremias G. Galletti¹, L. Iezzi¹, P. R. Ruisenor Vazquez¹, J. P. Francos², J. F. Casiraghi². ¹Institute of Experimental Medicine, Buenos Aires, Argentina; ²Ophthalmology, Hospital de Clínicas, University of Buenos Aires, Buenos Aires, Argentina

4152 — B0447 Outcomes of Pneumatic Retinopexy Performed by Vitreoretinal Fellows for Rhegmatogenous Retinal Detachment. Parisa Emami-naeini, V. S. Vuong, S. Tran, L. S. Morse, A. Moshiri, S. S. Park, G. Yiu. UC Davis Eye Center, Sacramento, CA *CR

4153 — B0448 Seasonal variation of rhegmatogenous retinal detachment in mexican population at Instituto Mexicano de Oftalmología I.A.P. José Miguel Cueto, R. Paulina, R. Garcia Franco, M. Vazquez, X. Mira, V. Romero. Instituto Mexicano de Oftalmología I.A.P., Querétaro, Mexico

4154 — B0449 Comparison of chandelier-assisted scleral buckling versus traditional scleral buckling for rhegmatogenous retinal detachment repair at an academic teaching center. Katherine E. Talcott, A. Obeid, A. Chiang, S. Garg, A. Ho, C. D. Regillo, J. Hsu. Retina Service, Wills Eye Hospital/Mid-Atlantic Retina, Philadelphia, PA

4155 — B0450 OCT angiography in adult primary rhegmatogenous retinal detachment before and after vitreoretinal surgery. Maria Silvana Galantuomo, R. Farci, P. E. Napoli, M. Fossarello. Department of Surgery, University Eye Clinic, Cagliari, Italy

4156 — B0451 Prognosis Factors for Visual Outcome and Anatomic Success on Tractional Retinal Detachment Surgery. Alejandro J. Hernandez Reyes, S. Lopez-Rubio, J. L. Rodriguez-Loaiza, F. Graue. Instituto de oftalmología Conde de Valenciana, Mexico, Mexico

4157 — B0452 Pars Plana Vitrectomy versus Scleral Buckling for Rhegmatogenous Retinal Detachment Repair in Middle-Age Patients. Wen-Shi Shieh, G. K. Shah. The Retina Institute, St. Louis, MO

4158 — B0453 In vivo assessments of retinal structure and function, and anterograde optic nerve transport after whole eye transplantation. Chiaki Komatsu¹, Y. van der Merwe^{2, 3}, L. He¹, M. R. Miller¹, K. A. Lucy³, M. Sietek⁴, G. Wollstein⁵, J. S. Schuman⁵, K. C. Chan^{3, 4}, K. M. Washington^{1, 6}. ¹Department of Plastic Surgery, University of Pittsburgh, Pittsburgh, PA; ²Department of Bioengineering, University of Pittsburgh, Pittsburgh, PA; ³Neuroimaging Laboratory, University of Pittsburgh, Pittsburgh, PA; ⁴Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ⁵Department of Ophthalmology, New York University, New York, NY; ⁶Veterans Administration Pittsburgh Healthcare System, Pittsburgh, PA *CR

4159 — B0454 Outpatient Air-Fluid Exchange for Persistent and Recurrent Vitreous Hemorrhage after Pars Plana Vitrectomy. Alice Behrens^{1, 2}, S. Uwaydat^{1, 2}, P. Johnson³, A. Sallam^{1, 2}. ¹Department of Ophthalmology, University of Arkansas for Medical Sciences, Little Rock, AR; ²Jones Eye Institute, Little Rock, AR; ³College of Medicine, University of Arkansas for Medical Sciences, Little Rock, AR

4160 — B0455 Repeated subretinal surgery and removal of subretinal decaline is well tolerated - evidence from a porcine model. Nina Buus Sørensen¹, K. Klemp¹, T. W. Kjær², M. D. De La Cour¹, J. F. Kiilgaard¹. ¹Ophthalmology, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark; ²Clinical Neurophysiology, Zealand University Hospital, Roskilde, Denmark

4161 — B0456 Segmental scleral buckling of eyes with thinned corneas can cause the cornea to tilt. Thomas R. Friberg¹, R. Aldhafeeri², P. Smolinski². ¹Ophthalmology/UPMC Eye Center, Univ of Pittsburgh, Pittsburgh, PA; ²Mechanical Engineering, University of Pittsburgh, Pittsburgh, PA

4162 — B0457 Magnetic scleral buckling for treatment of retinal detachments with severe proliferative vitreoretinopathy. Elena Kazimirova^{1, 2}, V. Shiryayev³, P. Lyskin¹, E. Kramarenko². ¹SN Fyodorov Eye Microsurgery Institution, Dolgoprudny, Russian Federation; ²Physics, Moscow State University, Moscow, Russian Federation; ³Moscow Institute of Physics and Technology, Dolgoprudny, Russian Federation

4163 — B0458 The Utility of Structured Video Indirect Ophthalmoscope-Guided Education in Improving Resident Ophthalmologist Confidence and Ability with Indirect Ophthalmoscopy and Scleral Depression. Jayanth Sridhar^{1, 2}, A. Shahlaee², S. Mehta², E. Rahimy², S. Garg², B. Finklea², J. P. Dunn², A. Chiang². ¹Ophthalmology, Bascom Palmer Eye Institute, Philadelphia, PA; ²Wills Eye Hospital, Philadelphia, PA

4164 — B0459 The association between the frequency of rhegmatogenous retinal detachment and the atmospheric temperature. Ju Byung Chae, H. Hwang, S. Hyung, J. Kim, D. Kim. Ophthalmology, Chungbuk National University, Cheongju, Korea (the Republic of)

4165 — B0460 Early fundus autofluorescence and OCT features after 23 gauges vitrectomy or scleral buckle surgery for rhegmatogenous retinal detachment. Alexandre Portmann, E. Letesson, C. Ngo, M. Muraine. Chu Rouen, Rouen, France

4166 — B0461 Management and outcome of suprachoroidal hemorrhage encountered during retinal reattachment surgery. Hae Jung Sun, S. Lee. Ophthalmology, Soonchunhyang University Hospital, Seoul, Korea (the Republic of)

4167 — B0462 Pre- and postoperative characteristics of fovea-off retinal detachment and their impact on final visual outcome. Katharina Eibenberger, S. Sacu, S. Rezar, U. Schmidt-Erfurth, M. Georgopoulos. Ophthalmology and Optometry, Medical University of Vienna, Vienna, Austria *CR, ✗

4168 — B0463 Comparison of surgical outcomes between 23-gauge and 25-gauge endoscope-assisted vitrectomy for treatment of rhegmatogenous retinal detachment. Sho Yokoyama³, T. Kojima¹, T. Mori², T. Matsuda³, T. Saeki⁴, H. Sato², N. Yoshida¹, T. Kaga³, K. Ichikawa³. ¹Japanese Red Cross Gifu Hospital, Gifu, Japan; ²Iida Municipal Hospital, Iida, Japan; ³Japan Community Health care Organization Chukyo Hospital, Nagoya, Japan; ⁴Tokyo Women's Medical University Hospital, Tokyo, Japan; ⁵Chukyo Eye Clinic, Nagoya, Japan

4169 — B0464 Outcomes of relaxing retinectomy for recurrent rhegmatogenous retinal detachment with proliferative vitreoretinopathy. Rachel M. Tandias^{1, 2}, P. Sun^{1, 2}, G. D. Amin^{1, 2}, A. P. Stern^{1, 2}, J. G. Arroyo^{1, 2}. ¹Surgery-Ophthalmology, Beth Israel Deaconess Medical Center, Boston, MA; ²Harvard Medical School, Boston, MA

4170 — B0465 Does vitrectomy change blood flow on optic nerve head in eyes with rhegmatogenous retinal detachment? kosei yanagida, T. Iwase, M. Kobayashi, K. Yamamoto, E. Ra, H. Terasaki. Nagoya University, Nagoya, Japan *CR

4171 — B0466 The effect of segmental scleral buckling on the power and symmetry of the cornea, corneal thickness, the axial length, and the total power of the eye: A biomechanical model. Raed Aldhafeeri^{1, 2}, P. Smolinski¹, T. R. Friberg³. ¹Mechanical Engineering, University of Pittsburgh, Pittsburgh, PA; ²Mechanical Engineering, University of Hafr Al Batin, Hafr Al Batin, Saudi Arabia; ³Department of Ophthalmology and Bioengineering, University of Pittsburgh, Pittsburgh, PA

4172 — B0467 A retrospective review of outcomes following intraocular silicone oil tamponade in complex retinal detachments. *Maedbh Rhatigan.* Mater Misericordiae University Hospital, Dromahair, Ireland

4173 — B0468 Elevated intraocular pressure following silicone oil injection for complicated retinal detachments. *Hiroaki Ozaki, J. Y. Huang, R. Ko, E. Uchio.* Ophthalmology, Fukuoka Univ Sch of Medicine, Jyonan-ku, Japan

4174 — B0469 Efficacy of two different thiol-modified crosslinked hyaluronate formulations compared to silicone oil in a model of retinal detachment. *Martin S. Spitzer¹, N. Schneider¹, J. Hurst², C. Hohenad³, K. Januschowski², S. Schnichels².* ¹Ophthalmology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ²Ophthalmology, University of Tuebingen, Tuebingen, Germany; ³Croma Pharma, Leobendorf, Austria *CR

Exhibit/Poster Hall B0531-B0564

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Retina

427 Retinal prostheses

Moderator: Takashi Fujikado

4175 — B0531 Cortical recordings of acute epiretinal stimulation with the VLARS-device in rabbits. *Tibor K. Lohmann¹, F. Haiss¹, C. Werner¹, K. Schaffrath¹, F. Waschkowski², A. Schnitzler¹, W. Mokwa², P. Walter¹.* ¹Ophthalmology, RWTH Aachen University Hospital, Aachen, Germany; ²Department of Materials in Electrical Engineering 1, RWTH Aachen University, Aachen, Germany

4176 — B0532 The effect of an asymmetric pulse in retinal prosthesis based on suprachoroidal-transretinal stimulation (STS). *Yukari Nakano¹, Y. Terasawa^{1,2}, H. Kanda³, M. Ozawa⁴, H. Sawat⁵.* ¹Artificial Vision Institute, R&D Div., Nidek CO.,LTD., Gamagori, Japan; ²Materials Science, Nara Institute of Science & Technology, Icoma, Japan; ³Department of Applied Visual Science, Osaka University Graduate School of Medicine, Suita, Japan; ⁴Nidek CO.,LTD., Gamagori, Japan; ⁵Department of Health Sciences, School of Nursing, Osaka Prefecture University, Habikino, Japan *CR

4177 — B0533 Investigate the long-term effects of varying blast overpressure (BOP) on retinal pathophysiology and behavioural outcome in non-human primate (NHP) model. *Veluchamy A. Barathi^{1,2}, S. Tun¹, L. Jia³.* ¹Translational Pre-Clinical Model Platfor, Singapore Eye Research Institute, Singapore, Singapore; ²Ophthalmology Academic Clinical Research Program, DUKE-NUS Graduate Medical School, Singapore, Singapore; ³DSO National Laboratories, Defence Medical and Environmental Research Institute, Singapore, Singapore

4178 — B0534 Injectable, Self-opening, and Freestanding Retinal Prosthesis for Fighting Blindness. *Diego Ghezzi¹, K. Sivula², M. J. Airaghi Leccardi¹, L. Ferlauto¹.* ¹Medtronic Chair in Neuroengineering, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland; ²Laboratory for Molecular Engineering of Optoelectronic Nanomaterials, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

4179 — B0535 Passive safety outcomes of a preclinical 44-channel suprachoroidal retinal prosthesis. *Carla J. Abbott^{1,2}, C. D. Luu^{1,2}, D. A. Nayagam^{3,4}, A. Brandli^{1,2}, J. Yeoh^{1,2}, J. Villalobos³, O. Burns³, S. B. Epp³, M. N. Shivdasani^{3,5}, P. Thien^{3,5}, C. McGowan³, R. Williams^{4,6}, R. H. Guymer^{1,2}, C. E. Williams^{3,5}, R. K. Shepherd^{3,5}, P. J. Allen^{1,2}.* ¹Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, East Melbourne, VIC, Australia; ²Department of Surgery (Ophthalmology), University of Melbourne, East Melbourne, VIC, Australia; ³Bionics Institute, East Melbourne, VIC, Australia; ⁴Department of Pathology, University of Melbourne, St Vincent's Hospital, Fitzroy, VIC, Australia; ⁵Medical Bionics Department, University of Melbourne, East Melbourne, VIC, Australia; ⁶St. Vincent's Hospital Melbourne, Fitzroy, VIC, Australia *CR

4180 — B0536 Network-mediated responses of ON ganglion cells to electric stimulation change over the course of retinal degeneration. *Jae-Ik Lee¹, S. I. Fried^{2,3}, M. Im^{1,3}.* ¹Department of Ophthalmology, Henry Ford Health System, Detroit, MI; ²Boston VA Healthcare System, Boston, MA; ³Neurosurgery, Massachusetts General Hospital, Harvard Medical School, Boston, MA

4181 — B0537 Chronic Implantation of a wide-field dual-array suprachoroidal-transretinal stimulation (STS) prosthesis in dogs. *Takeshi Morimoto¹, H. Kanda¹, T. Endo², K. Nishida², T. Fujikado¹.* ¹Applied Visual Science, Osaka Univ Graduate Sch of Med, Suita, Japan; ²Ophthalmology, Osaka University Graduate School of Medicine, Suita, Japan *CR

4182 — B0538 Argus® II array-retina distances correlate with patient thresholds. *Meghan Marino, L. Xu, A. V. Rachitskaya, A. Yuan.* Cole Eye Institute, Cleveland Clinic, Chardon, OH *CR

4183 — B0539 Retinal spatiotemporal characteristics and contrast sensitivity with subretinal prosthesis. *Elton Ho^{1,2}, G. A. Goetz^{3,82}, R. Smith⁴, A. Sher⁴, D. V. Palanker^{2,3}.* ¹Physics, Stanford University, Stanford, CA; ²Hansen Experimental Physics Laboratory, Stanford University, Stanford, CA; ³Neurosurgery, Stanford University, Stanford, CA; ⁴Santa Cruz Institute for Particle Physics, University of California Santa Cruz, Santa Cruz, CA; ⁵Ophthalmology, Stanford University, Stanford, CA *CR

4184 — B0540 Stimulation of Retinal Ganglion Cells Using an Ion-Mediated, Protein-Based Retinal Implant. *Jordan A. Greco^{1,2}, N. L. Wagner^{2,1}, R. J. Jensen³, R. R. Birge^{1,2}.* ¹Chemistry, University of Connecticut, Storrs, CT; ²LambdaVision, Inc., Farmington, CT; ³VA Boston Healthcare System, Boston, MA *CR

4185 — B0541 Evaluating the Effective Spatial Resolution of an Optoelectronic Nanowire Prosthesis. *Samir Damle¹, Y. Liu², Y. Jing³, W. R. Freeman^{4,5}, Y. Lo².* ¹Bioengineering, University of California San Diego, La Jolla, CA; ²Electrical and Computer Engineering, University of California San Diego, San Diego, CA; ³Nanovision Biosciences, Inc., San Diego, CA; ⁴Ophthalmology, University of California San Diego, San Diego, CA; ⁵Jacobs Retina Center-Shiley Eye Institute, San Diego, CA *CR

4186 — B0542 Evaluation of Implantation Feasibility of a Flexible, Tack-Free, Epiretinal Prosthesis in Yucatan Minipig. *James D. Weiland¹, Y. Zhang¹, J. C. Martinez¹, B. Ash², K. Markley², H. Eckhardt², M. S. Humayun¹.* ¹Ophthalmology, University of Southern California, Los Angeles, CA; ²Premitec, Inc., Raleigh, NC *CR

4187 — B0543 Retinal Hypercircuit Responses to Pattern Reversal Electrical Stimulation by a High Density MEA. *Ya-Ting Cheng¹, L. Fan^{1,4}, C. Yang^{3,82}, L. Lee², J. Huang¹, Y. Lai¹.* ¹Iridium Medical Technology Co., Ltd., Hsinchu, Taiwan; ²School of Medicine, National Taiwan University, Taipei, Taiwan; ³Dept. of Ophthalmology, National Taiwan University Hospital, Taipei, Taiwan; ⁴Inst. of NEMS, Hsinchu, Taiwan *CR

4188 — B0544 Novel eye-tracking method for retinal prostheses. *Hiroyuki Kanda¹, S. Satonaka², T. Morimoto¹, T. Miyoshi³, T. Fujikado¹.* ¹Applied Visual Science, Osaka Univ Graduate Sch of Med, Suita, Japan; ²NIDEK CO., LTD., Gamagori, Japan; ³Integrative Physiology, Osaka Univ Graduate Sch of Med, Suita, Japan *CR

4189 — B0545 Optical coherence tomography in patients with Alpha IMS subretinal implant.

Laura Kuehlewein¹, V. Kitiratschky², M. Gosheva¹, T. Edwards³, R. E. MacLaren³, A. Kusnyerik⁴, C. Angelescu⁵, T. L. Jackson⁵, C. Sun⁶, C. Chee⁶, H. G. Sachs⁷, B. Wilhelm¹⁰, F. Gekeler⁹, K. U. Bartz-Schmidt¹, E. Zrenner¹⁻⁸, K. Stingl¹. ¹Department of Ophthalmology, Center for Ophthalmology, Tuebingen, Germany; ²Augenlinik des Ortenau Klinikums, Offenburg-Gengenbach, Germany; ³John Radcliffe Hospital and Nuffield Laboratory of Ophthalmology, Oxford, United Kingdom; ⁴Department of Ophthalmology at the Semmelweis University, Budapest, Hungary; ⁵King's College Hospital NHS Foundation Trust, London, United Kingdom; ⁶Department of Ophthalmology of the National University Hospital, Singapore, Singapore; ⁷Staedtisches Klinikum Dresden-Friedrichstadt, Dresden, Germany; ⁸Werner Reichardt Centre for Integrative Neuroscience, Tuebingen, Germany; ⁹Katharinenhospital Stuttgart, Stuttgart, Germany; ¹⁰STZ Eyetrial, Tuebingen, Germany *CR, ✗

4190 — B0546 Retinotopy of percepts elicited by an IRIS epi-retinal implant.

Vincent J. BISMUTH¹, M. Keserue¹, L. Wagenfeld¹, T. Schade¹, Y. Le Mer², O. Darwiche-Domingues³, R. Hornig³. ¹Department of Ophthalmology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany; ²Ophthalmology, Fondation Adolphe de Rothschild, Paris, France; ³Pixium Vision, Paris, France *CR, ✗

4191 — B0547 In vivo acute and chronic evaluation of a nanowire based subretinal prosthesis.

Brandon Bosse^{2,3}, S. Damle¹, A. Akinin¹, D. G. Bartsch², L. Cheng², Y. Jing^{2,3}, W. R. Freeman². ¹Bioengineering, University of California, San Diego, San Diego, CA; ²Ophthalmology, University of California, San Diego, San Diego, CA; ³Nanovision Biosciences, La Jolla, CA *CR

4192 — B0548 Eye movement control in Argus II retinal prosthesis users improves performance in a shape localization task.

Avi Caspi^{1,2}, A. Roy², V. Wuyyuru², P. E. Rosendall⁴, J. W. Harper⁴, K. D. Katyal⁴, M. P. Barry³, G. Dagnelie³, R. J. Greenberg². ¹Jerusalem College of Technology, Jerusalem, Israel; ²Second Sight Medical Products Inc, Sylmar, CA; ³Ophthalm-Lions Vision Cntr, Johns Hopkins Univ, Baltimore, MD; ⁴The Johns Hopkins University Applied Physics Laboratory, Laurel, MD *CR

4193 — B0549 Reducing spread of neural activation using focused multipolar retinal electrical stimulation in sighted and blinded cats.

Thomas Spencer^{1,2}, J. B. Fallon^{1,2}, C. J. Abbott^{3,4}, P. J. Allen^{3,4}, A. A. Brandli^{3,4}, C. D. Luu^{3,4}, M. N. Shivasani^{1,2}. ¹Bionics Institute, East Melbourne, VIC, Australia; ²Department of Medical Bionics, University of Melbourne, Carlton North, VIC, Australia; ³Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, East Melbourne, VIC, Australia; ⁴Department of Surgery (Ophthalmology), University of Melbourne, East Melbourne, VIC, Australia

4194 — B0550 Optimizing Selectivity of Epiretinal Stimulation using Local Returns.

Victoria Fan¹, L. E. Grosberg¹, S. Madugula¹, P. Hottowy³, W. Dabrowski³, A. Sher², A. M. Litke^{2,3}, E. Chichilnisky¹. ¹Department of Neurosurgery and Hansen Experimental Physics Laboratory, Stanford University, Stanford, CA; ²Santa Cruz Institute for Particle Physics, University of California, Santa Cruz, Santa Cruz, CA; ³Physics and Applied Computer Science, AGH University of Science and Technology, Krakow, Poland

4195 — B0551 Stability of the suprachoroidal electrode array during one-month implantation in rabbit eyes.

Yasuo Terasawa^{1,2}, H. Tashiro^{2,3}, Y. Nakano¹, M. Ozawa¹. ¹Artificial Vision Institute, R&D Div., Nidek Co., Ltd., Gamagori, Japan; ²Materials Science, Nara Institute of Science and Technology, Ikoma, Japan; ³Department of Health Sciences, Kyushu University, Fukuoka, Japan; ⁴Nidek Co., Ltd., Gamagori, Japan *CR

4196 — B0552 Setup for visible and infrared electroretinogram and visual evoked potential in an animal model for evaluation of a retinal prosthesis.

Dirk-Uwe G. Bartsch¹, S. Damle¹, B. Bosse^{1,2}, L. Cheng^{1,2}, W. R. Freeman^{1,2}. ¹Ophthalmology-Shiley Eye Ctr, Univ of California-San Diego, La Jolla, CA; ²Nanovision Biosciences, La Jolla, CA *CR

4197 — B0553 Advantage of Using Topographic Prominence Discriminator-adapted Filter for Eliminating Electric Stimulus Artifact.

JungRyul Ahn¹, M. Choi², K. Koo², Y. Goo¹. ¹Physiology, Chungbuk National University Med School, Cheong-ju, Korea (the Republic of); ²Biomedical Engineering, University of Ulsan, Ulsan, Korea (the Republic of)

4198 — B0554 Degeneration Stage-specific Safe Limit for Electric Stimulus in rd10 Mouse Retina.

SeongKwang Cha, J. Ahn, Y. Goo. Physiology, Chungbuk National University, Cheongju, Korea (the Republic of)

4199 — B0555 Estimation of the reliability of a subretinal implant using systematic statistical evaluation of clinical results and developing a laboratory model.

Renate Daschner, M. Kokelmann, U. Greppmaier, R. Rudolf, S. Rudolf. Retina Implant AG, Reutlingen, Germany *CR, ✗

4200 — B0556 Optimization of pillar electrodes in subretinal prosthesis for enhanced proximity to target neurons.

Thomas A. Flores¹, X. Lei², T. W. Huang², H. Lorach³, R. Dalal^{3,4}, T. Kamins², K. Mathieson⁵, D. V. Palanker^{3,4}. ¹Applied Physics, Stanford University, Stanford, CA; ²Electrical Engineering, Stanford University, Stanford, CA; ³Hansen Experimental Physics Laboratory, Stanford University, Stanford, CA; ⁴Ophthalmology, Stanford University, Stanford, CA; ⁵Institute of Photonics, University of Strathclyde, Glasgow, United Kingdom *CR

4201 — B0557 Characterization of the Silicon Nanowire Optoelectronic Device For Subretinal Prosthesis.

Yi Jing¹, S. Damle², B. Bosse¹, S. Bauehner¹, W. R. Freeman³, Y. Lo⁴. ¹Nanovision Biosciences Inc., San Diego, CA; ²Department of Bioengineering, University of California, San Diego, La Jolla, CA; ³Department of Ophthalmology, University of California, San Diego, La Jolla, CA; ⁴Department of Electrical and Computer Engineering, University of California, San Diego, La Jolla, CA *CR

4202 — B0558 Behavioral assessment of photovoltaic subretinal prosthesis in rats with retinal degeneration.

Henri Lorach¹, F. Lazslo¹, E. Ho¹, X. Lei², L. Galambos², T. Kamins², J. Harris², D. V. Palanker^{1,3}. ¹Hensen Experimental Physics Lab, Stanford University, Stanford, CA; ²Electrical Engineering, Stanford University, Stanford, CA; ³Ophthalmology, Stanford University, Stanford, CA *CR

4203 — B0559 Optimized rabbit eye model for acute evaluation of subretinal prosthesis.

Fangting Li¹, Y. Xiao¹, Y. Wang¹, S. Thorogood¹, W. R. Freeman¹, L. Cheng¹. ¹University of California, San Diego, San Diego, CA; ²Nanovision Biosciences, San Diego, CA *CR

4204 — B0560 A Pre-clinical Model for Safe Retinal Stimulation.

David A. Nayagam^{1,2}, P. Thien^{1,3}, C. J. Abbott^{4,6}, M. N. Shivasani¹, S. B. Epp¹, J. Villalobos¹, C. McGowan¹, R. Williams^{2,5}, C. D. Luu^{4,6}, C. Salinas-LaRosa⁵, J. Yeoh^{4,6}, O. Burns¹, A. A. Brandli^{4,6}, C. E. Williams¹, P. J. Allen^{4,1}, R. K. Shepherd^{1,3}. ¹Bionics Institute, East Melbourne, VIC, Australia; ²Department of Pathology, University of Melbourne, Fitzroy, VIC, Australia; ³Department of Medical Bionics, University of Melbourne, East Melbourne, VIC, Australia; ⁴Centre for Eye Research Australia, Royal Victorian Eye and Ear Hospital, East Melbourne, VIC, Australia; ⁵Anatomical Pathology, St Vincent's Hospital Melbourne, Fitzroy, VIC, Australia; ⁶Department of Surgery (Ophthalmology), University of Melbourne, East Melbourne, VIC, Australia *CR

4205 — B0561 The comparison of cortical responses evoked by transcorneal electrical and visual stimulation by intrinsic optical imaging.

Yao Chen, P. Sun, Z. Lu, X. Chai. Biomedical Engineering, Shanghai Jiao Tong University, Shanghai, China

4206 — B0562 Perceived visual field expanding with content-aware image retargeting for prosthetic vision.

Xinyu Chai, Y. Zeng, H. Li, Y. Chen, C. Zhou. Biomedical Engineering, Shanghai Jiao Tong University, Shanghai, China

4207 — B0563 Towards effective activation of V1 neurons with micro-coils.

Shelley I. Fried^{2,1}, S. W. Lee^{1,2}. ¹Neurosurgery, Massachusetts General Hospital, Boston, MA; ²Research, Boston VA Healthcare System, Boston, MA

4208 — B0564 Influence of the TRPV-1 channel and HSP70 on RPE cell survival after transient temperature rise. Katharina Kern^{1,2}, S. Beier², R. Brinkmann^{1,2}, Y. Miura^{1,2}. ¹Medical Laser Center Luebeck, Luebeck, Germany; ²Institute of Biomedical Optics, University of Luebeck, Luebeck, Germany

Exhibit/Poster Hall B0670-B0698

Wednesday, May 10, 2017 8:30 AM-10:15 AM

Visual Psychophysics/Physiological Optics

428 Spatial and temporal vision

4209 — B0670 Population-based simulation using image quality metrics to predict visual acuity in pseudophakic patients implanted with trifocal IOLs. Lin He, X. Hong, R. Sarangapani. Alcon Laboratories Inc., Ft Worth, TX *CR

4210 — B0671 Retinal Simulator for Refractive Eye Models and Retinal Implants. Denise Valente, B. Vohnsen. University College Dublin, Dublin, Ireland *CR

4211 — B0672 Relative influence of blur, contrast and ghosting on perceived image quality and visual acuity. Julia S. Benoit^{1,2}, A. Ravikumar¹, J. D. Marsack¹, H. A. Anderson³. ¹Department of Basic Vision Sciences, University of Houston College of Optometry, Houston, TX; ²Texas Institute for Measurement, Evaluation, and Statistics, University of Houston, Houston, TX; ³Clinical Sciences, University of Houston, Houston, TX

4212 — B0673 A simulation study in control observers demonstrates objectively optimized refractions outperform habitual refraction acuity for Down syndrome eyes. Ayaswarya Ravikumar, J. D. Marsack, J. S. Benoit, H. A. Anderson. College of Optometry, University of Houston, Houston, TX

4213 — B0674 Optimizing Spectacle Prescriptions for Patients with Keratoconus. Elizabeth Shumard, G. D. Hastings, R. A. Applegate, L. C. Nguyen, R. T. Hemmati, J. D. Marsack. University of Houston College of Optometry, Houston, TX *CR

4214 — B0675 Deficient Contrast Sensitivity Function in Regular Astigmatic Eyes with Normal or Corrected-to-Normal Visual Acuity. Jinrong Li¹, J. Yuan¹, F. Hou², M. Dorri³, Z. Lu⁴. ¹State Key Laboratory of Ophthalmology, Guangdong Provincial Key Lab of Ophthalmology and Visual Science, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ²School of Ophthalmology & Optometry and Eye Hospital, Wenzhou Medical University, Wenzhou, Zhejiang, China; ³Technical University of Munich, Munich, Germany; ⁴Ohio State University, Columbus, OH *CR

4215 — B0676 Thin luminance gaps can eliminate contrast-mediated perceptual asynchronies. Laysa Hedjar¹, A. Shapiro². ¹Behavior, Cognition, and Neuroscience Program, American University, Washington, DC; ²Departments of Psychology and Computer Science, American University, Washington, DC

4216 — B0677 THEY CAN DISAPPEAR - Can the panda illusion be used to test visual acuity? Torsten Strasser¹, H. Langrová², L. Kuehlewein¹, A. Werner¹, A. Kurtenbach¹, E. Zrenner¹. ¹Centre for Ophthalmology, University of Tuebingen, Tuebingen, Germany; ²University Eye Hospital, Hradec Králové, Czech Republic

4217 — B0678 Peripheral contour interaction is similar under photopic and scotopic luminances. Lenka Musilova¹, F. Pluhacek¹, H. E. Bedell², S. Marten-Ellis², J. Siderov³. ¹Department of Optics, Palacky University Olomouc, Olomouc, Czech Republic; ²College of Optometry, University of Houston, Houston, TX; ³Vision and Hearing Sciences, Anglia Ruskin University, Cambridge, United Kingdom

4218 — B0679 Contrast generated illusory motion as a potential diagnostic tool. Divya Nigam¹, L. Hedjar¹, A. Shapiro². ¹Behavior, Cognition, and Neuroscience Program, American University, Washington, DC; ²Departments of Psychology and Computer Science, American University, Washington, DC

4219 — B0680 Spatial contrast sensitivity function of patients with mild traumatic brain injury. Jennifer Nguyen, R. Al-Abdalla, N. Joshi, K. J. Ciuffreda, S. Viswanathan. Optometry/Vision Science, SUNY College of Optometry, New York, NY

4220 — B0681 Eccentricity dependency of centre-surround orientation interactions on suppression of contrast detection. Menaka S. Malavita, T. Vidyasagar, A. M. McKendrick. Optometry and Vision Sciences, University of Melbourne, Parkville, VIC, Australia

4221 — B0682 Predicting the Contrast Sensitivity Function in Different Luminance Conditions. Fang Hou¹, L. A. Lesmes², W. Kim³, H. Gu⁴, M. Pitt⁴, J. Myung⁴, Z. Lu⁴. ¹Ophthalmology and Optometry College, Wenzhou Medical University, Wenzhou, China; ²Adaptive Sensory Technology, Inc, Boston, MA; ³Department of Psychology, Howard University, Columbus, OH; ⁴Psychology Department, The Ohio State University, Columbus, OH *CR

4222 — B0683 Comparison of contrast sensitivity in photopic and mesopic conditions. Claire R. Healy^{1,2}, E. D. Ng^{1,2}, M. Diep^{1,2}, A. Seitz³, P. G. Davey^{2,1}. ¹Graduate College of Biomedical Science, Western University of Health Sciences, Pomona, CA; ²College of Optometry, Western University of Health Sciences, Pomona, CA; ³Psychology, University of California Riverside, Riverside, CA

4223 — B0684 Prediction of contrast sensitivity in the presence of glare. Marrie Van der Mooren¹, R. Rosen¹, L. Franssen¹, L. Lundstrom², P. A. Piers¹. ¹Research & Development, AMO Groningen BV, Groningen, Netherlands; ²Biomedical & X-ray Physics, KTH Royal Institute of Technology, 10691 Stockholm, Sweden *CR

4224 — B0685 Effect of glare on contrast sensitivity function. My Diep^{1,2}, C. R. Healy^{1,2}, E. D. Ng^{1,2}, A. Seitz³, P. G. Davey^{2,1}. ¹Graduate College of Biomedical Science, Western University of Health Sciences, Pomona, CA; ²College of Optometry, Western University of Health Sciences, Pomona, CA; ³Psychology, University of California, Riverside, Riverside, CA

4225 — B0686 Straylight angular dependency. Thomas J. Van Den Berg¹, L. Franssen^{1,2}, J. Coppens¹. ¹Netherlands Institute for Neuroscience, Royal Netherlands Academy of Arts and Sciences, Amsterdam, Netherlands; ²presently at AMO Groningen B.V., Groningen, Netherlands *CR, ✗

4226 — B0687 Impact of induced intraocular scatter in visual performance in the near periphery. Augusto Arias Gallego¹, D. Montagud², E. Fernandez¹, P. Artal¹. ¹Laboratorio de Optica, Universidad de Murcia, Murcia, Spain; ²Diffraction Optics Group, Universitat de València, Burjassot, Spain

4227 — B0688 Iris Characteristics Affecting Far Peripheral Vision and Negative Dysphotopsia. Michael Simpson¹, M. Muzyka-Wozniak². ¹Simpson Optics LLC, Arlington, TX; ²Spektrum Eye Clinic, Wroclaw, Poland

4228 — B0689 The effect of practice on sensitivity to global motion in subjects with and without visual discomfort. ding han¹, H. Bi¹, X. Li², R. Wei², J. Zhou², B. Zhang¹. ¹Nova Southeastern University, Davie, FL; ²Tianjin Medical University Eye Hospital, Tianjin, China

4229 — B0690 Evaluation of an Electronic Visual Acuity and Contrast Sensitivity Test System for Use in Ophthalmic Clinical Trials. Sanjeev Kasthurirangan¹, C. Garufis¹, J. Rudd², J. Solomon³. ¹CLINICAL R&D, Abbott Medical Optics, Milpitas, CA; ²Clarus Eye Center, Lacie, WA; ³Solomon Eye Associates, Bowie, MD *CR

4230 — B0691 Utility and Validity of the Handy Eye Chart™ in Non-English Speaking Populations. Caroline Cromelin, A. Hutchinson, P. Thulasi, J. Gorham, B. B. Bruce. Ophthalmology, Emory University, Atlanta, GA *CR

4231 — B0692 Measuring Contrast Sensitivity using CambBlobs2 Disposable Paper Charts in Normal Subjects. Andrea Griffin, H. Cheng, J. Robson. Optometry, University of Houston, Houston, TX *CR

4232 — B0693 Comparing Monocular and Binocular Performance on Chart Tests of Acuity, Contrast Sensitivity and Reading in Normal Subjects. Benjamin Stephens, J. Odom, M. J. Leys, J. Nguyen, C. Antonini. Ophthalmology, West Virginia University, Morgantown, WV

4233 — B0694 Binocular summation and the correlation between spatial and temporal visual functions in normal and amblyopic subjects. Nairouz Farah³, A. Eisen³, Z. Burgansky-Eliash², U. Polat¹, Y. Mandel³. ¹Life Sciences Optometry Track, Bar Ilan University, Ramat Gan, Israel; ²E. Wolfson Medical Center, Holon, Israel; ³Faculty of life Sciences, Optometry Track and Bar-Ilan Institute for nanotechnology and Advanced Materials (BINA), Bar Ilan University, Ramat Gan, Israel

4234 — B0695 Bionic Vision: Interaction between color luminance and on-screen shape recognition. Alex Gonzalez¹, K. Zann², M. C. Aguilar¹, C. J. Rowaan¹, B. L. Lam³, N. Gregori^{3, 82}, J. A. Parell^{1, 4}. ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Ophthalmology, VA Healthcare System, Miami, FL; ³Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ⁴Brien Holden Vision Institute and Vision Cooperative Research Centre, Sydney, NSW, Australia

4235 — B0696 Occupational Lenses respect natural posture when interacting in near vision with digital devices. Damien Paille, S. Marié, A. Debievre, C. Benoit. Vision Science Department - R&D, ESSILOR, Paris, France *CR

4236 — B0697 Direct Integration of the Stiles-Crawford Effect of the First Kind using Pupil Flicker Methodology. Brian Vohnsen, A. Carmichael, N. Sharmin, S. Qaysi, D. Valente. School of Physics, University College Dublin, Dublin, Ireland

4237 — B0698 Bayesian adaptive assessment of reading performance: the quick Reading method. Zhong-Lin Lu¹, F. Hou³, L. A. Lesmes², P. J. Bex⁴, D. Yu⁵. ¹Psychology, The Ohio State University, Columbus, OH; ²Adaptive Sensory Technology, Inc, Washington, DC; ³School of Ophthalmology & Optometry, Wenzhou Medical University, Wenzhou, China; ⁴Psychology, Northeastern University, Boston, MA; ⁵College of Optometry, The Ohio State University, Columbus, OH *CR

Ballroom 2

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Cornea

429 Corneal Epithelium in Health and Disease**Moderators: Che J. Connon and Stephanie L. Watson**

4238 — 11:00 NUS1 positively regulates autophagic activity in the stem cell-enriched limbal epithelium. *Jong Kook Park¹, H. Peng¹, W. Yang¹, C. He², R. M. Lavker¹.* ¹Dermatology, Feinberg School of Medicine, Northwestern University, Chicago, IL; ²Department of Cell and Molecular Biology, Northwestern university, Chicago, IL

4239 — 11:15 Significant Role of Differentially Expressed miR-10b in Normal and Diabetic Limbus in Corneal Epithelial Homeostasis.

Mangesh Kulkarni¹, A. Leszczynska¹, G. Wei¹, J. Tang², V. Funari², N. Deng³, Z. Liu³, V. Punj³, S. X. Deng⁴, A. Ljubimov^{1,4}, M. S. Ghiam^{1,4}. ¹Biomedical Sciences, Regenerative Medicine Institute Eye Program, Cedars-Sinai Medical center, Los Angeles, CA; ²Genomic Core, Cedars Sinai Medical Center, Los Angeles, CA; ³Norris Comprehensive Cancer Center Bioinformatics Core and Division of Hematology, University of Southern California, Los Angeles, CA; ⁴David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA; ⁵Cancer Institute, Cedars Sinai Medical Center, Los Angeles, CA

4240 — 11:30 Unfolded protein response coordinates autophagy in maintaining proteostasis and clonal survival of limbal stem cells under UVA stress. *Ying-Ting Chen, M. Laggner; U. Schmidt-Erfurth, A. Pollreis.* Ophthalmology and Optometry., Medical University of Vienna, Vienna, Austria

4241 — 11:45 Prosthetic Replacement of the Ocular Surface Ecosystem (PROSE) for the Treatment of Limbal Stem Cell Deficiency.

Christopher T. Hood¹, K. S. Deloss¹, K. Kim^{1,2}. ¹Kellogg Eye Center, University of Michigan, Ann Arbor, MI; ²Department of Ophthalmology, Inje University College of Medicine, Busan, Korea (the Republic of)

4242 — 12:00 Keratin-14⁺ progenitor cells contribute to corneal epithelial maintenance.

Alexander Richardson, D. Wakefield, N. Di Girolamo. Pathology, The University of New South Wales, Sutherland, NSW, Australia

4243 — 12:15 The mechanical properties of the human corneal limbus and its influence on epithelial stem cell phenotype. *Che J. Connon¹, R. Martins Gouveia¹, C. Paterson², G. Lepert², R. R. Mohan³, S. Gupta³.* ¹Institute of Genetic Medicine, Newcastle University, Newcastle Upon Tyne, United Kingdom; ²Imperial College London, Loondon, United Kingdom; ³University of Missouri, Columbia, MO

4244 — 12:30 PAX6, OVOL2, KLF4 coordinately contribute the reprogramming of the corneal epithelial cells **Transcription factors PAX6, OVOL2, and KLF4 coordinately contribute to the reprogramming of corneal epithelial cells.** *Rei Murakami^{1,2}, K. Kitazawa^{3,82}, T. Hikichi², T. Nakamura³, C. Sotozono¹, S. Kinoshita³, S. Masu².* ¹ophthalmology, kyoto prefecture university of medicine, Kyoto, Japan; ²Center for iPS Cell Research and Application, Kyoto University, Kyoto, Japan; ³Department of Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan

Ballroom 1

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Retinal Cell Biology

430 Diabetic Retinopathy**Moderators: Patrice E. Fort, Julia V. Busik and Susanna S. Park**

4245 — 11:00 Fibroblast growth factor 21 administration suppresses pathologic retinal vessel growth in oxygen-induced retinopathy. *Zhongjie Fu¹, Y. Gong¹, R. Liegl¹, Z. Wang¹, C. Liu¹, S. Meng¹, S. Burnim¹, A. Hellstrom³, S. Talukdar², L. E. Smith¹.* ¹Ophthalmology, Boston Children's Hospital / Harvard Medical School, Boston, MA; ²Merck Research Laboratories, Boston, MA; ³Sahlgrenska Academy at University of Gothenburg, Gothenburg, Sweden *CR

4246 — 11:15 Long-term Intermittent Fasting (IF) Initiated at Night Prevents Development of Diabetic Retinopathy by Restoration of Bile Acid Metabolism in db/db Mice. *Maria B. Grant^{2,1}, L. Moldovan^{2,1}, E. Belt^{2,1}, Y. Yan³, A. D. Bhatwadekar^{2,1}, R. Gao⁴, J. Dominguez^{2,1}, T. Lydic⁵, X. Wang⁶, Y. Luo⁶, D. Wang⁶, M. Levi⁶, J. V. Busik⁵, M. E. Boulton^{2,1}.* ¹Eugene and Marilyn Glick Eye Institute/Indiana University, Indianapolis, IN; ²Ophthalmology, Indiana University, Indianapolis, IN; ³Pharmacology, University of Florida, Gainesville, FL; ⁴Computer and Information Sciences, University of Florida, Gainesville, FL; ⁵Physiology, Michigan State University, East Lansing, MI; ⁶Medicine, University of Colorado Denver, Denver, CO

4247 — 11:30 Neutralization of placental growth factor as a novel treatment option in diabetic retinopathy. *Tine Van Bergen¹, T. Hu¹, I. Etienne¹, G. Reynolds¹, L. K. Moons², J. Feyen¹.* ¹ThromboGenics, Leuven, Belgium; ²Biology, KU Leuven, Leuven, Belgium *CR

4248 — 11:45 Downregulation of the SIRT1 and Liver X Receptor α/β signaling axis promotes diabetic retinopathy pathogenesis. *Sandra Hammer¹, T. Lydic¹, Q. Wang¹, S. Hazra², G. Malek³, M. E. Boulton⁴, M. B. Grant¹, J. V. Busik¹.* ¹Physiology, Michigan State University, East Lansing, MI; ²The University of Utah, Salt Lake City, UT; ³Duke University, Durham, NC; ⁴Indiana University, Indianapolis, IN

4249 — 12:00 Elevated expression of RUNX1 by vascular endothelial cells in proliferative diabetic retinopathy. *Jonathan D. Lam^{1,2}, D. Oh^{1,2}, P. A. D'Amore^{1,2}, L. A. Kim^{1,2}, J. Arboleda-Velasquez^{1,2}.* ¹Schepens Eye Research Institute, Boston, MA; ²Ophthalmology, Massachusetts Eye and Ear, Boston, MA *CR

4250 — 12:15 Characterization of early retinal vascular changes in murine models of diabetic retinopathy: Comparison of phase-variance OCT angiography and fluorescein angiography. *Susanna S. Park¹, S. Manna², P. Zhang², J. Lu¹, P. Emami-naeini¹, R. J. Zawadzki^{1,2}.* ¹UC Davis Eye Center/University of California, Sacramento, CA; ²Cell Biology and Human Anatomy, UC Davis EyePod Laboratory, Davis, CA

4251 — 12:30 Inhibition of Nox1, 4 and 5 attenuates vasculopathy and inflammation in rats with hypertensive diabetic retinopathy. *Devy Deliyanti, S. Alrashedi, D. R. Berka, K. A. Jandeleit-Dahm, M. E. Cooper, J. L. Wilkinson-Berka.* Diabetes, Monash University, Melbourne, VIC, Australia *CR

Ballroom 3

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Retina

431 Vitreoretinal surgery II and endophthalmitis**Moderator: Jens F. Küllgaard**

4252 — 11:00 Acute retinal toxic damage by AlaOcta® a liquid perfluorooctane liquid used in retinal detachment surgery. Clinical picture and functional consequences. Jose-Carlos Pastor^{1,2}, R. M. Coco^{1,3}, I. Fernandez-Bueno^{1,4}, M. Alonso-Alonso¹, M. Jesus^{5,3}, F. Rull^{5,3}, M. J. Gayoso^{6,3}, A. Dueñas³, M. García-Gutierrez¹, L. Gonzalez-Buendia^{1,3}, S. Delgado-Tirado^{1,3}, E. Abecia^{7,4}, M. Ruiz-Miguel^{8,4}, M. A. Serrano⁹, J. Ruiz-Moreno^{10,4}, G. K. Srivastava^{1,4}. ¹IOBA-Campus Miguel Delibes, University of Valladolid, Valladolid, Spain; ²Ophthalmology, Hospital Clinico Universitario, Valladolid, Spain; ³University of Valladolid, Valladolid, Spain; ⁴Oftared, Madrid, Spain; ⁵Departamento de Cristalografía y Mineralogía, University of Valladolid, Valladolid, Spain; ⁶Departamento de Biología Celular, Valladolid, Spain; ⁷Hospital Miguel Servet, Zaragoza, Zaragoza, Spain; ⁸Hospital Donostia, San Sebastian, Spain; ⁹Hospital Universitario de Canarias, Las Palmas, Spain; ¹⁰University of Castilla la Mancha, Albacete, Spain

4253 — 11:15 Subconjunctival Exposure to Carbopol 980 Stimulates Chronic Inflammation Characterized by Histiocytic Infiltration. Andrew J. Barkmeier¹, R. Iezzi¹, D. R. Salomao^{1,2}, L. A. Dalvin¹. ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Pathology, Mayo Clinic, Rochester, MN

4254 — 11:30 Progression to Surgery for Epiretinal Membranes with Good Vision. Xuejing Chen^{2,1}, C. Shah¹, J. Heier¹. ¹Ophthalmic Consultants of Boston, Boston, MA; ²Tufts Medical Center, Boston, MA

4255 — 11:45 Molecular Diagnostic Evaluation of Post-surgical Endophthalmitis. Bryan Yue¹, C. S. Lee¹, S. Kasi², B. Hong², L. Akileswaran¹, D. Baughman¹, A. Y. Lee¹, S. Garg², R. N. Van Gelder¹. ¹Department of Ophthalmology, University of Washington, Seattle, WA; ²The Retina Service of Wills Eye Hospital, MidAtlantic Retina, Wills Eye Hospital, Philadelphia, PA *CR

4256 — 12:00 Intravitreal use of povidone-iodine to treat bacterial endophthalmitis. Ahmet Hondur^{1,2}, K. Caglar³, G. Duman³, Q. Zeng¹, C. Molero¹, T. H. Tezel¹. ¹Ophthalmology, Columbia University College of Physicians and Surgeons, New York, NY; ²Ophthalmology, Gazi University, Ankara, Turkey; ³Microbiology, Gazi University, Ankara, Turkey

Ballroom 4

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Glaucoma

432 Structure-Function Relationships I**Moderator: Donald Hood**

4257 — 11:00 Structure-guided ANSWERS: detecting visual field progression with the assistance of spatially-related structural measurement. qian cheng¹, H. Zhu^{1,2}, D. P. Crabb³, P. H. Artes⁴, D. Garway-Heath². ¹State Key Laboratory of Software Development Environment, Beihang University, Beijing, China; ²National Institute for Health Research Biomedical Research Centre for Ophthalmology, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ³City University London, London, United Kingdom; ⁴Plymouth University, Plymouth, United Kingdom *CR

4258 — 11:15 The Macula Progression Study (MAPS): Repeatability of a Single, Wide-field, Swept-Source Optical Coherence Tomography Protocol. C Gustavo De Moraes, J. M. Liebmann, J. Reimann, L. Lu, L. Al-Aswad, D. Blumberg, G. A. Cioffi, R. Ritch, D. Hood. Ophthalmology, Columbia University Medical Center, New York, NY *CR, f

4259 — 11:30 A basis for customizing perimetric locations at the macula in patients with glaucoma. Muhammed S. Alluwimi, W. H. Swanson, V. E. Malinovsky, B. J. King. School of Optometry, Indiana University Blomington, Bloomington, IN *CR

4260 — 11:45 Orientation of the temporal nerve fibre raphe in healthy eyes and those with glaucoma. Allison M. McKendrick¹, P. Bedgood^{1,2}, B. Nguyen¹, G. Lakkis¹, A. Turpin². ¹Optometry & Vision Sciences, University of Melbourne, Parkville, VIC, Australia; ²Computing and Information Systems, The University of Melbourne, Parkville, VIC, Australia *CR

4261 — 12:00 Comparison of within-eye and between-individual variability in macular structure-function relationships. Kouros Nouri-Mahdavi¹, N. Fatehi¹, N. Amini¹, F. Yu¹, E. Morales¹, S. Henry¹, A. Affr², A. Coleman¹, J. Caprioli¹. ¹Ophthalmology, Stein Eye Institute, Los Angeles, CA; ²Biostatistics, Fielding School of Public Health, Los Angeles, CA *CR

4262 — 12:15 Relationship Between Optical Coherence Tomography Angiography Macular Vascular Density Measurements and Central Visual Field Damage. Rafaella C. Penteado¹, L. M. Zangwill¹, F. B. Daga¹, M. Christopher¹, A. Yarmohammadi¹, P. C. Manalastas¹, T. Akagi^{1,2}, T. Shoji^{1,3}, F. Medeiros¹, R. N. Weinreb¹. ¹Hamilton Glaucoma Center, Shiley Eye Institute, Department of Ophthalmology, University of California, San Diego, San Diego, CA; ²Department of Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine, Kyoto, Japan; ³Department of Ophthalmology, Saitama Medical University, Iruma, Japan *CR, x

4263 — 12:30 Quantification and functional correlations of macular microvasculature in the ganglion cell-inner plexiform layer in primary open angle glaucoma using OCT Angiography. Ingy Madi¹, A. Zaman¹, A. H. Kashani¹, Z. Chu², R. K. Wang², G. M. Richter¹. ¹USC Roski Eye Institute, Keck School of Medicine of University of Southern California, Los Angeles, CA; ²University of Washington, Seattle, WA *CR

Hall G

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Retina

433 Retinal prostheses**Moderator: Paulo E. Stanga**

4264 — 11:00 Argus II Retinal Prosthesis System Post-Approval US Cohort 1 Year Outcomes. Aleksandra V. Rachitskaya¹, J. D. Dorn², H. Ameri³, D. G. Birch⁴, R. Iezzi⁵, A. Ho⁶, T. Jayasundera⁷, G. Kokame⁸, J. I. Lim⁹, N. Mandava¹⁰, L. Vajzovic¹¹, J. Yan¹², M. J. Marino¹, A. Yuan¹. ¹Ophthalmology, Cole Eye Institute, Cleveland, OH; ²Second Sight, Sylmar, CA; ³USC Roski Eye Institute, Los Angeles, CA; ⁴Retina Foundation of the Southwest, Dallas, TX; ⁵Mayo Health System, Rochester, MN; ⁶Mid Atlantic Retina, Plymouth Meeting, PA; ⁷University of Michigan Kellogg Eye Center, Ann Arbor, MI; ⁸Retina Consultants of Hawaii, Honolulu, HI; ⁹University of Illinois, Eye and Ear Infirmary, Chicago, IL; ¹⁰University of Colorado School of Medicine, Aurora, CO; ¹¹Duke University Eye Center, Durham, NC; ¹²Emory Eye Center, Atlanta, GA *CR, x

4265 — 11:15 Argus® II Electronic Epiretinal Prosthesis in Advanced Dry Age-Related Macular Degeneration: Safety and Feasibility Study - 1st Year Functional and Structural Results. Paulo E. Stanga^{1,2}, E. Tsamis^{1,3}, J. D. Dorn⁴, A. Jalil¹, S. Ch'ng¹, F. Stringa¹, R. J. Greenberg⁴, W. McGuire¹. ¹Manchester Vision Regeneration (MVR) Lab, Manchester Royal Eye Hospital, Manchester, United Kingdom; ²Division of Evolution & Genomic Sciences, University of Manchester, Manchester, United Kingdom; ³Division of Pharmacy & Optometry, University of Manchester, Manchester, United Kingdom; ⁴Second Sight Medical Products Inc, Sylmar, CA *CR, ✗

4266 — 11:30 Results from a Multicenter Trial with the New Electronic Subretinal Implant Alpha AMS in 15 Patients Blind from Inherited Retinal Dystrophies (RD). Eberhart Zrenner¹, K. Bartz-Schmidt², C. L. Cottrill³, T. Edwards³, F. Gekeler⁴, U. Greppmaier⁵, L. Kuehlewein¹, R. E. MacLaren³, J. Ramsden³, J. Roeder⁶, H. G. Sachs⁷, R. Schipper⁸, J. Tode⁶, N. Troelsen⁹, K. Stingl¹. ¹Institute for Ophthalmic Research, Centre for Ophthalmology, Tuebingen, Germany; ²University Eye Hospital, Centre for Ophthalmology, Tuebingen, Germany; ³Dept. of Ophthalmology, University of Oxford John Radcliffe Hospital, Oxford, United Kingdom; ⁴Ophthalmology, Klinikum Stuttgart, Stuttgart, Germany; ⁵Retina Implant AG, Reutlingen, Germany; ⁶Augenkl. Universitätsklinikum Kiel, Kiel, Germany; ⁷Klinikum Friedrichstadt, Dresden, Germany; ⁸Dept. of Optometry, Oxford Eye Hospital, John Radcliffe Hospital, Oxford, United Kingdom *CR, ✗

4267 — 11:45 OCT Characteristics Among Subjects Implanted with the Argus II Retinal Prosthesis System; the Argus II OCT Study Group. Catherine Hoepfner¹, N. F. Callaway¹, N. Gregori¹, B. L. Lam¹, H. Ameri², A. J. Augustin³, A. Ho⁴, R. Iezzi⁵, T. Jayasundera⁶, G. Kokame⁷, J. I. Lim⁸, P. Szurman⁹, L. Vajzovic¹⁰, P. M. Wiedemann¹¹, J. Yan¹². ¹Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine, Miami, FL; ²University of Southern California, Los Angeles, CA; ³Städtisches Klinikum, Augenkl., Karlsruhe, Karlsruhe, Germany; ⁴Wills Eye Institute, Philadelphia, PA; ⁵Mayo Clinic, Rochester, MN; ⁶University of Michigan Kellogg Eye Center, Ann Arbor, MI; ⁷Retina Consultants of Hawaii, Aiea, HI; ⁸University of Illinois at Chicago, Chicago, IL; ⁹Augenkl. Knappschaftsklinikum Saar, Sulzbach, Germany; ¹⁰Duke Eye Center, Durham, NC; ¹¹Klinik und Poliklinik für Augenheilkunde, Universitätsklinikum Leipzig, Leipzig, Germany; ¹²Emory University, Atlanta, GA *CR

4268 — 12:00 Sub-retinal implantation of the Retinal Implant Alpha AMS chip using integrated intra-operative optical coherence tomography. Thomas Edwards¹, C. L. Cottrill², J. D. Ramsden³, M. Simunovic¹, K. Xue¹, E. Zrenner⁴, R. E. MacLaren¹. ¹Nuffield Laboratory of Ophthalmology, University of Oxford, Headington, Oxfordshire, United Kingdom; ²Oxford Eye Hospital, Oxford, United Kingdom; ³Ear Nose and Throat Department, Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom; ⁴Centre for Ophthalmology, Institute for Ophthalmic Research, Tuebingen, Germany *CR, ✗

4269 — 12:15 Photovoltaic Subretinal Implant Prosthesis with Pixel Size Below 40 um. Xin Lei¹, T. W. Huang¹, T. A. Flores², H. Lorach², L. Galambos¹, T. Kamins¹, J. Harris¹, K. Mathieson³, D. V. Palanker^{2,4}. ¹Electrical Engineering, Stanford University, Stanford, CA; ²Hansen Experimental Physics Laboratory, Stanford University, Stanford, CA; ³Physics, University of Strathclyde, Glasgow, United Kingdom; ⁴Ophthalmology, Stanford University, Stanford, CA

4270 — 12:30 Behavioral and electrophysiological characterization of photovoltaic subretinal implants in non-human primates. Paul-Henri PREVOT¹, M. Lanoë¹, S. Dalouz¹, K. BLAIZE¹, O. Oubari¹, K. Geheire¹, H. Akolkar¹, G. Buc², S. A. Picaud¹, J. A. Sahel¹. ¹Vision Institute, Retinal information processing - Pharmacology and, Paris, France; ²Pixium Vision, Paris, France *CR

Room 307

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Lens / Anatomy and Pathology/Oncology / Biochemistry/Molecular Biology / Cornea / Glaucoma / Retinal Cell Biology

434 Membrane domains: Polarity, trafficking and assembly in the eye - Minisymposium

The diverse and specialized cell types in the eye rely on highly organized and spatially restricted micron-scale and nanometer-scale sized membrane domains to perform their unique tissue functions. This minisymposium will focus on scaffolding and cytoskeletal molecules that assemble and stabilize membrane domains to control cell morphogenesis, organelle trafficking and polarity, cell shape and mechanics, cell-cell interactions and communication, and tissue homeostasis. Common principles underlying membrane domain structures and functions will be examined in presentations on the neuron axonal initial segment, astrocyte polarity and endfeet processes, retinal pigment epithelial cell apical domains, corneal cell membrane trafficking and viral entry, and lens fiber cell morphogenesis and mechanics. The intersection between novel super-resolution fluorescence microscopy and well-established high resolution confocal and electron microscopy will be emphasized in the elucidation of molecular pathways and functional consequences, spanning from fundamental biology to ocular pathologies.

Moderators: Velia M. Fowler and Silvia Finnemann

4271 — 11:00 An ankyrin-G-based mechanism for assembly and regulation of axon initial segments. Vann Bennett. Duke University Medical School, Durham, NC

4272 — 11:25 Tunneling nanotubes formed by trabecular meshwork cells: Their role in cellular communication and intraocular pressure regulation. Kate E. Keller. Casey Eye Institute, Oregon Health & Science University, Portland, OR

4273 — 11:45 Actin-rich membrane domains regulate lens fiber cell morphogenesis, transparency and mechanics. Velia M. Fowler. Cell and Molecular Biology, The Scripps Research Institute, La Jolla, CA

4274 — 12:05 Differential adenoviral entry and trafficking in corneal cells. Jaya Rajaiya. Ophthalmology, Mass Eye and Ear, Boston, MA; Harvard Medical School, Boston, MA

4275 — 12:25 Membrane protein and lipid complexes that control diurnal photoreceptor outer segment tip clearance by the RPE. Silvia Finnemann. Biological Sciences, Fordham University, Bronx, NY

Room 308

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Visual Neuroscience

435 ERG: Advances, Disease and Injury**Moderators: Anne B. Fulton and Jason C. Park**

4276 — 11:00 Using pattern ERG to objectively measure contrast sensitivity associated with intraocular lenses. Kirsten Anderson^{1,2}, A. S. Irvine^{1,2}, J. J. Tian^{1,2}, K. L. Lu^{1,2}, S. G. Coupland^{3,4}, R. Karanjia^{3,1}, A. A. Sadun^{2,1}. ¹Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²Doheny Eye Institute, Los Angeles, CA; ³University of Ottawa, Ottawa, ON, Canada; ⁴Ottawa Hospital Research Institute, Ottawa, ON, Canada

4277 — 11:15 A new method to measure electroretinograms (ERGs) elicited by temporal white noise. Jan J. Kremers¹, B. K. Feigl², A. Aher¹, D. J. McKeefry³, N. R. Parry⁴, J. Maguire³, I. J. Murray⁵, A. J. Zele². ¹Dept of Ophthalmology, University Hospital Erlangen, Erlangen, Germany; ²Institute of Health and Biomedical Innovation, Queensland University of Technology (QUT), Brisbane, QLD, Australia; ³School of Optometry and Vision Sciences, Bradford University, Bradford, United Kingdom; ⁴Vision Science Centre, Manchester Royal Eye Hospital, Manchester, United Kingdom; ⁵Faculty of Biology, Medicine & Health, University of Manchester, Manchester, United Kingdom

4278 — 11:30 Cycle-by-Cycle Electrorretinography: Utilizing a Widely-Available Instrument to Assess Microvolt Signals in Usher Syndrome. Wadih M. Zein¹, A. Fadda², B. G. Jeffrey¹, R. B. Hufnagel¹, A. Turriff¹, R. Maldonado¹, B. P. Brooks¹, B. Falsini³, P. A. Sieving⁴. ¹Ophthalmic Genetics & Visual Function, NEI/NIH, Bethesda, MD; ²Technology and Health, Istituto Superiore di Sanita, Rome, Italy; ³Ophthalmology, Catholic University, Rome, Italy; ⁴NIH, Bethesda, MD ✗

4279 — 11:45 Full-field measures of visual function in X-linked retinoschisis: comparison of ERGs, luminance thresholds, and pupil responses. J Jason McAnany¹, J. C. Park¹, F. T. Collison², G. A. Fishman². ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Chicago Lighthouse, Chicago, IL

4280 — 12:00 Comparison of Non-Sedated Cone Flicker ERG Screening Test and Sedated Conventional ERG in Children. Carla J. Osigian¹, S. Grace², K. M. Cavuoto¹, W. J. Feuer³, M. Tavakoli¹, H. Capo¹, B. L. Lam³. ¹Pediatric Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²University of North Carolina, Chapel Hill, NC; ³Bascom Palmer Eye Institute, Miami, FL

4281 — 12:15 The photopic negative response in mild traumatic brain injury. Roa Al-Abdalla, N. Joshi, J. Nguyen, K. J. Ciuffreda, S. Viswanathan. Vision Science, SUNY College of Optometry, New York, NY

4282 — 12:30 Changes in Retinal Function and Glial Reaction in an Impact Concussion Mouse Model. James D. Akula^{1,2}, O. Minaeva^{1,3}, R. D. Ferguson⁵, M. Mujat⁵, M. W. Wojnarowicz³, J. A. Moncaster³, E. S. Franz³, A. M. Fisher^{3,4}, I. Arellano¹, D. G. Hunter^{1,2}, A. B. Fulton^{1,2}, L. E. Goldstein^{3,4}. ¹Ophthalmology, Boston Children's Hospital, Boston, MA; ²Ophthalmology, Harvard Medical School, Boston, MA; ³Molecular Aging and Development Laboratory, Boston University School of Medicine, Boston, MA; ⁴College of Engineering, Boston University, Boston, MA; ⁵Biomedical Optics, Physical Sciences, Inc., Andover, MA *CR

Room 309

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Clinical/Epidemiologic Research

436 Improving Care for Diabetic Retinopathy**Moderators: Christopher J. Brady and Cecilia Lee**

4283 — 11:00 Clinical Features Predict Diabetic Retinopathy Progression. Cecilia S. Lee¹, A. Y. Lee¹, D. Baughman¹, A. Varma², S. Natha¹⁰, L. Downey⁷, G. Menon⁶, S. Mahmood⁸, U. Chakravarthy⁵, D. P. Crabb¹¹, A. K. Denniston³, C. Bailey⁴, A. Tufail², C. A. Egan². ¹Ophthalmology, University of Washington, Seattle, WA; ²Moorfields Eye Hospital, London, United Kingdom; ³University Hospitals Birmingham NHS Foundation Trust, London, United Kingdom; ⁴Bristol Eye Hospital, Bristol, United Kingdom; ⁵Belfast Health and Social Care Trust, Belfast, United Kingdom; ⁶Frimley Park Hospital, Frimley, United Kingdom; ⁷Hull Royal Infirmary, Hull, United Kingdom; ⁸Manchester Royal Eye Hospital, Manchester, United Kingdom; ⁹Mid Yorkshire Hospitals NHS Trust, Yorkshire, United Kingdom; ¹⁰Wrightington, Wigan and Leigh NHS Foundation Trust, Wigan, United Kingdom; ¹¹City, University of London, London, United Kingdom *CR

4284 — 11:15 The Relationship of Dietary Fish Intake and Diabetic Retinopathy in Asian Patients with Type 2 Diabetes. Jacqueline Chua^{1,2}, A. Chia³, M. Chong⁴, R. Man³, G. S. Tan⁵, E. L. Lamoureux⁵, T. Y. Wong⁵, L. Schmetterer⁵. ¹Ocular Imaging, Singapore Eye Research Institute, Singapore, Singapore; ²Duke-National University of Singapore Medical School, Singapore, Singapore; ³Department of Obstetrics & Gynaecology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore; ⁴Saw Swee Hock School of Public Health, National University of Singapore and National University Health System, Singapore, Singapore; ⁵Singapore Eye Research Institute, Singapore, Singapore

4285 — 11:30 Deficits in Retinopathy Self-Awareness and Timeliness of Eye Care Follow-up Over 6 Years among Diabetic Patients. Aditi Gupta², P. Silva^{2,1}, J. Cavallero², A. Tolson², D. Tolls¹, J. Rodriguez², K. Morris², S. Rodriguez², B. Pate², M. Sehizadeh², K. Thakore², J. K. Sun^{2,1}, L. P. Aiello^{2,1}. ¹Ophthalmology, Harvard Medical School, Boston, MA; ²Ophthalmology, Beetham Eye Institute, Boston, MA *CR

4286 — 11:45 Comparison of Prevalence of Diabetes, Diabetic Retinopathy, and Likelihood of Diagnosis of Diabetic Retinopathy between Chicagoland ZIP Codes. Anne M. Langguth, J. Behrens, K. Jackson, D. French, P. Bryar. Northwestern University, Chicago, IL

4287 — 12:00 Utilization of Teleretinal Imaging to Detect Diabetic Retinopathy and Diabetic Macular Edema in an Urban Population. Rishabh C. Date, M. A. Rivera, B. M. Shah, K. L. Shen, Y. I. Chu, C. Y. Weng. Ophthalmology, Baylor College of Medicine - Cullen Eye Institute, Houston, TX *CR

4288 — 12:15 A novel multivariate discriminant approach to predict sight threatening diabetic retinopathy (STDR) cases - data from the Liverpool Diabetic Eye Study. Marta Garcia-Finana¹, D. M. Hughes¹, C. P. Cheyne¹, D. M. Broadbent², A. Wang³, M. Mobayen-Rahni^{3,4}, A. Alshukri³, I. M. Stratton³, A. C. Fisher⁴, J. P. Vora⁶, S. P. Harding^{2,3}. ¹Department of Biostatistics, University of Liverpool, Liverpool, United Kingdom; ²St Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom; ³Eye and Vision Science, University of Liverpool, Liverpool, United Kingdom; ⁴Medical Physics and Clinical Engineering, Royal Liverpool University Hospital, Liverpool, United Kingdom; ⁵Gloucestershire Retinal Research Group, Cheltenham General Hospital, Cheltenham, United Kingdom; ⁶Diabetes and Endocrinology, Royal Liverpool University Hospital, Liverpool, United Kingdom

4289 — 12:30 Rasch modelling improves consensus scoring of crowdsourced data. Christopher J. Brady, L. Mudie, D. S. Friedman. Wilmer Eye Institute, Bethesda, MD

Room 310

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Immunology/Microbiology

437 Basic investigations in the treatment of ocular infections*Moderators: Mary E. Marquart and Kimberly Brothers*

4290 — 11:00 Topical glycyrrhizin is therapeutic for *Pseudomonas aeruginosa* keratitis. Sandamali Amarasingha Ekanayaka, S. A. McClellan, R. P. Barrett, L. Hazlett. Anatomy and Cell Biology, Wayne State University School of Medicine, Detroit, MI *CR

4291 — 11:15 Evaluation of predatory bacteria on corneal wound healing, ocular safety, and clearance of fluoroquinolone resistant *Pseudomonas aeruginosa* from the ocular surface. Robert M. Shanks¹, E. G. Romanowski¹, K. Brothers¹, K. A. Yates¹, S. Gupta², S. Dharani², D. E. Kadouri². ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Oral Biology, Rutgers School of Dental Medicine, Newark, NJ

4292 — 11:30 Dexamethasone inhibits *Staphylococcus aureus*-induced neutrophil extracellular pathogen-killing mechanism, possibly through toll-like receptor regulation. Ting Wan, Y. Zhao, F. Fan, R. Hu, X. Jin. Eye Center, Second Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou, China

4293 — 11:45 Corneal infections: targeted eradication through antibiotic functionalized polymers. Natalya Doroshenko¹, S. Rimmer², S. Foster³, S. MacNeil¹, I. Douglas¹. ¹School of Clinical Dentistry, University of Sheffield, Sheffield, United Kingdom; ²Department of Chemistry and Forensic Sciences, University of Bradford, Bradford, United Kingdom; ³Department of Molecular Biology and Biotechnology, University of Sheffield, Sheffield, United Kingdom; ⁴Department of Materials Science and Engineering, University of Sheffield, Sheffield, United Kingdom

4294 — 12:00 Thymosin Beta-4 and Ciprofloxacin Adjunctive Therapy Improves *Pseudomonas aeruginosa* Induced Keratitis. Thomas W. Carion¹, D. Kracht¹, E. Strand¹, C. McWhirter¹, G. Sosne², E. A. Berger¹. ¹Anatomy and Cell Biology, Wayne State School of Medicine, Detroit, MI; ²Kresge Eye Institute, Detroit, MI *CR

4295 — 12:15 A cyclic anti-heparan sulfate peptide provides protection against primary and recurrent herpes simplex virus-1 (HSV-1) infection of the cornea. Dinesh Jaishankar, D. Shukla. University of Illinois at Chicago, Chicago, IL

4296 — 12:30 Cytokeratin 6A (K6A) and its E3 ligase Tripartite Motif-Containing (TRIM) 21 promote antiviral activities against Herpes Simplex Virus (HSV)-1 in human corneal epithelial cells. Jonathan K. Chan¹, K. Tam^{1,2}. ¹Department of Ophthalmic Research, Cleveland Clinic Cole Eye Institute and Lerner Research Institute, Cleveland, OH; ²Department of Ophthalmology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, OH *CR

Room 316

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Visual Psychophysics/Physiological Optics

438 Color vision, low vision*Moderators: Joseph Carroll and Aparna Raghuram*

4297 — 11:00 Severe Loss of Tritan Colour Discrimination in RPE65 Associated Leber Congenital Amaurosis. Neruban Kumaran^{1,2}, C. Ripamonti³, A. Kalitzeos¹, J. W. Bainbridge^{1,2}, M. Michaelides^{2,1}. ¹Institute of Ophthalmology, University College London, London, United Kingdom; ²Moorfields Eye Hospital, London, United Kingdom; ³Cambridge Research Systems Ltd, Rochester, United Kingdom *CR, ✗

4298 — 11:15 Colorblindness confined to one eye. Jay Neitz, M. Neitz. Ophthalmology, Univ of Washington, Medical School, Seattle, WA

4299 — 11:30 L- and M-cone driven temporal contrast sensitivity is reduced at low frequencies in patients with Stargardt's disease. Cord R. Huchzermeyer¹, F. Pasutto², A. Reis², J. J. Kremers¹. ¹Department of Ophthalmology, University Hospital Erlangen, Erlangen, Germany; ²Institute of Human Genetics, University Hospital Erlangen, Erlangen, Germany

4300 — 11:45 Color vision evaluation in albino patients by Cambridge Colour Test and Ishihara Plates. Caroline S. Seto¹, D. Fix², R. Sano¹. ¹Ophthalmology, Irmandade de Misericórdia da Santa Casa de São Paulo, São Paulo, Brazil; ²Psychophysics and Visual Electrophysiology Laboratory of the Experimental Psychology Department of the Psychology Institute, Universidade de São Paulo, São Paulo, Brazil

4301 — 12:00 Intense ultrashort pulsed light in the infrared selectively damages putative S cones. Christina Schwarz¹, R. Sharma², M. Keller^{1,3}, D. R. Williams^{1,4}, J. J. Hunter^{1,5}. ¹Center for Visual Science, University of Rochester, Rochester, NY; ²Oculus Research, Redmond, WA; ³College of Natural Science, Michigan State University, East Lansing, MI; ⁴The Institute of Optics, University of Rochester, Rochester, NY; ⁵Flaum Eye Institute, University of Rochester, Rochester, NY *CR

4302 — 12:15 Yellow nighttime driving glasses reduce pedestrian detection performance with headlight glare. Merve Tuccar-Burak^{1,2}, A. Hwang^{1,2}, E. Peli^{1,2}. ¹Schepens Eye Research Institute, MEEI, Boston, MA; ²Harvard Medical School, Boston, MA

4303 — 12:30 Functional impact of fixational eye movements during an orientation discrimination task in people with macular disease. Susana T. Chung^{1,2}, M. N. Agaoglu^{1,2}, C. K. Sheehy³, P. Tiruveedhula^{1,2}, A. Roorda^{1,2}. ¹School of Optometry, University of California, Berkeley, CA; ²Vision Science Graduate Program, University of California, Berkeley, CA; ³Neurology, UCSF, San Francisco, CA *CR

Room 324

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

439 Intracranial Hypertension and Optic Nerve Changes*Moderators: Donny W. Suh and Michael X. Repka*

4304 — 11:00 Investigating the Cerebrospinal Fluid Pressure Waveform and Volume Pressure Response in Idiopathic Intracranial Hypertension. Monica D. Okon¹, C. J. Roberts^{2,1}, A. M. Mahmoud^{2,1}, A. N. Springer³, R. H. Small^{3,1}, J. M. McGregor⁴, S. E. Katz². ¹Biomedical Engineering, The Ohio State University, Columbus, OH; ²Ophthalmology & Visual Science, The Ohio State University, Columbus, OH; ³Anesthesiology, The Ohio State University, Columbus, OH; ⁴Neurosurgery, The Ohio State University, Columbus, OH *CR

4305 — 11:15 Episcleral Venous Pressure And Intraocular Pressure As Biomarkers For Intracranial Pressure Changes. Deepta A. Ghatel¹, V. Gulati¹, S. Havens¹, S. Fan¹, W. Thorell¹, C. Nelson³, J. Tong³, L. Gu³, S. Kedar^{1,2}. ¹Stanley F Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE; ²Neurosciences, University of Nebraska Medical Center, Omaha, NE; ³University of Nebraska, Lincoln, NE

4306 — 11:30 Optic nerve sheath ultrasonography identifies increased intracranial pressure in a diverse pediatric population: A comparative study. Isabelle Dortonne, C. Stevens, R. Gordon. Department of Ophthalmology, Tulane University, New Orleans, LA

4307 — 11:45 Optic Nerve Head Edema (ONHE) Among Patients Presenting to the Emergency Department In The FOTO-ED Study (Fundus photography vs. Ophthalmoscopy Trial Outcomes in the Emergency Department).

Virender Sachdeva¹, C. Vasseneix¹, R. Hage¹, S. Bidot¹, L. C. Clough¹, D. W. Wright², B. B. Bruce^{1,3}, V. Biousse^{1,3}, N. J. Newman^{1,3}.

¹Neuro-ophthalmology Unit, Department of Ophthalmology, Emory University, Atlanta, GA; ²Department of Emergency Medicine, Emory University, Atlanta, GA; ³Department of Neurology, Emory University, Atlanta, GA ✕

4308 — 12:00 Three-Dimensional Bruch’s Membrane Shape Change Over Time with Acetazolamide Treatment in the Idiopathic Intracranial Hypertension Treatment Trial (IIHTT). *Jui-Kai Wang¹, C. M. Danielson¹, R. Kardon^{2,3}, P. A. Sibony⁴, M. J. Kupersmith³, M. K. Garvin^{2,1}.*

¹Electrical & Computer Eng, University of Iowa, Iowa City, IA; ²Center for the Prevention and Treatment of Visual Loss, Iowa City VA Health System, Iowa City, IA; ³Ophthalmology and Medicine, University of Iowa, Iowa City, IA; ⁴Ophthalmology, State University of NY at Stony Brook/UHMC, Stony Brook, NY; ⁵Mount Sinai West Hospital and NYEEI, New York, NY *CR, ✕

4309 — 12:15 Effects of acute intracranial pressure change on human and pig optic nerve head using optical coherence tomography. *Sachin Kedar^{1,2}, J. P. Bader³, A. Adamson³, V. Gulati², S. J. Havens², S. Fan², W. Thorell⁴, K. Schmid⁵, L. Gu⁶, J. Tong⁶, D. A. Ghate².*

¹Neurological Sciences, University of Nebraska Medical Center, Omaha, NE; ²Stanley Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE; ³College of Medicine, University of Nebraska Medical Center, Omaha, NE; ⁴Neurosurgery, University of Nebraska Medical Center, Omaha, NE; ⁵College of Public Health, University of Nebraska Medical Center, Omaha, NE; ⁶Mechanical and Materials Engineering, University of Nebraska, Lincoln, NE

4310 — 12:30 Gaze-evoked deformations in optic nerve head drusen. *Patrick A. Sibony.* Dept of Ophthalmology, State Univ of NY at Stony Brook/UHMC, Stony Brook, NY

Wednesday Papers/
Minisymposium
11:00 am – 12:45 pm

Exhibit/Poster Hall A0112-A0154

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Cornea

440 Corneal Biomechanics

Moderators: Sashia Bak-Nielsen and Tor P. Utheim

4311 — A0112 Using Brillouin microscopy to quantify changes in accelerated corneal collagen-crosslinking. *Joshua N. Webb, G. Scarcelli.* Bioengineering, University of Maryland, College Park, MD *CR

4312 — A0113 A simple mathematical model for the collagen architecture of normal and keratoconic human corneas. *Peter M. Pinsky¹, Y. Ma², Y. Hwang¹, S. Hayes², K. M. Meek².* ¹Mechanical Engineering, Stanford University, Stanford, CA; ²School of Optometry & Vision Sciences, Cardiff University, Cardiff, United Kingdom

4313 — A0114 Assessment of biomechanical properties using Scheimpflug imaging in keratoconus patients. *Naim Terai, R. Herber, L. Ramm, E. Spoerl, L. E. Pillunat.* Ophthalmology, Univ. Hospital Carl Gustav Carus, TU Dresden, Dresden, Germany

4314 — A0115 Corneal thinning during UVA-riboflavin cross-linking procedures and the effect of dextran concentration in the riboflavin solution. *(Sofia) Xin Tan, D. H. Hammer, A. Agrawal, I. Ilev.* DBP/OSEL/CDRH, U.S. Food and Drug Administration, Silver Spring, MD

4315 — A0116 Biomechanical properties after corneal crosslinking using riboflavin in dextran solution or in hydroxy propyl methyl cellulose. *Isaak Fischinger, T. G. Seiler, B. E. Frueh, M. Miller.* Ophthalmology, Inselspital Bern, Bern, Switzerland

4316 — A0117 Evaluation of the progression of keratoconus after the placement of INTACS intrastromal segments. *Arturo Abascal Espino, O. Fernandez.* Cornea, Fundación Hospital Nuestra Señora de la Luz I.A.P, Ciudad de México, Mexico

4317 — A0118 A novel inverse finite element approach to analyze corneal deformation after SMILE and LASIK. *Mathew Francis¹, N. Pahuja², R. SHROFF², R. Shetty², K. Devanapalli¹, A. Sinha Roy¹.* ¹IBMS Lab, Narayana Nethralaya Foundation, Bangalore, India; ²Cornea and Refractive, Narayana Nethralaya, Bangalore, India *CR

4318 — A0119 Comparison of biomechanical deformation response after myopic LASIK to thin normal corneas. *Kristen Ann Mendoza¹, C. J. Roberts^{1,6}, A. M. Mahmoud^{1,6}, R. Vinciguerra^{7,8}, P. Vinciguerra^{2,3}, R. Ambrósio^{4,5}, R. Kuennen¹, D. Castellano¹.* ¹Department of Ophthalmology & Visual Science, The Ohio State University Wexner Medical Center, Columbus, OH; ²Eye Center, Humanitas Clinical and Research Center, Milan, Italy; ³Vincieye Clinic, Milan, Italy; ⁴Rio de Janeiro Corneal Tomography and Biomechanics Study Group, Rio de Janeiro, Brazil; ⁵Department of Ophthalmology, Federal University of São Paulo, São Paulo, Brazil; ⁶Department of Biomedical Engineering, The Ohio State University, Columbus, OH; ⁷St. Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom; ⁸Department of Surgical and Morphological Sciences, University of Insubria, Circolo Hospital, Varese, Italy *CR

4319 — A0120 Study Of Corneal Biomechanics In Patients With Posterior Lamellar Keratoplasty. *Tatiana Francisco, M. Saint Martin, R. Ribes Escudero, P. Rinaudo, N. Minguez, F. Lucero Saa, F. Cremona, P. Chiaradia.* Ophthalmology, Hospital de Clinicas "Jose de San Martin", Buenos Aires, Argentina

4320 — A0121 Patient-Specific Computational Analysis of Photorefractive Keratotomy: A clinical validation study. *Ibrahim Seven¹, V. S. De Stefano^{1,3}, D. Hardy², W. J. Dupps^{1,4}.* ¹Ophthalmic Research, Cleveland Clinic Cole Eye Institute, Cleveland, OH; ²OptoQuest, Inc., Cleveland, OH; ³Ophthalmology and Visual Sciences, Federal University of Sao Paulo, Sao Paulo, Brazil; ⁴Biomedical Engineering, Cleveland Clinic, Cleveland, OH *CR

4321 — A0122 A Physics-Based Catenary Model that Defines Corneal Biomechanical Stability for Refractive Surgery Applications. *Michael K. Smolek^{1,2}, N. Notaroberto².* ¹Vision Performance & Protection Division, US Army Aeromedical Research Laboratory (USAARL), Fort Rucker, AL; ²CLEVER Eye Institute, Slidell, LA

4322 — A0123 In vivo Brillouin shift as a function of age in human cornea. *Valery V. Wittwer^{1,2}, A. M. Eltony³, P. Shao³, S. Yun³, B. E. Frueh¹, T. G. Seiler², T. Seiler².* ¹Universitätsklinik für Augenheilkunde, Inselspital Bern, Bern, Switzerland; ²Institut für Refraktive und Ophthalmochirurgie, IROC, Zürich, Switzerland; ³Harvard Medical School/Massachusetts General Hospital, Boston, MA

4323 — A0124 Effects of corneal hydration on Brillouin measurements. *Peng Shao^{1,2}, A. Ramier^{3,1}, B. Tavakol^{1,2}, T. G. Seiler^{1,2}, G. Scarcelli^{5,2}, R. Pineda^{4,2}, S. Yun^{1,2}.* ¹Massachusetts General Hospital, Boston, MA; ²Harvard Medical School, Boston, MA; ³Massachusetts Institute of Technology, Boston, MA; ⁴Massachusetts Eye and Ear Infirmary, Boston, MA; ⁵University of Maryland, Boston, MA *CR

4324 — A0125 In-vivo human corneal elasticity imaging: a phase sensitive optical coherence elastography method. *Michael D. Twa¹, G. Lan¹, M. Singh², K. Larin².* ¹School of Optometry, University of Alabama at Birmingham, Birmingham, AL; ²Biomedical Engineering, University of Houston, Houston, TX

4325 — A0126 In-vivo Assessment of Corneal Biomechanics using Optical Coherence Elastography. *Vinicius S. De Stefano^{1,2}, M. R. Ford¹, I. Seven¹, B. Hughes³, W. J. Dupps^{1,4}.* ¹Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²Ophthalmology and Visual Sciences, Federal University of Sao Paulo, Sao Paulo, Brazil; ³OptoQuest, Inc., Cleveland, OH; ⁴Dept. of Biomedical Engineering, Lerner Research Institute, Cleveland Clinic, Cleveland, OH *CR

4326 — A0127 Effect of intraocular pressure on the vibrational resonance of the cornea measured by optical coherence tomography. *Antoine Ramier^{1,2}, B. Tavakol¹, S. Yun^{1,2}.* ¹Wellman center for photomedicine, Massachusetts General Hospital, Boston, MA; ²Harvard-MIT division of Health Sciences and Technology, Cambridge, MA

4327 — A0128 Marfan Syndrome: Biomechanics of the cornea as new noninvasive method for assessment of disease progression. *Andreas Frings¹, D. Scheibenberger^{2,3}, J. Steinberg^{3,82}, H. Schueler⁴, Y. von Kodolitsch⁴, V. Druchkiv², T. Katz², S. Linke^{3,82}.* ¹Department of Ophthalmology, University Hospital Düsseldorf, Heinrich-Heine University, Düsseldorf, Germany; ²Ophthalmology, University Hospital Hamburg, Hamburg, Germany; ³zentrumsehstärke, Hamburg, Germany; ⁴Cardiology, University Hospital Hamburg, Hamburg, Germany; ⁵Med School, University of Hamburg, Hamburg, Germany

4328 — A0129 Initial Outcomes with Arcuate Incisions in Femtosecond Laser Cataract Surgery. *Giovanni Greaves, B. Wong, A. Malik, S. Malik, C. Shih.* Ophthalmology, Northwell School of Medicine, NY, NY

4329 — A0130 The role of corneal macro and micro-structure on Intraocular Pressure. *Danilo Andrade de Jesus¹, M. Mousavi¹, I. K. Garaszczuk², I. Siso-Fuertes³, H. Radhakrishnan³, R. Iskander¹.* ¹Wroclaw University of Technology, Wroc?aw, Poland; ²University of Valencia, Valencia, Spain; ³University of Manchester, Manchester, United Kingdom

4330 — A0131 In vivo measurement of regional corneal stiffness. *Andrew K. Lam¹, Y. Hon¹, S. Lu², G. Chen², D. C. Lam².* ¹School of Optometry, The Hong Kong Polytechnic University, Hong Kong, China; ²Department of Mechanical and Aerospace Engineering, The Hong Kong University of Science and Technology, Hong Kong, China

4331 — A0132 Ultrasonic Micro-elastography for Accessing Biomechanical Properties of the Cornea. Xuejun Qian^{1,2}, T. Ma^{1,2}, H. Martin¹, J. Zhang², K. Shung², M. S. Humayun¹, Q. Zhou^{1,2}. ¹USC Roski Eye Institute, University of Southern California, Los Angeles, CA; ²Department of Biomedical Engineering, University of Southern California, Los Angeles, CA

4332 — A0133 Estimating the material properties of collagen fibril using optical behavior of the human cornea. Mengchen Xu^{1,3}, F. D. Paul¹, A. L. Lerner^{2,1}, G. Yoon^{3,82}. ¹Department of Mechanical Engineering, University of Rochester, Rochester, NY; ²Department of Biomedical Engineering, University of Rochester, Rochester, NY; ³Flaum Eye Institute, University of Rochester, Rochester, NY *CR

4333 — A0134 Corneal hydration and the relation to the biomechanical properties. Theo G Seiler^{1,2}, P. Shao¹, M. Engler¹, E. Beck¹, I. E. Kochevar¹, S. Yun¹. ¹Wellman Center for Photomedicine, Massachusetts General Hospital - Harvard Medical School, Boston, MA; ²IROC AG, Zurich, Switzerland

4334 — A0135 Influence of physiological parameters on corneal deformation in response to ocular pulse. Jun Liu^{1,2}, E. Pavlatos¹, X. Pan³, K. Clayson¹. ¹Department of Biomedical Engineering, The Ohio State University, Columbus, OH; ²Ophthalmology and Visual Sciences, The Ohio State University, Columbus, OH; ³Center for Biostatistics, The Ohio State University, Columbus, OH

4335 — A0136 Quantitative Scanning Acoustic Microscopy of the Cornea. Marianna Pavlyha¹, R. Silverman¹, D. Rohrbach², H. O. Lloyd¹, J. Mamou². ¹Columbia University Medical Center, New York, NY; ²Riverside Research, New York, NY

4336 — A0137 Pupil Dilation and Ocular Surface Effects with an Ocular Insert compared to Repeated Topical Drops. Gurpreet K. Bhogal-Bhamra^{1,2}, J. Wolffsohn¹, P. Bilkhu¹, M. Vidal-Rohr¹, J. B. Orr¹. ¹Vision Sciences, Aston University, Birmingham, United Kingdom; ²Ophthalmology, Queen Elizabeth Hospital, Birmingham, United Kingdom *CR

4337 — A0138 Development of an artificial cornea for testing drug candidate permeability in early stages of drug development. Jenni J. Hakkarainen¹, V. Cepla², A. Ziniauskaitė¹, R. Valiokas³, G. Kalesnykas¹. ¹Experimentica Ltd, Kuopio, Finland; ²UAB Ferentis, Vilnius, Lithuania; ³Department of Nanoengineering, Center for Physical Sciences and Technology, Vilnius, Lithuania *CR

4338 — A0139 Effect of Heartbeat and Respiration on Elastography Measurement Precision. Gongpu Lan¹, A. Zotov¹, S. Boehm¹, K. Larin², M. D. Twa¹. ¹School of Optometry, University of Alabama at Birmingham, Birmingham, AL; ²Biomedical Engineering, University of Houston, Houston, TX

4339 — A0140 A novel experimental model for the comparison of tensile suture strength of various ophthalmic sutures and knots. Jimmy Y. Hu, A. Shrivastava, R. S. Chuck, J. Kang. Ophthalmology, Albert Einstein College of Medicine, Bronx, NY

4340 — A0141 2D Regional Inflation Strains in Porcine Cornea. Keyton Clayson^{1,2}, X. Pan³, E. Pavlatos¹, J. Liu^{1,2}. ¹Department of Biomedical Engineering, Ohio State University, Columbus, OH; ²Biophysics Interdisciplinary Group, Ohio State University, Columbus, OH; ³Center for Biostatistics, Ohio State University, Columbus, OH

4341 — A0142 Preparation of decellularized porcine cornea for corneal tissue engineering by supercritical carbon dioxide extraction technology. Yi-Hsun Huang¹, M. YEH¹, D. Hsieh³, F. Tseng³, I. Peng¹, W. Chang². ¹Ophthalmology, National Cheng Kung University Hospital, Tainan, Taiwan; ²Biomedical Engineering, National Cheng Kung University, Tainan, Taiwan; ³ACRO Biomedical Co., Ltd., Kaohsiung, Taiwan *CR

4342 — A0143 Effects of Diabetes Mellitus on Biomechanical Properties of the Rabbit Cornea. Fangjun Bao^{1,2}, X. Zheng², Y. Zheng¹, Q. Wang^{1,2}. ¹Eye Hospital, Wenzhou Medical University, Wenzhou, China; ²The institution of ocular biomechanics, Wenzhou Medical University, Wenzhou City, China

4343 — A0144 Low-fluence-slow-irradiation corneal cross-linking induces the same biomechanical stiffening as the standard Dresden protocol. Farhad Hafezi, S. Kling. Laboratory of Ocular Cell Biology, University of Zurich, Zurich, Switzerland

4344 — A0145 Evaluation of topical corneal therapeutic tissue cross-linking (TXL) using sodium hydroxymethylglycinate (SMG) by intravitreal confocal microscopy in rabbits. Mariya Zyblytskaya, A. Takaoka, A. H. Scanameo, D. E. Amponin, L. H. Suh, S. Trokel, T. Nagasaki, D. C. Paik. Columbia University, New York, NY

4345 — A0146 Outcomes of spatial modulation of UVA beam intensity to minimize delivered UVA energy in corneal crosslinking. Abhijit Sinha Roy, R. Shetty, N. Pahuja, R. T. R. Deshmukh, M. Francis. Ophthalmology, Narayana Nethralaya, Bangalore, India

4346 — A0147 Optimising biocompatibility of polymethyl methacrylate used for keratoprosthesis. Martina Miotto¹, R. M. Gouveia¹, M. González-Andrades^{2,3}, C. J. Connon¹. ¹Institute of Genetic Medicine, Newcastle University, Newcastle upon Tyne, United Kingdom; ²Schepens Eye Research Institute, Boston, MA; ³Harvard Medical School, Boston, MA

4347 — A0148 A diagnostic biomechanical framework to distinguish keratoconus and normal eyes using air-puff applanation. Pooja Khamar¹, M. Francis², R. Shroff¹, N. Pahuja¹, R. T. R. Shetty¹, H. Matalia¹, A. Sinha Roy². ¹Cornea And Refractive Services, Narayana Nethralaya, Bangalore, India; ²IBMS Lab, Narayana Nethralaya, Bangalore, India *CR

4348 — A0149 Corneal Structural Changes in Aniridia-Related Keratopathy Before and After Corneal Transplantation. Andre Vicente^{1,2}, F. Pedrosa Domellof¹, B. Byström¹. ¹Department of Clinical Sciences - Ophthalmology, Umea University, Umea, Sweden; ²Visual Sciences Study Center, University of Lisbon - Faculty of Medicine, Lisbon, Portugal

4349 — A0150 Advanced glycation end products significantly contribute to central corneal nerve fiber loss - a study using 3D-multiphoton microscopy. Simone Baltrusch¹, A. Kott¹, J. Leckel¹, F. Thomas¹, M. Tiedge¹, A. G. Juenemann², O. Stachs². ¹Institute of Medical Biochemistry and Molecular Biology, University Rostock, Rostock, Germany; ²Department of Ophthalmology, University of Rostock, Rostock, Germany

4350 — A0151 Corneal Donor Tissue Evaluation with Optical Coherence Tomography Compared to Slit Lamp Examination. Christine Shieh¹, S. Hsu¹, P. Isaac¹, S. Stinnett², A. N. Kuo^{2,3}. ¹Vanderbilt Eye Institute, Nashville, TN; ²Ophthalmology, Duke University School of Medicine, Durham, NC; ³Biomedical Engineering, Duke University, Durham, NC; ⁴Miracles in Sight Eye Bank, Winston Salem, NC *CR

4351 — A0152 Comparison of Aberrations before and after the treatment with Transepithelial Crosslinking vs Stromal Crosslinking technique in patients with Keratoconus. Adrian Escudero Rodriguez, A. Navas, E. O. Graue-Hernandez, J. Cabral, R. Blas Medina, J. Serna-Ojeda. Instituto de Oftalmologia Conde de Valenciana, Ciudad de Mexico, Mexico

4352 — A0153 Asymmetry between left and right eye in keratoconus patients increases with the severity of the worse eye. Berthold Seitz¹, C. Spira-Eppig¹, K. Papavasileiou^{1,2}, T. Tsintarakis¹, M. Lenhart¹, M. El-Husseiny¹, A. Langenbacher², T. Eppig². ¹Department of Ophthalmology, Saarland University Medical Center, Homburg, Germany; ²Institute of Experimental Ophthalmology, Saarland University, Homburg, Germany

4353 — A0154 Cosmetic preservatives as therapeutic corneal and scleral tissue cross-linking (TXL) agents: formaldehyde release studies. David C. Paik^{1,2}, A. Takaoka¹, T. Nagasaki¹. ¹Ophthalmology, Columbia University, New York, NY; ²Surgery, Abington Memorial Hospital, Abington, PA

Exhibit/Poster Hall A0193-A0239

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Cornea

441 Conjunctival cell Biol and Meibomian glands

Moderators: Elena Koudouna and Tor P. Utheim

4354 — A0193 Symptomatic improvement with surgical intervention in conjunctivochalasis.

Alexandra Weiss, A. Steiner, C. Shih, J. Winokur, I. J. Udell. Ophthalmology, Northwell Health, Great Neck, NY

4355 — A0194 Analysis of Tear Cytokines and Monocyte Chemotactic Protein-1 in Patients with Superior Limbic Keratoconjunctivitis.Yi-Chen Sun¹, Y. Tang², H. Liou², W. Chen², F. Hu². ¹Ophthalmology, Taipei Tzu-Chi General Hospital, New Taipei City, Taiwan; ²Ophthalmology, National Taiwan University Hospital, Taipei, Taiwan**4356 — A0195 Establishment of a bi-layer tissue engineered conjunctiva construct using a three-dimensional (3D) printed scaffold.**Jiajun Xie^{1,3}, Q. GAO^{1,3}, A. L. Sabater^{1,2}, E. Salero^{1,2}, G. Gaidosh¹, E. De Juan-Pardo⁴, D. W. Huttmacher⁴, J. Ye³, V. L. Perez^{1,2}. ¹Ophthalmology, Bascom Palmer Eye Institute, University of Miami School of Medicine, Miami, FL; ²Interdisciplinary Stem Cell Institute, University of Miami Miller School of Medicine, Miami, FL; ³Eye Center, Second Affiliated Hospital, Zhejiang University School of Medicine, Hangzhou, China; ⁴Institute for Health and Biomedical Innovation, Queensland University of Technology, Brisbane, QLD, Australia *CR**4357 — A0196 Isolation of Primary Human Conjunctival Cells for Use in Ocular Surface Reconstruction.**Swati Pradhan-Bhatt^{1,2}, X. Jia^{1,4}, S. C. Pflugfelder³. ¹Biomedical Engineering, University of Delaware, Newark, DE; ²Center For Translational Cancer Research, Helen F. Graham Cancer Center & Research Institute, Newark, DE; ³Ophthalmology, Baylor College of Medicine, Houston, TX; ⁴Materials Science and Engineering, University of Delaware, Newark, DE**4358 — A0197 Organotypic epithelium tissue model testing reveals high-concentration tear fluid lysozyme as a potential inducer of conjunctiva inflammation.**Hiroyuki Nawase^{2,1}, T. Sato¹, N. Yawata^{4,5}, M. Yawata^{2,3}. ¹SEED Co.,LTD., Saitama, Japan; ²Singapore Institute for Clinical Sciences, Singapore, Singapore; ³National University of Singapore, Singapore, Singapore; ⁴Singapore Eye Research Institute, Singapore, Singapore; ⁵Duke-NUS Graduate Medical School, Singapore, Singapore *CR**4359 — A0198 Neonatal bacterial conjunctivitis in Korea in the 21st century.** JUNWOO PARK¹, K. Pak¹, J. Lee². ¹Ophthalmology, Haeundae Paik Hospital, Busan, Korea (the Republic of); ²Pusan National University Hospital, Busan, Korea (the Republic of)**4360 — A0199 Reducing Adenoviral Patient Infected Days (RAPID) Study: Association of Clinical Signs and Symptoms with qPCR confirmed Adenoviral Conjunctivitis.**Ellen Shorter¹, M. Migneco², J. S. Harthan³, M. Whiteside⁴, C. Moretti², T. Than⁵, S. Johnson⁶, J. Huecker², A. T. Hartwick¹, M. O. Gordon². ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Washington University in St. Louis, St. Louis, MO; ³Illinois College of Optometry, Chicago, IL; ⁴University of California School of Optometry, Berkeley, CA; ⁵University of Alabama, Birmingham, Birmingham, AL; ⁶Northeastern State University, Tahlequah, OK; ⁷Ohio State University, Columbus, OH *X**4361 — A0200 Anti-allergic effects of ST266, an amnion-derived multipotent progenitor cell-secretome, in ovalbumin-induced allergic conjunctivitis in guinea pigs.**Kenneth J. Mandell¹, H. Wessel¹, E. Klitsch¹, D. Culp², J. Prater², B. C. Gilger^{2,3}, L. R. Brown¹. ¹Noveome Biotherapeutics, Inc., Pittsburgh, PA; ²Powered Research, Research Triangle Park, NC; ³North Carolina State University, Raleigh, NC *CR**4362 — A0201 Decellularized porcine conjunctiva for conjunctival reconstruction.**Joana Witt², G. Geerling¹, S. Mertsch², S. Schrader^{1,2}, K. Spaniol^{1,2}. ¹Department of Ophthalmology, University Hospital Duesseldorf, Duesseldorf, Germany; ²Department of Ophthalmology, Laboratory for experimental Ophthalmology, University Hospital Duesseldorf, Duesseldorf, Germany**4363 — A0202 Upregulation of amphiregulin, a ligand of EGFR, in healing mouse conjunctiva after incision and in cultured fibroblasts treated with TGFβ1.**

Hiroki Nidegawa, O. Yamanaka, Y. Takada, S. Saika. Ophthalmology, Wakayama Medcal University, Wakayama, Japan

4364 — A0203 Comparison of gene expression profiles in human pterygium and UV-induced gene expressions in human conjunctival epithelium.Naoko Shibata¹, S. Shibata¹, T. Shibata¹, E. Kiyokawa², H. Sasaki¹, E. Kubo¹. ¹Ophthalmology, Kanazawa Medical University, Uchinada, Japan; ²Oncogenic Pathology, Kanazawa Medical University, Uchinada, Japan**4365 — A0204 Unfolded protein response activation in Human Primary Pterygium.**Jing Yang¹, S. Zhou¹, D. Zhang², J. Gu¹, Y. Liu¹. ¹Zhongshan Ophthalmic Center, Guang Zhou, China; ²China National Center for Biotechnology Development, Beijing, China**4366 — A0205 Optimizing Clinic-Performed Pterygium Surgery.** Catherine Q. Sun², M. F. Chan^{2,1}, S. Padmanabhan², J. M. Schallhorn^{2,1}, J. Rose-Nussbaumer^{2,1}, A. Naaseh², M. Wolf², S. M. Clay², M. Bloomer². ¹Proctor Foundation, University of California San Francisco, San Francisco, CA; ²University of California San Francisco, San Francisco, CA *CR**4367 — A0206 Molecular properties from Siempreviva plant extracts against pterygium pathogenesis.** Judith Zavala^{1,2}, J. Pantaleon-Garcia^{1,2}, E. Camacho-Martinez^{1,2}, C. Arellano-Gurrola^{1,2}, D. Enriquez-Ochoa^{1,2}, A. Reyna-Fuentes^{1,2}, A. Tello-Gomez^{1,2}, B. Martinez-Garcia^{1,2}, J. Valdez-Garcia^{1,2}. ¹Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey, Mexico; ²Ophthalmology Research Chair, Tec Salud, Monterrey, Mexico**4368 — A0207 UV damage of the eye - microstructural study at latitude of 43° at sea level.** Christina N. Grupcheva, D. I. Grupchev, M. N. Radeva. Ophthalmology and visual science, Medical University - Varna, Varna, Bulgaria**4369 — A0208 Topical interferon treatment of conjunctival melanocytic lesions: a clinical and morphological study.** Peter Lipscomb, T. Peck, F. Crimi, Z. Karcicoglu. Department of Ophthalmology, University of Virginia, Charlottesville, VA**4370 — A0209 The efficacy of Intravenous Immunoglobulin in Ocular Cicatricial Pemphigoid.** Lina Ma¹, C. You², S. D. Anesi¹, C. Foster¹. ¹Ophthalmology, MERSI, Windham, NH; ²Department of Ophthalmology, Tianjin Medical University General Hospital, Tianjin, China**4371 — A0210 Ocular Cicatricial Pemphigoid induced by Adalimumab.** Manfred Zierhut¹, D. Doycheva¹, C. M. Deuter¹, B. Sobolewska¹, M. Schaller². ¹Centre for Ophthalmology, University of Tuebingen, Tuebingen, Germany; ²Dep. of Dermatology, University of Tuebingen, Tuebingen, Germany *CR**4372 — A0211 Effects of particulate matter (PM2.5) on mouse ocular surface: analysis of symptoms and histological alteration.** Qian Yang. Zhongshan Ophthalmic Center, State Key Laboratory of Ophthalmology, Sun Yat-sen University, Guang Zhou, China**4373 — A0212 Analysis of the ocular surface of patients with atopic dermatitis revealed decreased expression of filaggrin, a key element of the epithelial barrier.** Thais P. Callou³, M. Sotto², N. Pereira², V. Aoki¹, R. Santo³. ¹Department of Dermatology, University of Sao Paulo, School of Medicine, Sao Paulo, Brazil; ²Department of pathology, University of Sao Paulo, School of Medicine, Sao Paulo, Brazil; ³Department of Ophthalmology, University of Sao Paulo, School of Medicine, Sao Paulo, Brazil

- 4374 — A0213 Evaluation of the regenerative potential of murine lacrimal gland tissue in two different models of lacrimal gland impairment.** *Jana Dietrich¹, M. Roth^{1,2}, G. Geerling², S. Mertsch¹, S. Schrader^{2,1}.* ¹Laboratory of experimental Ophthalmology, Düsseldorf University Hospital (UKD), Duesseldorf, Germany; ²Ophthalmology, Düsseldorf University Hospital, Duesseldorf, Germany
- 4375 — A0214 Lacrimal gland microenvironment changes after obstruction of lacrimal gland ducts.** *Xin He^{1,2}, S. Ou^{1,2}, H. Sun^{1,2}, C. Jia^{1,2}, J. Bu^{1,2}, C. zuo^{1,2}, Y. Qu^{1,2}, Z. LIU^{1,2}, W. Li^{1,2}.* ¹Eye Institute of Xiamen University, Xiamen, China; ²Fujian Provincial Key Laboratory of Ophthalmology and Visual Science, Xiamen, China
- 4376 — A0215 Developmental Gene Expression in Human Lacrimal Gland.** *Dhara Shah¹, M. Ali¹, S. Parmeswaran², K. Subramanian², V. K. Aakalu¹.* ¹Ophthalmology and Visual sciences, University of Illinois at Chicago, Chicago, IL; ²Kamalnayan Bajaj Institute for Research in Vision and Ophthalmology, Chennai, India
- 4377 — A0216 Human Lacrimal Gland Epithelial Cells Culture.** *Hui Lin, Y. Liu, S. C. Yiu.* Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD
- 4378 — A0217 A novel meibum analytical method based on surface enhanced raman spectroscopy.** *Shangkun Ou^{1,2}, X. He^{1,2}, L. Zhang^{1,2}, D. zou^{1,2}, Y. Qu^{1,2}, C. zuo^{1,2}, C. Jia^{1,2}, H. Sun^{1,2}, Z. LIU^{1,2}, W. Li^{1,2}.* ¹Eye Institute of Xiamen University, Xiamen, China; ²Xiamen University affiliated Xiamen Eye Center, Xiamen, China
- 4379 — A0218 The effect of solithromycin, a cationic amphiphilic drug, on the proliferation and differentiation of human meibomian gland epithelial cells.** *Yang Liu¹, W. R. Kam¹, P. Fernandes², D. A. Sullivan¹.* ¹Schepens Eye Research Inst, Boston, MA; ²Cempra Pharmaceuticals, Chapel Hill, NC *CR
- 4380 — A0219 Efficacy of Repeated LipiFlow Treatment for Obstructive Meibomian Gland Dysfunction.** *Reiko Arita^{1,2}, S. Fukuoka^{3,82}, N. Morishige^{4,2}.* ¹Itoh Clinic, Bunkyo-ku, Japan; ²Lid and meibomian gland working group, Tokyo, Japan; ³Omiya Hamada Eye Clinic West Branch, Saitama, Japan; ⁴Oshima Eye Hospital of Ophthalmology, Fukuoka, Japan *CR, ✗
- 4381 — A0220 Evaluation of lipid layer thickness of the tears over the course of a day.** *Jennifer S. Fogt, M. J. Kowalski, N. Fogt, P. E. King-Smith, J. T. Barr.* The Ohio State University College of Optometry, Columbus, OH *CR
- 4382 — A0221 Human Tear Film Lipid Variability - A Year-long Assessment.** *Jadwiga C. Wojtowicz, A. McMahan, I. A. Butovich.* Ophthalmology, University of Texas Southwestern Medical Center, Dallas, TX
- 4383 — A0222 Loss of β ENaC Function in Meibomian Gland Produces Severe Sex-Biased Ocular Surface Diseases in Mice.** *Dongfang Yu¹, Y. Saint³, G. Chen¹, K. A. Burns¹, H. Dang¹, R. Davis², S. H. Randall¹, C. R. Esther⁵, F. P. Paulsen⁴, R. C. Boucher¹.* ¹Marsico Lung Institute/UNC Cystic Fibrosis Research Center, University of North Carolina, Chapel Hill, NC; ²Department of Ophthalmology, University of North Carolina at Chapel Hill, Chapel Hill, NC; ³Department of Comparative Biomedical Sciences, Louisiana State University, Baton Rouge, LA; ⁴Department of Anatomy II, Friedrich Alexander University Erlangen Nürnberg, Erlangen, Germany; ⁵Pediatric Pulmonology, University of North Carolina at Chapel Hill, Chapel Hill, NC *CR
- 4384 — A0223 Meibomian Gland Dysfunction in Primary Sjögren's syndrome.** *Gerardo Villarreal Méndez², K. Mohamed-Noriega¹, J. Mohamed¹, J. Mohamed-Noriega², F. Morales-Wong², J. Riega-Torres³, M. A. Garza-Elizondo³.* ¹Ophthalmology, University Hospital UANL, San Nicolas, Mexico; ²Departamento de Oftalmología, Hospital Universitario, UANL, Monterrey, Mexico; ³Departamento de Reumatología, Hospital Universitario, UANL, Monterrey, Mexico
- 4385 — A0224 Therapy for Dry eye and Meibomian gland dysfunction(MGD) based on the replacement of (O-acyl)-omega-hydroxy fatty acids(OAHFAs).** *Sher Li Gan¹, R. Webster¹, L. Tong³, R. Bates¹, M. Raida².* ¹School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore, Singapore; ²National University of Singapore, Singapore, Singapore; ³Singapore Eye Research Institute, Singapore, Singapore
- 4386 — A0225 FGF-signaling in Meibomian Gland (MG) Homeostasis of Adult Mice.** *Living W. Reneker¹, Y. Shui², Y. Liu², L. Wang¹, A. J. Huang².* ¹Ophthalmology, University of Missouri-Columbia, Columbia, MO; ²Ophthalmology&Visual Science, Washington University School of Medicine, St. Louis, MO
- 4387 — A0226 Effect of the Intranasal Tear Neurostimulator on Meibomian Glands.** *Michael Watson¹, E. Angjeli¹, B. Orrick¹, S. Baba², M. Franke³, M. Holdbrook⁴, G. W. Ousler¹, D. A. Hollander¹, M. Senchyna⁵.* ¹Dry Eye, Ora, Inc, Andover, MA; ²Clinical Affairs, Ocuve, Inc., South San Francisco, CA; ³Private Consultant, Valencia, CA; ⁴Executive Director, Clinical Affairs and Biostatistics, Allergan, plc, South San Francisco, CA; ⁵Senior Director, Clinical Development, Ophthalmology Therapeutic Area, Allergan, plc, Irvine, CA *CR, ✗
- 4388 — A0227 Influence of eyelid pigmentation on the diagnosis of meibomian gland dysfunction.** *Sangita P. Patel^{1,2}, M. J. Blumberg¹.* ¹Ophthalmology, University at Buffalo, Buffalo, NY; ²Research Service, VA Western NY Healthcare System, Buffalo, NY
- 4389 — A0228 An Evaluation of the Presence of Demodex and its influence on Meibomian Gland structure.** *Clare Halleran², L. O'Dell³, J. S. Harthan¹, J. T. Kwan³, K. Hipolito³, M. M. Hom⁴.* ¹Illinois College of Optometry, Chicago, IL; ²Private Practice, Clarenville, NF, Canada; ³MBKU Southern California College of Optometry, Fullerton, CA; ⁴Private Practice, Azusa, CA; ⁵Private Practice, York, PA *CR
- 4390 — A0229 Dendrimer-dexamethasone therapy improved lacrimal gland function in an induced autoimmune dacryoadenitis rabbit model.** *Ying Liu^{1,2}, H. Lin^{1,2}, S. Kambhampati^{1,2}, K. Rangaramanujam^{1,2}, S. C. Yiu^{1,2}.* ¹Wilmer Eye Institute, Baltimore, MD; ²The center of Nanomedicine, Johns Hopkins University, Baltimore, MD
- 4391 — A0230 Dry eye disease and meibomian gland dysfunction after allogeneic hematopoietic stem cell transplantation.** *Marilyn M. Ferrer¹, M. Rodrigues², B. Duarte Moron de Andrade¹, B. Martins¹, F. Aranha², D. Oliveira¹, E. Miranda², M. Colella², A. Vigorito², M. Alves¹.* ¹Oftalmo-Otorrinolaringologia, Unicamp, Campinas, Brazil; ²Onco-Hematologia, Unicamp, Campinas, Brazil
- 4392 — A0231 Regrowth of Meibomian Gland Tissue After Intraductal Meibomian Gland Probing in Patients With Obstructive Meibomian Gland Dysfunction.** *Steven L. Maskin, W. R. Testa.* Dry Eye and Cornea Treatment Center, Tampa, FL *CR
- 4393 — A0232 PPAR γ Regulates Meibocyte Differentiation and Lipid Synthesis of Cultured Human Meibomian Gland Epithelial (hMGE) Cells.** *James Jester, Y. Xie, J. S. Kang, P. Q. Nguyen, V. T. Bui, K. Huynh, D. J. Brown.* Gavin Herbert Eye Institute, UC Irvine, Irvine, CA
- 4394 — A0233 Meibomian Gland Dysfunction: Role of PPAR-gamma.** *Mindy Call, W. W. Kao, J. Ebert.* University of Cincinnati, Cincinnati, OH
- 4395 — A0234 Characterization of Expressed Human Meibum Lipid Composition using Stimulated Raman Spectroscopy (SRS).** *Jerry R. Paugh¹, A. Alfonso-Garcia², M. Farid³, S. Garg³, E. Potma⁴, D. J. Brown³, J. Jester³.* ¹SCCO at Marshall B. Ketchum University, Fullerton, CA; ²Chemistry, University of California at Irvine, Irvine, CA; ³Ophthalmology, University of California at Irvine, Irvine, CA; ⁴Chemistry, University of California at Irvine, Irvine, CA *CR
- 4396 — A0235 Longitudinal Changes of Meibomian Glands after allogeneic hematopoietic stem cell transplantation(HSCT).** *HeeJong Shin, K. Na.* Ophthalmology, Yeouido St. Mary's hospital, Seoul, Korea (the Republic of

4397 — A0236 Correlation of change in meibomian gland structure with tear film lipid layer thickness. *Joo Hyun Kim¹, H. Jeon¹, W. Wee², J. Hyon^{2,1}.* ¹Ophthalmology, Seoul National University Bundang Hospital, Seongnam, Korea (the Republic of); ²Ophthalmology, Seoul National University College of Medicine, Seoul, Korea (the Republic of)

4398 — A0237 Short-term reproducibility of interferometry based tear film lipid layer thickness measurements in humans. *Gerhard Garhofer¹, V. Aranha dos Santos², R. M. Werkmeister², A. Messner², D. Schmidl¹, K. Fondl¹, L. Schmetterer^{1,2}.* ¹Department of Clinical Pharmacology, Medical University of Vienna, Vienna, Austria; ²Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria ✕

4399 — A0238 Systematic Analysis of Dry-eye Disease in Rural and Urban Populations in Ghana using a Custom Made Infrared Meibographer. *Eugene A. Osae^{2,1}, R. K. Ablordepeye², J. Horstmann^{1,3}, D. B. Kumah², P. Steven^{1,3}.* ¹Department of Ophthalmology, University of Cologne, Cologne, Germany; ²Optometry and Visual Science, Kwame Nkrumah Univ of Science and Technology, Kumasi, Ghana; ³Cluster of Excellence: Cellular Stress Response in Aging - associated Disease (CECAD), University of Cologne, Cologne, Germany

4400 — A0239 Vital Staining of the Cornea and Conjunctiva Following Treatment of Meibomian Gland Dysfunction in Dry Eye Patients. *Andrew T. McPherson^{1,2}, J. V. Greiner^{1,2}, P. J. Oliver^{1,2}.* ¹Department of Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School, Boston, MA; ²Boston Ocular Surface Center, Boston and Winchester, MA

Exhibit/Poster Hall A0260-A0281

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology

442 Uveal melanoma clinical studies

Moderators: Timothy W. Corson and Zachary K. Goldsmith

4401 — A0260 Ultra wide-field imaging as a screening tool to assess elevation of choroidal nevomelanocytic lesions using the red and green colour channels. *Zaria Ali¹, J. Gray⁵, M. Sagoo^{2,3}, K. Balaskas^{1,4}.* ¹Medical Retina, Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester, United Kingdom; ²Ocular Oncology, Retinoblastoma & Medical Retina, Moorfields Eye Hospital, London, United Kingdom; ³UCL, Institute of Ophthalmology, London, United Kingdom; ⁴School of Medicine, The University of Manchester, Manchester, United Kingdom; ⁵Ocular Imaging and Angiography, Manchester Royal Eye Hospital, Central Manchester University Hospitals NHS Foundation Trust, Manchester, United Kingdom

4402 — A0261 Ultrasonography of silicone oil filled eyes and correlation between uveal melanoma thickness measurements with and without silicone oil in the vitreous cavity. *Sanket U. Shah¹, R. Almanzor¹, C. A. McCannel^{1,2}, T. A. McCannel^{1,2}.* ¹Ophthalmology, Stein Eye Institute, University of California Los Angeles, Los Angeles, CA; ²Ophthalmology, Doheny Eye Institute, University of California Los Angeles, Los Angeles, CA

4403 — A0262 Fine Needle Aspiration for Suspected Uveal Metastases. *claudine Bellerive¹, C. V. Biscotti¹, N. Singh², A. D. Singh¹.* ¹Ocular Oncology, Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²Case Western Reserve University, Cleveland, OH *CR

4404 — A0263 Surgical Techniques, Indications, and Outcomes of Transvitreal Biopsy for Uveal Melanoma. *Laura Snyder¹, A. B. Daniels^{1,2}.* ¹Department of Ophthalmology & Visual Sciences, Vanderbilt University Medical Center, Nashville, TN; ²Vanderbilt-Ingram Cancer Center and Departments of Cancer Biology and Radiation Oncology, Vanderbilt University Medical Center, Nashville, TN

4405 — A0264 Comparison of Cytology Yield of FNAB of Melanocytic Uveal Tumors Diagnosed Clinically as Uveal Melanoma Using 25g versus 27g Needles. *Zelia M. Correa, C. Skinner, J. J. Augsburger.* Ophthalmology, University of Cincinnati, Terrace Park, OH *CR

4406 — A0265 Cytologic correlation with Gene Expression Profile in Uveal Melanoma (UM) Fine Needle Aspiration Biopsies (FNA). *Juan Ortiz³, A. C. Scheffler^{1,2}, H. C. Sultan^{4,2}, M. Divatia³, P. Chevez-Barrios^{3,5}.* ¹Retina Consultants of Houston, Houston, TX; ²Blanton Eye Institute, Houston Methodist Hospital, Houston, TX; ³Pathology and Genomic Medicine and Blanton Eye Institute, Houston Methodist Hospital, Houston, TX; ⁴Ophthalmology, University of Texas Medical Branch, Galveston, TX; ⁵Pathology and Laboratory Medicine and Ophthalmology, Weill Cornell Medical College, Houston, TX *CR

4407 — A0266 Relationship between traditional clinical risk factors and GEP classification for uveal melanoma. *Ryan Kim¹, B. Nguyen², M. E. Bretana², E. Kegley², A. C. Scheffler².* ¹McGovern Medical School, University of Texas Health Science Center at Houston, Houston, TX; ²Retina Consultants of Houston, Houston, TX

4408 — A0267 Is discriminant score associated with GEP class in DecisionDx-UM test important prognostically? *Cassandra C. Skinner, J. J. Augsburger, Z. M. Correa.* Ophthalmology, University of Cincinnati, Cincinnati, OH *CR

4409 — A0268 Metastatic Uveal Melanoma in the Liver Exhibit Two Distinct Patterns with Different Growth Kinetics. *Albert Liao¹, P. Mittal², Y. Jiang³, H. E. Grossniklaus¹.* ¹Emory Eye Center, Emory University School of Medicine, Atlanta, GA; ²Radiology and Imaging Services, Emory University School of Medicine, Atlanta, GA; ³Mathematics and Statistics, Georgia State University, Atlanta, GA

4410 — A0269 Mushroom shaped choroidal lesions other than melanoma. *Jerry A. Shields, C. L. Shields.* Oncology Service, Wills Eye Hospital, Philadelphia, PA

4411 — A0270 Uveal Melanoma: 5 Year Update on Incidence, Treatment, and Survival (SEER 1973-2013). *Mary E. Aronow¹, A. K. Topham², A. D. Singh³.* ¹Wilmer Eye Institute, Johns Hopkins, Baltimore, MD; ²Coalition of National Cancer Cooperative Group Inc., Philadelphia, PA; ³Cole Eye Institute, Cleveland Clinic, Cleveland, OH *CR

4412 — A0271 Initial staging imaging for uveal melanoma: what's necessary and what's extraneous? *Mark P. Breazzano¹, A. B. Daniels^{1,2}.* ¹Department of Ophthalmology & Visual Sciences, Vanderbilt University Medical Center, Nashville, TN; ²Vanderbilt-Ingram Cancer Center and Departments of Cancer Biology and Radiation Oncology, Vanderbilt University Medical Center, Nashville, TN

4413 — A0272 Evaluation of peripheral ischemia after proton beam therapy of central choroidal melanoma. *Antonia M. Joussea, I. Seibel, J. Löwen, J. Heufelder, C. Busch.* Department of Ophthalmology, Charite, University Medicine Berlin, Berlin, Germany *CR, ✕

4414 — A0273 Intravitreal Dexamethasone Implant in Radiation induced Macular Edema.Luisa Frizziero¹, R. Parrozzani¹, S. Trainiti¹, E. Piloto¹, S. Pulze², G. Miglionico³, E. Mideni^{4,2}.¹Department of Ophthalmology, University of Padova, Padova, Italy; ²G.B. Bietti Foundation, IRCCS, Rome, Italy**4415 — A0274 NTCP-based prediction of maculopathy after proton therapy or Ruthenium-106 brachytherapy for choroidal melanomas.**Charlotte A. Espensen^{1,2}, J. Thariat³, A. L. Appelt⁴, J. Caujolle⁵, C. Masch⁵, J. Herault⁶, L. S. Fog², A. B. Gothelf⁶, J. F. Kiilgaard¹.¹Department of Ophthalmology, Rigshospitalet, Copenhagen Ø, Denmark; ²Department of Oncology, Section of Radiotherapy, Rigshospitalet, Copenhagen Ø, Denmark; ³Department of Oncology, Centre Antoine Lacassagne, Nice, France; ⁴Leeds Institute of Cancer & Pathology, University of Leeds and St. James's University Hospital, Leeds, United Kingdom; ⁵Department of Ophthalmology, Centre Antoine Lacassagne, Nice, France; ⁶Department of Oncology, Rigshospitalet, Copenhagen, Denmark**4416 — A0275 Programmed cell death ligand 1 expression in uveal melanoma is associated with better patient outcome and decreased tumor infiltrating lymphocytes.**

Ana Beatriz T. Dias, P. Zoroquiain, N. Vila Grane, A. Dias-Reis, P. T. Logan, M. N. Burnier. MUHC-McGill University Ocular Pathology Laboratory, Montreal, QC, Canada

4417 — A0276 Tumor pigmentation in Uveal melanoma is related to eye color.Annemijn P. Wierenga¹, M. Dogrusöz¹, W. Kroes², S. G. van Duinen³, G. P. Luyten¹, M. J. Jager¹. ¹Department of Ophthalmology, Leiden University Medical Center, Leiden, Netherlands; ²Department of Clinical Genetics, Leiden University Medical Center, Leiden, Netherlands; ³Department of Pathology, Leiden University Medical Center, Leiden, Netherlands**4418 — A0277 Predictive factors in the clinical management of benign lesions of the Iris.**Franziska M. Parnitzke¹, M. Oeverhaus¹, C. Mier¹, D. Meller², K. steuhl¹, M. Böhm¹. ¹Department of Ophthalmology, Clinic for Diseases of the Anterior Segment of the Eyes, University Hospital Essen, Essen, Germany; ²Department of Ophthalmology, University Hospital Jena, Jena, Germany**4419 — A0278 Management Of Suspicious Melanocytic Lesions Of The Iris.**

Monica Oxenreiter, A. M. Lane, I. K. Kim, E. S. Gragoudas. Massachusetts Eye and Ear Infirmary, Boston, MA

4420 — A0279 Cytogenetic evaluation of 26 patients with documented transformation of iris nevus into iris melanoma.Maria Pefkianaki¹, A. Srinivasan¹, A. Mashayekhi¹, J. A. Shields^{1,2}, C. L. Shields^{1,2}. ¹Ocular Oncology Service, Wills Eye Hospital, Philadelphia, PA; ²Thomas Jefferson University, Philadelphia, PA**4421 — A0280 American Joint Committee on Cancer (AJCC) 8th Edition Classification of Primary Iris Melanoma: Outcomes Analysis in 432 Patients.**

Vladislav P. Bekerman, M. Di Nicola, C. L. Shields, C. Alarcon, E. Fulco, S. Kaliki, J. A. Shields. Ocular Oncology Service, Wills Eye Hospital, Thomas Jefferson University, Philadelphia, PA

4422 — A0281 American Joint Committee on Cancer (AJCC) Classification of Iris Melanoma: Comparison between 7th and 8th Edition based on 432 cases.Maura Di Nicola¹, V. P. Bekerman¹, C. Alarcon¹, E. Fulco¹, J. A. Shields¹, S. Kaliki^{1,2}, C. L. Shields¹.¹Ocular Oncology Service, Wills Eye Hospital, Philadelphia, PA; ²Ocular Oncology Service, L.V. Prasad Eye Hospital, Hyderabad, India

Exhibit/Poster Hall A0401-A0418

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Anatomy and Pathology/Oncology

443 Physiological and myopic ocular biometry

Moderator: Mabelle T. Pardue

4423 — A0401 Peripheral refraction and peripheral eye length in myopic children in the BLINK study.Donald O. Mutti¹, L. T. Sinnott¹, K. Reuter¹, M. Walker², D. A. Berntsen³, L. A. Jones-Jordan¹, J. J. Walline¹. ¹College of Optometry, Ohio State University, Columbus, OH; ²College of Optometry, University of Houston, Houston, TX *CR, ✗**4424 — A0402 Ocular growth during infancy and early childhood.**

Ian Cunningham, A. Chandna, S. Migas. Ophthalmology, Alder Hey Children's NHS Foundation Trust, Liverpool, United Kingdom

4425 — A0403 Ten-year change of refractive error, anterior chamber depth and axial length in southern Chinese children.Zhixi Li¹, Z. Zhu¹, X. Ding¹, M. He^{1,2}. ¹prevention of blindness, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ²Centre for Eye Research Australia, University of Melbourne, Melbourne, VIC, Australia**4426 — A0404 Quantitative-ultrasound assessment of the myopic sclera in the guinea pig.**Jonathan Mamou¹, R. H. Silverman², S. A. McFadden³, Q. V. Hoang^{2,4}. ¹Lizzi Ctr for Biomedical Engineering, Riverside Research, New York, NY; ²Department of Ophthalmology, Columbia University Medical Center, New York, NY; ³Vision Sciences Group, Faculty of Science and IT, School of Psychology, University of Newcastle, Newcastle, NSW, Australia; ⁴Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore**4427 — A0405 Time course of axial length changes in response to competing episodes of myopic and hyperopic defocus.**

Samaneh Delshad, M. J. Collins, S. A. Read, S. Vincent. Contact Lens & Visual Optics Laboratory, School of Optometry & Vision Science, Queensland University of Technology, Brisbane, QLD, Australia

4428 — A0406 Scleral, Choroidal and Retinal Thickness in Healthy Chinese Children Measured by Swept-source Optical Coherence Tomography.Xiangui He¹, J. Deng², J. Jin¹, M. Lv¹, J. Zhu¹, H. Zou^{1,2}, X. Xu^{1,2}. ¹Department of Preventative Ophthalmology, Shanghai Eye Disease Prevention and Treatment Center, Shanghai, China; ²Department of Ophthalmology, Shanghai General Hospital, Shanghai Jiao Tong University, Shanghai, China**4429 — A0407 A 3D MRI study of the relationship between eye dimensions, retinal shape and myopia.**David A. Atchison¹, J. Pope¹, P. Verkicharla¹, F. Sepehrband¹, M. Suheimat¹, K. L. Schmid¹, N. A. Brennan². ¹Institute of Health and Biomedical Innov, Queensland University of Technology, Kelvin Grove, QLD, Australia; ²Johnson & Johnson Vision Care, In., Jacksonville, FL *CR**4430 — A0408 Axial scaling of OCT retinal images is independent of axial length.**Alexander E. Salmon¹, B. S. Sajdak¹, R. F. Collyer^{1,2}, J. Carroll^{1,2}. ¹Cell Biology, Neurobiology, & Anatomy, Medical College of Wisconsin, Milwaukee, WI; ²Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI**4431 — A0409 Sub-foveal choroidal thickness in myopia and its correlations in central India.**

Vinay Nangia, P. Pardhi, S. Lambat, G. Ambekar. Ophthalmology, Suraj Eye Institute, Nagpur, India

4432 — A0410 Promotion of BMP9/ALK1 quiescence signaling for the prevention of Diabetic Macular edema.Naoufal N. Akla^{1,3}, C. Viaillard³, A. Belayach³, B. Larrivee^{2,3}. ¹Biochemistry and molecular medicine, Université de Montréal, Montreal, QC, Canada; ²Ophthalmology, Université de Montréal, Montreal, QC, Canada; ³Hopital Maisonneuve-Rosemont, Montreal, QC, Canada**4433 — A0411 Changes in Macular Retinal Thickness During Emmetropization and Myopia Development in Juvenile Marmosets.**

Harrison Feng, X. Zhu, A. Nour, R. Nieu, A. Benavente-Perez. SUNY College of Optometry, New York City, NY *CR

4434 — A0412 Retinal and Choroidal Thickness Measurements - Repeatability and Influence of Axial Length.

Hannah Burfield, A. Jnawali, N. B. Patel, L. A. Ostrin. University of Houston College of Optometry, Houston, TX

4435 — A0413 Influence of Body Position in Intraocular Pressure and Lens Vault in Healthy Eyes. Handan AKIL¹, V. Chopra^{1,2}, B. A. Francis^{1,2}, S. R. Sadda^{1,2}, A. S. Huang^{1,2}. ¹Doheny Imaging Reading Center, Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, David Geffen School of Medicine, University of California Los Angeles, Los Angeles, CA *CR

4436 — A0414 Morphological Ciliary Muscle Changes Associated with Form Deprivation Myopia in the Guinea Pig. Andrew D. Pucker¹, A. R. Jackson², K. M. McHugh^{3,82}, D. O. Mutti⁴. ¹Optometry, University of Alabama at Birmingham, Birmingham, AL; ²Center for Molecular and Human Genetics, Nationwide Children's Hospital, Columbus, OH; ³Department of Biomedical Education & Anatomy, The Ohio State University, Columbus, OH; ⁴Optometry, The Ohio State University, Columbus, OH

4437 — A0415 Interactions between paired eyes during normal growth and lens compensation in chicks. Xiaoying Zhu^{2,1}, S. A. McFadden². ¹Biological and Vision Sciences, State University of New York, College of Optometry, New York, NY; ²School of Psychology, University of Newcastle, Callaghan, NSW, Australia

4438 — A0416 A dose dependent myopic shift in refraction and axial length in a murine model of lens-induced myopia. Xiaoyan Jiang^{1,2}, K. Mori^{1,2}, Y. Tanaka^{1,2}, S. Ikeda^{1,2}, M. Miyauchi^{1,2}, E. Yotsukura^{1,2}, H. Torii^{1,2}, T. Kurihara^{1,2}, K. Tsubota^{1,2}. ¹Department of Ophthalmology, Keio University School of Medicine, Tokyo, Japan; ²Laboratory of Photobiology, Keio University School of Medicine, Tokyo, Japan

4439 — A0417 Quantitative 3-D OCT ocular geometry of lens-treated myopic and hyperopic guinea pig eyes. Pablo Perez-Merino¹, E. Martinez-Enriquez¹, M. Velasco-Ocana¹, L. Revuelta², S. Marcos¹, S. A. McFadden³. ¹Instituto de Optica-CSIC, Madrid, Spain; ²Universidad Complutense, Facultad de Veterinaria, Madrid, Spain; ³University of Newcastle, School of Psychology, Newcastle, NSW, Australia *CR

4440 — A0418 In Vivo Imaging of Blood Vessel Regression in Retinal Degeneration. Joseph Hanna¹, N. Gupta^{1,2}, X. Zhou¹, E. Mathieu^{1,2}, L. A. Paczka-Giorgi¹, Y. H. Yucel^{1,2}. ¹Keenan Research Centre for Biomedical Science, St. Michael's Hospital, Toronto, ON, Canada; ²Laboratory Medicine and Pathobiology, Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada

Exhibit/Poster Hall B0054-B0080

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Physiology/Pharmacology

444 Drug delivery I

Moderator: Leopold Schmetterer

4441 — B0054 α -Lipoic acid nanomicelles in solution and in contact lenses for diabetes-associated corneal diseases. Angel Concheiro, F. Alvarez-Rivera, A. Varela-Garcia, C. Alvarez-Lorenzo. Pharmacology, Pharmacy and Pharmaceutical Technology, Universidade de Santiago de Compostela, Santiago de Compostela, Spain

4442 — B0055 Aqueous Cyclosporin A Eye Drop Formulations with Cyclodextrin Nanoparticles. Sunna Johannsdottir¹, J. K. Kristinsson², Z. Fülöp^{1,5}, G. M. Asgrimsdottir⁵, E. Stefansson^{3,4}, T. Loftsson^{1,5}. ¹Faculty of Pharmaceutical Science, University of Iceland, Reykjavik, Iceland; ²Augljós eye clinic, Reykjavik, Iceland; ³Faculty of Medicine, University of Iceland, Reykjavik, Iceland; ⁴Department of Ophthalmology, National University Hospital, Reykjavik, Iceland; ⁵Oculus ehf, Reykjavik, Iceland

4443 — B0056 The effect of enhancing uptake of drug by *Fusarium Solani* using micelles as a vehicle. Junjie Zhang¹, J. Li¹, H. Xia¹, T. Zhou¹, S. Liu², S. He², L. Han², L. Wang². ¹Dpt of Pharmaceutical Science, Henan Eye Institute, Henan Eye Hospital, Zhengzhou, China; ²Henan Eye Hospital, Henan Eye Institute, Zhengzhou, China

4444 — B0057 Tracking ocular retention of precorneal formulations using near-infrared dyes. Shengyan Liu¹, A. Tsugimatsu¹, C. Chang¹, H. Liang², M. Reya², S. Boyd², L. W. Jones³, F. Gu¹. ¹Chemical Engineering - Nanotechnology, University of Waterloo, Waterloo, ON, Canada; ²Department of Ophthalmology & Vision Science, Keenan Research Centre for Biomedical Science, St. Michael's Hospital, Toronto, ON, Canada; ³Optometry & Vision Sciences, Centre for Contact Lens Research, Waterloo, ON, Canada *CR

4445 — B0058 Reducing Dexamethasone intravitreal implant-related retinal injuries using a novel technique of intravitreal injection. Wayne Tie¹, S. Conston⁵, R. Yamamoto⁵, M. Jansen¹, S. Bahadorani¹, C. Krambeer³, D. Kermany⁴, M. Singer². ¹Ophthalmology, University of Texas Health Sciences Center San Antonio, San Antonio, TX; ²Medical Center Ophthalmology Associates, San Antonio, TX; ³Texas Tech University Health Sciences Center, El Paso, TX; ⁴University of Texas, Austin, TX; ⁵Medterials Inc, San Carlos, CA *CR

4446 — B0059 Delivery of Dexamethasone from Novel Pentablock Copolymer-Based Nanof ormulation Promotes Prolonged Secretion of myocilin from Human Trabecular Meshwork Cells. Guorong Li¹, V. Agrahari², V. Agrahari², A. Mandal², A. K. Mitra², W. Stamer². ¹Ophthalmology, Duke Eye Center, Durham, NC; ²University of Missouri - Kansas City, Kansas, MO

4447 — B0060 Biocompatibility and stability of doxycycline-terminable intraocular drug delivery cell-encapsulating device. Ken K. Tsang¹, F. Wong¹, K. Yao², B. Chan³, A. C. Lo^{1,4}. ¹Department of Ophthalmology, The University of Hong Kong, Hong Kong, Hong Kong; ²Department of Biochemistry, The University of Hong Kong, Hong Kong, Hong Kong; ³Tissue Engineering Laboratory, Department of Mechanical Engineering, The University of Hong Kong, Hong Kong, Hong Kong; ⁴Research Center of Heart, Brain, Hormone and Healthy Aging, The University of Hong Kong, Hong Kong, Hong Kong

4449 — B0062 Retro-ocular insertion of intrachoroidal dexamethasone implant for drug delivery system to posterior eye segment. Masatoshi Murata¹, A. Sanbe². ¹Murata Eye Clinic, Morioka, Japan; ²Iwate Medical University, Yahaba, Japan *CR

4450 — B0063 Tissue Distribution of Orally Active Multifunctional Antioxidants in the Eye. Peter F. Kador^{1,2}, T. A. Woolman¹, D. M. Daszynski¹, K. Blessing¹, H. A. Zhong³. ¹Pharmaceutical Sci, Coll of Pharm, Univ of Nebraska Medical Ctr, Omaha, NE; ²Ophthalmology, University of Nebraska Medical Center, Omaha, NE; ³Chemistry, University of Nebraska, Omaha, Omaha, NE *CR

4451 — B0064 Ocular Delivery Of Moxifloxacin-Loaded Liposomes. Kaline S. Ferreira, R. P. Lira, N. D. Lucena, B. M. dos Santos. Ophthalmology, Federal University of Pernambuco, Recife, Brazil

4452 — B0065 In vitro in vivo correlation of dexamethasone TIPS particles. Sahar Awwad^{1,2}, R. M. Day³, P. T. Khaw², H. Fadda⁴, S. Brocchini^{1,2}. ¹UCL, The School of Pharmacy, London, United Kingdom; ²National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ³UCL Division of Medicine, London, United Kingdom; ⁴Department of Pharmaceutical Sciences, College of Pharmacy and Health Sciences, Butler University, Indianapolis, IN

4453 — B0066 A Novel Perfusion System for Predicting Intraocular Ocular Drug Disposition In The Human Eye. Jeremy M. Sivak^{1,2}, D. Chan¹, G. Won^{1,2}, E. A. Thackaberry³, V. Bantseev³. ¹Vision Sciences, Krembil Research Institute, University Health Network, Toronto, ON, Canada; ²Vision Science & Ophthalmology, University Of Toronto, Toronto, ON, Canada; ³Safety Assessment, Genentech Inc., San Francisco, CA *CR

4454 — B0067 Dual drug-loaded porous silicon particles to provide controlled drug release for chronic retinal diseases. *Lingyun Cheng¹, D. Warther², F. Li¹, Y. Wang¹, K. Huffman¹, W. R. Freeman¹, M. Sailor².* Jacobs Retina Center/ Shiley Eye Institute, University of California, San Diego, La Jolla, CA; ²Department of Chemistry & Biochemistry, University of California, San Diego, La Jolla, CA

4455 — B0068 Sustained Intracameral Drug Delivery Using Cross-Linked Hyaluronic Acid. *Richard A. Eiferman¹, D. P. DeVore².* ¹Ophthalmology, University of Louisville, Louisville, KY; ²DV Consulting, Chelmsford, MA *CR

4456 — B0069 Validation of Novel Standard Units for Drug Availability Across the Vitreoretinal Interface and Standardization of Interspecies Dose Adjustments. *Muhammad Abdulrazik.* Innovative Therapeutic Algorithms, East Jerusalem Biomedical Institute, East Jerusalem, Palestine, State of

4457 — B0070 Nonclinical Development of An Intravitreal Extended Release Implant for the Treatment of Diabetic Macular Edema. *Stuart Williams, R. S. Verhoeven, D. Melton, J. Tully, S. Das, R. Robeson, A. Garcia, M. Yang, B. R. Yerxa.* Envisia Therapeutics, Raleigh, NC *CR

4458 — B0071 In vitro Sustained Release of Tyrosine Kinase Inhibitors from Biodegradable PRINT Implants. *Melissa Sandahl, K. Caesar, J. Tully, M. Yang, S. Williams, R. M. Schiffman, B. R. Yerxa.* Envisia Therapeutics, Inc, Durham, NC *CR

4459 — B0072 Physicochemical characterization of Tobradex and Tobradex ST under physiological conditions. *Stephanie Choi, P. Petrochenko, Y. Wu, D. Kozak, J. Zheng.* Food and Drug Administration, Silver Spring, MD

4460 — B0073 How to deliver preservative-free eye drops in a multidose system with a safer alternative to filters? *Lilia PETIT BEN SAIDANE.* NEMERA, LA VERPILLIERE, France *CR

4461 — B0074 Factors associated with variability of delivered volume during standard intravitreal injection. *Luis A. Gonzalez, T. R. Friberg.* Ophthalmology, University of Pittsburgh Medical Center, Pittsburgh, PA

4462 — B0075 Study on suppression of oxidative stress markers by free type or ester type lutein. *Akihiro Ohira, K. Hara, Y. Takai.* Ophthalmology, Shimane University, Izumo, Japan

4463 — B0076 miRNAs in vitreous humor of patients affected by Idiopathic Epiretinal Membrane and Macular Hole. *Livio Giulio Marco Franco, M. R. Fallico, V. Bonfiglio, M. Reibaldi, A. Longo, C. Gagliano, T. Avitabile, A. Russo.* Institute of Ophthalmology, University of Catania, Catania, Italy

4464 — B0077 Biodegradable injectable sheet as transcleral drug delivery system. *Nobuhiro Nagai¹, Z. K. Nezhad¹, S. Saijo¹, H. Kaji², M. Nishizawa², T. Nakazawa¹, T. Abe¹.* ¹Graduate School of Medicine, Tohoku University, Sendai, Japan; ²Graduate School of Engineering, Tohoku University, Sendai, Japan

4465 — B0078 Bovine Vitreous And Hyaloid Hydraulic Permeability Measurement. *Anita N. Penkova, S. S. Sadhal.* Aerospace & Mechanical Engineering, University of Southern California, Los Angeles, CA *CR

4466 — B0079 Effects of intravitreal administration of baicalin on intraocular pressure and retinal thickness in Sprague-Dawley rats. *Hoi Lam Li¹, A. Dey¹, S. Yu², S. Shan¹, W. Stamer³, H. H. Chan¹, C. To¹, K. Chiu², C. Do¹.* ¹School of Optometry, The Hong Kong Polytechnic University, Hong Kong, Hong Kong; ²Laboratory of Retina Brain Research, Department of Ophthalmology, The University of Hong Kong, Hong Kong, Hong Kong; ³Department of Ophthalmology, Duke University School of Medicine, Durham, NC

4467 — B0080 Sustained topical delivery of very low-dose atropine avoids the periodic excessive pupil dilation, light sensitivity and blur of drop therapy. *Charles D. Leahy, E. J. Ellis, J. Ellis.* Amorphex Therapeutics LLC, Andover, MA *CR

Exhibit/Poster Hall B0123-B0164

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Biochemistry/Molecular Biology

445 Gene editing and gene therapies

Moderators: G. Astrid Limb and James M. Fadool

4468 — B0123 CRISPR/Cas9-Mediated Genome Editing as a Therapeutic Approach for Leber Congenital Amaurosis 10. *Guoxiang Ruan, E. Barry, D. Yu, M. Lukason, S. Cheng, A. Scaria.* Gene Therapy, Sanofi Genzyme, Framingham, MA *CR

4469 — B0124 Optimized Homology Directed Repair for Treatment of Inherited Retinal Diseases Using the CRISPR/Cas9 System. *Brian Rossmiller, T. Iwata.* National Institute of Sensory Organs, National Hospital Organization, Tokyo, Japan

4470 — B0125 Rgr gene mutation and exon-skipping RGR mRNA in mice. *Zhaoxia Zhang^{1,2}, H. Fong^{1,3}.* ¹Department of Ophthalmology, USC Roski Eye Institute, University of Southern California, Los Angeles, CA; ²Department of Ophthalmology, Shanxi Dayi Hospital, Taiyuan, China; ³Department of Molecular Microbiology and Immunology, University of Southern California, Los Angeles, CA

4471 — B0126 Optimizing The Repair Template For Homology Directed Repair Of Double Strand Breaks. *Knut Stieger, F. Song, B. Lorenz.* Department of Ophthalmology, Justus-Liebig-University Giessen, Giessen, Germany *CR

4472 — B0127 In vivo gene editing of zebrafish rho to model human photoreceptor disease. *Chris Zelinka, J. M. Fadool.* Biological Science, Florida State University, Tallahassee, FL

4473 — B0128 Allele-specific gene editing for the treatment of autosomal dominant Retinitis Pigmentosa. *Gene Liau¹, K. N. Rao², V. V. Bartsevich¹, J. Smith¹, D. Jantz¹, M. Hirsch².* ¹Precision Biosciences, Durham, NC; ²Department of Ophthalmology, Gene Therapy Center, University of North Carolina, Chapel Hill, NC *CR

4474 — B0129 In vivo allele-specific CRISPR/Cas9 gene editing in the rhodopsin P23H knockin mouse model. *Pingjuan Li¹, B. Kleinstiver², M. Leon¹, K. Joung², E. A. Pierce¹, Q. Liu¹.* ¹Department of Ophthalmology, Ocular Genomics Institute, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Center for Cancer Research, Massachusetts General Hospital, Charlestown, MA

4475 — B0130 Multiplex CRISPR/Cas9-based Genetic Screen for Retinal Regeneration-deficient Zebrafish Mutants. *Arife Eroglu, T. Mulligan, S. Sengupta, J. S. Mumm.* Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

4476 — B0131 Safety and post hoc analysis of subretinal rAAV.sFLT-1 for wet age-related macular degeneration following a phase 2a randomized clinical trial. *Elizabeth P. Rakoczy^{1,2}, C. Lai^{1,2}, A. Magno², M. French³, S. Butler⁴, S. Barone⁴, S. D. Schwartz⁵, M. Blumenkranz⁶, M. Degli-Esposti¹, I. Constable^{1,2}.* ¹Centre for Ophthalmol & Visual Sciences, University of Western Australia, Perth, WA, Australia; ²Molecular Ophthalmology, Lions Eye Institute, Perth, WA, Australia; ³School of Pathology, University of Western Australia, Perth, WA, Australia; ⁴Adverum Biotechnologies, San Francisco, CA; ⁵University of California, Los Angeles, Los Angeles, CA; ⁶Byers Eye Institute, Stanford University, Palo Alto, CA *CR, ✗

- 4477 — B0132 Co-expression of human L- or M-opsin restores M-Cone Function in the *Opn1mw* Knock-out mouse, a model for blue cone monochromacy (BCM).** Wentao Deng¹, J. Pang¹, J. Li¹, P. Zhu¹, W. Baehr², W. Smith¹, W. W. Hauswirth¹. ¹Ophthalmology, University of Florida, Gainesville, FL; ²University of Utah, Salt Lake City, UT *CR
- 4478 — B0133 Restoration of M-cone function in an S-cone only mouse model of human blue cone monochromacy by AAV-mediated expression of human L- or M-opsin.** Ji-Jing Pang¹, W. Deng¹, Y. Zhang^{1,2}, J. Li¹, P. Zhu¹, W. Baehr³, W. W. Hauswirth¹. ¹Ophthalmology, University of Florida, Gainesville, FL; ²Ophthalmology, First Affiliated Hospital, Nanjing Medical University, Nanjing, China; ³Ophthalmology, University of Utah, Salt Lake City, UT *CR
- 4479 — B0134 The effect of timing on visual restoration of *Gnat1/Pde6c* double-knockout mouse through AAV-mediated gene supplementation.** Koji M. Nishiguchi¹, K. Fujita³, Y. Shiga², T. Nakazawa^{1,2}. ¹Advanced Ophthalmic Medicine, Tohoku University Graduate School of Medicine, Sendai, Japan; ²Ophthalmology, Tohoku University Graduate School of Medicine, Sendai, Japan; ³Retinal Disease Control, Tohoku University Graduate School of Medicine, Sendai, Japan
- 4480 — B0135 AAV Gene Therapy in a Canine Model of MPS1 Prevents and Reverses Corneal Blindness.** Matthew Hirsch^{1,2}, B. C. Gilger⁴, T. Llanga³, R. Davis¹, J. Kurtzberg³, R. J. Samulski², K. Miyadera³. ¹Ophthalmology, University of North Carolina, Chapel Hill, NC; ²Gene Therapy Center, University of North Carolina, Chapel Hill, NC; ³University of Pennsylvania, Philadelphia, PA; ⁴North Carolina State University, Raleigh, NC; ⁵Duke University, Durham, NC *CR
- 4481 — B0136 Towards Corneal Gene Therapy in the Aniridia Mouse Model *Pax6*^{Sey/+}.** Elizabeth M. Simpson^{1,2}, S. Lam¹, A. Korecki¹, B. M. Tam³, O. L. Moritz², J. Hickmott^{1,2}. ¹Centre for Molecular Medicine and Therapeutics (CMMT), University of British Columbia, Vancouver, BC, Canada; ²Department of Medical Genetics, University of British Columbia, Vancouver, BC, Canada; ³Department of Ophthalmology and Visual Sciences, University of British Columbia, Vancouver, BC, Canada
- 4482 — B0137 Improved intravitreal AAV-mediated inner retinal gene transduction by surgical internal limiting membrane (ILM) peeling in cynomolgus monkeys.** Kazuhisa Takahashi^{1,2}, T. Igarashi^{1,2}, K. Miyake², M. Kobayashi¹, C. Yaguchi¹, O. Iijima², Y. Yamazaki², N. Miyake¹, S. Kameya³, T. Shimada², H. Takahashi¹, T. Okada². ¹Ophthalmology, Nippon Medical School, Tokyo, Japan; ²Biochemistry and Molecular Biology, Nippon Medical School, Tokyo, Japan; ³Ophthalmology, Nippon Medical School Chiba Hokusoh Hospital, Chiba, Japan
- 4483 — B0138 AAV-mediated Knockdown and Replacement of Rhodopsin Protects Rods in a Canine Model of *RHO*-ADRP.** William A. Beltran¹, A. V. Cideciyan², R. Sudharsan¹, M. Massengill³, B. Rossmiller³, V. L. Dufour¹, F. Pompeo Marinho², T. Appelbaum¹, M. Swider², M. S. Kosyk², S. Iwabe¹, W. W. Hauswirth⁴, S. G. Jacobson², A. S. Lewin³, G. D. Aguirre¹. ¹Clinical Studies, Univ of Pennsylvania Sch Vet Med, Philadelphia, PA; ²Ophthalmology, University of Pennsylvania, USA, PA; ³Molecular Genetics and Microbiology, University of Florida, Gainesville, FL; ⁴Ophthalmology, University of Florida, Gainesville, FL *CR
- 4484 — B0139 LHON Mouse model carrying human *ND1G3460A*.** Hong Yu, J. Guy. Ophthalmology, Bascom Palmer Eye Inst, Univ of Miami, Miami, FL
- 4485 — B0140 AAV2-*hCHM* Subretinal Delivery to the Macula in Choroideremia: Preliminary Six Month Safety Results of an Ongoing Phase I/II Gene Therapy Trial.** Tomas S. Aleman^{1,2}, L. Serrano¹, G. K. Han¹, D. J. Pearson¹, S. McCague^{2,3}, K. A. Marshall^{2,3}, D. C. Chung⁴, E. Liu⁴, J. I. Morgan¹, J. Bennett^{1,2}, A. M. Maguire^{1,2}. ¹Scheie Eye Institute, Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Center for Advanced Retinal and Ophthalmic Therapeutics, Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA; ³The Children's Hospital of Philadelphia, Philadelphia, PA; ⁴Spark Therapeutics, Philadelphia, PA *CR, ✗
- 4486 — B0141 Evaluation of AAV2tYF-GRK1-RPGR vectors in a canine model of *RPGR-XLRP*.** Guo-jie Ye¹, W. A. Beltran², V. L. Dufour², F. Marinho², I. Martynyuk², C. Song¹, D. Knop¹, G. D. Aguirre², J. D. Chulay¹, M. S. Shearman¹. ¹Applied Genetic Technologies Corp, Alachua, FL; ²School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA *CR
- 4487 — B0142 Fundus Autofluorescence Analysis of the Transition Zone in Choroideremia: Outcomes Following Gene Therapy.** Ioannis S. Dimopoulos¹, J. Knowles¹, T. Sajed², I. M. MacDonald¹. ¹Ophthalmology and Visual Sciences, University of Alberta, Edmonton, AB, Canada; ²Computing Science, University of Alberta, Edmonton, AB, Canada ✗
- 4488 — B0143 Safety and Efficacy of AAV2tYF-PR1.7-CNGA3 in CNGA3-deficient Sheep.** mark S. shearman¹, E. Gootwine², E. Banin³, R. Ofri⁴, R. Ezra-Elia⁴, G. Ye¹, P. Robinson¹, D. Knop¹, J. D. Chulay¹. ¹AGTC, Alachua, FL; ²Institute of Animal Science, Agricultural Research Organization, The Volcani Center, Rishon LeZion, Israel; ³Hadassah-Hebrew University Medical Center, Kiryat Hadassah, Israel; ⁴Koret School of Veterinary Medicine, Hebrew University of Jerusalem, Rehovot, Israel *CR
- 4489 — B0144 Genetic engineering of freshly isolated primary human pigment epithelial cells by non-viral gene delivery for the treatment of neovascular AMD.** Sandra Johnen¹, S. Diarra¹, N. Harmening², C. Marie³, D. Scherman³, Z. Lzsvák⁴, P. Walter⁴, G. Thumann^{2,5}. ¹Department of Ophthalmology, University Hospital RWTH Aachen, Aachen, Germany; ²Laboratory of Ophthalmology, University of Geneva, Geneva, Switzerland; ³Unité de Technologies Chimiques et Biologiques pour la Santé UMR 8258, CNRS, Paris, France; ⁴Max Delbrück Center for Molecular Medicine in the Helmholtz Association, Berlin, Germany; ⁵Department of Ophthalmology, University Hospitals of Geneva, Geneva, Switzerland
- 4490 — B0145 Intravitreally administered AAV-mediated short-hairpin RNA against mTOR efficiently reduces neovascularization in the murine model of laser-induced choroidal neovascularization.** Tae Kwann Park¹, J. Choi², H. Kim², H. Park⁴, S. Nah¹, E. Lee¹, Y. Choi², H. Lee³, Y. Ohn¹, K. Park². ¹Ophthalmology, Soonchunhyang Univ Hospital, Bucheon-si, Korea (the Republic of); ²Cdmogen Co. Ltd, Cheongju-si, Korea (the Republic of); ³Microbiology, Asan Medical center, University of Ulsan, Seoul, Korea (the Republic of); ⁴Institute for laboratory medicine, Soonchunhyang Hospital Bucheon, Bucheon, Korea (the Republic of)
- 4491 — B0146 Investigation of intracellular innate immune responses to AAV gene therapy in the retina.** Laurel C. Chandler^{1,2}, H. Fu¹, S. Caddy³, A. R. Barnard^{1,2}, M. I. Patricio^{1,2}, L. James³, C. Rada³, R. E. MacLaren^{1,2}, K. Xue^{1,2}. ¹Nuffield Laboratory of Ophthalmology, Department of Clinical Neuroscience, University of Oxford, Oxford, United Kingdom; ²Oxford Eye Hospital, Oxford University Hospitals, NHS Foundation Trust, Oxford, United Kingdom; ³MRC Laboratory of Molecular Medicine, Cambridge, United Kingdom
- 4492 — B0147 Gene Therapy for LHON Suppresses Neurodegeneration.** John Guy, R. D. Koilkonda, W. J. Feuer, J. L. Davis, V. Porciatti, P. Gonzalez, H. Yuan, B. L. Lam. Bascom Palmer Eye Institute, MIAMI, FL *CR, ✗
- 4493 — B0148 Structural Modelling Predicts Variability in Efficacy of Lead Candidate Hammerhead Ribozyme Between Different Species Rhodopsin mRNA.** Alexandria J. Trujillo^{1,2}, B. R. Froebel³, J. M. Sullivan^{1,4}. ¹Research Service, VA Western NY Healthcare System, Buffalo, NY; ²Pharmacology and Toxicology, University at Buffalo, Buffalo, NY; ³Ophthalmology (Ross Eye Institute), University at Buffalo, Buffalo, NY; ⁴Ophthalmology (Ross Eye Institute), Pharmacology & Toxicology, Physiology & Biophysics, Neuroscience Program, University at Buffalo, Buffalo, NY

4494 — B0149 Cleavage of Human Rhodopsin mRNA and Protein Knockdown using Lead HHRz-725, a Candidate Therapeutic for Autosomal Dominant Retinitis Pigmentosa. Zahra Fayazi^{1,2}, M. C. Butler^{1,2}, J. M. Sullivan^{1,3}. ¹Research Service, VA Western NY Healthcare System, Buffalo, NY; ²Ophthalmology (Ross Eye Institute), University at Buffalo-SUNY, Buffalo, NY; ³Ophthalmology (Ross Eye Institute), Pharmacology/Toxicology, Physiology/Biophysics and Program in Neuroscience, University at Buffalo-SUNY, Buffalo, NY *CR

4495 — B0150 RNA Mango - Finding a Needle in a Haystack: Tracking Rhodopsin mRNA using RNA Aptamers. Jennifer B. Breen², A. J. Trujillo^{2,3}, M. C. Butler^{1,2}, S. Ramachandra Rao², J. M. Sullivan^{1,4}. ¹Research Service, VA Western NY Healthcare System, Buffalo, NY; ²Ophthalmology (Ross Eye Institute), University at Buffalo-SUNY, Buffalo, NY; ³Pharmacology/Toxicology, University at Buffalo-SUNY, Buffalo, NY; ⁴Ophthalmology (Ross Eye Institute), Pharmacology/Toxicology, Physiology/Biophysics and Program in Neuroscience, University at Buffalo-SUNY, Buffalo, NY

4496 — B0151 Hammerhead ribozyme in a tRNA scaffold: Effects of RNA processing and anti-sense flank length on cleavage in-vivo. Jason Myers^{1,2}, Z. Fayazi², M. C. Butler^{1,2}, J. M. Sullivan^{1,3}. ¹Research Service, VA Western NY Healthcare System, Buffalo, NY; ²Ophthalmology (Ross Eye Institute), University at Buffalo-SUNY, Buffalo, NY; ³Ophthalmology (Ross Eye Institute), Pharmacology/Toxicology, Physiology/Biophysics and Program in Neuroscience, University at Buffalo-SUNY, Buffalo, NY *CR

4497 — B0152 Adeno-associated virus dual vector-mediated gene therapy for ABCA4 Stargardt Disease. Frank M. Dyka, V. A. Chiodo, W. W. Hauswirth. Ophthalmology, University of Florida, Gainesville, FL *CR

4498 — B0153 Gene therapy with constitutively active focal adhesion kinase (FAK) suppresses irreversible visual loss in experimental optic neuritis mice. Venu Talla, M. Bajenaru, V. Porciatti, J. Guy. Ophthalmology, Bascom Palmer Eye Institute, Miami, FL

4499 — B0154 Preclinical evaluation of rAAV8. CNGA3 in the Cnga3 knockout mouse model of ACHM2. Stylianos Michalakos¹, C. Schön¹, R. Mühlfriede¹, V. Sothilingam², B. Wissinger², M. W. Seeliger², M. Biel¹. ¹Center for Integrated Protein Science Munich CiPSM at the Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-Universität München, Munich, Germany; ²Institute for Ophthalmic Research, Centre for Ophthalmology, University of Tübingen, Tübingen, Germany *CR

4500 — B0155 Preclinical evaluation of rAAV8. PDE6A in the Pde6a^{D670G} mutant mouse model of RP43. Christian Schön¹, R. Mühlfriede¹, V. Sothilingam², F. Paquet-Durand², B. Wissinger², M. W. Seeliger², M. Biel¹, S. Michalakos¹. ¹Center for Integrated Protein Science Munich CiPSM at the Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-Universität München, Munich, Germany; ²Institute for Ophthalmic Research, Centre for Ophthalmology, University of Tübingen, Tübingen, Germany *CR

4501 — B0156 In-frame exon skipping fails to rescue retinal or hair cell defects in zebrafish models of PCDH15 (USH1F). Jennifer B. Phillips, J. Wegner, M. Westerfield. Inst of Neuroscience, University of Oregon, Eugene, OR

4502 — B0157 Intracellular expression of mini-chaperone confers resistance to apoptosis from oxidative and thermal stress in cos7 cells. Puttur Santhoshkumar, K. Sharma. Ophthalmology, University of Missouri-Columbia, Columbia, MO

4503 — B0158 Overexpression of human Nrf2 rescues cone photoreceptors and retinal pigment epithelial cells from degeneration in the rd1 mouse. David M. Wu^{1,2}, X. J. Ji^{1,2}, B. P. Hafler², Y. Xue², S. Zhao², P. Rana², W. Xiong³, C. Cepko². ¹Retina Service, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Genetics, Harvard Medical School, Boston, MA; ³Biomedical Sciences, City University of Hong Kong, Kowloon, Hong Kong *CR

4504 — B0159 Characterization of hypoxia-regulated, glial cell specific AAV vector for targeting retinal neovascularization. Janet C. Blanks, H. Prentice, J. Sullivan. Ctr for Complex Systems & Brain Sci, Florida Atlantic University, Boca Raton, FL

4506 — B0161 AAV-mediated delivery of ABCA4 to the photoreceptors of Abca4^{-/-} mice using an overlapping dual vector strategy. Michelle E. McClemens¹, A. R. Barnard¹, M. S. Singh², Z. Jiang³, P. Charbel Issa⁴, R. A. Radu³, R. E. MacLaren^{1,4}. ¹Nuffield Department of Clinical Neurosciences (Ophthalmology), University of Oxford, Oxford, United Kingdom; ²John Hopkins University, Baltimore, MD; ³Ophthalmology, Stein Eye Institute, David Geffen School of Medicine, California, CA; ⁴Oxford Eye Hospital, Oxford, United Kingdom *CR

4507 — B0162 Novel AAV variants isolated by directed evolution in primate display enhanced retinal transduction following intravitreal injection. Shreyasi Choudhury¹, D. Marsic², J. Peterson¹, D. Fajardo¹, A. Bennett³, P. D. Gamlin⁴, M. Agbandje-McKenna³, S. Zolotukhin², S. L. Boye¹, S. E. Boye¹. ¹Department of Ophthalmology, University of Florida, Gainesville, FL; ²Department of Pediatrics, University of Florida, Gainesville, FL; ³Department of Biochemistry and Molecular Biology, University of Florida, Gainesville, FL; ⁴Department of Ophthalmology, University of Alabama at Birmingham, Birmingham, AL *CR

4508 — B0163 Gene augmentation therapy improves inner and outer segment morphology and preserves retinal structure in a large animal model of CNGB1-retinitis pigmentosa. Laurence M. Occelli¹, P. A. Winkler¹, V. A. Chiodo², S. L. Boye², W. W. Hauswirth³, S. M. Petersen-Jones¹. ¹Small Animal Clinical Sciences, Michigan State University, East Lansing, MI; ²University of Florida, Gainesville, FL

4509 — B0164 Subretinal delivery of RGX-314 AAV8-anti-VEGF Fab gene therapy in NHP. Anna Tretiakova¹, T. S. Aleman³, A. Lyubarsky³, E. J. Zhou⁴, E. Wielechowski¹, G. Ying², E. Bote¹, L. Makaron¹, S. Yoo⁵, J. Bennett^{3,6}, A. M. Maguire^{3,6}, J. Wilson¹. ¹Gene Therapy Program, Department of Medicine, University of Pennsylvania, Philadelphia, PA; ²Center for Preventative Ophthalmology and Biostatistics, University of Pennsylvania, Philadelphia, PA; ³Center for Advanced Retinal and Ocular Therapeutics, Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ⁴Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA; ⁵REGENXBIO, Rockville, MD; ⁶Center for Cellular and Molecular Therapeutics, The Children's Hospital of Philadelphia, Philadelphia, PA *CR

Exhibit/Poster Hall B0165-B0184

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Genetics Group

446 Genetics of retinal dystrophies and Functional Analysis

Moderator: Radha Ayyagari

4510 — B0165 North Carolina macular dystrophy is caused by a novel duplication leading to an upregulation of PRDM13 transcription factor. Gael Manes^{1,4}, W. Joly¹, T. Guignard², B. Bocquet¹, P. Carroll¹, D. Geneviève², B. Puech³, C. P. Hamel^{1,2}, I. Meunier^{2,1}. ¹Institute for neurosciences of Montpellier, INSERM, Montpellier, France; ²CHU Montpellier, Génétique médicale clinique, Montpellier, France; ³CNRS FRE 2726, Laboratoire Neurosciences Fonctionnelles et Pathologies, Hôpital Roger Salengro, Lille, France; ⁴University of Montpellier, Montpellier, France

4511 — B0166 Identification of Two Potentially Novel Mutations in X-linked Juvenile Retinoschisis. Jun Kong^{1,2}, W. Sun¹, T. Yan¹, X. Zhang¹, N. Yang¹, N. Bressler². ¹China Medical University, Shenyang, China; ²Retina Division, Wilmer Eye Institute, JHH, Baltimore, MD

4512 — B0167 GUCA1A mutation causes maculopathy in a five-generation family with a large spectrum of severity. Xue Chen¹, X. Sheng², W. Zhuang¹, B. Yan³, C. Zhao¹. ¹Ophthalmology, The First Affiliated Hospital of Nanjing Medical University, Nanjing, China; ²Ophthalmology, Ningxia Eye Hospital, Yinchuan, China; ³Research Center, Eye & ENT Hospital, Shanghai, China

4513 — B0168 Genomic and functional approaches in identification of retinal disease genes and new insights to centrosome and cilia biology in the retina. *Amin Sabri¹, B. Nash^{1,2}, A. Cheng^{1,4}, R. Greenlees¹, B. Bennetts^{2,3}, J. R. Grigg^{1,4}, R. Jamieson^{1,2}.* ¹Eye Genetics Research Unit, Children's Medical Research Institute, University of Sydney, Sydney, NSW, Australia; ²Discipline of Genetic Medicine, Children's Hospital at Westmead Clinical School, Sydney Medical School, University of Sydney, Sydney, NSW, Australia; ³Sydney Genome Diagnostics, Western Sydney Genetics Program, Sydney Children's Hospital Network, Sydney, NSW, Australia; ⁴Save Sight Institute, University of Sydney, Sydney, NSW, Australia

4514 — B0169 A mutation in VPS15 (PIK3R4) affects IFT20 cilia trafficking and causes a ciliopathy with early onset retinitis pigmentosa. *Helene J. Dollfus^{1,2}, C. Stoetzel¹, S. Bär³, P. Hammann⁴, C. Etard⁵, S. Friant³.* ¹Medical genetics Laboratory, INSERM Université de Strasbourg, STRASBOURG, France; ²CARGO - Filière SENSGENE, Hôpitaux Universitaires de Strasbourg, Strasbourg, France; ³Department of Molecular and Cellular Genetics, UMR7156, Centre National de Recherche Scientifique (CNRS), Université de Strasbourg, Strasbourg, France; ⁴FRC1589, Institut de Biologie Moléculaire et Cellulaire (IBMC), Plateforme Protéomique Strasbourg - Esplanade, Strasbourg, France; ⁵Institut für Toxikologie und Genetik, Campus Nord, Karlsruher Institut für Technologie, Karlsruhe, Germany

4515 — B0170 Characterization and Treatment of RPGR-associated Photoreceptor Disease. *Joseph C. Giacalone, L. A. Wiley, E. R. Burnight, J. Andorf, L. M. Streb, L. M. Affatigato, C. Cranston, D. Ochoa, R. F. Mullins, B. Tucker, E. M. Stone.* Ophthalmology & Visual Sciences, Stephen A. Wynn Institute for Vision Research, Iowa City, IA

4516 — B0171 Genetic deletion of M-opsin prevents "M-cone" degeneration in a mouse model of Leber congenital amaurosis. *HUI XU^{1,2}, N. Enemchukwu², Y. Fu^{1,2}.* ¹Interdepartmental program in Neuroscience, University of Utah, Salt Lake City, UT; ²Department of Ophthalmology, Baylor College of Medicine, Houston, TX

4517 — B0172 Tubby regulates photoreceptor survival via Estrogen-related receptor beta (Esrrb). *Nora B. Cabero^{1,2}, P. Pan¹, A. Salazar¹, A. Bugayong^{1,3}, L. Samentar^{1,3}.* ¹School of Life Sciences, University of Nevada Las Vegas, Las Vegas, NV; ²Nevada Institute of Personalized Medicine, University of Nevada Las Vegas, Las Vegas, NV; ³University of the Philippines in the Visayas, Iloilo, Philippines

4518 — B0173 Tubby Transcriptionally activates Estrogen Related Receptor Beta (Esrrb). *Adrienne S. Bugayong^{1,2}, A. Salazar¹, P. Pan¹, N. B. Cabero^{1,3}.* ¹School of Life Sciences, University of Nevada Las Vegas, Las Vegas, NV; ²University of the Philippines in the Visayas, Iloilo, Philippines; ³Nevada Institute of Personalized Medicine, University of Nevada Las Vegas, Las Vegas, NV

4519 — B0174 Tubby interacts with T-cell death associated gene 51 (TDAG51) in the mouse retina. *Lorena Samentar^{1,2}, P. Pan¹, J. Portillo¹, A. Salazar¹, N. B. Cabero^{1,3}.* ¹School of Life Sciences, University of Nevada Las Vegas, Las Vegas, NV; ²University of the Philippines in the Visayas, Iloilo, Philippines; ³Nevada Institute of Personalized Medicine, University of Nevada Las Vegas, Las Vegas, NV

4520 — B0175 Ifi172 conditional knockout mice model human IFT172-associated retinal degeneration. *Priya R. Gupta^{1,2}, S. H. Greenwald¹, M. Leon¹, E. A. Pierce¹, K. M. Bujakowska¹.* ¹Massachusetts Eye and Ear Infirmary, Boston, MA; ²Weill Cornell Medical College, New York, NY

4521 — B0176 Altered retinal function and eye morphology in mice with different mutations in the microphthalmia-associated transcription factor (Mitf). *Thor Eysteinnsson¹, A. García Llorca¹, S. G. Aspelund², M. H. Ogmundsdóttir³, E. Steingrímsson³.* ¹Physiology, University of Iceland, Reykjavik, Iceland; ²Psychology, University of Iceland, Reykjavik, Iceland; ³Biochemistry and Molecular Biology, University of Iceland, Reykjavik, Iceland

4522 — B0177 Fundus appearance and vasculature in microphthalmia transcription factor (Mitf) mutant mice. *Andrea García Llorca¹, S. H. Hardarson¹, M. H. Ogmundsdóttir², E. Steingrímsson², T. Eysteinnsson¹.* ¹Physiology, University of Iceland, Reykjavík, Iceland; ²Biochemistry and Molecular Biology, University of Iceland, Reykjavík, Iceland

4523 — B0178 Mutation of differentiation genes Prkci or Foxo3 modifies the retinal dysplastic phenotype of Crb1^{del} mice. *Mark P. Krebs, W. Hicks, L. Stone, J. Charette, J. Naggert, P. Nishina.* The Jackson Laboratory, Bar Harbor, ME

4524 — B0179 Age-dependent retinal abnormalities and neurodegeneration in the small kinky tail mutant. *Erica L. Macke¹, E. Henningsen¹, E. Jessen^{1,3}, H. Higuchi¹, S. Miller^{1,4}, S. Ikeda^{1,2}, A. Ikeda^{1,2}.* ¹Genetics, University of Wisconsin-Madison, Madison, WI; ²McPherson Eye Research Institute, Madison, WI; ³Biochemistry, University of Wisconsin-Madison, Madison, WI; ⁴Biology, University of Indiana, Bloomington, IN

4525 — B0180 A new Dpgat1 mutant mouse model for congenital disorder of glycosylation, type Ij, exhibits photoreceptor degeneration and sterility. *Patsy Nishina, L. Zhao, L. Stone, A. Njaa, M. P. Krebs, L. Shi, W. Hicks, J. Naggert.* Nishina Lab, Jackson Laboratory, Bar Harbor, ME

4526 — B0181 Establishment of an ex vivo retinitis pigmentosa model by efficient delivery of PRPF31 siRNA to human organotypic retinal culture. *Narsis Daftarian^{2,1}, L. Azizzadeh Pormehr^{3,82}, S. Ahmadian³, M. Rezaei Kanavi^{2,1}, H. Ahmadi^{2,1}.* ¹Ophthalmology, Ophthalmic Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (the Islamic Republic of); ²Ophthalmology, Ocular Tissue Engineering Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran (the Islamic Republic of); ³Biochemistry and Biophysics, Dept. of Biochemistry, Institute of Biochemistry and Biophysics, University of Tehran, Tehran, Iran (the Islamic Republic of)

4527 — B0182 Variable penetrance of Fraser syndrome-associated FREM2 allele and candidate genetic modifier. *Sairah Yousaf¹, R. Shaikh², R. Iqbal³, S. Riazuddin¹, Z. Ahmed¹.* ¹University of Maryland, Baltimore, MD; ²Bahauddin Zakariya University, Multan, Pakistan

4528 — B0183 Assessment of the relationship between CHM gene expression and rate of disease progression in choroideremia. *Maria I. Patricio^{1,2}, K. Xue^{1,2}, L. C. Chandler^{1,2}, A. R. Barnard^{1,2}, J. K. Jolly^{1,2}, T. Edwards^{1,2}, M. E. McClements¹, R. E. MacLaren^{1,2}.* ¹NDCN, University of Oxford, Oxford, United Kingdom; ²Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom

4529 — B0184 Proteomic Profiling of Sorsby Fundus Dystrophy Patient-Derived Retinal Pigment Epithelium. *Christine A. Petersen, T. Khuu, K. Knight, A. Engel, J. Du, J. R. Chao.* Ophthalmology, University of Washington, Seattle, WA

Exhibit/Poster Hall B0185-B0210

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Retinal Cell Biology

447 Photoreceptor degeneration and retinal rescue strategies

Moderators: Pamela S Lagali and Andrey V. Dmitriev

4530 — B0185 Long term protection of cone photoreceptors in a mouse model of Leber congenital amaurosis-1 by deletion of S-opsin. *Nduka Enemchukwu¹, H. XU^{1,2}, M. Parker^{1,3}, L. Zhu^{1,3}, Y. Fu¹.* ¹Cullen Eye Institute, Baylor College of Medicine, Houston, TX; ²Interdepartmental Program in Neuroscience, University of Utah, Salt Lake City, UT; ³Rice University, Houston, TX

4531 — B0186 Selection of candidate genes implicated in cone survival by photoreceptor transcriptome analysis. *Samantha PAPAL¹, M. Tennison¹, V. Chaitankar¹, H. Yang¹, M. Brooks¹, J. Kim^{1,2}, A. Swaroop¹.* ¹Neurobiology-Neurodegeneration & Repair Laboratory, National Eye Institute, National Institutes of Health, Bethesda, MD; ²Department of Life Science, Chung-Ang University, Seoul, Korea (the Republic of)

4532 — B0187 Conditional self-knockout of *otx2* mice: a new model for late-onset neuronal degeneration. *Pierre-Paul Elena¹, S. Antonelli¹, V. Mauro¹, C. Nicolas¹, T. Lamonerie², L. Feraille¹.* ¹Iris Pharma, La Gaude, France; ²Université de Nice, NICE, France *CR

4533 — B0188 Pathologic poly(ADP-ribose) polymerase (PARP) activation contributes to retinal degeneration in mice with retinal NAD⁺ deficiency. *Jonathan Lin¹, A. Santeford¹, T. Chen¹, M. Yoshida², S. Imai², R. S. Apte^{1,2}.* ¹Ophthalmology & Visual Sciences, Washington University School of Medicine, Saint Louis, MO; ²Developmental Biology, Washington University School of Medicine, Saint Louis, MO

4534 — B0189 Transduction of photoreceptors following subretinal injections of AAV5 and helper-dependent adenovirus in human retina *ex vivo* and pig retina *in vivo*. *Brittini Scruggs^{1,2}, E. R. Burnight², C. Jiao^{1,2}, L. A. Wiley^{1,2}, R. F. Mullins^{1,2}, E. M. Stone^{1,2}, B. Tucker^{1,2}, E. Sohn^{1,2}.* ¹Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ²The Stephen A. Wynn Institute for Vision Research, Roy J. & Lucille A. Carver College of Medicine, Iowa City, IA

4535 — B0190 mir-204/211 in RPE/photoreceptor crosstalk: an intricate relationship. *Ivan Conte¹, S. Banfi¹, E. Surace¹, S. Asteriti², L. Cangiano², E. Marrocco¹, M. Pizzo¹, S. Barbato¹, D. Falanga¹, D. Intartaglia¹, F. Naso¹.* ¹Telethon Institute of Genetics and Medicine, Pozzuoli, Italy; ²Department of Translational Research, University of Pisa, Pisa, Italy

4536 — B0191 Temporal Changes in Complement Gene Expression During Photoreceptor Degeneration in a Mouse Model of Retinitis Pigmentosa. *Sean Silverman, W. Ma, W. T. Wong.* UNGIRD, NIH/NEI, Bethesda, MD

4537 — B0192 Efficient electrotransfer-mediated transfection of rd10 retinas using the non-viral *Sleeping Beauty* transposon system. *Sabine Diarra¹, F. Waschkowski¹, A. Garcia Moreno⁴, C. Haselier¹, S. Hesse¹, Z. Izsák⁶, Z. Ivics⁷, G. Thumann³, F. Müller⁵, W. Mokwa⁴, S. Johnen¹, P. Walter².* ¹Department of Experimental Ophthalmology, University Hospital RWTH Aachen, Aachen, Germany; ²Department of Ophthalmology, RWTH Aachen University, Aachen, Germany; ³Department of Ophthalmology, University Hospital of Geneva, Geneva, Switzerland; ⁴Institute for Materials in Electrical Engineering, RWTH Aachen University, Aachen, Germany; ⁵Institute of Complex Systems, Cellular Biophysics, ICS-4, Aachen, Germany; ⁶Molecular Medicine in the Helmholtz Association, Max Delbrück Center, Berlin, Germany; ⁷Division of Medical Biotechnology, Paul Ehrlich Institute, Langen, Germany

4538 — B0193 ER-resident BH3-only protein, BNip1, induces apoptosis in response to excessive activation of vesicular transport in zebrafish photoreceptors. *Yuko Nishiwaki, M. Suenaga, M. Araragi, I. Masai.* Developmental Neurobiology Unit, Okinawa Institute of Science and Technology, Kunigami-gun, Japan

4539 — B0194 Whole-organism HTS Identifies Synergistic Drug Combinations Promoting Rod Photoreceptor Survival in a Zebrafish Model of Retinitis Pigmentosa. *Liyun Zhang, C. Chen, J. S. Mumm.* Wilmer Eye Inst-Smith Bldg Rm 4001, Johns Hopkins School of Medicine, Baltimore, MD

4540 — B0195 Contrast sensitivity threshold correlates to the progressive degeneration of photoreceptors in a mouse model of retinitis pigmentosa. *Kin-Sang Cho¹, J. Xiao^{1,2}, M. Adil^{1,2}, T. Utheim³, D. F. Chen¹.* ¹Schepens Eye Research Institute, Boston, MA; ²Faculty of Medicine, University of Oslo, Oslo, Norway; ³Department of Oral Biology, University of Oslo, Oslo, Norway

4541 — B0196 Transcriptomics of isolated photoreceptor cells reveal profiling of genes linked to function and retinal degeneration. *Marie-Audrey I. Kautzmann, J. Heap, N. G. Bazan.* Neuroscience, LSUHSC, New Orleans, LA

4542 — B0197 Photoreceptors show age-dependent ability to regain function after restoration of target gene expression in mouse models of Bardet Biedl Syndrome. *Ying Hsu¹, J. Garrison¹, P. Datta², G. Kim¹, D. Nishimura¹, C. C. Searby¹, S. Seo², V. Sheffield¹.* ¹Pediatrics, University of Iowa, Iowa City, IA; ²Ophthalmology, University of Iowa, Iowa City, IA

4543 — B0198 The role of nuclear transport machinery in regulation of ciliary proteins trafficking. *Shengping Huang¹, P. Avasthi^{2,1}.* ¹Ophthalmology, University of Kansas Medical center, Kansas City, KS; ²Anatomy and cell biology, University of Kansas Medical Center, Kansas City, KS

4544 — B0199 Intravitreal Administration of Docosahexaenoic Acid derived Neuroprotectin D1 Promotes Photoreceptor Cell Survival in A Murine Model of Retinal Degeneration. *Yuan Gao, Z. Yin.* Southwest Eye Hospital, Third Military Medical Sch, Chongqing, China

4545 — B0200 Pharmacologic and genetic inhibition of the TLR/Myd88 branch of the innate immune system reduces retinal degeneration. *Abigail Hackam, K. Hamlin, L. Kissel, J. Roth, A. Patel.* Bascom Palmer Eye Institute, University of Miami, Miami, FL

4546 — B0201 Structural and Phenotypic Characterization of a Completely Misfolded Rhodopsin Mutant. *Megan Gragg, P. Park.* Ophthalmology/VSRC, Case Western Reserve University, Cleveland, OH

4547 — B0202 Gene editing in photoreceptor progenitors prevents visual function loss in a mouse model of retinal degeneration. *Paola Vagni¹, L. E. Perlini², M. Parrini², A. Contestabile², L. Cancedda², D. Ghezzi¹.* ¹Medtronic Chair in Neuroengineering, École polytechnique fédérale de Lausanne, Lausanne, Switzerland; ²Local micro-environment and Brain Development Laboratory, Istituto Italiano di Tecnologia, Genova, Italy

4548 — B0203 Rpe65 knockout prevents T4K rhodopsin-induced retinal degeneration in a transgenic *X. laevis* model of retinitis pigmentosa. *Paloma Stanar, B. M. Tam, R. Vent-Schmidt, O. L. Moritz.* Ophthalmology and Visual Sciences, University of British Columbia, Vancouver, BC, Canada

4549 — B0204 Differential and additive effects of bFGF and minocycline in two animal models of inherited retinal degeneration. *Johnny Di Pierdomenico, D. Garcia-Ayuso, M. Agudo-Barriso, M. Vidal-Sanz, M. P. Villegas-Perez.* Ophthalmology, Universidad de Murcia- IMIB, Murcia (el Plamar), Spain

4550 — B0205 Synergistic protection from retinal degeneration by Combined stem cell therapies. *Shaomei Wang^{3,1}, C. Zhang³, B. lu³, S. Girman³, B. Bakondi³, J. Saylor³, Z. chen^{2,1}.* ¹Medicine, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²Biomedical Science at Cedars-Sinai Medical Center, Heart Institute, Los Angeles, CA; ³Biomedical Science at Cedars-Sinai Medical Center, Regenerative Medicine Institute, Los Angeles, CA

4551 — B0206 Intravitreal injection of AAV7m8.hLCA5 restores photoreceptor function in *Lca5*^{-/-} mice to nearly WT levels. *Puya Aravand¹, J. Song¹, S. Zhou¹, J. Pan¹, A. Lyubarsky¹, J. Bennett¹, S. S. Nikonov^{1,2}.* ¹Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Vision Research Center, University of Pennsylvania, Philadelphia, PA *CR

4552 — B0207 Novel therapeutic approaches for Retinitis Pigmentosa caused by mutations in Rhodopsin. Valeria Marigo¹, A. Comitato¹, C. La Marca¹, P. Subramanian², A. Felline¹, F. Fanelli¹, S. Becerra². ¹Life Sciences, Univ of Modena and Reggio Emilia, Modena, Italy; ²National Eye Institute, National Institutes of Health, Bethesda, MD

4553 — B0208 Secondary cone degeneration in the rd10 mouse is characterized by slow progression and increased HDAC activity. Dragana Trifunovic, E. Petridou, M. Ueffing, F. Paquet-Durand. Experimental Ophthalmology, University-Eye-Clinic Tuebingen, Tuebingen, Germany

4554 — B0209 Protection of photoreceptor by CDNF (cerebral dopamine neurotrophic factor) from degeneration in a transgenic rat model of retinitis pigmentosa. Yiwen Li¹, J. Lu^{1,2}, R. Wen¹. ¹Bascom Palmer Eye Institute, University of Miami, Miami, FL; ²Department of Ophthalmology, The First Affiliated Hospital of Dalian Medical University, Dalian, China

4555 — B0210 Repetitive periocular delivery of hydroquinone in canines results in dysfunction of central retinal cone photoreceptors. Freya M. Mowat¹, A. Oh¹, M. L. Foster¹, P. S. Mettu², S. W. Cousins². ¹Department of Clinical Sciences, North Carolina State University, Raleigh, NC; ²Ophthalmology/Duke Eye Center, Duke University Medical Center, Durham, NC

Exhibit/Poster Hall B0211-B0241

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Retinal Cell Biology

448 Stem cells and tissue engineering for retinal repair

Moderators: Budd Tucker and Valeria Canto Soler

4556 — B0211 Development of an automated platform for large-scale fluorescence screening of 3-D retinal organoids. M Natalia Vergara¹, M. Flores-Bellver¹, S. Aparicio Domingo¹, M. M. McNally¹, K. J. Wahlin², M. Saxena¹, J. S. Mumm¹, V. Canto Soler¹. ¹The Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Shiley Eye Institute, University of California, San Diego, San Diego, CA

4557 — B0212 Towards culturing retinal progenitor cells as a planar sheet. Tina Xia¹, D. Singh^{2,3}, L. Tainsh¹, R. A. Adelman³, L. J. Rizzolo^{2,3}. ¹Yale School of Medicine, New Haven, CT; ²Department of Surgery, Yale School of Medicine, New Haven, CT; ³Department of Ophthalmology and Visual Sciences, Yale School of Medicine, New Haven, CT

4558 — B0213 Characterization of hiPSC-derived 3D mini retinas in long term culture. Silvia Aparicio Domingo¹, M. Flores-Bellver¹, M. Vergara¹, M. M. McNally¹, J. A. Brzezinski², V. Canto Soler¹. Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ²Ophthalmology, University of Colorado, Aurora, CO

4559 — B0214 Influence of basement membrane components on the *in vitro* maturation of hESC-RPE cells. Tanja Ilmarinen¹, P. Grönroos¹, H. Hongisto¹, A. Sorkio¹, S. Nyman², H. Skottman¹. ¹BioMediTech, University of Tampere, Tampere, Finland; ²BioMediTech, Tampere University of Technology, Tampere, Finland

4560 — B0215 Xenotransplantation of human embryonic stem cell-derived RPE cells, MA09-hPRE, to the subretinal space of minipigs and various methods available for detection of adverse changes in eye. Joo Yong Lee¹, Y. Kim¹, S. Cho², J. LEE³, W. Son². ¹Ophthalmology, Asan Medical Center, Seoul, Korea (the Republic of); ²Asan Institute for Life Sciences and Department of Pathology, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea (the Republic of); ³Department of Ophthalmology, Yeungnam University, College of Medicine, Daegu, Korea (the Republic of)

4561 — B0216 Exploring Cytoprotective Molecules for Polarized HESC-RPE Cells. Danhong Zhu¹, J. takemoto², S. Parameswaran³, D. R. Hinton¹. ¹The Department of pathology, The Department of Ophthalmology, Univ of Southern California, Los Angeles, CA; ²Biology, Utah state University, Logan, UT; ³Arnold & Mabel Beckman Center, Doheny Eye Institute, Los Angeles, CA

4562 — B0217 RPE Differentiation from hESC and hiPSC on Electrospun Scaffolding. Dawn Landis. NEI, NIH, Bethesda, MD

4563 — B0218 low Integrin Expression Levels of ips-derived human retinal pigment epithelial Cells Correlates with Their Lower Reattachment Rates Onto Human Bruch's Membrane. Qun Zeng, A. Hondur, Y. li, S. Tsang, T. H. Tezel. Ophthalmology, Columbia University, New York, NY

4564 — B0219 Decellularized Retina A Natural Scaffold for Culturing Retinal Progenitor Cells Derived from Normal Human Corneal iPSC. Roy Joseph¹, O. P. Srivastava¹, R. R. Pfister². ¹Department of Vision Sciences, Univ of Alabama at Birmingham, Birmingham, AL; ²Eye Research Foundation, Birmingham, AL

4565 — B0220 Evaluation of neurotrophic factors secreted by mesenchymal stem cells in co-culture with porcine neuroretinas. Sonia Labrador¹, G. K. Srivastava^{1,3}, M. Garcia-Gutierrez¹, S. Tabera-Bartolome², J. Pastor^{1,4}, I. Fernandez-Bueno^{1,4}. ¹Instituto Universitario de Oftalmobiología Aplicada (IOBA), University of Valladolid, Valladolid, Spain; ²Instituto de Biología y Genética Molecular (IBGM), University of Valladolid, Valladolid, Spain; ³Centro en Red de Medicina Regenerativa y Terapia Celular, Junta de castilla y León, Valladolid, Spain; ⁴Red Temática de Investigación Cooperativa Sanitaria (RETICS), Instituto de Salud Carlos III (OFTARED), Valladolid, Spain

4566 — B0221 Retinal progenitor cells (RPC) cultured on planar scaffolds can integrate into the degenerated retina of rd10 mice and retain markers of differentiation. Deepthi Singh¹, S. Wang², T. Xia¹, L. Tainsh¹, M. Ghiassi-Nejad¹, R. A. Adelman², L. J. Rizzolo¹. ¹Surgery/Ophthalmology, Yale University, NEW HAVEN, CT; ²Department of Ophthalmology, Yale University, New Haven, CT

4567 — B0222 Injectable Hydrogels for Stem Cell Based Regenerative Treatment of Diabetic Retinopathy. Tao Lowe, S. Damera. Pharmaceutical Sciences, University of Tennessee Health Science Center, Memphis, TN

4568 — B0223 Secretome of induced pluripotent stem cells-derived optic vesicles. Ramesh Kaini, W. Greene, H. H. Wang. Ocular Trauma, United States Army Inst of Surgical Rsrch, Rowlett, TX

4569 — B0224 Derivation and Characterization of induced-primary RPE culture (ipRPE) from 3D mini retinas. Miguel Flores-Bellver, S. Aparicio Domingo, M. Vergara, M. M. McNally, V. Canto Soler. Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

4570 — B0225 RPE-like cells emerging from chick glial cell culture. Run-Tao Yan, L. He, S. Wang. Ophthalmology, Univ of Alabama at Birmingham, Birmingham, AL

4571 — B0226 Adipose tissue derived mesenchymal stem cells differentiate towards RPE and rescue apoptotic RPE under oxidative stress, *in vitro* and *in vivo*. Aya Barzelay^{1,2}, S. weisenthal^{1,2}, S. katz^{1,2}, M. ben hemo^{1,2}, A. nitzan^{1,2}, M. Krauthammer^{1,2}, A. Loewenstein^{1,2}, A. Barak^{1,2}. ¹Ophthalmology, Ophthalmology stem cells laboratory, Tel Aviv, Israel; ²Medicine, Tel Aviv University, Tel Aviv, Israel

4572 — B0227 Generation of a VSX2::EGFP reporter cell line for modeling human retinal differentiation. Wei Liu, A. Lowe, A. Cvekl. Ophthal & Visual Sciences, Albert Einstein College of Med, New York, NY

4573 — B0228 Differentiation competence of human adipose tissue-derived stem cells toward retinal lineage. *Yuqiang Huang, C. Chen, J. Liang, M. Zhang.* Joint Shantou International Eye Center (JSIEC) of Shantou University and the Chinese University of Hong Kong, Shantou, China

4574 — B0229 A simple approach to single cell RNAseq analysis facilitates virtual cell sorting of retinal cell subtypes derived from human pluripotent stem cells. *Joe Phillips^{1,2}, P. Jiang¹, P. Barney¹, J. Min¹, S. Jain¹, T. Tabassum¹, K. Barlow¹, J. Thomson¹, D. M. Gamm^{1,2}.* ¹University of Wisconsin--Madison, Madison, WI; ²McPherson Eye Research Institute, Madison, WI *CR

4575 — B0230 Synchronous BMP and Activin/TGFβ inhibition and FGF activation drives rapid generation of photoreceptor-like cells by in mouse embryonic stem cell cultures. *Kimberly A. Wong^{1,3}, M. Trembley⁴, I. Hiratani⁵, D. M. Gilbert⁶, M. Zuber^{2,3}, A. S. Viczian^{2,3}.* ¹Neuroscience & Physiology, SUNY Upstate Medical University, Syracuse, NY; ²Ophthalmology, SUNY Upstate Medical University, Syracuse, NY; ³Center for Vision Research, SUNY Upstate Medical University, Syracuse, NY; ⁴Pharmacology & Physiology, Aab Cardiovascular Research Institute, University of Rochester School of Medicine and Dentistry, Rochester, NY; ⁵RIKEN Center for Developmental Biology, Kobe, Japan; ⁶Biological Science, Florida State University, Tallahassee, FL

4576 — B0231 Non-invasive retinal imaging of fluorescent hESC-derived photoreceptor precursors in the living primate. *Juliette E. McGregor¹, M. J. Phillips², S. Walters^{1,3}, J. Zhang¹, J. Strazzeri^{4,1}, D. DiLoreto^{4,1}, A. Walker¹, W. Fischer⁴, Q. Yang¹, L. DiVincenti⁵, D. M. Gamm^{2,6}, D. R. Williams^{1,3}, J. J. Hunter^{4,1}, M. H. William^{1,4}.* ¹Center for Visual Science, University of Rochester, Rochester, NY; ²McPherson Eye Research Institute, University of Wisconsin, Madison, WI; ³Institute of Optics, University of Rochester, Rochester, NY; ⁴Flaum Eye Institute, University of Rochester, Rochester, NY; ⁵Division of Comparative Medicine, University of Rochester, Rochester, NY; ⁶Department of Ophthalmology and Visual Sciences, University of Wisconsin, Madison, NY *CR

4577 — B0232 Comparative analysis of retinal differentiation of human induced pluripotent stem cells from different somatic cell sources. *Xiufeng Zhong¹, G. Li¹, B. Xie¹, G. Gao¹, G. Pan², J. Ge¹.* ¹State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-Sen University, Guangzhou, China; ²Key Laboratory of Regenerative Biology, Chinese Academy of Sciences, China Institute for Stem Cell Biology and Regenerative Medicine, Guangzhou Institutes of Biomedicine and Health, Guangzhou, China

4578 — B0233 A Fluorescent VSX2 Reporter for Neural Retina Differentiation Created in hiPSCs by CRISPR/Cas9. *Phuong T. Lam, C. Gutierrez, K. Del Rio-Tsonis, M. L. Robinson.* Biology, Miami University, Oxford, OH

4579 — B0234 Enrichment of mouse cone photoreceptors derived from pluripotent cells. *Hany Abdelgawad^{1,2}, M. J. Young¹.* ¹Department of Ophthalmology, Schepens Eye Research Institute, Massachusetts Eye and Ear, Harvard Medical School, Boston, MA; ²Faculty of Medicine - Fayoum University, Fayoum, Egypt

4580 — B0235 Retina organoids derived from hESCs and transplanted to immunodeficient RCS rats. *Magdalene J. Seiler^{1,2}, B. T. McLelland², A. Mathur², B. Lin², G. Nistor³, R. B. Araman², B. Thomas⁴, H. S. Keirstead³.* ¹Phys. Med. & Rehabilitation, UC Irvine, Irvine, CA; ²Sue & Bill Gross Stem Cell Research Ctr., UC Irvine, Irvine, CA; ³AIVITA Biomedical Inc., Irvine, CA; ⁴Roski Eye Inst., Ophthalmology, University of Southern California, Los Angeles, CA *CR

4581 — B0236 OTX2 promotes retinal Müller cell differentiation into photoreceptor cells and improves injured Rats' vision function. *Yu Xiong, X. Xia.* Department of Ophthalmology, Xiangya hospital, Central South University, ChangSha, China

4582 — B0237 Human iPSC derived retinal organoids as a mean to study Retinitis Pigmentosa with CRB1 mutations. *Kevin Achberger¹, W. Haq², S. Bolz², S. Liebau¹.* ¹Institute of Neuroanatomy, Tübingen, Germany; ²Institute for Ophthalmic Research, Tübingen, Germany

4583 — B0238 Misdirected migration of retinal progenitors following photoreceptor injury in zebrafish. *Alex Yuan, R. DiCicco, B. A. Bell, S. Luo, B. Anand-Apte, B. D. Perkins.* Ophthalmology, Cleveland Clinic Foundation, Cleveland, OH

4584 — B0239 Modulating p75^{NTR} protects against ischemic retinopathy via increased vascular homing of mesenchymal stem cells. *Sally L. Elshaer^{1,2}, W. Hill^{3,82}, R. Gangaraju⁴, A. B. El-Remessy^{1,2}.* ¹Clinical and Administrative Pharmacy, University of Georgia, Augusta, GA; ²Charlie Norwood VA Medical Center, Augusta, GA; ³Augusta University, Augusta, GA; ⁴Hamilton Eye Institute, Memphis, TN

4585 — B0240 Compatibility of a biodegradable retinal cell graft for the treatment of retinal degenerative blindness. *Elliott Sohn^{1,2}, K. S. Worthington², C. Jiao², E. E. Kaalberg², S. R. Russell^{1,2}, K. N. Gibson-Corley², R. F. Mullins², E. M. Stone^{1,2}, B. Tucker².* ¹Retina Service, University of Iowa, Iowa City, IA; ²Wynn Institute for Vision Research, Iowa City, IA

4586 — B0241 Preparation of Human Choroidal ECM Scaffolds to Study Cell Replacement Strategies. *Kathleen R. Chirco^{2,1}, K. S. Worthington^{2,1}, M. Flamme-Wiese^{2,1}, M. Riker^{2,1}, A. E. Songstad^{2,1}, M. M. Collins^{2,1}, J. Andrade³, B. Ueberheide^{3,4}, E. M. Stone^{2,1}, B. Tucker^{2,1}, R. F. Mullins^{2,1}.* ¹Ophthalmology & Visual Sciences, University of Iowa, Iowa City, IA; ²Stephen A Wynn Institute for Vision Research, Iowa City, IA; ³Proteomics Laboratory, New York University School of Medicine, New York, NY; ⁴Biochemistry and Molecular Pharmacology, New York University School of Medicine, New York, NY

Exhibit/Poster Hall B0288-B0316

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Glaucoma

449 Pharmacological Intervention and Cellular Mechanisms

Moderator: Claire H. Mitchell

4587 — B0288 Preoperative brimonidine tartrate 0.2% effect on intraocular pressure of patients undergoing robot-assisted radical laparoscopic prostatectomy in steep Trendelenburg position. *Rana Greene, G. E. Trope, M. Parotto, A. Finelli, N. Hallaji, Y. Jin, Y. M. Buys.* Ophthalmology, University of Toronto, Toronto, ON, Canada ✕

4588 — B0289 Glaucoma Eyedrop Instillation Profile in Patients Evaluated in Public and Private Practice Sites. *Jose A. Paczka^{1,2}, M. Atilano³, M. Romo Sainz¹, L. A. Giorgi Sandoval^{2,4}, Y. Y. Dorantes Diez¹.* ¹Oftalmologia, University of Guadalajara, Zapopan, Mexico; ²Research and Development, Unidad de Diagnostico Temprano del Glaucoma, Guadalajara, Mexico; ³Oftalmologia, Hospital Dr. Valentín Gómez Farias ISSSTE, Guadalajara, Mexico; ⁴Research and Development, Asistencia e Investigación en Glaucoma, Guadalajara, Mexico

4589 — B0290 Comparative Chromatographic Analysis Of Aqueous Mushroom Extracts (Pleurotus tuberregium) With Other Antiglaucoma Drugs. *Ghalib A. Akinlabi.* Department of Optometry, University of Benin, Benin City, Nigeria

4590 — B0291 New Highly Effective and Long-Acting Anti-Glaucoma Drug, New Periocular Delivery Method. *David F F. Woodward^{1,2}, J. W. Wang².* ¹Bioengineering, Imperial College London, London, United Kingdom; ²JeniVision Inc., Irvine, CA *CR

- 4591 — B0292 Long-term intraocular Pressure (IOP) control by means of a novel biodegradable intracameral (IC) latanoprost free acid (LFA) implant.** Andras M. Komaromy¹, K. Koehl¹, C. D. Harman¹, G. Stewart¹, N. Wolinski¹, T. N. Norris¹, D. Valade², I. Chekhtman², J. N. Lambert², A. C. Donohue², R. Tai². ¹Small Animal Clinical Studies, Michigan State Univ, Coll of Vet Med, East Lansing, MI; ²PolyActiva Pty. Ltd., Melbourne, VIC, Australia *CR
- 4592 — B0293 Safety of a novel biodegradable intracameral (IC) latanoprost free acid (LFA) implant for long-term intraocular pressure (IOP) control.** Kristin Koehl¹, C. Harman¹, G. Stewart¹, N. Wolinski¹, T. N. Norris¹, D. Valade², A. C. Donohue², I. Chekhtman², J. N. Lambert², R. Tai², A. M. Komaromy¹. ¹Small Animal Clinical Sciences, Michigan State University, East Lansing, MI; ²PolyActiva Pty. Ltd., Melbourne, VIC, Australia *CR
- 4593 — B0294 Quantitative Ocular and Whole-Body Autoradiography Following a Single Topical Ocular Administration of Trabodenson to Rabbits.** Carrie C. Murray¹, A. Brockman², D. Albers², W. K. McVicar². ¹Medical Affairs, Inotek Pharmaceuticals, Lexington, MA; ²Preclinical Development, Inotek Pharmaceuticals, Lexington, MA *CR
- 4594 — B0295 Prostaglandin Analog versus Brimonidine Mono-Therapy in Preserving Visual Function in Glaucomatous Eyes.** Monica Ray, N. Nassiri, C. Kim, A. Goyal, J. Tannir, A. Shukairy, M. S. Juzych, B. A. Hughes. Glaucoma, Kresge Eye Institute, Detroit, MI
- 4595 — B0296 Pharmacologic profile and distribution of CKLP1, a novel prodrug of the ATP sensitive potassium channel opener levcromakalim, following various modes of administration.** Uttio Roy Chowdhury¹, R. A. Kudgus², T. A. Rinkoski¹, J. M. Reid², M. P. Fautsch¹. ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Oncology Research, Mayo Clinic, Rochester, MN
- 4596 — B0297 Thrombin generation test of TLR4 antagonists compared to conventional anti-platelet drugs.** Indre Bielskus¹, K. Carey¹, N. M. Pfahler¹, M. D. Miazga¹, M. Giovingo², P. A. Knepper^{1,3}. ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Ophthalmology, John H. Stroger, Jr. Hospital of Cook County, Chicago, IL; ³Ophthalmology, Northwestern University, Chicago, IL *CR
- 4597 — B0298 The clot may thicken in primary open angle glaucoma.** Michael Giovingo¹, K. Carey², I. Bielskus², M. D. Miazga², N. M. Pfahler², J. R. Samples², P. A. Knepper^{2,3}. ¹Ophthalmology, John H. Stroger Jr. Hospital of Cook County, Chicago, IL; ²Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ³Ophthalmology, Northwestern University, Chicago, IL *CR
- 4598 — B0299 A novel method to reduce superactivated platelets in POAG and Alzheimer's disease.** Nicholas M. Pfahler¹, I. Bielskus¹, M. D. Miazga¹, K. Carey¹, E. Kaufman¹, M. Mandich¹, M. Giovingo², P. A. Knepper^{1,3}. ¹Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ²Ophthalmology, John H. Stroger, Jr. Hospital of Cook County, Chicago, IL; ³Ophthalmology, Northwestern University, Chicago, IL *CR
- 4599 — B0300 Corneal epithelial permeability in patients on topical anti-glaucoma medications.** Deepthi P. Talele¹, A. GOYAL¹, R. Sudhir¹, P. Murthy¹, P. Padmanabhan¹, U. B. Kompella², S. P. Srinivas³. ¹Sankara Nethralaya, Chennai, India; ²Pharmaceutical Sciences, University of Colorado, Denver, CO; ³Optometry, Indiana University, Bloomington, IN
- 4600 — B0301 Artificial tear substitutes and ocular surface in glaucoma patients with chronic treatment.** Michele M. Iester¹, M. Figus², P. Fogagnolo⁴, P. Frezzotti³, F. Oddone⁴, A. Ferreras⁵. ¹DINOEMI, University Eye Clinic of Genoa, Genoa, Italy; ²University of Pisa, Eye Clinic, Pisa, Italy; ³University of Siena, Eye Clinic, Siena, Italy; ⁴University of Milan, San Paolo Hospital, Milan, Italy; ⁵University of Zaragoza, Eye Clinic, Zaragoza, Spain; ⁶IRCCS Fondazione G.B. Bietti, Glaucoma Unit, Britannic Hospital, Rome, Italy
- 4601 — B0302 LOXL1 And Misfolded Protein Processing Pathways In XFS Glaucoma Cells.** J Mario Wolosin², Z. Wang², S. Gillespie², S. Dawn², R. Ritch¹, A. M. Bernstein². ¹Ophthalmology, Eye and Ear Infirmary of Mount Sinai, New York, NY; ²Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY
- 4602 — B0303 Evaluation of LOXL-1 as a potential diagnostic and therapeutic target in exfoliation glaucoma.** Andras Varadi, K. Petrukhin. Department of Ophthalmology, Columbia University, New York, NY
- 4603 — B0304 Inhibition of Transforming Growth Factor-β2 Signaling Prevents ECM Remodeling, Endoplasmic Reticulum Stress and Ocular Hypertension in Steroid-induced Glaucoma.** Ramesh Kaseti¹, P. Maddineni¹, P. Patel¹, J. Miller¹, T. Phan¹, C. C. Searby², A. F. Clark¹, V. Sheffield², G. Zode¹. ¹North Texas Eye Research Institute, University of North Texas Health Science Center, Fort Worth, TX; ²Department of Pediatrics, University of Iowa, Iowa city, IA
- 4604 — B0305 Losartan inhibits myofibroblast transdifferentiation of human scleral fibroblasts.** Ericka Oglesby¹, J. Schaub¹, E. Cone-Kimball¹, M. Pease¹, I. Pitha^{1,2}, H. A. Quigley¹. ¹Wilmer Eye Institute, Johns Hopkins School of Medicine, Baltimore, MD; ²Center for Nanomedicine, Johns Hopkins School of Medicine, Baltimore, MD
- 4605 — B0306 Elevated hydrostatic pressure increases the sensitivity of optic nerve head astrocytes to an oxidative challenge.** Vidhya R. Rao^{1,3}, A. Hegel^{1,3}, J. Floss¹, J. Lautz^{3,4}, V. Husak³, E. B. Stubbs^{2,3}, S. Kaja^{1,3}. ¹Ophthalmology and Molecular Pharmacology & Experimental Therapeutics, Loyola University Chicago, Maywood, IL; ²Ophthalmology, Loyola University Chicago, Maywood, IL; ³Research Service, Edward Hines Jr VA Hospital, Hines, IL; ⁴Program in Neuroscience, Loyola University Chicago, Maywood, IL *CR
- 4606 — B0307 Mitochondrial movement and density in mouse ocular explant model after experimental glaucoma.** Elizabeth Cone-Kimball, M. Pease, J. Schaub, E. Oglesby, I. Pitha, C. Nguyen, H. A. Quigley. Ophthalmology, Johns Hopkins University, Wilmer Eye Institute, Baltimore, MD
- 4607 — B0308 Agonistic β2-adrenergic receptor autoantibody positivity in progressive glaucoma suspects.** Bettina Hohberger, U. Schlotzer-Schrehardt, R. Lämmer, U. Welge-Lüssen, F. E. Kruse. Ophthalmology, University Erlangen-Nuremberg, Erlangen, Germany
- 4608 — B0309 Increased expression of P2X₇ receptor induced by DHPG in retinal ganglion cells.** Min Ji, H. Guan. Ophthalmology, Affiliated Hospital of Nantong University, Nantong, China
- 4609 — B0310 Correlating computed binding affinities of Wnt inhibitors with structural perturbation of the Dishevelled PDZ active site.** Charles Sader, J. J. Zheng. Ophthalmology, Stein Eye Institute, UCLA, Los Angeles, CA
- 4610 — B0311 Discovery and Preliminary SAR of a New Class of Rho Kinase Compounds for the Treatment of Eye Diseases.** Mitchell A. deLong¹, J. Sturdivant¹, C. Lichorowic¹, C. Lin², C. Kopczyński². ¹Chemistry, Aerie Pharmaceuticals, Research Triangle Park, NC; ²Biology, Aerie Pharmaceuticals, RTP, NC *CR
- 4611 — B0312 Optimization of transgene expression in the trabecular meshwork (TM) by comparing capsid mutant AAV2 vectors.** Christine Harman¹, K. Koehl¹, A. Oh^{1,2}, V. A. Chiodo³, S. L. Boye³, W. W. Hauswirth³, S. E. Boye², A. M. Komaromy¹. ¹College of Veterinary Medicine, Michigan State University, East Lansing, MI; ²College of Veterinary Medicine, North Carolina State University, Raleigh, NC; ³Ophthalmology, College of Medicine, University of Florida, Gainesville, FL *CR
- 4612 — B0313 Opioid Effects on Ischemic Stress in Human Trabecular Meshwork Cells.** Karen R. Russell Randall¹, K. Glover¹, A. Zhou². ¹Pharmacol & Toxicology, Morehouse School of Medicine, Atlanta, GA; ²Neurobiology/Neuroscience Institute, Morehouse School of Medicine, Atlanta, GA

4613 — B0314 Role of Statins in the Development and Progression of Open-Angle Glaucoma. *Nidhi Talwar, J. D. Stein.* Kellogg Eye Center, University of Michigan, Ann Arbor, MI

4614 — B0315 Medical Marijuana and Glaucoma: The United States Experience. *Denise A. Valenti.* CEO/President, IMMAD, Quincy, MA *CR

4615 — B0316 A Pilot Study on the Effect of Alternate Nostril Breathing and Foot Reflexology on Intraocular Pressure in Ocular Hypertension. *Jui Pandya, M. Schardt, D. Yu, J. D. Henderer.* Ophthalmology, Temple University, Philadelphia, PA ✕

Exhibit/Poster Hall B0489-B0507

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Retina

450 Macular edema clinical and translational

4616 — B0489 Increase of Choroidal Thickness in Clinically Significant Pseudophakic Cystoid Edema. *Dinah Zur^{1,2}, S. Cohen², M. Iglicki³, M. Goldstein^{1,2}, E. Fleissig^{1,2}.* ¹Ophthalmology Division, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel; ²Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; ³University of Buenos Aires, Buenos Aires, Argentina

4617 — B0490 Posterior Sub-Tenon's Kenalog Injection as an Adjunct to Intravitreal Anti-Vascular Endothelial Growth Factor in Refractory Cystoid Macular Edema from Retinal Vein Occlusion. *Evan Berger, K. Kapoor.* Ophthalmology, Eastern Virginia Medical School, Norfolk, VA

4618 — B0491 Optical Coherence Tomography (OCT) Characteristics of Pseudophakic Cystoid Macular Edema (PCME) and their Correlation with Visual Acuity. *Greg Budoff^{1,2}, T. Peiris³, R. Issa¹, S. Guo¹, A. S. Khouri¹, M. Dastjerdi¹, A. Cohen¹, M. A. Zarbin¹, N. Bhagat¹.* ¹Institute of Ophthalmology and Visual Science, Rutgers - New Jersey Medical School, Newark, NJ; ²Dept of Medicine, Englewood Hospital and Medical Center, Englewood, NJ; ³Rutgers - New Jersey Medical School, Newark, NJ *CR

4619 — B0492 Efficacy and safety of ranibizumab 0.5 mg in Asian patients with visual impairment due to macular edema secondary to branch retinal vein occlusion: results from the 12-month BLOSSOM study. *wenbin wei¹, L. Zhu³, A. Weisberger², Y. Cheng³, C. Liu³.* ¹Ophthalmology, Beijing Tongren Hospital, Beijing, China; ²Novartis Pharmaceuticals Corporation, East Hanover, East Hanover, NJ; ³China Novartis Institutes for Biomedical Research Co., Ltd, Shanghai, China *CR, ✕

4620 — B0493 Assessing the safety and efficacy of dexamethasone intraocular implant for macular edema after cataract surgery in patients with diabetes. *Neal Palejwala, S. Vegunta, P. U. Dugel, D. Kunimoto, K. Jamal, D. Goldenberg, S. Mehta, E. Quinlan, M. Barakat.* Vitreoretinal Surgery, Retinal Consultants of Arizona, Phoenix, AZ

4621 — B0494 Optical Coherence Tomography Characteristics of Pseudophakic Cystoid Macular Edema Before and After Treatment. *Reda Issa, G. Budoff, T. Peiris, S. Guo, A. Cohen, A. S. Khouri, M. Dastjerdi, M. A. Zarbin, N. Bhagat.* Ophthalmology, Rutgers University, Harrison, NJ *CR

4622 — B0495 UK Multi-centre Medisoft EMR audit of intra-operative pressure event following implant of ILUVIEN® (fluocinolone acetonide 190 µg). *Fahd Quhill¹, C. Bailey², U. Chakravarthy³, A. J. Lotery⁴, G. Menon⁵, J. Talks⁶.* ¹Royal Hallamshire Hospital, Sheffield, United Kingdom; ²Bristol Eye Hospital, Bristol, United Kingdom; ³Queen's University Belfast, Belfast, United Kingdom; ⁴University of Southampton, Southampton, United Kingdom; ⁵Frimley Park Hospital, Camberley, United Kingdom; ⁶Royal Victoria Hospital Newcastle upon Tyne, Newcastle, United Kingdom *CR

4623 — B0496 RVO cross trial comparison: six-month outcomes in anti-VEGF-treated patients with branch and central retinal vein occlusion. *Nikolas J. London¹, P. Wang², A. Ghanekar², Z. Haskova².* ¹Retina Consultants San Diego, Poway, CA; ²Genentech, Inc., South San Francisco, CO *CR, ✕

4624 — B0497 Branch and central retinal vein occlusion: clinical pearls from trials of ranibizumab. *Mimi Liu¹, D. Eichenbaum², S. Taylor³, P. Wang³, C. Quezada-Ruiz³.* ¹Colorado Retina Associates, Denver, CO; ²Retina Vitreous Associates of Florida, Tampa, FL; ³Genentech, Inc., South San Francisco, CA *CR, ✕

4625 — B0498 Real-world outcomes with ranibizumab 0.5 mg in treatment-naïve French patients with visual impairment due to diabetic macular edema: 12-month results from the ETOILE study. *Eric Fourmaux¹, A. Lecleire-Collet², C. Dot³, M. Le Lez⁴, S. Baillif⁵, A. Erginay⁶, E. Souied⁷, P. Gain⁸, L. Kodjikian⁹, L. Finzi¹⁰.* ¹Ophthalmology, Rétine Gallien, Bordeaux, France, Bordeaux, France; ²Ophthalmology, Clinique Mathilde, Rouen, Rouen, France; ³Ophthalmology, Hôpital d'Instruction des Armées Desgenettes, Lyon, France; ⁴Ophthalmology, CHU Bretonneau, Tours, France; ⁵Ophthalmology, CHU de Nice, Nice, France; ⁶Ophthalmology, Hôpital Lariboisière, Paris, France; ⁷Ophthalmology, Centre Hospitalier Interrégional de Créteil, Créteil, France; ⁸Ophthalmology, Hôpital Nord, Saint-Etienne, Saint-Etienne, France; ⁹Ophthalmology, Hôpital de la Croix Rousse, Lyon, France; ¹⁰Ophthalmology, Novartis Pharma SAS, Rueil-Malmaison, France *CR

4626 — B0499 Different characteristics predict good visual outcomes in patients with CRVO vs BRVO; hypertension is associated with good outcome in CRVO but not BRVO. *Peter A. Campochiaro¹, R. Sophie², A. Clark³, N. Lu³, C. Quezada-Ruiz³.* ¹Ophthalmology and Neuroscience, Johns Hopkins Wilmer Eye Inst, Baltimore, MD; ²Ophthalmology and Visual Sciences, University of Louisville, Louisville, KY; ³Genentech, Inc., South San Francisco, CA *CR, ✕

4627 — B0500 Increased Subretinal Fluid after Treatment with Aldosterone Antagonists in Patients with Central Serous Chorioretinopathy. *Durga S. Borkar, I. Koulouri, J. B. Miller, D. G. Vavvas.* Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA

4628 — B0501 Survey of Ophthalmology Residents to Assess Techniques for Diagnosing Macular Edema. *Keegan Harkins¹, D. Agraz¹, K. Aggarwal², D. V. Do¹.* ¹Ophthalmology, Truhsen Eye Institute / University of Nebraska Medical Center, Omaha, NE; ²Ophthalmology, Advanced Eye Centre / Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh, India *CR

4629 — B0502 The multiple effects of mineralocorticoid antagonists for the treatment of retinal diseases. *Francine F. Behar-Cohen^{1,2}, R. Herrero-Vanrell³, F. Jaisser⁴, R. Levy⁵, A. Arboleda⁶, X. Li⁷, M. Zhao⁸.* ¹Ophthalmology, Lausanne University, Jules Gonin Hospital, Lausanne 7, Switzerland; ²Team17, UMRS1138, Centre Recherche des Cordeliers, Inserm, Université Paris Descartes, Sorbonne Paris Cité, Paris, France; ³Farmacia, Departamento De Farmacia Y Tecnología Farmacéutica, Madrid, Spain; ⁴Team1, UMRS1138, Centre Recherche des Cordeliers, Inserm U1138, Paris, France *CR

4630 — B0503 Real-world outcomes with ranibizumab 0.5 mg treatment in French patients with visual impairment due to macular edema secondary to central retinal vein occlusion: 6-month results from the 24-month BOREAL-CRVO study. *Mayer Srour¹, A. Glacet¹, J. Girmens², L. Kodjikian³, C. DelCourt⁴, F. Fajnkuchen⁵, C. P. Creuzot Garcher⁶, P. Massin⁷, P. Guillausseau⁸, A. Ponthieux⁹, L. FINZI¹⁰, A. Grelaud-Boussinot¹¹, B. Team¹².* ¹CHIC, HOSPITAL, Creteil, France; ²CHNO des Quinze-Vingts, Paris, France; ³Ophthalmology, Hôpital de la Croix Rousse, Lyon, France; ⁴Inserm U1219-Bordeaux Population Health Research Center, University of Bordeaux, University of Bordeaux, France; ⁵Ophthalmology, Hôpital Avicenne, Bobigny, France; ⁶Ophthalmology, CHU Dijon, Dijon, France; ⁷Ophthalmology, Hôpital Lariboisière, Paris, France; ⁸Internal Medicine, Hôpital Lariboisière, Paris, France; ⁹Ophthalmology, Novartis Pharma SAS, Rueil-Malmaison, France; ¹⁰Novartis Pharma SAS, Rueil-Malmaison, France; ¹¹Medical Pharmacology department, CIC 1401, Bordeaux University Hospital, Bordeaux, France; ¹²Medical Pharmacology department, Novartis Pharma SAS, Bordeaux, France *CR

4631 — B0504 The impact of prior steroid therapy on safety outcomes following treatment with ILUVIEN (fluocinolone acetonide) - An analysis of intra-ocular outcomes (IOP) from UK electronic medical records. *Serena Salvatore¹, C. Bailey¹, U. Chakravarthy², A. J. Lotery³, G. Menon⁵, J. Talks⁴.* ¹Medical Retina Department, Bristol Eye Hospital, University Hospitals Bristol, Bristol, United Kingdom; ²Queen's University Belfast, Belfast, Ireland; ³University of Southampton, Southampton, United Kingdom; ⁴Royal Victoria Hospital Newcastle upon Tyne, Newcastle Upon Tyne, United Kingdom; ⁵Frimley Park Hospital, Portsmouth, United Kingdom *CR

4632 — B0505 Optical coherence tomography angiography analysis of the foveal avascular zone and macular vessel density after anti-VEGF therapy in eyes with diabetic macular edema and retinal vein occlusion. *Nicholas Iafe^{1,2}, K. G. Falavarjani^{1,3}, J. Hubschman², I. Tsui², S. R. Sadda¹, D. Sarraf¹.* ¹Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ²Jules Stein Eye Institute - UCLA, Los Angeles, CA; ³Eye Research Center, Rassoul Akram Hospital, Iran University of Medical Sciences, Tehran, Iran (the Islamic Republic of) *CR

4633 — B0506 Automated Fluid/Cyst Segmentation: A Quantitative Assessment of Diabetic Macular Edema. *Keshab K. Parhi¹, A. Rashno¹, B. Nazari¹, S. Sadri¹, H. Rabbani³, P. Drayna², D. D. Koozekanani².* ¹Dept. Electrical & Computer Eng., University of Minnesota, Minneapolis, MN; ²Dept. Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN; ³Department of Biomedical Engineering, Isfahan University of Medical Sciences, Isfahan, Iran (the Islamic Republic of); ⁴Electrical and Computer Engineering, Isfahan University of Technology, Isfahan, Iran (the Islamic Republic of)

4634 — B0507 A comparison of ketorolac, diclofenac, nevanac, flurbiprofen, and bromfenac in the treatment of cystoid macular edema: a retrospective analysis. *Jenna M. Kim, O. Shakir, R. A. Adelman.* Ophthalmology, Yale New Haven Hospital, New Haven, CT

Exhibit/Poster Hall B0508-B0530

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Retina

451 Macular diseases (inherited)

Moderators: Rando Allikmets and Francesca Simonelli

4635 — B0508 Month 18 changes in microperimetric mean sensitivity, fixation location, and fixation stability in Stargardt disease: The ProgStar Study. *Etienne Schonbach¹, X. Kong¹, M. A. Ibrahim¹, R. W. Strauss^{2,3}, D. G. Birch⁴, A. V. Cideciyan⁵, M. G. Nittala⁶, J. S. Sunness⁷, E. Zrenner⁶, S. R. Sadda^{8,9}, S. West¹, H. P. Scholl^{1,10}.* ¹Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Moorfields Eye Hospital, London, United Kingdom; ³Johannes Kepler University, Linz, Austria; ⁴Retina Foundation of the Southwest, Dallas, TX; ⁵Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ⁶Center for Ophthalmology, Eberhard Karls Universität, Tübingen, Germany; ⁷Hoover Low Vision Rehabilitation Services, Greater Baltimore Medical Center, Baltimore, MD; ⁸UCLA David Geffen School of Medicine, Los Angeles, CA; ⁹Doheny Eye Institute, Los Angeles, CA; ¹⁰Department of Ophthalmology, University of Basel, Basel, Switzerland *CR, ✕

4636 — B0509 OCT-ANGIOGRAPHY OF QUIESCENT CNV IN ANGIOID STREAKS. *Giorgio Panozzo¹, E. Corbelli¹, A. marchese¹, A. Carnevali^{1,3}, M. Cicinelli¹, M. Cavalleri¹, L. Querques¹, R. Sacconi^{1,2}, F. Bandello¹, G. Querques¹.* ¹Ophthalmology, University Vita-Salute, IRCCS Ospedale San Raffaele, Milan, Italy, Milan, Italy; ²Ophthalmology, University of Verona, University hospital of Verona, Verona, Italy; ³Ophthalmology, University of "Magna Graecia", Catanzaro, Italy, Catanzaro, Italy *CR

4637 — B0510 Changes in choroidal vasculature predict visual outcomes in Stargardt disease. *Alexander Ho¹, S. Balasubramanian^{1,2}, A. Jha¹, B. Munoz³, R. W. Strauss^{4,5}, M. S. Ip^{1,2}, S. R. Sadda^{1,2}, H. P. Scholl^{6,7}.* ¹Doheny Image Reading Center, Doheny Eye Institute, Los Angeles, CA; ²Department of Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ³Dana Center for Preventive Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ⁴Moorfields Eye Hospital, London, United Kingdom; ⁵Department of Ophthalmology, Johannes Kepler University, Linz, Austria; ⁶Department of Ophthalmology, University of Basel, Basel, Switzerland; ⁷Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD *CR, ✕

4638 — B0511 Genetic characteristics of an international large cohort with Stargardt disease: The ProgStar study. *Kaoru Fujinami^{1,2}, R. W. Strauss^{3,4}, J. Chiang⁵, I. S. Audo⁶, P. S. Bernstein⁷, D. G. Birch⁸, S. G. Jacobson⁹, B. C. Mansfield¹⁰, M. J. Marino¹¹, J. A. Sahel⁶, S. Mohand-Said⁶, J. S. Sunness¹², E. I. Traboulsi¹¹, E. Zrenner¹³, M. Michaelides^{3,8,2}, H. P. Scholl^{14,4}.* ¹Division for Vision Research, National Institute of Sensory Organs, National Hospital Organization, Tokyo Medical Center, Tokyo, Japan; ²Genetics, UCL Institute of Ophthalmology, London, United Kingdom; ³Medical Retina, Moorfields Eye Hospital, London, United Kingdom; ⁴Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ⁵Casey Molecular Diagnostic Laboratory, Portland, OR; ⁶CHNO des QuinzeVingts, DHU Sight Restore, INSERMMDHOS CIC 1423, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ⁷Moran Eye Center, University of Utah, Salt Lake City, UT; ⁸Retina Foundation of the Southwest, Dallas, TX; ⁹Ophthalmology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA; ¹⁰Foundation Fighting Blindness, Columbia, MD; ¹¹Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ¹²Richard E Hoover Low Vision Rehabilitation Services, Greater Baltimore Medical Center, Baltimore, MD; ¹³Center for Ophthalmology, Eberhard-Karls University Hospital, Tuebingen, Germany; ¹⁴Department of Ophthalmology, University of Basel, Basel, Switzerland *CR

4639 — B0512 Clinical, optical coherence tomography and fundus autofluorescence findings in atrophic maculopathy associated with pseudoxanthoma elasticum. *Panagiotis Vasilopoulos^{1,2}, A. R. Webster^{2,4}, C. A. Egan^{1,2}, H. Mehta^{2,3}, P. G. Hykin^{1,2}.* ¹Clinical Research Facility, Moorfields Eye Hospital, London, United Kingdom; ²Medical Retina, Moorfields Eye Hospital, London, United Kingdom; ³Ophthalmology, Royal Free Hospital, London, United Kingdom; ⁴Ocular Biology Institute of Ophthalmology, U.C.L., London, United Kingdom *CR

4640 — B0513 Progression of Stargardt disease as measured by spectral-domain optical coherence tomography (SD-OCT) in the ProgStar Study. *Mohamed A. Ibrahim¹, Y. Wolfson¹, B. Munoz¹, R. W. Strauss^{2,3}, S. West¹, S. Velaga⁴, N. S. Abdelfattah^{4,5}, J. Huang⁴, S. R. Sadda^{4,5}, D. G. Birch⁶, E. Zrenner⁷, H. P. Scholl^{1,8}.* ¹Ophthalmology, Johns Hopkins University, Forest Hill, MD; ²Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, United Kingdom; ³Johannes Kepler University, Linz, Austria; ⁴Doheny Eye Institute, Los Angeles, CA; ⁵David Geffen School of Medicine, UCLA, Los Angeles, CA; ⁶Retina Foundation of the Southwest, Dallas, TX; ⁷Center for Ophthalmology, Eberhard Karls Universität, Tübingen, Germany; ⁸Department of Ophthalmology, University of Basel, Basel, Switzerland *CR, ✕

4641 — B0514 The Mysteries of Stargardt Disease: Ambiguous areas by microperimetry and fundus autofluorescence. Robert Wolf^{1,4}, Y. C. Ziembal^{1,3}, C. A. Applegate¹, J. S. Sunness^{1,2}.
¹Hoover Low Vision Rehab Services, Greater Baltimore Medical Center, Baltimore, MD; ²Ophthalmology and Visual Sciences, University of Maryland School of Medicine, Baltimore, MD; ³Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA; ⁴Therapeutics and Infectious Disease Epidemiology, Department of Population Medicine of Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, MA ✕

4642 — B0515 The Rapid-Onset Chorioretinopathy (ROC) Phenotype of Stargardt Disease. Winston Lee¹, K. tanaka¹, J. Zernant¹, K. Schuerch¹, L. Ciccone¹, S. Tsang^{1,2}, J. R. Sparrow^{1,2}, R. Allikmets^{1,2}. ¹Ophthalmology, Columbia University, New York, NY; ²Pathology & Cell Biology, Columbia University, New York, NY

4643 — B0516 The effects of oral carbonic anhydrase inhibitors in patients affected by X-linked Retinoschisis. Francesco Testa, B. Gallo, M. Marchese, V. Di Iorio, A. Nesti, M. Della Corte, P. Melillo, F. Simonelli. Multidisciplinary Department of Medical, Surgical and Dental Sciences, University of Campania Luigi Vanvitelli, Naples, Italy

4644 — B0517 OCT Angiography In Adult Onset Macular Vitelliform Dystrophy. Julia L. Farah¹, C. Keiji Ishii¹, T. Mendes¹, E. Sato², R. M. Palacios¹, R. Manzano¹. ¹Ophthalmology, Santa Casa de São Paulo, Sao Paulo, Brazil; ²Federal University of São Paulo, Sao Paulo, Brazil

4645 — B0518 Correlation between visual cortex activation and macular parameters in patients with Stargardt disease. Francesco Maria D'Alterio¹, P. Melillo¹, M. Della Corte¹, G. Olivo², S. Cocozza², A. Prinster³, A. Brunetti², M. Quarantelli³, F. Testa¹, F. Simonelli¹. ¹Eye Clinic, Multidisciplinary Department of Medical, Surgical and Dental Sciences, University of Campania "Luigi Vanvitelli", Naples, Italy; ²Department of Advanced Biomedical Sciences, University of Naples "Federico II", Naples, Italy; ³Institute of Biostructure and Bioimaging, National Research Council, Naples, Italy *CR

4646 — B0519 A natural history study to explore genotype / phenotype correlations in Stargardt disease. Valentina Di Iorio, A. Orrico, P. Melillo, F. Testa, M. Della Corte, F. Simonelli. Multidisciplinary Department of Medical, Surgical and Dental Sciences, University of Campania Luigi Vanvitelli, Naples, Italy *CR

4647 — B0520 Visual acuity loss during two years in Stargardt Disease: The ProgStar Study. Xiangrong Kong¹, R. W. Strauss^{2,3}, B. Munoz¹, A. Ervin¹, A. V. Cideciyan⁴, M. Michaelides^{2,3}, M. Ahmed¹, J. Cheetham⁵, S. West¹, H. P. Scholl¹⁶. ¹Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ²Institute of Ophthalmology, University College London, London, United Kingdom; ³Moorfields Eye Hospital, London, United Kingdom; ⁴Center for Hereditary Retinal Degenerations, Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ⁵Foundation Fighting Blindness, Laguna Niguel, CA; ⁶Department of Ophthalmology, University of Basel, Basel, Switzerland *CR, ✕

4648 — B0521 Ultra-widefield imaging in patients with angioid streaks secondary to pseudoxanthoma elasticum. Francesco Gelormini¹, A. Marchese¹, A. Rabioli¹, E. Corbelli¹, A. Carnevali², M. Cicinelli¹, C. Giuffrè¹, R. Sacconi¹, G. Querques¹, F. Bandello¹. ¹Ophthalmology, University Vita-Salute San Raffaele, Milan, Italy; ²ophthalmology, University of Magna Graecia, Catanzaro, Italy

4649 — B0522 OCT-A Imaging of Macular Vessel Density in Stargardt Disease. Syed Mahmood A. Shah³, M. Iftikhar³, E. Schonbach³, N. Junaid³, M. Ahmed³, H. P. Scholl^{1,2}. ¹Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Department of Ophthalmology, University of Basel, Basel, Switzerland; ³Quantum Vision Reading Center, Johns Hopkins University Wilmer Eye Institute, Baltimore, MD *CR

4650 — B0523 Screening of BEST1 gene in a Chinese cohort with Best vitelliform macular dystrophy or autosomal recessive bestrophinopathy. Yang Li, L. TIAN. Beijing Inst of Ophthalmology, Beijing Tongren Hospital, Beijing, China

4651 — B0524 Longitudinal Analysis of Quantitative Autofluorescence in Recessive Stargardt Disease (STGD1). Kaspar Schuerch¹, W. Lee¹, T. Duncker¹, F. C. Delori², R. Allikmets¹, S. H. Tsang¹, J. R. Sparrow¹. ¹Ophthalmology, Columbia University, Bern, Switzerland; ²Ophthalmology, Schepens Eye Research Institute, Boston, MA

4652 — B0525 The National Eye Institute Prospective ABCA4 Retinopathy Natural History Study: Two Year Analysis of OCT and MP1. Brett G. Jeffrey, H. Siebel, A. Hinduja, W. M. Zein, L. Huryn, R. B. Hufnagel, D. Cunningham, A. Turriff, C. A. Cukras, B. P. Brooks. Ophthalmic Genetics and Visual Function, National Eye Institute/NIH, Bethesda, MD

4653 — B0526 The National Eye Institute Prospective ABCA4 Retinopathy Natural History Study: Two Year Imaging Analysis. Laryssa Huryn¹, B. G. Jeffrey¹, A. Hinduja¹, W. M. Zein¹, R. B. Hufnagel¹, R. Maldonado¹, B. Falsini^{1,2}, D. Cunningham¹, A. Turriff¹, C. A. Cukras¹, B. P. Brooks¹. ¹Ophthalmic Genetics and Visual Function, National Eye Institute, Bethesda, MD; ²Universita Cattolica, Rome, Italy

4654 — B0527 Stargardt Disease Phase 2 Clinical Trial: Design and Baseline Characteristics. Hendrik P. Scholl^{1,2}, C. N. Kay³, S. H. Tsang⁴, K. E. Stepien⁵, T. B. Connor⁵, P. S. Bernstein⁶, B. L. Lam⁷, M. B. Gorin⁸, I. Washington⁴, L. Saad^{4,9}. ¹Dept. of Ophthalmology, University of Basel, Basel, Switzerland; ²Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ³Vitreoretinal Associates, Gainesville, FL; ⁴Harkness Eye Institute, Columbia University Medical Center, New York, NY; ⁵Ophthalmology, Medical College of Wisconsin, Milwaukee, WI; ⁶John Moran Eye Center, University of Utah, Salt Lake City, UT; ⁷Bascom Palmer Eye Institute, University of Miami, Miami, FL; ⁸Stein Eye Institute, University of California Los Angeles, Los Angeles, CA; ⁹Alkeus Pharmaceuticals, Boston, MA *CR, f

4655 — B0528 Quantitative Autofluorescence and Visual Function in ABCA4-associated Retinopathy. Philipp Mueller^{1,4}, M. Gliem^{1,4}, M. McGuinness², J. Birtel^{1,4}, F. G. Holz^{1,4}, P. Charbel Issa^{1,3}. ¹Department of Ophthalmology, University of Bonn, Bonn, Germany; ²Centre for Eye Research Australia, University of Melbourne, Melbourne, VIC, Australia; ³Oxford Eye Hospital, University of Oxford, Oxford, United Kingdom; ⁴Center for Rare Diseases Bonn, University Hospital of Bonn, Bonn, Germany *CR

4656 — B0529 Maintenance of good visual acuity in Best disease associated with chronic bilateral serous macular detachment. Sarra Gattoussi^{2,1}, K. Freund^{2,1}. ¹LuEsther T. Mertz Retinal Research Center, Manhattan Eye, Ear and Throat hospital, New York, NY, New York, NY; ²Vitreous Retina Macula Consultants of New York, New York, United States, New York, NY *CR

4657 — B0530 Applications of Optical Coherence Tomography Angiography in Best Vitelliform Macular Dystrophy. Xiaona Wang¹, X. Peng¹, Q. LF, Q. You¹, Q. Zhao², Y. Li¹. ¹Beijing Institute of Ophthalmology, Beijing Tongren Eye Center, Beijing Tongren Hospital, Beijing, China; ²Beijing Tongren Eye Center, Beijing Tongren Hospital, Beijing, China

Exhibit/Poster Hall B0565-B0596

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Low Vision Group**452 Low Vision Populations, Services and Treatments***Moderator: Francisco Costela*

4658 — B0565 **Mastery and self-esteem mediate the association between visual impairment and mental health: outcomes of a population-based longitudinal cohort study.** *Hilde P. van der Aa¹, I. Maaswinkel¹, G. van Rens^{1,2}, R. M. Van Nispen¹.* ¹Ophthalmology, VU University Medical Centre, Amsterdam, Netherlands; ²Ophthalmology, Elkerliek, Helmond, Netherlands

4659 — B0566 **Predictive value of self-report psychological status in comparison to Geriatric Depression Scores in visually impaired patients.** *Ashley Deemer, R. W. Massof, J. E. Goldstein.* Low Vision Rehabilitation, Johns Hopkins Wilmer Eye Institute, Baltimore, MD

4660 — B0567 **Blind registration in Trinidad.** *Shivaa Ramsewak¹, B. Winford², P. Bridgemohan³, S. Sharma⁴, C. Bascaran¹, R. R. Bourne⁵, T. Braithwaite⁵.* ¹Faculty of Infectious & Tropical Disease, London School of Hygiene and Tropical Medicine, London, United Kingdom; ²Royal College of Surgeons Ireland, Dublin, Ireland; ³Eye Department, Sangre Grande Hospital, Sangre Grande, Trinidad and Tobago; ⁴Optometry School, Faculty of Medical Sciences, University of the West Indies, St. Augustine, Trinidad and Tobago; ⁵Vision and Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom

4661 — B0568 **Characteristics of a low vision glaucoma population.** *Jennifer Wall^{1,2}, M. Bianchi¹, J. S. Sunness^{1,3}.* ¹Hoover Low Vision Rehabilitation Services, Greater Baltimore Medical Center, Baltimore, MD; ²Krieger Eye Institute, Sinai Hospital, Baltimore, MD; ³Ophth and Vis Sci, Univ of Maryland Sch of Med, Baltimore, MD

4662 — B0569 **Binocular contrast suppression in patients with glaucoma.** *Pujan Dave¹, L. A. Lesmes², D. S. Friedman¹, P. Ramulu¹.* ¹Johns Hopkins University, Baltimore, MD; ²Adaptive Sensory Technology, San Diego, CA *CR

4663 — B0570 **Point prevalence and incidence of visual impairment following stroke.** *Fiona J. Rowe, L. R. Hepworth, K. Hanna, C. Howard.* Health Services Research, University of Liverpool, Liverpool, United Kingdom *CR

4664 — B0571 **Characteristics of a low vision population with geographic atrophy (GA) from age-related macular degeneration.** *Carol A. Applegate¹, E. Singman^{1,3}, M. Bianchi¹, J. S. Sunness^{1,2}.* ¹Hoover Low Vision & Rehabilitation, Greater Baltimore Medical Center, Baltimore, MD; ²Ophthalmology & Visual Science, University of Maryland, Baltimore, MD; ³Stevenson University, Stevenson, MD *CR

4665 — B0572 **Potential Mediators of the Relationship between Socioeconomic Status and Vision in People with Age-related Macular Degeneration.** *Bradley E. Dougherty¹, S. L. Cooley¹, E. Segerstrom¹, F. H. Davidorf².* ¹College of Optometry, The Ohio State University, Columbus, OH; ²Ophthalmology, The Ohio State University, Columbus, OH

4666 — B0573 **How Many Patients in a Retinal Practice Have Low Vision?** *Donald C. Fletcher^{1,2}, T. D. Fletcher³, L. Walker².* ¹Ophthalmology, California Pacific Medical Center, San Francisco, CA; ²Low Vision Rehab, Envision, Wichita, KS; ³National Ophthalmic Research Institute, Fort Myers, FL

4667 — B0574 **Visual acuity in Stargardt disease patients after age 40.** *Frederick T. Collison¹, G. A. Fishman^{1,2}.* ¹Pangere Center for Inherited Retinal Diseases, The Chicago Lighthouse, Chicago, IL; ²Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago College of Medicine, Chicago, IL

4668 — B0575 **Visual Function of Visually Impaired Paralympic Skiers.** *Marieke Creese, S. Leat, B. Thompson, K. Dalton.* School of Optometry & Vision Science, University of Waterloo, Waterloo, ON, Canada *CR

4669 — B0576 **Factors Influencing Goal Setting in Low Vision Rehabilitation.** *Theresa Smith¹, L. Foret², G. Davis², R. W. Massof³.* ¹Department of Occupational Therapy a, University of Texas Medical Branch Galveston, TX, Galveston, TX; ²Evangeline Home Health, Lake Charles, LA; ³Wilmer Eye Institute, Baltimore, MD

4670 — B0577 **Awareness of Low Vision Services Among Retina Clinic Patients.** *Ramunas Rolius, M. Lotfipour, M. Langue, I. U. Scott.* Ophthalmology, Penn State Milton S. Hershey Medical Center, Hershey, PA

4671 — B0578 **Visual acuity in children with Cerebral Visual Impairment: Comparison of Cardiff cards to Lea single symbols with contour bars at 100% and 50% spacing.** *Jasmine Junge, D. A. Orel-Bixler.* Vision Science/Optomety, UC Berkeley, Walnut Creek, CA

4672 — B0579 **Morpho-functional relationship in children examined under anaesthesia for suspected retinal dystrophy and /or visual pathway alteration: a survey via indirect ophthalmoscopy with video camera, electroretinography and visual evoked potentials.** *Giulio Ruberto, R. Guagliano, D. Barilla, M. Bensi, P. E. Bianchi.* Clinica Oculistica, IRCCS Policlinico San Matteo, Pavia, Italy

4673 — B0580 **Prescription of overplus of +3.00 D to Infants with Severe Visual Impairment due to Congenital Zika Virus Syndrome.** *Andrea Zin¹, J. Rosseto¹, I. Tsui², O. Zin³, J. Silveira¹, Z. Vasconcelos¹, M. Lopes Moreira¹.* ¹Clinical Research Unit, Fernandes Figueira Institute, Rio de Janeiro, Brazil; ²Ophthalmology, Jules Stein Eye Institute, Los Angeles, CA; ³Ophthalmology, Hospital Federal dos Servidores do Estado, Rio de Janeiro, Brazil

4674 — B0581 **Usefulness of flash-VEP in childhood visual impairment.** *Klaus Rohrschneider.* Department of Ophthalmology, University of Heidelberg, Heidelberg, Germany

4675 — B0582 **Long-term Outcome of Conventional and Half-fluence Photodynamic Therapy for Chronic Central Serous Chorioretinopathy.** *BoKwon Son, E. Kim, S. Yu.* Kyung Hee University Hospital, Seoul, Korea (the Republic of) *CR

4676 — B0583 **Anatomo-functional retinal changes after peeling and no peeling of the ILM.** *Paolo Corazza, D. Ferrari, M. Badino, S. Lai, C. E. Traverso.* Clinica oculistica DiNOGMI University of Genova IRCCS AOSP UNIV IST GE, Genova, Italy

4677 — B0584 **Short term Efficacy of intravitreal dexamethasone implant in patients with macular edema (ME) secondary to vascular retinal diseases.** *Matteo Federici, V. Pagliei, A. Lanza, M. Savastano, G. Midena, B. Falsini, A. Minnella, A. Caporossi.* Ophthalmology, Catholic University Of Sacred Heart, Roma, Italy

4678 — B0585 **How do patients rate their subjective symptoms after CNGA3 gene therapy: First application of the instrument A3-PRO.** *Barbara Wilhelm¹, A. Koege², N. Kahle³, T. Peters³, S. Michalakos⁵, M. Bief⁴, M. Seeliger⁴, E. Zrenner⁴, B. Wissinger⁴, S. Kohl⁴, M. Ueffing⁴, K. Bartz-Schmidt³, D. M. Fischer³, D. Zabor⁴.* ¹Centre for Ophthalmology, STZ eyetrial, Tuebingen, Germany; ²Institute Schreier, Tübingen, Tübingen, Germany; ³University Eye Hospital, Centre for Ophthalmology, University Hospitals Tübingen, Tübingen, Germany; ⁴Institute for Ophthalmic Research, Centre for Ophthalmology, University Hospitals Tübingen, Tübingen, Germany; ⁵Center for Integrated Protein Science Munich (CIPSM) at the Department of Pharmacy - Center for Drug Research, Ludwig-Maximilians-Universität München, München, Germany, Germany *CR, ✕

4679 — B0586 Natural History of Retinal function and structure in a French cohort of patients with Usher Syndrome Type 1 due to MYO7A Mutations. *Saddek Mohand-Said¹, L. Azoulay-Sebba², I. S. Audo³, C. Chaumette¹, C. Devisme¹, K. Becker², E. Gutman², C. Segaut-Prevost⁴, R. BUGGAGE⁴, J. A. Sahel⁵.* ¹CHNO Quinze-Vingts / CIC Inserm, Paris, France; ²Streetlab, Paris, France; ³Department of Genetics, Institut de la Vision/INSERM/UPMC/CNRS/CHNO, Paris, France; ⁴Sanofi, Chilly-Mazarin, France; ⁵Inserm, U968; UPMC Univ Paris 06, UMR_S968, Institut de la Vision: CNRS, UMR 7210; CHNO des Quinze- Vingts, INSERM-DHOS CIC 1423, Paris, France., Paris, France *CR

4680 — B0587 Effects of Retinal Gene Therapy on Auditory-Visual Cross Modal Plasticity: Does Re-Established Vision Kick Auditory Activity out of the Occipital Lobe? *Aimee E. Willett¹, M. Mahmoudian¹, G. Young¹, A. M. Maguire^{1,2}, J. Bennett^{1,2}, M. Ashtari^{1,2}.* ¹Center for Advanced Retinal and Ocular Therapeutics (CAROT), University of Pennsylvania, Philadelphia, PA; ²Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA *CR

4681 — B0588 Phase I/IIa Visual Acuity Outcomes 1.5-Years Post-Treatment with rAAV2/2-ND4, an Investigational Gene Therapy for ND4 LHON. *Scott Uretsky¹, N. Thomasson¹, C. BOUQUET¹, A. Galy¹, J. Combal¹, S. Fitoussi¹, J. A. Sahel^{2,3}, C. Vignal^{4,5}.* ¹Clinical, GenSight Biologics, Paris, France; ²UPMC Univ Paris 06, INSERM U968, CNRS UMR 7210, Sorbonne Universités, Paris, France; ³Institut de la Vision, Paris, France; ⁴Centre Hospitalier National d'Ophthalmologie des Quinze-Vingts, Paris, France; ⁵Foundation Rothschild, Paris, France *CR, x

4682 — B0589 Correlation analysis between Argus II Retinal Prosthesis Patients performances and electrophysiological data. *Laura Cinelli, S. rizzo.* Ophthalmology, Azienda Ospedaliero Universitaria Careggi, Florence, Italy x

4683 — B0590 Handheld VEP in elderly and/or non-verbal, non-mobile Glaucoma Patients. *Ivy S. Kim³, G. Wu⁴, M. Gao¹, B. Bautista².* ¹Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara, Santa Barbara, CA; ²Psychology, Saint Louis University, Baguio, Philippines; ³Integrative Biology, University of California, Berkeley, Berkeley, CA; ⁴Ophthalmology, University of California, San Francisco, San Francisco, CA

4684 — B0591 Optic radiation damage relates to reduced V1 and thalamus volume in cortical/cerebral visual impairment. *Corinna M. Bauer¹, E. S. Bailin¹, L. Mayer^{2,3,4}, B. Kran^{2,3}, D. Wright⁴, G. Heidary⁵, L. B. Merabet¹.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA; ²New England College of Optometry, Boston, MA; ³Low Vision Clinic, Perkins School for the Blind, Watertown, MA; ⁴Vision Studies Program, University of Massachusetts - Boston, Boston, MA; ⁵Pediatric Neuro-Ophthalmology, Boston Children's Hospital, Harvard Medical School, Boston, MA

4685 — B0592 Consanguineous Tunisian Family With Enhanced-S-cone Syndrome. *youssef louati², V. Vaclavik², D. F. Schorderet¹, I. Habibi¹.* ¹IRO, Sion, Switzerland; ²Hôpital Jules Gonin, Lausanne, Switzerland

4686 — B0593 Retinal prosthesis wearers benefit from information reduction by distance-selective filtering. *Gislin Dagnelie¹, G. Seifert², P. Gibson², A. Roy³, M. P. Barry¹, A. Caspi⁴.* ¹Ophthalmology, Johns Hopkins Univ, Baltimore, MD; ²Advanced Medical Electronics Corp, Minneapolis, MN; ³Second Sight Medical Products Inc, Sylmar, CA; ⁴Jerusalem College of Technology, Jerusalem, Israel *CR

4687 — B0594 Retinal prosthesis users' shifts in hand-camera coordination correlate with changes in eye orientation. *Michael P. Barry¹, S. Diaz-Aguilar², L. Yang³, G. Dagnelie³.* ¹Biomedical Engineering, Johns Hopkins University, Baltimore, MD; ²Neuroscience, Johns Hopkins University, Baltimore, MD; ³Ophthalmology - Lions Vision Center, Johns Hopkins University, Baltimore, MD *CR

4688 — B0595 Prosthetic vision and sensory substitution are comparable to native ultra-low vision in visual performance assessment. *Olukemi Adeyemo, D. Geruschat, G. Dagnelie.* Johns Hopkins Wilmer Eye Institute, Baltimore, MD *CR

4689 — B0596 Comparison between the only Usher Syndrome patient implanted with ARGUS II® and patients affected with Retinitis Pigmentosa utilizing the same retinal prosthesis system. One year follow up. *Sarah Karam Palos, M. Olivera, M. Iglesias Álvarez, J. Nadal Reus.* Ophthalmology, Barraquer Ophthalmological Center, Zaragoza, Spain

Exhibit/Poster Hall B0642-B0669

Wednesday, May 10, 2017 11:00 AM-12:45 PM

Visual Psychophysics/Physiological Optics

453 VI Poster 7: Vision in aging and disease

Moderator: Walter Wittich

4690 — B0642 Horizontal and vertical smooth pursuit in patients with central vision loss. *Esther G. Gonzalez^{1,2}, L. Tarita-Nistor¹, E. Mandelcorn³, M. J. Steinbach^{1,2}.* ¹Vision Science Research Program, Krembil Research Institute Toronto Western Hospital, Toronto, ON, Canada; ²Centre for Vision Research, York University, Toronto, ON, Canada; ³Ophthalmology and Vision Science, Toronto Western Hospital, Toronto, ON, Canada

4691 — B0643 Pursuing Perceptual Images in the Absence of Central Vision. *Henry Y. Liu¹, E. G. Gonzalez^{2,3}, L. Tarita-Nistor², E. Mandelcorn³, M. J. Steinbach^{2,3}.* ¹Faculty of Medicine, University of Ottawa, Ottawa, ON, Canada; ²Krembil Research Institute, Toronto Western Hospital, Toronto, ON, Canada; ³Department of Ophthalmology & Vision Sciences, University of Toronto, Toronto, ON, Canada

4692 — B0644 An automated system to assess eye movement characteristics for individuals with visual impairment in age-related macular degeneration. *Damon W. Wong¹, A. Yow¹, H. Liu¹, F. Yin¹, H. Zhu², I. Ong², A. Laude², T. H. Lim².* ¹Ocular Imaging Unit (iMED), Institute for Infocomm Research, Singapore, Singapore; ²NHG Eye Institute, Tan Tock Seng Hospital, Singapore, Singapore

4693 — B0645 Global Motion Perception with Low Vision. *Kristine Dalton¹, R. Ravensbergen², J. Roberts¹, A. Chakraborty¹, S. Leat¹, B. Thompson¹, D. Mann².* ¹School of Optometry & Vision Science, University of Waterloo, Waterloo, ON, Canada; ²MOVE Research Institute, VU University Amsterdam, Amsterdam, Netherlands

4694 — B0646 A quantitative tool for automated optokinetic vision assessment. *Jeremy Hill^{1,2}, M. Suner^{1,2}, J. Carmel^{1,2}, G. T. Prusky^{1,2}.* ¹Burke Medical Research Institute, White Plains, NY; ²Blythedale Children's Hospital, Valhalla, NY *CR

4695 — B0647 Do oculomotor adaptations to a volume scotoma provide functional benefits for binocular vision? *Concetta F. Alberti, P. Bex.* Psychology, Northeastern University, Boston, MA *CR

4696 — B0648 Exploration of the phenomenon of regression to the mean in visual acuity measurements in patients with age-related macular degeneration. *Simona Degli Esposti, O. A. Mahroo, P. J. Patel, A. Tufail.* NIHR Biomedical Research Centre for Ophthalmology, Moorfields Eye Hospital, London, United Kingdom *CR

- 4697 — B0649 A higher contrast requirement for letter recognition in glaucoma.** *Lillian Chien, R. Liu, M. Kwon.* Department of Ophthalmology, University of Alabama at Birmingham School of Medicine, Reno, NV
- 4698 — B0650 Contrast sensitivity measured with illiterate single-use printed paper charts to assess the severity of diabetic retinopathy.** *John Robson^{1,4}, R. Raman^{2,3}, D. Jaisankar^{2,3}, R. P. Sapkota¹, S. Pardhan³.* ¹College of Optometry, University of Houston, Houston, TX; ²Shri Bhagwan Mahavir Vitreoretinal Services, Sankara Nethralaya, Chennai, India; ³Vision and Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom; ⁴Gonville and Caius College, Cambridge, United Kingdom *CR
- 4699 — B0651 Repeatability and Concordance of Visual Acuity Measured with ETDRS Number, ETDRS Landolt C, and Original ETDRS Alphabet Charts in Normal Eyes or Eyes with Sight-threatening Conditions.** *Voraporn Chaikitmongkol¹, O. Nanegrungsunk², D. Patikulsil¹, P. Ruamviboonsuk³, N. Bressler⁴.* ¹Retina Division, Department of Ophthalmology, Faculty of Medicine Chiang Mai University, Amphur Muang Chiang Mai, Thailand; ²Department of Ophthalmology, Chiang Mai University, Amphur Muang Chiang Mai, Thailand; ³Retina Division, Department of Ophthalmology, Rajvithi Hospital, Bangkok, Thailand; ⁴Retina Division, Wilmer Eye Institute, Baltimore, MD *CR
- 4700 — B0652 Simulating Reduced Acuity in Low Vision: Visibility of Steps and Ramps at Different Hours of the Day.** *Quan Lei¹, B. S. Carpenter¹, R. Shakespeare², D. Kersten¹, G. E. Legge¹.* ¹Department of Psychology, University of Minnesota Twin Cities, Minneapolis, MN; ²Department of Theatre, Drama, and Contemporary Dance, Indiana University Bloomington, Bloomington, IN
- 4701 — B0653 Reading Performance in Intermediate Age-related Macular Degeneration: Context Effects.** *Lori A. Lott¹, M. E. Schneck¹, G. Haegerstrom-Portnoy^{1,2}, S. Hewlett¹, J. A. Brabyn¹.* ¹Smith-Kettlewell, San Francisco, CA; ²School of Optometry, UC Berkeley, Berkeley, CA
- 4702 — B0654 Predictors of sensitivity to perceptual learning in children with infantile nystagmus.** *Jeroen Goossens¹, F. N. Boonstra¹, B. Huurneman^{1,2}.* ¹Dept. Cognitive Neuroscience, Donders Institute for Brain, Cognition, and Behaviour, Nijmegen, Netherlands; ²Bartimeus, Zeist, Netherlands ✗
- 4703 — B0655 Preliminary evaluation of MP-3 rehabilitation tool.** *Filippo Maria M. Amore, V. Silvestri, M. Sulfaro, M. Guidobaldi, F. De Rossi.* National Centre of Services and Research for the Prevention of Blindness and Rehabilitation of Low Vision Patients, Rome, Italy
- 4704 — B0656 Novel Display Modalities of Visual Field Loss Progression Over Time for Threshold Amsler Grid Tests.** *Wolfgang Fink^{1,2}, J. Cerwin², C. Adams².* ¹Vis & Autonomous Explorat'n Sys, University of Arizona, Tucson, AZ; ²Ceeable Technologies Inc., Somerville, MA *CR
- 4705 — B0657 Translating visual field changes detected with stimuli within and outside complete spatial summation to optical coherence tomography findings in age-related macular degeneration.** *Agnes Yiu Jeung Choi^{1,2}, L. Nivison-Smith^{1,2}, S. Khuu², B. Zangerl^{1,2}, N. Assaad^{3,1}, M. Kalloniatis^{1,2}.* ¹Centre for Eye Health, The University of New South Wales, Kensington, NSW, Australia; ²School of Optometry and Vision Science, The University of New South Wales, Kensington, NSW, Australia; ³Department of Ophthalmology, Prince of Wales Hospital, Randwick, NSW, Australia *CR
- 4706 — B0658 Quantification of Macular Deficits Associated with Exudative Age-Related Macular Degeneration (ARMD) Using The Ceeable Visual Field Analyzer.** *Mark H. Nelson¹, W. Fink^{3,82}, C. Adams², J. Cerwin².* ¹North Carolina Macular Consultants, Winston-salem, NC; ²Ceeable, Inc, Somerville, MA; ³Biomedical Engineering, University of Arizona, Tucson, AZ *CR
- 4707 — B0659 The correlation between visual function and morphologic changes in retinal vein occlusion.** *Ryosuke Fujino, T. Inoue, K. Azuma, H. Murata, R. Asaoka, R. Obata.* The University of Tokyo, Bunkyo, Japan
- 4708 — B0660 Vision function differs with retinal characteristics in AMD: large drusen with and without pigment abnormalities.** *Marilyn E. Schneck^{1,2}, L. A. Lott¹, G. Haegerstrom-Portnoy², B. M. Gauer³, S. Hewlett¹, J. A. Brabyn¹.* ¹The Smith-Kettlewell Eye Research Institute, Berkeley, CA; ²School of Optometry, UC Berkeley, Berkeley, CA; ³Bonnie M. Gauer, OD, MS, LLC, Roseburg, OR
- 4709 — B0661 Correlations of Measurements of Vision with Patient Reported Functional Vision Outcomes.** *Kevin Marsh¹, S. H. Sinclair¹, P. Presti², W. Gutstein³.* ¹Ophthalmology, Drexel University College of Medicine, Philadelphia, PA; ²Georgia Institute of Technology, Atlanta, GA; ³University of Vienna, Vienna, Austria *CR
- 4710 — B0662 Association between visual function and macular pigment optical density (MPOD) in older eyes in normal macular health.** *Anna V. Zarubina¹, C. E. Huisingh¹, M. E. Clark¹, G. McGwin^{1,2}, C. Curcio¹, C. Owsley¹.* ¹Department of Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ²Department of Epidemiology, School of Public Health, University of Alabama at Birmingham, Birmingham, AL *CR
- 4711 — B0663 A Vision Enhancement System to help AMD patients with Face Recognition.** *Aurelie Calabrese¹, C. Aguilar², E. Castet¹.* ¹Aix-Marseille University, Marseille, France; ²University of Nice Sophia Antipolis, Nice, France *CR
- 4712 — B0664 The association between visual functions and retinal structure in central serous chorioretinopathy(CSC).** *Aya Sugiura, F. ryousuke, T. Inoue, H. Murata, K. Azuma, R. Obata, R. Asaoka.* Ophthalmology, The University of Tokyo, Bunkyo-ku, Japan
- 4713 — B0665 Critical Flicker Fusion Scores Across Stimulus Luminance Ranges in Young and Old.** *Keith J. Lane¹, C. Sundstrom¹, E. Angjeli¹, P. Corcoran¹, J. D. Rodriguez¹, M. B. Abelson^{3,82}, D. A. Hollander³.* ¹Clinical R & D, ORA, Andover, MA; ²Ophthalmology, Harvard School of Med, Boston, MA; ³Ora, Inc, Andover, MA *CR
- 4714 — B0666 Critical Flicker Fusion Recovery Following Photo-Bleach in Young and Old Subjects.** *Christian Sundstrom¹, E. Angjeli¹, J. D. Rodriguez¹, P. Corcoran¹, K. J. Lane¹, M. B. Abelson^{2,3}, D. A. Hollander².* ¹R & D, Ora, Inc, Andover, MA; ²Ora, Inc, Andover, MA; ³Ophthalmology, Harvard School of Med, Boston, MA *CR
- 4715 — B0667 Photostress Recovery: A comparison of bleaching methods for surrogate maculopathy endpoints.** *John D. Rodriguez, K. J. Lane, D. A. Hollander.* R & D, Ora, Inc, Andover, MA *CR
- 4716 — B0668 Scenarios and measures to faithfully evaluate hazardous driving behavior: new insights on the usefulness of using perceptual-cognitive measures.** *Romain Chaumillon¹, J. Michaels¹, D. Nguyen-Tri¹, D. H. Watanabe¹, P. Hirsch¹, F. Bellavance³, G. L. Girauder^{1,4}, D. Bernardin^{1,4}, J. Faubert¹.* ¹Visual Psychophysics and Perception Laboratory, Université de Montréal, School of Optometry, Montreal, QC, Canada; ²Virages Simulation, Montreal, QC, Canada; ³Interuniversity Research Centre on Enterprise Networks, Logistics and Transportation (CIRRELT) and Department of Management Sciences, HEC Montréal, Montreal, QC, Canada; ⁴Essilor Canada Ltd., Montreal, QC, Canada
- 4717 — B0669 Congenital Zika Syndrome: Visual Impairment in Children with Ocular and Neurological Findings.** *Camila V. Ventura^{1,2}, L. O. Ventura¹, L. Lawrence³, M. T. Miller⁴.* ¹Ophthalmology, Altino Ventura Foundation, Miami, FL; ²Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ³Privante Practice, Salina, KS; ⁴Ophthalmology, University of Illinois, Chicago, IL

Ballroom 2

Wednesday, May 10, 2017 1:00 PM-2:30 PM

Multidisciplinary Ophthalmic Imaging Group

454 MOI Group: Advanced interpretation of structural retinal optical coherence tomography

Structural optical coherence tomography (OCT) of the living retina is now a well-established diagnostic tool, although segmentation and interpretation of OCT data however, are still evolving. This session will cover some of the latest and most insightful studies on these topics that are so critical for disease diagnosing and management.

Moderators: Robert J. Zawadzki, Mona K. Garvin and Sina Farsiu

— 1:00 **Introduction**

— 1:05 **Detecting and Understanding glaucomatous damage: an “novel” OCT approach.** *Donald Hood.* Columbia University, New York, NY *CR

— 1:21 **Understanding Visual Function Through Imaging.** *David Garway-Heath.* University College London, London, United Kingdom; NIHR Biomedical Research Centre, Moorfields Eye Hospital, London, United Kingdom *CR

— 1:37 **Outer retinal bands as revealed with adaptive optics optical coherence tomography.** *Donald T. Miller.* School of Optometry, Indiana University, Bloomington, IN *CR

— 1:53 **Histology and multimodal imaging of age-related macular degeneration supports mitochondria as independent reflectivity sources - MOI Cross-sectional Group Session.** *Christine Curcio.* Univ of Alabama at Birmingham, Birmingham, AL *CR

— 2:09 **Identification of retinal features as biomarkers for early disease detection: challenges and opportunities.** *Delia Cabrera DeBuc.* Ophthalmology, University of Miami, Miami, FL *CR

— 2:25 **Closing Remarks**

Room 308

Wednesday, May 10, 2017 1:00 PM-2:30 PM

Genetics Group

455 Leveling the Playing Field: Are we decreasing the disparities between minority and non minority individuals?

Five panelist including individuals from NIH will discuss NIH Diversity Initiatives for increasing opportunities in research like summer research, supplemental grants, women’s health and mentorship.

Moderator: David M. Schneeweis

— 1:00 **Introduction.** *Mildred M. Olivier.* Ophthalmology, Midwest Glaucoma Center PC, Hoffman Estates, IL; Surgery/Ophthalmology, Chicago Medical School at Rosalind Franklin University of Medicine and Science, Chicago, IL

— 1:10 **Rabb Venable Program.** *Mildred M. Olivier.* Ophthalmology, Midwest Glaucoma Center PC, Hoffman Estates, IL; Surgery/Ophthalmology, Chicago Medical School at Rosalind Franklin University of Medicine and Science, Chicago, IL

— 1:30 **Women’s Health Research Today.** *Janine Clayton.* Office of Research on Women’s Health, NIH, Bethesda, MD

— 1:50 **Grant opportunities at NIH - supplemental grants.** *Neeraj Agarwal.* National Eye Institute (NEI), National Institute of Health (NIH), Bethesda, MD

— 2:10 **NIGMS Presenting the role of mentorship in accordance with supplemental grants as diversity and inclusion play a role in research.** *Mercedes Rubio.* National Institute of General Medical Sciences, NIH, Bethesda, MD

Room 309

Wednesday, May 10, 2017 1:00 PM-2:30 PM

456 Idea to patents: Project to company

This workshop will provide attendees with knowledge on: 1) What are the skill sets you need to identify you have an idea that fulfills a medical need and can be patented, 2) How do you go about acquiring the skill set needed to learn and identify what is needed to move our idea forward, 3) How to proceed with developing IP that a) fulfills an unmet need, b) can lead to the development of a company and c) that can be licensed by a commercial company, 4) Who can help you learn what “you as the researcher/ developer” need to do and where to go for help, and 5) How to know if it is what YOU want: to step out of the lab and research and start a company.

Moderators: Barbara M. Wirostko, Arthur H. Shedden and Peter F. Hitchcock

— 1:00 **Introduction**

— 1:10 **Developing a CRO and IP around an idea while maintaining ties to academia.** *Rafal Farjo.* EyeCRO, Oklahoma City, OK; Charlesson, Oklahoma City, OK *CR

— 1:25 **Idea to patents: project to company.** *David N. Zacks.* Univ of Michigan-Kellogg Eye Ctr, Ann Arbor, MI *CR

— 1:40 **As an engineer and researcher: Discovering a platform and starting a company outside the university.** *Karen Y. Torrejon.* Glauconix Inc., Albany, NY *CR

— 1:55 **What industry looks for in potential acquisition targets.** *Susan Orr.* Global Commercial Strategy Organization, Notal Vision, Chantilly, VA *CR

— 2:10 **Q & A and Panel Discussion**

Room 310

Wednesday, May 10, 2017 1:00 PM-2:30 PM

457 Grant writing tips for pre- and post-doctoral fellows: The nuts and bolts

This workshop is designed to inform pre- and post-doctoral fellows of the key components that make NIH F31, F32, and K awards appealing. Individuals who have successfully obtained awards will discuss their strategy in the development of the application. The workshop will also be useful for faculty mentors of candidates, especially as it relates to training for the F awards. While the workshop is focused on US grant applications, non-US trainees will find the information useful for general “grantsmanship.”

Moderators: Daniel J. Carr and Rachael S. Allen

— 1:00 **Training opportunities at NEI for pre- and post-doctoral students and early stage investigators.** *Neeraj Agarwal.* Division of Extramural Science Program, NEI/NIH, Bethesda, MD

— 1:15 **F32 Trial and Error: Lessons Learned From the Application Process.** *Kimberly Brothers.* Ophthalmology, Univ Pittsburgh Medical Center, Pittsburgh, PA

— 1:30 **Building your career arc from F to R.** *Matthew Smith.* Ophthalmology, Univ Pittsburgh, Pittsburgh, PA

— 1:45 **Grant-writing: thoughts from a small laboratory.** *Wallace B. Thoreson.* Ophthalmology and Visual Sciences, Univ Nebraska Medical Center, Omaha, NE

— 2:00 **Panel Discussion**

Wednesday Workshops/
SIGs
1:00 pm – 2:30 pm

Room 314

Wednesday, May 10, 2017 1:00 PM-2:30 PM

458 Vulnerable populations in medical research: Ethical dilemmas and practical approaches

The ability to give informed consent is a fundamental part of a person's decision to participate in research. However, some individuals may not have the capacity to make an informed, independent decision about participation. These individuals are often referred to as vulnerable, as they are at greater risk of being exploited or unfairly taken advantage of in the research setting. Some examples of vulnerable populations include children, military personnel, prisoners, pregnant women, and persons with diminished cognitive capacity. According to U.S. federal regulations, additional safeguards must be included in IRB protocols to protect the rights and welfare of vulnerable populations. This workshop will gather leading experts from university and military research settings and governmental agencies to provide critical discussions on some of the ethical issues inherent in identifying and working with vulnerable subjects. Completion of this workshop will facilitate knowledge on the nature of vulnerable subject populations, ethical issues to be considered, and how these issues can be addressed.

Moderators: *Yutao Liu, Susan Vitale and Yossi Mandel*

— 1:00 **Introduction**

— 1:05 **Soldiers as vulnerable research subjects.** *Tamir Moritz.* MAG, Tel Aviv, Israel

— 1:25 **Ethical considerations in conducting trials with vulnerable populations.** *Barbara Karp.* National Institutes of Health, Bethesda, MD

— 1:45 **Genetic research/diagnostic testing and unintended/secondary consequences.** *Terri L. Young.* Ophthalmology, University of Wisconsin-Madison, Madison, WI

— 2:05 **Panel Discussion with Questions and Answers**

Room 316

Wednesday, May 10, 2017 1:00 PM-2:30 PM

459 But I'm not from the US or EU! - international funding opportunities

This will be an informational session demystifying the funding opportunities available to ARVO members who live and conduct their research outside of the EU and the US. The workshop will educate attendees about funding that can be used in the applicant's home country. (It will not focus on funding supporting immigration to or from these locations which is a complete topic unto itself.)

Moderators: *Geeta K. Vemuganti and Daniel L. Rathbun*

— 1:00 **Submitting Competitive Grant Applications to NIH from Foreign Institutions.** *Paul A. Sheehy.* Division of Extramural Activities, National Eye Institute, NIH, Bethesda, MD

— 1:12 **Grantsmanship.** *Michael A. Steinmetz.* Division of Extramural Science Programs, National Eye Institute, Bethesda, MD

— 1:24 **European Union Research Funding through Horizon 2020: Open to the World.** *Mary Kavanagh.* Delegation of the European Union to the United States of America, European External Actions Services, Washington, DC

— 1:49 **Funding Opportunities from India for Joint Research Programs.** *Dorairajan Balasubramanian.* Hyderabad Eye Research Foundation, LV Prasad Eye Institute, Hyderabad, India

— 2:04 **Non-governmental Funding for International Applicants.** *Daniel L. Rathbun.* Institute for Ophthalmic Research, University of Tuebingen, Tuebingen, Germany; Retinal Degeneration Group, Werner Reichardt Centre for Integrative Neuroscience, Tuebingen, Germany

Ballroom 1

Wednesday, May 10, 2017 1:00 PM-2:30 PM

Retina / Immunology/Microbiology / Multidisciplinary Ophthalmic Imaging

460 Update on Automated Screening for Diabetic Retinopathy: Validation and Implementation - SIG

Update on the state of the art of DR detection algorithms that have been extensively tested and outperform clinicians, and then discuss issues to be addressed in validation, including imaging protocols, role of reading centers and diagnostic outputs.

Moderator: *Michael D. Abramoff*

Automated Diabetic Retinopathy detection: algorithm designs and performance considerations. *Michael D. Abramoff.*

¹Ophthalmology & Visual Sciences, Univ of Iowa Hospitals & Clinics, Iowa City, IA, ²IDx LLC, Iowa City, IA *CR

Deep Learning Algorithm for Detection of Diabetic Retinopathy in Retinal Fundus Photographs. *Florence Thng.* Verily, Google Inc, South San Francisco, CA *CR

Performance evaluation of diagnostic algorithms: role of clinical standards and reading centers. *Glenn J. Jaffe.* Ophthalmology, Duke University, Durham, NC

Cognitive Computing and Automated Diabetic Retinopathy Detection by IBM Watson. *Steven Tolle.* IBM Watson Health Imaging, Chicago, IL *CR

Panelist. *Kaushal Solanki.* Eyenuk, Woodland Hills, CA *CR

Ballroom 3

Wednesday, May 10, 2017 1:00 PM-2:30 PM

Glaucoma

461 New knowledge of genetics and cell biology of exfoliation syndrome, a disorder of elastic tissue and ECM associated with ocular and systemic disease, offers novel means to treatment and prevention. - SIG

GWAS has found 6 new genes in addition to LOXL1 in this disease of disordered autophagy. Lysosomes are increased in numbers in the cell periphery instead of being translocated to the nucleus to fuse with lysosomes. Mitochondrial are dysfunctional.

Moderator: *Robert Ritch*

Introduction. *Robert Ritch.* Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY

Biology of the extracellular matrix in eye disease. *Dieter Reinhardt.* Department of Anatomy and Cell Biology, McGill University, Montreal, QC, Canada

7 genes now. How do they fit together? *Chiea Chuen Khor.* Genome Institute of Singapore, Singapore, Singapore

Molecular biology of exfoliation syndrome - more and more complex. *Ursula Schlotzer-Schrehardt.* Department of Ophthalmology, University of Erlangen-Nurnberg, Erlangen, Germany

Wednesday Workshops/
SIGs
1:00 pm – 2:30 pm

Exfoliation syndrome: a disease of disordered autophagy. *Audrey M. Bernstein.* Department of Ophthalmology, Mount Sinai School of Medicine, New York, NY

Exfoliation syndrome: a disease with environmental risk factors. *Louis R. Pasquale.* Ophthalmology, Harvard Medical School, Boston, MA

Ballroom 4

Wednesday, May 10, 2017 1:00 PM-2:30 PM

Clinical/Epidemiologic Research / Biochemistry/ Molecular Biology / Genetics / Retina

462 Predictive testing for age-related macular degeneration (AMD): Are we there yet? - SIG

Prediction models based on combinations of risk factors have been proposed to identify persons at high risk of AMD. How can predictive models for AMD be further improved, and what are the benefits and risks of offering predictive tests for AMD?

Moderators: *Anneke I. Den Hollander and Caroline Klaver*

Predictive testing for age-related macular degeneration (AMD): are we there yet? *Cecile DelCourt.* Universite de Bordeaux, INSERM, Bordeaux, France

Predictive testing for age-related macular degeneration (AMD): are we there yet? *Jordiwo Mones.* Institut de la Macula de la Retina, Barcelona, Spain

Predictive testing for age-related macular degeneration (AMD): are we there yet? *Emily Chew.* National Eye Institute, Bethesda, MD

Predictive testing for age-related macular degeneration (AMD): are we there yet? *Anneke I. Den Hollander.* Ophthalmology, Radboud Univ Nijmegen Med Ctr, Nijmegen, Netherlands

Predictive testing for age-related macular degeneration (AMD): are we there yet? *Johanna M. Seddon.* Ophthalmology, Tufts Univ School of Medicine, Boston, MA

Predictive testing for age-related macular degeneration (AMD): are we there yet? *Carel C. Hoyng.* Ophthalmology, Radboud Univ Nijmegen Med Ctr, Nijmegen, Netherlands

Room 301

Wednesday, May 10, 2017 1:00 PM-2:30 PM

Retina / Cornea / Glaucoma / Immunology/ Microbiology / Physiology/Pharmacology / Retinal Cell Biology

463 Emerging Therapeutic Modalities in Retinal Diseases - SIG

The goal of this SIG is to provide an update on emerging therapeutic modalities for retinal disease, focusing on new antibody formats, viral and non-viral gene therapy carriers, as well as polymeric and protein-based drug delivery carriers.

Moderator: *Ashwath Jayagopal*

Molecularly-Triggered Therapeutic Strategies for Retinal Disease. *Ashwath Jayagopal.* Pharma Research and Early Development, Ophthalmology Discovery and Biomarkers, Roche Innovation Center Basel, F. Hoffmann-La Roche Ltd, Basel, Switzerland *CR

Injured glia-targeted systemic nanotherapies for retinal degeneration. *Kannan Rangaramanujam.* Johns Hopkins Hospital, Department of Ophthalmology Center for Nanomedicine, Wilmer Eye Institute, Baltimore, MD

αBD3 crystallin nanoassemblies for enhanced stability, delivery, and efficacy. *Uday B. Kompella.* Department of Pharmaceutical Sciences, University of Colorado School of Medicine, Aurora, CO *CR

Engineering AAV Viral Vectors to Target Specific Retinal Cell Classes for Treating Retinal Disease. *John Flannery.* Vision Science, Neuroscience Division, Helen Wills Neuroscience Institute, University of California, Berkeley, Berkeley, CA

Sustained Intravitreal Delivery of Small and Large Molecules with Injectable Hydrogels. *Mark Tibbitt.* David H. Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology, Cambridge, MA

Organizer. *Ashwath Jayagopal.* Pharma Research and Early Development, Ophthalmology Discovery and Biomarkers, Roche Innovation Center Basel, F. Hoffmann-La Roche Ltd, Basel, Switzerland *CR

Room 321

Wednesday, May 10, 2017 1:00 PM-2:30 PM

Glaucoma / Retina

464 Highlighting Successful Technologies in Sustained Drug Delivery in Ophthalmology: New Polymer Science and Particle Engineering Platforms that Drive Future Promising Extended Release Therapies - SIG

This session will explore how new technologies - novel hydrogel chemistries, encapsulated PLGA microspheres, and nanoparticle engineering - enable the development of new extended release therapies for anterior and posterior segment indications

Moderator: *Iqbal Ahmad*

Utilizing Nano, Meso and Micro Particle Engineering to Formulate and Develop extended Release Therapies for Glaucoma and DME: from Conceptual Designs to Clinical Proof of Concepts. *Tomas Navratil.* Envisia Therapeutics, Research Triangle Park, NC *CR

Development of a Novel Extended Drug Release Microparticle: Implications in Retinal Disease and Beyond. *Charles Semba.* Graybug Vision, Redwood City, CA *CR

Sustained Release Hydrogel Depots for Glaucoma and Retinal Vascular Diseases - From Concept to Clinic. *Jonathan H. Talamo.* Ocular Therapeutix, Bedford, MA *CR

Organizer. *Tomas Navratil.* Envisia Therapeutics, Research Triangle Park, NC *CR

Room 324

Wednesday, May 10, 2017 1:00 PM-2:30 PM

Retinal Cell Biology

465 Role of LXR in Inflammation and cholesterol metabolism in the retina - SIG

LXR is the master regulator of cholesterol elimination and NFκB inflammatory pathway. LXR metabolism is tightly regulated in the brain and retina. Slight deviations in cholesterol metabolite levels can lead to major retinal pathology. This SIG will overview LXR physiology and pathophysiology as it pertains to retinal diseases including diabetic retinopathy and AMD.

LXR in diabetic retinopathy. *Maria B. Grant.* Eugene and Marilyn Glick Eye Institute/Indiana University, Indianapolis, IN

Wednesday Workshops/
SIGs
1:00 pm – 2:30 pm

The role of LXR in RPE pathology in AMD.

Goldis Malek. Ophthalmology, Duke University, Durham, NC

LXRs are important regulators of cholesterol homeostasis in the retina. *Irina A. Pikuleva.*

Pharmacology, Case Western Reserve, Cleveland, OH

LXR and macrophage mediated inflammation in aging and AMD. *Rajendra S. Apte.* Ophthalmology

and Visual Sciences, Washington University, St Louis, MO

Room 307

Wednesday, May 10, 2017 2:45 PM-3:45 PM

466 Establishing a Vision and Eye Health Surveillance System for the Nation

The Center for Disease Control and Prevention's (CDC) Vision Health Initiative and NORC at the University of Chicago are leading the effort to establish a vision and eye health surveillance system for the nation. Working with partner organizations including Prevent Blindness, the American Academy of Ophthalmology, the University of Wisconsin and others, this project will provide a resource to educate and inform policymakers, eye care providers, researchers and the general public on the state of visual health and eye care in the United States. This project will identify, collect, analyze and integrate multiple existing sources of secondary data on visual health and eye care, including national surveys, administrative claims databases, electronic health record registries and population-based studies.

Moderator: Jeff Todd

4718 — 2:45 Welcoming Remarks and Introduction. *David Rein.* NORC at the University of Chicago, Chicago, IL

4719 — 2:50 Overview of Surveillance Recommendations of the «Making Eye Health a Population Health Imperative: Vision for Tomorrow» Report, from the National Academies of Sciences, Engineering, and Medicine. *Kevin D. Frick.* Carey Business School, Johns Hopkins University, Baltimore, MD

4720 — 3:00 CDC's Role in Vision and Eye Health. *Jinan Saaddine.* CDC's Vision Health Initiative, Atlanta, GA

4721 — 3:15 Establishing a Vision and Eye Health Surveillance System. *John Wittenborn.* NORC at the University of Chicago, Chicago, IL

— 3:30 Q&A/Discussion

Exhibit/Poster Hall

Wednesday, May 10, 2017 2:45 PM-3:45 PM

467 All Posters and Networking

All presenters will be at their posters.

Wednesday All Posters
2:45 pm – 3:45 pm

Ballroom 2

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Cornea

468 Conjunctiva, Lacrimal and Meibomian glands and contact lenses**Moderator: Helen P. Makarenkova**

4722 — 3:45 Resolvin D2 increases conjunctival goblet cell intracellular [Ca²⁺] by increasing cellular cAMP to activate protein kinase A. Darlene A. Dartt^{1,3}, N. Botten^{1,2}, R. R. Hodges^{1,3}, D. Li^{1,3}, J. Bair^{1,3}, M. Shatos^{1,3}, T. Uthel^{1,2}, C. Serhan^{4,5}. ¹Schepens Eye Research Institute/MEEI, Boston, MA; ²Medical Biochemistry, University of Oslo, Oslo, Norway; ³Ophthalmology, Harvard Medical School, Boston, MA; ⁴Anesthesiology, Perioperative and Pain Medicine, Brigham and Womens Hospital, Boston, MA; ⁵CET&RI, Harvard Institutes of Medicine, Harvard Medical School, Boston, MA *CR

4723 — 4:00 Pathological changes of meibomian gland and ocular surface in Apolipoprotein E knockout mice. JingHua Bu^{1,2}, Y. Wu^{1,2}, X. He^{1,2}, C. zuo^{1,2}, S. Ou^{1,2}, Z. LIU^{1,2}, W. Li^{1,2}. ¹Eye Institute of Xiamen University, Xiamen, Fujian, China; ²Fujian Provincial Key Laboratory of Ophthalmology and Visual Science, Xiamen, Fujian, China

4724 — 4:15 The Role Of PANX1 Glycoprotein In Lacrimal Gland Inflammation. Helen P. Makarenkova¹, A. Gromova¹, X. Tang¹, D. Zoukhri², V. I. Shestopalov^{3,4}. ¹Cell and Molecular Biology, The Scripps Research Institute, La Jolla, CA; ²Department of Diagnosis and Health Promotion, Tufts University School of Dental Medicine, Boston, MA; ³Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami school of Medicine, Miami, FL; ⁴Department of Cell Biology, Bascom Palmer Eye Institute, University of Miami school of Medicine, Miami, FL

4725 — 4:30 Dual roles of IL-33 in ragweed-induced mouse conjunctivitis models under lacrimal gland excision. Yosuke Asada^{1,2}, S. Nakae², N. Ebihara³, A. Matsuda¹. ¹Ophthalmology, Juntendo University School of Medicine, Tokyo, Japan; ²Laboratory of Systems Biology, Center for Experimental Medicine and Systems Biology, The Institute of Medical Science, The University of Tokyo, Tokyo, Japan; ³Ophthalmology, Juntendo Urayasu Hospital, Chiba, Japan

4726 — 4:45 Attenuation of Murine Lacrimal Gland Chronic Graft-Versus-Host Disease by Oral Injection of Tranilast. Eisuke Shimizu, S. Mukai, Y. Ogawa, K. Tsubota. Ophthalmology, Keio University, Shinjuku-ku, Japan ✗

4727 — 5:00 Development of a dynamic co-culture ocular cell in vitro model for ocular biocompatibility testing. Maud Gorbet^{1,2}, D. Toameh¹, J. Zhang¹, C. Phan², H. Walther², L. W. Jones². ¹Systems Design and Biomedical Engineering, University of Waterloo, Waterloo, ON, Canada; ²School of Optometry and Vision Science, CCLR, University of Waterloo, Waterloo, ON, Canada

4728 — 5:15 Activity of antimicrobial peptides against *Stenotrophomonas*, *Delftia*, *Elizabethkingia*, and *Burkholderia* isolated from contact lens related adverse events. Debarun Dutta¹, L. M. Holmlund², M. D. Willcox¹. ¹Optometry, School of Optometry and Vision Science, Sydney, NSW, Australia; ²Department of Biology, University of Copenhagen, Copenhagen, Denmark *CR

Ballroom 1

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Retinal Cell Biology / Retina

469 An eye on the eye microvasculature - Minisymposium

Choroidal vessels play a relevant role in retinal and ocular homeostasis and their complex morphology and delicate balance can be perturbed by a number of factors often resulting in major pathological conditions. The minisymposium will bring together specialists in retinal microcirculation presenting state of the art concepts of choroidal biology and function that will be useful for many investigators of different ocular fields.

Moderator: Enrique J. Rodriguez-Boulan

4729 — 3:45 Vascular stiffening and EC dysfunction in AMD and diabetic retinopathy. Kaustabh Ghosh. Bioengineering, University of California, Riverside, CA

4730 — 4:03 Clinical evaluation of the choroid. Nadia Waheed. Ophthalmology, Tufts University, Boston, MA; Boston Image Reading Center, Boston, MA *CR

4731 — 4:21 Role of choroid endothelial cells in the homeostasis of the outer retina. Enrique J. Rodriguez-Boulan. Ophthalmology-Margaret Dyson Vision Research Institute, Weill Cornell Medical College, New York, NY

4732 — 4:39 Retinal pericytes in health and disease. Patricia A. D'Amore. Ophthalmology, Harvard Medical School, Boston, MA; Mass. Eye and Ear, Harvard Medical School, Boston, MA

4733 — 4:57 Death of choriocapillaris in diabetes and AMD. Gerard A. Lutty. Wilmer Eye Inst, Johns Hopkins University, Baltimore, MD

— 5:15 Concluding Remarks and Discussion

Ballroom 3

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Retina

470 Retinopathy of Prematurity**Moderators: Lejla Vajzovic and RV Paul Chan**

4734 — 3:45 Detecting proangiogenic factors and inflammatory mediators in tears of infants with Retinopathy of Prematurity. Shivani Sinha¹, P. Chevoor², A. Vinekar³, A. Sharma², S. Sethu², C. Jayadev¹, A. Ghosh². ¹Vitreous Retina, Narayana Nethralaya, Deoghar, India; ²Grow Laboratory, Narayana Nethralaya, Bangalore, India; ³Paediatric Retina, Narayana Nethralaya, Bangalore, India

4735 — 4:00 Preterm infants with late retinopathy of prematurity receive less dietary omega-3 and omega-6 the first two weeks of life. Chatarina Lofqvist¹, S. Najm², G. Hellgren^{1,2}, E. Engström², P. Lundgren¹, A. Hård¹, A. Lapillonne², K. Sävman², A. Nilsson¹, M. Andersson¹, L. E. Smith³, A. Hellstrom¹. ¹Ophthalmology/Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; ²Pediatric, Sahlgrenska Academy, University of Gothenburg, Gothenburg, Sweden; ³Ophthalmology, Boston Childrens Hospital/Harvard Medical School, Boston, Sweden; ⁴Biology and Environmental Sciences, University of Gothenburg, Gothenburg, Sweden; ⁵Neonatology, Paris Descartes University, AHP Necker Hospital, Paris, France ✗

4736 — 4:15 Early detection of potentially severe ROP on remote image grading. Graham E. Quinn^{1,2}, G. Ying², A. Baumritter¹, W. Pan², E. Daniel². ¹Pediatric Ophthalmology, Childrens Hosp of Philadelphia, Philadelphia, PA; ²Ophthalmology, University of Pennsylvania, Philadelphia, PA ✗

4737 — 4:30 Is there clinical utility for a continuous severity score for plus disease in ROP? J. Peter Campbell¹, S. Kim^{1,2}, R. Swan¹, K. E. Jonas³, S. Ostmo¹, S. Ioannidis³, D. Erdogmus³, J. Kalpathy-Cramer⁴, R. V. Chan², M. F. Chiang¹. ¹Casey Eye Institute, Oregon Health & Science University, Portland, OR; ²University of Illinois, Chicago, Chicago, IL; ³Northeastern University, Boston, MA; ⁴Harvard Medical School, Boston, MA; ⁵Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea (the Republic of) *CR

4738 — 4:45 Informing informed consent: outcomes of laser photocoagulation for ROP in a Canadian tertiary care center. Seema Emami¹, M. Isaac², K. Mireskandari^{2,3}, N. N. Tehrani^{2,3}. ¹McMaster University, Hamilton, ON, Canada; ²Hospital for Sick Children, Toronto, ON, Canada; ³Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada

4739 — 5:00 Diagnostic Accuracy of Ophthalmoscopy vs. Telemedicine in Retinopathy of Prematurity Examination. *Travis Redd¹, H. biten¹, C. Moleta¹, J. Campbell¹, S. Ostmo¹, K. E. Jonas², R. V. Chan², M. F. Chiang¹.* ¹Ophthalmology, Oregon Healthy & Science University, Milwaukie, OR; ²Ophthalmology, Illinois Eye and Ear Infirmary, Chicago, IL *CR

4740 — 5:15 Retinal microanatomy development on spectral domain optical coherence tomography and visual acuity in preterm infants. *Brittany M. Wong¹, D. Tran-Viet¹, S. Mangalesh¹, S. Holgado¹, S. S. Stimmitt^{1,2}, D. K. Wallace¹, S. F. Freedman¹, C. A. Toth^{1,3}, L. Vajzovic¹.* ¹Ophthalmology, Duke University Eye Center, Durham, NC; ²Biostatistics, Duke University, Durham, NC; ³Biomedical Engineering, Duke University, Durham, NC *CR

Ballroom 4

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Glaucoma

471 Visual Fields, Vision Function, Psychophysics II

Moderators: John G. Flanagan and Ted Maddess

4741 — 3:45 A Novel Index to Define the Rate of Visual Field Change in Glaucoma. *lilian mohamed, E. Morales, N. Parivissutt, P. Hirunpatravong, R. Alizadeh, F. Yu, A. Affi, K. Nouri-Mahdavi, J. Caprioli.* glaucoma, jules stein eye institute, Los angeles, CA

4742 — 4:00 Threshold visual field assessment using eye-tracking perimetry compared to standard automated perimetry in glaucoma. *Andrew J. Tatham¹, I. Murray¹, A. Perperidis², L. Cameron², A. McTrusty², H. Brash¹, B. Fleck¹, R. Minns¹.* ¹University of Edinburgh, Edinburgh, United Kingdom; ²Glasgow Caledonian University, Glasgow, United Kingdom *CR

4743 — 4:15 Utilizing a Commercially Available Virtual Reality Device to Detect Visual Field Defects in Glaucoma and Glaucoma Suspect Patients. *Jared T. Sokol¹, D. T. Rosen¹, H. Litt², J. Hellman^{3,1}, L. Farrokh-Siar⁴, S. Ksiazek⁴.* ¹University of Chicago Pritzker School of Medicine, Chicago, IL; ²University of Chicago, Chicago, IL; ³Department of Ophthalmology and Vision Sciences, UC Davis Medical Center, Sacramento, CA; ⁴Department of Ophthalmology and Visual Science, University of Chicago, Chicago, IL

4744 — 4:30 Virtual reality (VR) for measurement of visual disability in glaucoma patients. *Christopher K. Leung, A. Lam, E. To.* 3/F, University Eye Center, The Chinese University of Hong Kong, Hong Kong, Hong Kong *CR

4745 — 4:45 Detecting Preperimetric Glaucoma with the nGoggle, a Portable Brain-Computer Interface for Assessing Neural Damage. *Masaki Nakanishi^{1,2}, Y. Wang², F. B. Daga¹, T. Jung², J. Zao³, N. G. Ogata¹, F. Medeiros¹.* ¹Visual Performance Laboratory, University of California San Diego, La Jolla, CA; ²Swartz Center for Computational Neuroscience, University of California San Diego, La Jolla, CA; ³Department of Computer Science, National Chiao Tung University, Hsinchu, Taiwan *CR

4746 — 5:00 Comparison between the nGoggle and Optical Coherence Tomography for Detecting Glaucoma. *Fabio B. Daga^{1,2}, M. Nakanishi^{1,3}, Y. Wang³, T. Jung³, J. Zao⁴, N. G. Ogata¹, I. M. Tavares², F. Medeiros¹.* ¹Visual Performance Laboratory, University of California San Diego, La Jolla, CA; ²Ophthalmology, Federal University of São Paulo, São Paulo, Brazil; ³Swartz Center for Computational Neuroscience, University of California San Diego, San Diego, CA; ⁴Department of Computer Science, National Chiao-Tung University, Hsinchu, Taiwan *CR

4747 — 5:15 Accelerometer-assessed physical activity and its association with progression of visual field loss in glaucoma. *Moon Jeong Lee¹, J. Wang², D. S. Friedman¹, M. V. Boland¹, C. De Moraes³, P. Ramulu¹.* ¹Wilmer Eye Institute, Johns Hopkins School of Medicine, Baltimore, MD; ²Biostatistics Center, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; ³Department of Ophthalmology, Columbia University Medical Center, New York, NY

Hall G

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Retina

472 Clinical posterior segment imaging

Moderators: Jennifer J. Kang-Mieler and Stephen R. Russell

4748 — 3:45 Measurement and Reproducibility of Preserved Ellipsoid Zone Area and Preserved Autofluorescence Area in a Natural History Study of a Cohort of Eyes with Choroideremia. *Amir H. Hariri¹, S. Velaga¹, A. Girach², M. S. Ip¹, P. Le¹, S. R. Sadda¹.* ¹Doheny Eye Inst/ UCLA, Los Angeles, CA; ²NightStarx, London, United Kingdom *CR

4749 — 4:00 Effect of age and signal strength index on retinal and choriocapillaris vessel density measured with optical coherence tomography angiography. *Andrew P. Sill, S. S. Gao, Y. Jia, C. J. Flaxel, A. K. Lauer, T. S. Hwang, P. Lin, D. Huang, S. T. Bailey.* Casey Eye Institute, Oregon Health & Science University, Portland, OR *CR

4750 — 4:15 Evaluation of Inner Choroidal Blood Flow in the Pachychoroid Spectrum Using Swept Source Optical Coherence Tomography Angiography. *Dov B. Sebrow^{1,2}, O. Gal-Or^{2,3}, R. Dolz-Marco^{2,3}, S. Gattoussi^{2,3}, K. K. Dansingani^{2,4}, K. Freund^{2,3}.* ¹Ophthalmology, Columbia University Medical Center, Edward S. Harkness Eye Institute, New York, NY; ²Vitreous Retina Macula Consultants of New York, New York, NY; ³LuEsther T. Mertz Retinal Research Center, New York, NY; ⁴Truhlsen Eye Institute, University of Nebraska Medical Center, Omaha, NE *CR

4751 — 4:30 Optical coherence tomography angiography changes in the three parafoveal retinal plexuses in response to hyperoxia. *Ahmed M. Hagag, A. D. Pechauer, L. Liu, J. WANG, Z. Miao, Y. Jia, D. Huang.* Ophthalmology, Oregon Health and Science University, Portland, OR *CR

4752 — 4:45 Subclinical retinal manifestations in infants with hypoxic ischemic encephalopathy. *Shwetha Mangalesh¹, D. Tran-Viet¹, V. Tai¹, B. M. Wong¹, C. Viehland², J. Finkle³, L. Edwards³, M. C. Cotten³, J. A. Izatt², S. F. Freedman¹, C. A. Toth¹.* ¹Duke Eye Center, Durham, NC; ²Pratt School of Engineering, Durham, NC; ³Duke University School of Medicine, Durham, NC *CR

4753 — 5:00 Acute Optic Nerve Angiographic Changes with Intravitreal Injections. *Ross Chod, A. Barash, R. B. Rosen.* Ophthalmology - Retina Section, New York Eye and Ear Infirmary, New York, NY *CR

4754 — 5:15 An explanation for why choroidal blood vessels appear dark on clinical OCT images. *Ruikang K. Wang¹, M. Kirby¹, C. Li¹, W. J. Choi¹, G. Gregori², P. J. Rosenfeld².* ¹Bioengineering, University of Washington, Seattle, WA; ²Bascom Palmer Eye Institute, Miami, FL *CR

Room 301

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Physiology/Pharmacology

473 Drug delivery II

Moderators: Morgan V. Fedorchak, Claudio Bucolo and Brittany Coats

4755 — 3:45 Preliminary safety evaluation of a long-term, topical ocular drug delivery platform. *Morgan V. Fedorchak¹, L. A. Bruk², N. Myers².* ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Bioengineering, University of Pittsburgh, Pittsburgh, PA *CR

4756 — 4:00 Evaluation of PTSSol for sustained topical ocular drug delivery. *Sara M. Smith¹, J. H. Salmon¹, S. Abbaraju², R. Amin², S. L. Weiss³, P. Velagaleti³, U. Gratz³, B. C. Gilger¹.* ¹Department of Clinical Sciences, North Carolina State University, Raleigh, NC; ²Symmetry Biosciences, Durham, NC; ³i-novion, Randolph, NJ *CR

4757 — 4:15 Coefficient of friction between carboxymethylated hyaluronic acid (CMHA-S) films and the ocular surface. *Brittany Coats¹, J. Colter¹, H. Lee², B. Mann², B. Wirosko^{2,3}.*
¹Mechanical Engineering, University of Utah, Salt Lake City, UT; ²Eyegate Pharma, Waltham, MA; ³Department of Ophthalmology and Visual Sciences, University of Utah, Salt Lake City, UT *CR

4758 — 4:30 Ocular and Plasmic Dexamethasone Distribution following Controllable Continuous Sub-Tenon Drug Delivery in rabbit. *Ding Lin, X. Huang, Y. Yang, Y. Duan, M. Peng, K. Li.* Changsha Aier hospital, Changsha, China

4759 — 4:45 Production and characterization of a sustained release system of dasatinib to prevent proliferative vitreoretinopathy. *Shigeo Tamiya¹, R. Chauhan², R. Balgeman², H. Noma^{1,3}, K. McDonald¹, H. J. Kaplan¹, M. O'Toole².*
¹Ophthalmology & Visual Sciences, University of Louisville, Louisville, KY; ²BioEngineering, University of Louisville, Louisville, KY; ³Ophthalmology, Tokyo Medical University Hachioji Medical Center, Hachioji, Japan

4760 — 5:00 A novel minimally invasive adjustable-depth blunt injector for delivery of therapeutics into the extravascular spaces of the choroid. *Ygal Rotenstreich^{1,2}, A. Tzameret^{1,2}, S. Kalish^{1,2}, E. Bubis^{1,2}, M. Belkin^{2,1}, I. Moroz¹, M. Rosner^{1,2}, I. Levy³, S. Marge³, I. Sher-Rosenthal¹.*
¹Goldschleger Eye Institute, Sheba Medical Center, Tel Hashomer, Israel; ²Goldschleger Research Institute, Tel Aviv University, Tel Aviv, Israel; ³Department of Chemistry, Bar-Ilan Institute of Nanotechnology and Advanced Materials, Ramat Gan, Israel *CR

Room 308

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Low Vision Group

474 Low Vision Devices and Rehabilitation

Moderators: *Gislin Dagnelie and Shrinivas Pundlik*

4761 — 3:45 Preliminary evaluation of a wearable video camera based collision warning device for blind individuals in an obstacle course. *Shrinivas Pundlik^{1,2}, M. Tomasi^{1,2}, A. Doherty¹, A. R. Bowers^{1,2}, G. Luo^{1,2}.*
¹Schepens Eye Research Institute, Mass Eye and Ear, Boston, MA; ²Ophthalmology, Harvard Medical School, Boston, MA *CR

4762 — 4:00 Performance of Real-World Functional Tasks Using the BrainPort® Vision Pro in Persons Blinded by Traumatic Injury. *Patricia Grant¹, M. Maeng², T. Arango³, J. P. Szylyk², R. Hogle¹, W. H. Seiple⁴.*
¹Wicab, Inc., Middleton, WI; ²The Chicago Lighthouse for People Who Are Blind or Visually Impaired, Chicago, IL; ³Northeastern University, Boston, MA; ⁴Lighthouse Guild, New York, NY *CR, ✗

4763 — 4:15 Using Sensory Augmentation to Optimize Training Outcomes with Vision Prostheses. *Lauren N. Ayton^{1,4}, L. Hamilton², C. D. McCarthy³, M. A. Petoe^{2,5}.*
¹Centre for Eye Research Australia, East Melbourne, VIC, Australia; ²Bionics Institute, East Melbourne, VIC, Australia; ³Department of Computer Science and Software Engineering, Swinburne University, Hawthorn, VIC, Australia; ⁴Department of Surgery (Ophthalmology), University of Melbourne, Parkville, VIC, Australia; ⁵Department of Medical Bionics, University of Melbourne, Parkville, VIC, Australia

4764 — 4:30 eQUEST: The eSight Quality of life and Efficacy Study. *Walter Wittich^{1,2}, M. Lorenzini¹, J. E. Goldstein³, S. N. Markowitz⁴, B. E. Patino⁴, K. Lindeman³, S. Braudway⁷, S. A. Gartner⁵, L. Godsay⁶, A. Howson⁶, M. Tolentino⁷, T. Jayasundera⁶, S. Reyes⁴, G. Dagnelie³.*
¹School of Optometry, University of Montreal, Montreal, QC, Canada; ²Centre de recherche interdisciplinaire en readaptation de Montreal metropolitain, Montreal, QC, Canada; ³School of Medicine, Johns Hopkins University, Baltimore, MD; ⁴Department of Ophthalmology, University of Toronto, Toronto, ON, Canada; ⁵Lighthouse for the Blind of the Palm Beaches, West Palm Beach, FL; ⁶University of Michigan, Ann Arbor, MI; ⁷Center for Retina and Macular Disease, Lakeland, FL *CR

4765 — 4:45 Inpatient low vision rehabilitation has a long term positive effect on participation, vision-related quality of life and adaptation. *Ruth M. Van Nispen, H. P. van der Aa, G. van Rens.*
 Ophthalmology, VU University Medical Center, Amsterdam, Netherlands

4766 — 5:00 First results from the EFFECT Trial, an RCT of eccentric viewing training for patients with AMD. *Gary Rubin.* Visual Neuroscience, University College London, London, United Kingdom; Biomedical Research Centre for Ophthalmology, NIHR, London, United Kingdom ✗

Room 310

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Immunology/Microbiology / Cornea / Retina / Visual Psychophysics/Physiological Optics

475 The bench and the bedside: Who is the instructor? – Minisymposium

This minisymposium will honor Robert Burton Nussenblatt, a preeminent clinician-scientist in the field of inflammatory eye disease and Past President of ARVO, who passed away on April 17, 2016. The session is based on the theme of Bench to Bedside (and back); i.e., how basic research instructs clinical practice and vice versa, a concept to which he devoted his professional career. Distinguished researchers representing a broad range of topics will present novel therapies in various stages of clinical development driven by strong basic and mechanistic studies in their respective fields.

Moderators: *Rachel R. Caspi, H Nida Sen and Richard W. Lee*

— 3:45 Introduction

4767 — 3:50 The genetic architecture of Behçet's disease provides new insights into therapy. *Dan Kastner.* National Human Genome Research Institute, NIH, Bethesda, MD

4768 — 4:10 Immunotherapy targeting IL-2 and IL-15 cytokine receptors. *Thomas Waldmann.* NIH, Bethesda, MD ✗

4769 — 4:30 Bench to Bedside (and back): How basic research instructs clinical practice and vice versa - Gene Therapy for X-Linked Retinoschisis. *Paul A. Sieving.* National Eye Institute, NIH, Bethesda, MD ✗

4770 — 4:50 Human Embryonic Stem Cell derived Retinal Pigment Epithelium transplantation in severe exudative Age-Related Macular Degeneration: so far so visual. *Peter Coffey.* ORBIT, UCL Institute of Ophthalmology, London, United Kingdom; NRI, UC Santa Barbara, Santa Barbara, CA *CR, ✗

4771 — 5:10 Development of stem cell-based therapy for cornea -from tissue stem cell to iPS cell. *Kohji Nishida.* Ophthalmology, Osaka University, Suita, Japan

Room 314

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Biochemistry/Molecular Biology**476 Ocular Transcriptomics and proteomics****Moderators: Anand Swaroop and Marina Gorbatyuk**

4772 — 3:45 Transcriptome analysis of AMD retina reveals convergent molecular pathology. Rinki Ratnapriya¹, M. R. Starostik¹, R. Kappahn², A. Walton¹, A. Pietraszkiewicz¹, M. Brooks¹, S. R. Montezuma², L. Fritsche³, G. Abecasis³, D. A. Ferrington², A. Swaroop¹. ¹Neurobiol-Neurodegen & Repair Lab, NEI, Bethesda, MD; ²Department of Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN; ³Center for Statistical Genetics, Department of Biostatistics, University of Michigan, Ann Arbor, MI

4773 — 4:00 Effects of aging and chronic cigarette exposure to circulatory microRNAs in the Rhesus macaque. Zeljka Smit-McBride¹, J. Nguyen¹, G. W. Elliott¹, A. Nguyen¹, C. Munevar², G. Yiu¹, S. M. Thomas², K. E. Pinkerton^{3,4}, S. L. Oltjen¹, J. Roberts⁴, L. S. Morse¹. ¹Vitreo-Retinal Research Lab, Univ of California, Davis Sch of Med, Davis, CA; ²Dept. of Surgical and Radiological Sciences, UC Davis Sch of Vet Med, Davis, CA; ³University of California, Davis Sch of Vet Med, Davis, CA; ⁴California National Primate Research Center, Davis, CA *CR

4774 — 4:15 Long Range Genomic Interactions Regulate Photoreceptor Gene Expression. Philip A. Ruzycski^{1,2}, C. D. Linne¹, S. Chen¹. ¹Dept of Ophthalmology and Visual Sciences, Washington University School of Medicine, St. Louis, MO; ²Division of Biological & Biomedical Sciences, Washington University School of Medicine, St. Louis, MO

4775 — 4:30 Single cell RNA-seq provides insights into mechanisms driving photoreceptor development and degeneration. Melissa M. Liu¹, M. Hu¹, C. A. Berlinicke¹, J. Qian¹, L. Goff¹, D. J. Zack¹. ¹Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²McKusick-Nathans Institute of Genetic Medicine, Johns Hopkins University School of Medicine, Baltimore, MD

4776 — 4:45 In-depth genomic and lipidomic comparison of human and rabbit meibomian glands provides clues on the mechanisms of biosynthesis of meibum. Igor A. Butovich, J. C. Wojtowicz, A. McMahon. Ophthalmology, University of Texas Southwestern Medical Center, Dallas, TX

4777 — 5:00 Developmental protein NUDC is crucial for rod maintenance and function. Alecia K. Gross¹, E. R. Boitet¹, G. Ying², N. J. Reish¹, W. Baehr². ¹Optometry and Vision Science, University of Alabama at Birmingham, Birmingham, AL; ²Ophthalmology and Vision Sciences, University of Utah, Salt Lake City, UT

4778 — 5:15 Chronic activation of the unfolded protein response attenuates protein synthesis in the retinas of rd16 mice. Christopher R. Starr, P. M. Pitale, M. Gorbatyuk. Optometry and Vision Sciences, University of Alabama at Birmingham, Birmingham, AL

Room 316

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Cornea**477 Corneal Surgery: Techniques and outcomes****Moderators: Jun Shimazaki and Silke Oellerich**

4779 — 3:45 Long-term intraocular pressure control and corneal graft survival in eyes treated with trans-scleral cyclodiode laser for refractory glaucoma after penetrating keratoplasty. David Tabibian¹, N. K. Wride², F. C. Figueiredo^{1,3}. ¹Department of Ophthalmology, Royal Victoria Infirmary, Newcastle upon Tyne, Newcastle Upon Tyne, United Kingdom; ²Department of Ophthalmology, Sunderland Eye Infirmary, Sunderland, United Kingdom; ³Department of Ophthalmology, Newcastle University, Newcastle Upon Tyne, United Kingdom

4780 — 4:00 Quantitative assessment of aqueous flare after DMEK shows persistent subclinical inflammation. Lamis Baydoun, S. Oellerich, F. Lam, K. Van Dijk, G. Melles. NIOS, Rotterdam, Netherlands *CR

4781 — 4:15 Preoperative visual acuity predicts outcomes after DMEK. Claus Cursiefen¹, S. Schrittenlocher¹, B. Bachmann¹, K. Velten². ¹Dept of Ophthalmology, University of Cologne, Koln, Germany; ²University of Geisenheim, Geisenheim, Germany *CR

4782 — 4:30 Descemet Stripping and Automated Endothelial Keratoplasty Performed by Residents. Jun Shimazaki, D. Tomida, K. Kakisu, T. Yamaguchi, Y. Satake. Department of Ophthalmology, Tokyo Dental College, Ichikawa, Japan

4783 — 4:45 Multicenter Study on Descemet membrane endothelial keratoplasty (DMEK). Silke Oellerich¹, L. Baydoun¹, J. Parker¹, P. S. Binder², G. Melles¹. ¹Netherlands Institute for Innovative Ocular Surgery, Rotterdam, Netherlands; ²Gavin Herbert Eye Institute, Irvine, CA *CR

4784 — 5:00 Crosslinking characterization of corneas submitted to açai (Euterpe oleracea) extract by enzymatic digestion. Paulo Schor², L. I. da Cruz², R. F. Nogueira¹, A. D. Morandim-Giannetti³, P. A. Bersanetti¹. ¹Health Informatics Department, UNIFESP, São Paulo, Brazil; ²Department of Ophthalmology and Visual Sciences, UNIFESP, São Paulo, Brazil; ³Department of Chemical Engineering, University Center of FEI, São Bernardo do Campo, Brazil

Room 321

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Anatomy and Pathology/Oncology / Cornea / Eye Movements/Strabismus/Amblyopia/ Neuro-Ophthalmology / Genetics / Lens / Multidisciplinary Ophthalmic Imaging / Physiology/Pharmacology / Retinal Cell Biology / Visual Psychophysics/Physiological Optics / Visual Neuroscience**478 Visual functions and processes conserved across species - Minisymposium**

Whether through common ancestry or through convergent evolution, the eyes of most vertebrate and even some invertebrate species are very similar anatomically. It is therefore logical that many visual functions or processes might also be conserved across the species. This minisymposium provides examples of visual processes and functions that appear to be conserved across at least two species at different evolutionary levels.

Moderators: Vivian Choh, Judith A. West-Mays and Jacob Sivak**— 3:45 Introduction**

4785 — 3:50 Squid eye development and the evolution of complex visual systems. Kristen Koenig. FAS Center for Systems Biology, Harvard University, Cambridge, MA; Harvard University, Cambridge, MA

4786 — 4:05 Did the Eye Evolve Once or Multiple times? Evidence From the Effects of Visual Experience on Eye Development in Vertebrates and Non-Vertebrates. Jacob Sivak. Sch of Optometry, University of Waterloo, Waterloo, ON, Canada

4787 — 4:20 Evolution of lamellar branching in the cornea of vertebrates: An example of convergent evolution? James Jester. Gavin Herbert Eye Institute, UC Irvine, Irvine, CA

4788 — 4:35 Evolution of rod photoreceptors from fish to mammals. Belinda Chang. Ecol & Evol/Cell & Systems Biology, University of Toronto, Toronto, ON, Canada

4789 — 4:50 How the visual system of primates differs from other mammals. Jon H. Kaas. Vanderbilt University, Nashville, TN

— 5:05 Discussion

Exhibit/Poster Hall A0073-A0097

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Clinical/Epidemiologic Research

479 Cornea and Anterior Chamber

Moderator: Meraf A. Wolle

4790 — A0073 Epidemiology of Herpes Zoster Ophthalmicus In South Korea. Soomin Lee. Ophthalmology, Samsung Medical Center, Seoul, Korea (the Republic of)

4791 — A0074 Visual outcomes and corneal surgery in patients diagnosed with herpetic stromal keratitis based on race. Jogin Jose, M. S. Cortina, J. de la Cruz, A. R. Djalilian, S. Jain, J. Sugar, E. Tu, A. Lobo. Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL

4792 — A0075 Longitudinal study of the Seroprevalence of pgp3 Antibody to *C. trachomatis* in a cohort of children in a trachoma endemic area. Hemjot Kaur¹, B. Munoz¹, H. Mkocha², L. Dize³, C. gaydos³, S. West¹. ¹Dana Center for Preventive Ophthalmology, Johns Hopkins University, Baltimore, MD; ²Kongwa Trachoma Project, Dar es Salaam, United Republic of Tanzania; ³SOM Infectious Diseases, Johns Hopkins University, Baltimore, MD

4793 — A0076 Prevalence of trachomatous scarring in children in a formerly endemic district of Tanzania. Jacob T. Cox¹, H. Mkocha², B. Munoz¹, S. West¹. ¹Dana Center for Preventive Ophthalmology, Wilmer Eye Institute, Johns Hopkins Hospital, Baltimore, MD; ²Kongwa Trachoma Project, Kongwa, United Republic of Tanzania

4794 — A0077 Risk Factors for Incidence of Trachomatous Scarring in a Cohort of Women in Kongwa, Tanzania. Rabia Karani¹, M. Wolle¹, H. Mkocha², B. Munoz¹, S. West¹. ¹Dana Center for Preventive Ophthalmology, Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD; ²Kongwa Trachoma Project, Kongwa, United Republic of Tanzania

4795 — A0078 Microbial Keratitis in University Medical Center of New Orleans and Interim LSU Hospital Patient Populations. Jessica Weinstein, J. Landreneau, J. S. Weiss. Ophthalmology, Louisiana State University, New Orleans, LA

4796 — A0079 *Acanthamoeba keratitis* in 194 patients: risk factors for poor outcomes and severe inflammatory complications. Nicole A. Carni^{1,2}, D. Robaei^{3,82}, D. Minassian⁴, J. K. Dart^{2,5}. ¹Centre for Vision Research, Westmead Institute for Medical Research, Westmead, NSW, Australia; ²Moorfields Eye Hospital NHS Foundation Trust, London, United Kingdom; ³Save Sight Institute, Sydney, NSW, Australia; ⁴EpiVision, Penn, United Kingdom; ⁵NIHR UCL/Moorfields Biomedical Research Centre, London, United Kingdom *CR

4797 — A0080 Epidemiology and treatment outcome of fungal keratitis at Asociación Para Evitar la Ceguera en México, Mexico city. Veronica Pamela Urcullo Terrazas¹, V. Vanzini², L. A. Aguilar¹, F. Beltran¹, E. Hernandez-Quintela¹. ¹Cornea, Asociacion Para Evitar la Ceguera en Mexico, Mexico City, Mexico; ²Microbiology, Asociacion Para Evitar la Ceguera en Mexico, Mexico City, Mexico

4798 — A0081 Clinical characteristics of fungal keratitis in a single referral center in Mexico City. Natalia Paulina Quiroz-Casian, J. Serna-Ojeda, V. M. Bautista, A. J. Ramirez-Miranda, E. O. Graue-Hernandez, D. Ponce Angulo. Instituto de Oftalmologia Conde de valenciana, Mexico City, Mexico

4799 — A0082 Influence of Pterygium on Refractive Status in Older Adults: The Brazilian Amazon Region Eye Survey (BARES). Solange R. Salomao¹, A. G. Fernandes¹, A. Berezovsky¹, M. Higashi¹, J. M. Furtado^{2,1}, S. Watanabe¹, G. Carvalho Vasconcelos^{3,1}, M. Cohen^{4,1}, J. Cohen^{4,5}, M. Cypel¹, C. C. Cunha^{6,1}, N. Nunes Cavascan¹, P. Sacai¹, P. Morales¹, S. Munoz⁷, R. Belfort¹. ¹Departamento de Oftalmologia e Ciencias Visuais, Escola Paulista de Medicina, Universidade Federal de São Paulo - UNIFESP, Sao Paulo, Brazil; ²Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoço, Faculdade de Medicina de Ribeirão Preto USP, Ribeirão Preto, Brazil; ³Oftalmologia e Otorrinolaringologia, Faculdade de Medicina da Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; ⁴Divisao de Oftalmologia do Departamento de Cirurgia, Faculdade de Medicina da Universidade Federal do Amazonas, Manaus, Brazil; ⁵Instituto de Olhos de Manaus, Manaus, Brazil; ⁶Residência Médica em Oftalmologia, Faculdade de Medicina da Universidade Federal do Pará, Belém, Brazil; ⁷Salud Publica, Universidad de La Frontera, Temuco, Chile

4800 — A0083 Anterior Segment Digital Photography Accuracy in the Evaluation of Pterygium: The Brazilian Amazon Region Eye Survey (BARES). Adriana Berezovsky¹, M. Higashi¹, A. G. Fernandes¹, P. Morales¹, J. M. Furtado^{2,1}, S. Watanabe¹, G. Carvalho Vasconcelos^{3,1}, M. Cohen^{4,1}, J. Cohen^{4,5}, M. Cypel¹, C. C. Cunha^{6,1}, N. Nunes Cavascan¹, P. Sacai¹, S. Munoz⁷, R. Belfort¹, S. R. Salomao¹. ¹Departamento de Oftalmologia e Ciências Visuais, Universidade Federal de Sao Paulo, Sao Paulo, Brazil; ²Depto de Oftalmologia, Otorrinolaringologia e Cirurgia de Cabeça e Pescoço, Faculdade de Medicina de Ribeirão Preto, USP, Ribeirão Preto, Brazil; ³Departamento de Oftalmologia, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil; ⁴Divisao de Oftalmologia do Departamento de Cirurgia, Faculdade de Medicina da Universidade Federal do Amazonas, Manaus, Brazil; ⁵Instituto de Olhos de Manaus, Manaus, Brazil; ⁶Residência Médica em Oftalmologia, Faculdade de Medicina da Universidade Federal do Pará, Belém, Brazil; ⁷Salud Publica, Universidad de La Frontera, Temuco, Chile

4801 — A0084 Stevens Johnson syndrome: A 6 year experience at Massachusetts Eye and Ear Infirmary. Hajirah N. Saeed, S. Shanbhag, J. Chodosh. Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA *CR

4802 — A0085 Analyzing and Reducing the Rates of Perioperative Corneal Abrasions. Priya Shah, N. Mehta, C. Lee. NYU, New York, NY

4803 — A0086 Ocular involvement among burn patients: does the type of burn matter? Monica Ertel, A. Port, S. Halim, B. Levine. Ophthalmology, Weill Cornell Medicine, New York, NY

4804 — A0087 Assessing the Risk factors of Keratoconus in Saudi Arabian population. Saad Aljohani², N. Muthuramalingam^{2,1}, N. Almutairi^{3,82}, Y. Aldebasi². ¹Optometry, Salus University, Philadelphia, PA; ²Optometry, Qassim University, Buraidah, Saudi Arabia; ³Vision Science, Pacific University, Forest Grove, OR

4805 — A0088 Retrospective Analysis of Keratoconus at Hamad General Hospital, Doha, Qatar. Nabila Altamimi. Optometry, Hamad Medical Corporation, Doha, Qatar

- 4806 — A0089 Steeper iris concavity is related to a shallower anterior chamber but not to higher intraocular pressure - The Gutenberg Health Study.** Alexander K. Schuster¹, N. Pfeiffer¹, S. Nickels¹, A. Schulz², P. S. Wild^{2,3}, M. Blettner⁴, K. J. Lackner⁵, M. E. Beutel⁶, T. Münzel⁷, U. Vossmerbaeumer¹. ¹Department of Ophthalmology, Mainz University Medical Center, Mainz, Germany; ²Preventive Cardiology and Preventive Medicine, Center for Cardiology, University Medical Center of the Johannes Gutenberg-University Mainz, Mainz, Germany; ³DZHK (German Center for Cardiovascular Research), partner site Rhine-Main, Mainz, Germany; ⁴Department of Biomedical Statistics, Mainz, Germany; ⁵Institute for Clinical Chemistry and Laboratory Medicine, Mainz, Germany; ⁶Department of Psychosomatic Medicine and Psychotherapy, Mainz, Germany; ⁷Center for Cardiology, Mainz, Germany
- 4807 — A0090 Eleven-year change of anterior chamber configuration among health examination subjects.** Kazuyoshi Kitamura¹, T. Chiba¹, J. Tanabe², K. Kashiwagi¹. ¹Ophthalmology, University of Yamanashi, Chuo, Japan; ²Tanabe eye clinic, Kai, Japan
- 4808 — A0091 The Changes in Refraction and Biometry for Children after Taking Ortho-K Lens off over over Two Days.** Hairong Wang¹, Z. Yan¹, J. He². ¹Refractive Surgery, Shenzhen Eye Hospital, Shenzhen, China; ²New England College of Optometry, Boston, MA
- 4809 — A0092 A Randomized Placebo Controlled Double Masked Clinical Trial of Autologous Serum Eye Drops for severe Ocular Graft Versus Host Disease (GVHD).** Manuel B. Datiles¹, R. Bishop¹, J. Clayton¹, S. Pavletic², K. Williams², D. Fowler², M. Battiwalla³, S. Mitchell⁴, J. Barrett³, R. Childs³, C. C. Cantilena⁵, G. Grimes⁶, A. Garced¹, L. Curtis², A. Holland¹, F. Ferris¹. ¹NEI-NIH, National Eye Institute-Nat Inst Health, Bethesda, MD; ²National Cancer Institute, National Institutes of Health, Bethesda, MD; ³National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD; ⁴Clinical Center, National Institutes of Health, Bethesda, MD; ⁵Department of Transfusion Medicine, Clinical Center, National Institutes of Health, Bethesda, MD; ⁶Pharmacy Department, Clinical Center, National Institutes of Health, Bethesda, MD ✗
- 4810 — A0093 Demographic and clinical profile of limbal stem cell deficiency in Los Angeles: A hospital based study.** Qihua Le, D. Cordova, S. X. Deng. Stein Eye Institute, University of California, Los Angeles, Los Angeles, CA
- 4811 — A0094 Progressive aniridia-associated keratopathy phenotype in a Polish cohort - therapeutic implications.** Neil S. Lagali¹, B. Wowra², D. Dobrowolski², T. Utheim³, E. Wylegala², P. Fagerholm¹. ¹Ophthalmology, Linköping University, Linköping, Sweden; ²Ophthalmology Department II, Medical University of Silesia, Katowice, Poland; ³Department of Medical Biochemistry, University of Oslo, Oslo, Norway
- 4812 — A0095 Variability in Corneal Ulcer Measurements.** Nita Valikodath¹, N. Prajna², L. Dudeja², M. A. Woodward¹. ¹Ophthalmology, University of Michigan, Ann Arbor, MI; ²Aravind Eye Hospital, Madurai, India *CR
- 4813 — A0096 Central corneal thickness in Russia. The Ufa Eye and Medical Study.** Mukharram Bikbov¹, J. B. Jonas², G. Kazakbaeva¹. ¹Ufa Eye Research Institute, Ufa, Russian Federation; ²Medical Faculty Mannheim, Mannheim, Germany
- 4814 — A0097 Proteomic Analysis of Aqueous Humor Reveals Progression of Diabetes Mellitus in the Anterior Chamber.** Benjamin T. Aldrich^{1,2}, J. M. Skeie^{1,2}, G. A. Schmid^{1,2}, C. R. Reed^{1,2}, M. H. Kuehn^{1,2}, M. A. Greiner^{1,2}. ¹Ophthalmology, University of Iowa, Coralville, IA; ²Iowa Lions Eye Bank, Coralville, IA
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- Exhibit/Poster Hall A0337-A0383
Wednesday, May 10, 2017 3:45 PM-5:30 PM
Multidisciplinary Ophthalmic Imaging Group
480 Imaging technology and applications
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- Moderator: Francesco LaRocca**
- 4815 — A0337 Ellipsoid zone thickness measurements by high resolution mode-locked laser optical coherence tomography in healthy eyes.** Itaru Kimura¹, H. Kuroda¹, M. Suzuki¹, H. Ibuki¹, T. Shoji¹, K. Shinoda¹, M. Araie^{1,2}, S. Yoneya¹. ¹Department of Ophthalmology, Saitama Medical University Faculty of Medicine, Iruma-gun, Japan; ²Kanto Central Hospital, Tokyo, Japan
- 4816 — A0338 Agreement between droopy eyelid diagnoses made by in-person examination compared to analysis of digital images.** Pimkwan Jaru-ampornpan¹, T. Blachley¹, S. Joseph¹, C. Briceno², V. Elner¹, A. Kahana¹, H. Demirci¹, D. C. Musch¹, R. Douglas¹, C. Nelson¹. ¹Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ²Ophthalmology, Scheie Eye Institute, Philadelphia, PA
- 4817 — A0339 Diagnostic Accuracy and Reliability of Retinal Pathology Using the Forus 3nethra Fundus Camera Compared to Ultra Wide-Field Imaging.** Dana Y. Darwish¹, S. N. Patef¹, J. E. Kim¹, Y. Gao¹, P. Bhat¹, F. Y. Chau¹, J. I. Lim¹, J. Jose¹, K. E. Jonas¹, R. Chan¹, S. Mehta², A. Lobo¹. ¹Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ²Memorial Sloan Kettering, New York, NY; ³Ophthalmology, Medical College of Wisconsin, Milwaukee, WI; ⁴Biostatistics, University of Illinois at Chicago School of Public Health, Chicago, IL; ⁵Epidemiology, University of Illinois at Chicago School of Public Health, Chicago, IL *CR
- 4818 — A0340 The distribution of macular pigment in different macular diseases.** Roy Schwartz, R. Crosby-Nwaobi, A. M. Dubis, P. G. Hykin, S. Sivaprasad. Biomedical Research Centre, NIHR Moorfields, London, United Kingdom *CR
- 4819 — A0341 Spatial distribution modelling of retinal lesions with application to retinal capillary non-perfusion in malarial retinopathy.** Gabriela Czanner^{1,2}, I. J. MacCormick^{4,5}, Y. Zheng^{3,8,2}, S. Czanner⁶, Y. Zhao⁸, P. Diggle⁷, S. P. Harding^{3,8,2}. ¹Department of Eye and Vision Science and Biostatistics, University of Liverpool, Liverpool, United Kingdom; ²St. Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom; ³Department of Eye and Vision Science, University of Liverpool, Liverpool, United Kingdom; ⁴Malawi-Liverpool-Wellcome Trust, Blantyre, Malawi; ⁵Centre for Clinical Brain Research, University of Edinburgh, Edinburgh, United Kingdom; ⁶Manchester Metropolitan University, Manchester, United Kingdom; ⁷CHICAS Lancaster Medical School, Lancaster University, Lancaster, United Kingdom; ⁸School of Optics and Electronics, Beijing Institute of Technology, Beijing, China
- 4820 — A0342 Morning Eyelid Congestion Severity Captured using an Electronic Diary Photography System.** Yesha Raval¹, E. Angjeli², K. J. Lane², P. J. Gomes¹. ¹Allergy, ORA, Andover, MA; ²R&D, ORA, Andover, MA *CR
- 4821 — A0343 The relationship between central retinal artery equivalent and cerebral artery diameters.** Mengxue Zhou⁶, K. Imai⁶, M. Hamaguchi², A. Okuma⁵, K. Mori⁷, K. Yata³, N. Okumura⁸, S. Kinoshita¹, T. Kojima⁴, N. Koizumi⁸. ¹Kyoto Prefectural University of Medicine, Kyoto, Japan; ²Department of Diabetology, Kameoka Municipal Hospital, Kameoka, Japan; ³Department of Ophthalmology, Murakami Memorial Hospital, Asahi University, Gifu, Japan; ⁴Department of Gastroenterology, Murakami Memorial Hospital, Asahi University Memorial Hospital, Gifu, Japan; ⁵Health Screening Center, Murakami Memorial Hospital, Asahi University, Gifu, Japan; ⁶Department of Medical Innovation and Translational Medical Science Graduate School of Medical Science, Kyoto Prefectural University of Medicine, Kyoto, Japan; ⁷Department of Ophthalmology, Graduate School of Medical Science, Kyoto Prefectural University of Medicine, Kyoto, Japan; ⁸Department of Biomedical Engineering, Faculty of Life and Medical Sciences, Doshisha University, Kyotanabe, Japan
- 4822 — A0344 Effects of 3D stratification of Retinal Ganglion Cells in Sholl Analysis.** John Gobran¹, D. C. Henderson¹, B. C. Chauhan^{1,2}. ¹Physiology and Biophysics, Dalhousie University, Halifax, NS, Canada; ²Ophthalmology and Visual Sciences, Dalhousie University, Halifax, NS, Canada *CR

4823 — A0345 Optical Coherence Tomography retinal segmentation changes induced by gradual ascent to high altitude in mountaineers randomized to acetazolamide vs placebo. *Mariano Cozzi^{1,2}, A. Clarke³, C. Imray⁴, S. Pagliarini².* ¹Ophthalmology, Eye Clinic Luigi Sacco Hospital, Milan, Italy; ²Ophthalmology, University Hospitals Coventry & Warwickshire NHS Trust, Rugby, United Kingdom; ³Warwick Medical School, Warwick, United Kingdom; ⁴Vascular Surgery, University Hospitals Coventry and Warwickshire NHS Trust, Coventry, United Kingdom *CR

4824 — A0346 The Impact of Imaging Modalities and Acetazolamide on Retinal Vessel Diameter at High Altitude. *Alexander Clarke¹, M. Cozzi², C. Hand¹, C. Imray³, S. Pagliarini⁴.* ¹Warwick Medical School, Spital Tongues, United Kingdom; ²Ophthalmology, Eye Clinic Luigi Sacco Hospital, Milan, Italy; ³Vascular Surgery, University Hospitals Coventry & Warwickshire NHS Trust, Coventry, United Kingdom; ⁴Ophthalmology, University Hospitals Coventry & Warwickshire NHS Trust, Rugby, United Kingdom *CR

4825 — A0347 Collagen architecture in the third dimension:3D polarized light microscopy (3DPLM) for mapping in-plane (IP) and out-of-plane (OOP) collagen fiber architecture. *Bin Yang¹, N. Jan^{1,2}, P. Lam¹, K. L. Lathrop^{1,2}, I. A. Sigal^{1,2}.* ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Bioengineering, University of Pittsburgh, Pittsburgh, PA

4826 — A0348 Ultrasound Characterization of Blood-Flow in the Choroid and Retina. *Raksha Urs¹, J. Ketterling², D. Coleman¹, R. Silverman¹.* ¹Ophthalmology, Columbia University Medical Center, Teaneck, NJ; ²Lizzi Center for Biomedical Engineering, Riverside Research, New York, NY

4827 — A0349 Using ultrasound biomicroscopy in evaluation of lacrimal drainage obstruction: a preliminary study. *Paola Brito Sandoval.* Ophthalmology, Hospital Nuestra Señora De La Luz, Mexico City, Mexico

4828 — A0350 An Imaging Based Virtual Review Model for Rapid Access Assessment of Patients with Macular Disease. The Manchester EMAC service. *Vivian Anakwenze¹, K. Balaskas¹, T. Aslam^{1,2}, Y. D'Souza¹, A. Stone¹, R. Chhabra¹, S. Mahmood¹.* ¹Central Manchester Foundation Trust, Manchester, United Kingdom; ²The University of Manchester, Manchester, United Kingdom

4829 — A0351 Dynamic Light Scattering of Vitreous in Patients with Vitreous Floaters Compared to Macular Pucker. *Kassandra Kershaw^{1,2}, D. Nguyen², K. M. Yee², J. Nguyen², M. Harrington¹, J. Sebag².* ¹Huntington Medical Research Institutes, Pasadena, CA; ²VMR Institute for Vitreous Macula Retina, Huntington Beach, CA

4830 — A0352 Congenital Toxoplasmosis M-Health Network In Argentina. *Guillermo Andrés Monteoliva, G. SAIDMAN.* Calle 12 esquina 67 #1698, RED ROP ZONA SUR VI XI, La Plata, Argentina

4831 — A0353 Changes in Subretinal Hyperreflective Material in Phase I/II Study of Proton Beam Irradiation combined with anti-VEGF Therapy for Exudative Age-Related Macular Degeneration. *Jonathan Lu¹, I. Daftari², K. Mishra², A. Moshiri¹, S. S. Park¹.* ¹University of California Davis, Sacramento, CA; ²University of California San Francisco, San Francisco, CA

4832 — A0354 Evaluation of Automatic Following of Anatomical Structures for Live Intraoperative OCT Repositioning. *Stefan Duca¹, K. Filippatos¹, J. Straub², M. Nasseri³, D. M. Zapp³, N. Navab⁴, M. M. Maier³, H. Roodaki⁴, A. Eslami¹.* ¹Carl Zeiss Meditec AG, München, Germany; ²Carl Zeiss Meditec, Inc., Dublin, CA; ³Klinikum rechts der Isar, TUMünchen, München, Germany; ⁴Technische Universität München, München, Germany *CR

4833 — A0355 Minimizing inter-camera image variation effects on retinal image screening algorithms with autoencoder. *Niranchana Manivannan¹, J. Benson^{1,2}, S. C. Nemeth¹, Z. Jarry¹, T. Estrada², E. Barriga¹, P. Soliz¹.* ¹VisionQuest Biomedical LLC, Albuquerque, NM; ²Computer Science Dept., University of New Mexico, Albuquerque, NM *CR

4834 — A0356 Assessing blue light hazards in surgical microscopes. *Brian Redman, E. LaVilla, J. Schwiegerling.* Optical Sciences, University of Arizona, Tucson, AZ *CR

4835 — A0357 Usability testing of a smartphone-based retinal camera among new users in the primary care setting. *Patrick Li, T. Kim, J. R. Davila, J. Gosbee, Y. M. Paulus.* Ophthalmology and Visual Sciences, University of Michigan Kellogg Eye Center, Ann Arbor, MI *CR

4836 — A0358 Smartphone Ophthalmoscopy (D-Eye System) for Detection of Optic Nerve Pathology and Cup-to-Disc Ratio in an Outpatient Clinical Setting. *Diane K. Dao^{2,1}, N. Shah¹, M. Tamhankar¹, P. Tapino¹, W. Pan¹, G. Ying¹, K. Willett¹, B. L. VanderBeek¹, A. J. Brucker¹.* ¹Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA; ²Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

4837 — A0359 Image Quality Assessment of Diabetic Retinopathy Screening Using a Portable Retinal Camera in Monterrey, Mexico. *Gilberto Zamora¹, E. Barriga¹, Z. Jarry¹, J. Lozano², S. C. Nemeth¹, O. Meza², E. Martinon², J. Benson¹, P. Soliz¹.* ¹VisionQuest Biomedical, LLC, Albuquerque, NM; ²Clinicas del Azucar, San Pedro Garza Garcia, Mexico *CR

4838 — A0360 Using A Portable, Non-Invasive, Non-Mydriatic Fundus Imaging Camera On Two Wheeler- A cost-effective screening model in Urban Slums of Mumbai. *Sundaram Natarajan¹, R. Krishnan², M. Sonawane².* ¹Vitreous Retina, Aditya Jyot Research in Vision & Ophthalmology, Mumbai, India; ²Aditya Jyot Foundation for Twinkling Little Eyes, Wadala, India

4839 — A0361 Assessment of the usability of slit lamp adapters in conjunction with smartphones to capture anterior segment images. *Audrey Hudson.* Optometry, University of California, Berkeley, Berkeley, CA *CR

4840 — A0362 Quality and Utility of a Portable Anterior Segment and Non-mydriatic Fundus Camera Linked to a Smartphone-Based Virtual Consultation Platform. *Melissa Sieber¹, A. Shahlaee¹, M. K. Adam¹, M. Cohen², J. L. Federman¹.* ¹Ophthalmology, Wills Eye, Philadelphia, PA; ²Tufts, Boston, MA *CR

4841 — A0363 Quantitative MRI of extra-ocular muscles in the clinical evaluation of systemic diseases. *Jan-Willem Beenakker^{1,2}, L. van Vught¹, R. de Meel³, J. Burakiewicz², S. Genders¹, M. J. Jager¹, J. Verschuuren³, H. Kan², I. Notting¹.* ¹Ophthalmology, Leiden University Medical Center, Leiden, Netherlands; ²Radiology, Leiden University Medical Center, Leiden, Netherlands; ³Neurology, Leiden University Medical Center, Leiden, Netherlands

4842 — A0364 MRI findings in patients with acute optic neuritis. A prospective study. *Kerstin Soelberg^{1,2}, P. Skejot⁴, J. Mehlsen⁵, J. Grauslund², F. Paul^{6,7}, T. Smith¹⁰, S. Lillevang⁹, B. G. Weinshenker⁸, N. Asgari^{1,3}.* ¹Department of Neurology, Kolding Hospital, Odense, Denmark; ²Department of Ophthalmology, Odense University Hospital, Denmark, Denmark; ³Department of Neurobiology, Institutes of Molecular Medicine, Denmark, Denmark; ⁴Department of Radiology, Aleris-Hamlet Hospital, Copenhagen, Denmark; ⁵Department of Ophthalmology, Vejle Hospital, Vejle, Denmark; ⁶Department of Neurology, Charité - Universitätsmedizin Berlin, Clinical and Experimental Multiple Sclerosis Research Center and NeuroCure Clinical Research Center, Berlin, Germany; ⁷Experimental and Clinical Research Center, Max Delbrueck Center for Molecular Medicine and Charité - Universitätsmedizin Berlin, Berlin, Germany; ⁸Department of Neurology, Mayo Clinic, Rochester, MN; ⁹Department of Clinical Immunology, Odense University Hospital, Odense, Denmark; ¹⁰Department of Ophthalmology and Visual Sciences, University of Michigan Medical School, Ann Arbor, MI

4843 — A0365 Changes of Brain Connectivity in Primary Open Angle Glaucoma: High Pressure Glaucoma vs Normal Tension glaucoma. *Paolo Frezzotti¹, A. Giorgio², F. Costantino², N. De Stefano².* ¹Ophthalmology, University of Siena, Siena, Italy; ²University of Siena, Siena, Italy

- 4844 — A0366 Giant cell arteritis: Correlation between MRI findings and immunohistology.** Thomas Ness¹, O. Richter¹, J. Geiger², T. Bley³, S. Heinzelmann¹. ¹Eye Center, University of Freiburg, Freiburg, Germany; ²Department of Radiology, University Children's Hospital Zürich, Zürich, Switzerland; ³Department of Diagnostic and Interventional Radiology, University Hospital of Würzburg, Würzburg, Germany *CR
- 4845 — A0367 Evaluation of Occipital Cortex in Glaucoma Patients using 3-Tesla Magnetic Resonance Imaging.** Carolina P. Gracitelli^{1,2}, G. L. Duque-Chica^{3,4}, L. G. Sanches², A. D. Moura^{1,4}, B. Nagy⁴, S. H. Teixeira¹, E. Amaro², D. F. Ventura⁴, A. Paranhos Jr.^{1,2}. ¹Ophthalmology, UNIFESP Paulista Sch of Med, Sao Paulo, Brazil; ²Hospital Israelita Albert Einstein, Sao Paulo, Brazil; ³Departamento de Psicología, Universidad de Medellín, Medellín, Colombia; ⁴Psychology Institute, University of São Paulo, Sao Paulo, Brazil
- 4846 — A0368 Appropriate power correction of glasses leads the V1 response.** Masako Sugai. Tokyo Denki University, Chuo-ku, Japan
- 4847 — A0369 Repeatability and reproducibility of foveal avascular zone area measurement on normal eyes by different optical coherence tomography angiography instruments.** Anna Crepaldi¹, E. Pilotto¹, E. Della Dora¹, D. Deganello¹, L. Frizziero¹, E. Convento¹, E. Longhin¹, E. Midenza^{1,2}. ¹Department of Ophthalmology, University of Padova, Padova, Italy; ²G.B. Bietti Foundation, IRCCS, Rome, Italy
- 4848 — A0370 Repeatability and Reproducibility of Vascular Density Quantification on CIRRUS HD-OCT with AngioPlex.** Michael H. Chen, L. An, N. D. Shemonski, M. K. Durbin. Carl Zeiss Meditec, Inc., Dublin, CA *CR
- 4849 — A0371 Repeatability and Reproducibility of Foveal Avascular Zone Manual Measurements on CIRRUS HD-OCT with AngioPlex.** Carmen Yoo, M. K. Durbin, M. H. Chen, L. An, N. D. Shemonski. R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR
- 4850 — A0372 The distribution of the density of micro-vascular around macula and optic disc.** Jin Ma, X. Ding. Retina, Zhongshan Ophthalmic Center, Guangzhou, China
- 4851 — A0373 Non-invasive imaging of retinal blood flow with high spatio-temporal resolution.** Abhishek Rege¹, Y. Liu¹, Y. Jing¹, J. Howarth¹, M. Brooke¹, O. Saeedi². ¹Vasoptic Medical Inc, Baltimore, MD; ²Department of Ophthalmology and Visual Sciences, University of Maryland Baltimore, Baltimore, MD *CR
- 4852 — A0374 Near-Infrared Autofluorescence in Choroideremia: anatomical and functional correlations.** Anna Paola Salvetti^{1,2}, J. Birte^{3,4}, K. Xue^{1,2}, M. Gliem^{3,4}, P. Mueller^{3,4}, F. G. Holz^{3,4}, R. E. MacLaren^{1,2}, P. Charbel Issa^{2,3}. ¹Nuffield Laboratory of Ophthalmology, Department of Clinical Neurosciences, University of Oxford, Oxford, United Kingdom; ²Oxford Eye Hospital, University of Oxford, Oxford, United Kingdom; ³Center for Rare Diseases Bonn (ZSEB), University of Bonn, Bonn, Germany; ⁴Department of Ophthalmology, University of Bonn, Bonn, Germany
- 4853 — A0375 Quantitative Fundus Autofluorescence in Smokers Compared to Non-smokers.** Yao Wang, K. Firl, T. Tran, E. J. Van Kuijk, S. R. Montezuma. University of Minnesota, Minneapolis, MN
- 4854 — A0376 Quantitative Fundus Autofluorescence (qAF) in Normal Phakic and Pseudophakic Patients Using SPECTRALIS® qAF Imaging and Analysis Module.** Meleha Ahmad, N. Topilow, J. Agee, S. Ayoub, N. Tracer, H. Leisy, G. Guevara, T. Smith. Ophthalmology, New York University School of Medicine, New York, NY
- 4855 — A0377 Inverse spectroscopic optical coherence tomography and two-photon autofluorescence imaging applied to the evaluation of ocular surface lesions.** Hyunjoo J. Lee¹, L. Zhang², S. Masli¹, J. Yi¹. ¹Ophthalmology, Boston University School of Medicine, Brookline, MA; ²Medicine, Boston University School of Medicine, Boston, MA *CR
- 4856 — A0378 Comparison Study of Funduscopic Exam Using the D-EYE Digital Ophthalmoscope and the Direct Ophthalmoscope.** Amy Ruomei Wu¹, D. W. Suh². ¹School of Medicine, Creighton University, Omaha, NE; ²Ophthalmology, Children's Hospital & Medical Center, Omaha, NE
- 4857 — A0379 Inter-device comparison of retinal sensitivity assessments in a healthy population: the CenterVue MAIA and the Nidek MP-3 microperimeters.** Ayesha Karamat¹, S. Balasubramanian^{1,2}, A. H. Hariri^{1,2}, T. Tepelus^{1,2}, A. Uji^{1,2}, S. R. Sadda^{1,2}. ¹Doheny Eye Institute, Santa Clarita, CA; ²Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA *CR
- 4858 — A0380 Comparison Study of Funduscopic Exam of Pediatric Patients Using the D-EYE Method and Conventional Indirect Ophthalmoscopic Methods.** Drew Dickson, C. Macdonald, D. W. Suh, S. Jain, D. Agraz, R. High. University of Nebraska Medical Center, Omaha, NE
- 4859 — A0381 Comparison of anterior segment optical coherence tomography (OCT) and ultrasound biomicroscopy (UBM) in diagnosis of anterior scleritis.** Robert Purgert, A. Bessette, F. Pichi, C. Lowder. Ophthalmology, Cleveland Clinic Cole Eye Institute, Cleveland, OH
- 4860 — A0382 Comparison of Anterior Chamber Depth measures obtained with IOL Master® 500 and Pentacam®.** Daniela L. Marques¹, I. C. Teixeira^{1,2}, R. Y. Hida¹, F. Langella¹, H. Kurimori¹. ¹Ophthalmology, Irmandade da Santa Casa de Misericórdia de São Paulo, São Paulo, Brazil; ²Hospital de Olhos Paulista, São Paulo, Brazil
- 4861 — A0383 Objectively measuring optical blurring in amniotic membranes and the effects of collagen cross-linking.** Jeffrey Z. Tsao, L. K. Grange, C. Benatti, H. Fukuoka, N. A. Afshari. Ophthalmology, Shiley Eye Institute, University of California at San Diego, San Diego, CA

Exhibit/Poster Hall A0384-A0400

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Multidisciplinary Ophthalmic Imaging Group

481 Animal imaging**4862 — A0384 Effect of retinal degeneration on light-dependent OCT responses in rd10 mouse.** Yichao Li, S. Chen, G. Vernon, H. Qian.

Visual Function Core, National Institutes of Health, Bethesda, MD

4863 — A0385 Photoreceptor outer segment changes observed in rodent models by SDOCT: An early indicator of stress and dysfunction? Brent A. Bell¹, I. S. Samuels³, M. E. Rayborn^{1,2}, A. Cutler¹, B. Anand-Apte^{1,2}, J. G. Hollyfield^{1,2}, V. L. Bonilha^{1,2}.¹Cole Eye Institute/Ophthalmic Research, Cleveland Clinic, Cleveland, OH; ²Lerner College of Medicine of Case Western Reserve University, Cleveland Clinic, Cleveland, OH; ³Research Service, Louis Stokes Cleveland VA Medical Center, Cleveland, OH**4864 — A0386 The Effect of Elevated Intraocular Pressure on the Rat Retina's Physiological and Blood Flow Response to Flicker Stimulation.** Bingyao Tan¹, E. Mason¹, B. MacLellan¹, K. K. Bizheva^{1,2}.¹Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; ²School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada**4865 — A0387 Cell motility as FFOCT biomarker in primate and rodent retinal explants.** Claude Boccarda¹, O. Thouvenin¹, M. Paques², M. Fink¹, J. A. Sahel^{1,3}, K. Grieve².¹Institut Langevin, Espci, Paris, France; ²Vision Institute, Quinze-Vingt National Ophthalmology Hospital, Paris, France; ³Ophthalmology, Upmc, Pittsburgh, PA *CR

4866 — A0388 Ocular fundus pulsation changes as a response to increased intraocular pressure in the posterior rat eye. Marco Augustin¹, S. Fialova¹, C. Fischak^{1,2}, L. Schmetterer^{1,2}, C. K. Hitznerberger¹, B. Baumann¹. ¹Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; ²Department of Clinical Pharmacology, General Hospital and Medical University of Vienna, Vienna, Austria

4867 — A0389 Automatic assessment of time-lapse OCT for dosimetry control of selective retina therapy. Tatiana Fountoukidou¹, S. Apostolopoulos¹, S. Wolf¹, R. Szitman¹. ¹ARTORG Center for Biomedical Engineering Research, University of Bern, Bern, Switzerland; ²Department of Ophthalmology, Inselspital, Bern, Switzerland

4868 — A0390 Quantifying retinal and optic nerve damage in mouse optic nerve crush model. Ying-Bo Shui¹, T. Lin², Y. Liu¹, M. Wallendorf³, C. J. Siegfried¹, S. Song^{2,4}. ¹Dept of Ophthal & Vis Sciences, Washington Univ Sch of Med, St. Louis, MO; ²Radiology, Washington University, St. Louis, MO; ³Biomedical Engineering, Washington University, St. Louis, MO; ⁴The Hope Center for Neurological Disorders, Washington University, St. Louis, MO

4869 — A0391 Quantitative and Qualitative Assessment of Retinal Degeneration in Canine Models of Inherited Retinal Diseases Using Spectral Domain Optical Coherence Tomography (SD-OCT). Shin Ae Park¹, J. Rhodes², S. Iwabe², G. Ying², J. Huang², A. M. Komaromy¹. ¹College of Veterinary Medicine, Michigan State University, Okemos, MI; ²University of Pennsylvania, Philadelphia, PA

4870 — A0392 Optical coherence tomography angiography (OCT-A) in an animal model for laser-induced choroidal neovascularization. Johanna Meyer, P. P. Fang, T. U. Krohne, F. G. Holz, S. Schmitz-Valckenberg. Ophthalmology, University of Bonn, Bonn, Germany *CR

4871 — A0393 Monitoring retinal vascular occlusions in rodents with OCT angiography. Brian Soetikno^{1,2}, X. Shu¹, Q. Liu¹, W. Liu¹, S. Chen¹, L. Beckmann¹, A. A. Fawzi², H. F. Zhang¹. ¹Biomedical Engineering, Northwestern University, Chicago, IL; ²Ophthalmology, Northwestern University, Chicago, IL

4872 — A0394 Retinal vascular biometry in wild-type and a retinal vascular leakage model in Zebrafish using OCT angiography. Ivan Bozic², K. Spitz², L. M. Pollock¹, B. Anand-Apte¹, Y. Tao². ¹Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²Biomedical Engineering, Vanderbilt University, Nashville, TN

4873 — A0395 Corneal findings after death: a preliminary OCT study on an animal model. Matteo Nioi¹, P. E. Napoli², C. Iovino², F. Paribello², M. Fossarello², E. d'Aloja¹. ¹Department of Public Health, Clinical and Molecular Medicine -Forensic Science Unit, University of Cagliari, CA (Cagliari), Italy; ²Department of Surgical Sciences, Eye Clinic, University of Cagliari, Cagliari, Italy

4874 — A0396 Quantitative assessment of photoreceptor degeneration by confocal scanning laser ophthalmoscopy in two mouse models of retinitis pigmentosa. Harry O. Orlans^{1,2}, A. R. Barnard^{1,2}, R. E. MacLaren^{1,2}. ¹Nuffield Laboratory of Ophthalmology, University of Oxford, Oxford, United Kingdom; ²Oxford Eye Hospital, Oxford, United Kingdom

4875 — A0397 Transfection efficiency of hybrid adeno-associated virus (AAV) vectors in mouse retinal ganglion cells (RGCs). Xu Cao, H. K. Mak, J. S. Yung, H. Ng, C. K. Leung. Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong *CR

4876 — A0398 Fluorescence lifetime measurements during laser-induced wound healing of retinal pigment epithelial cells. Yoko Miura^{1,2}, N. Blimke¹, K. Kern¹, D. Weng¹, J. Pruessner¹, G. Huttmann², R. Brinkmann^{1,2}. ¹Medical Laser Center Lübeck, Lübeck, Germany; ²Institute of Biomedical Optics, University of Lübeck, Lübeck, Germany

4877 — A0399 A Rodent Model of Graded Reduction of Retinal Blood Flow for Ischemia Research. Norman P. Blair, A. Felder, M. R. Tan, M. Shahidi. Ophthalmology & Visual Sciences, Univ of Illinois at Chicago, Chicago, IL

4878 — A0400 Vascular change in oxygen-induced retinopathy rat model observed using retinal optical coherence tomography angiography. Yongjoo Kim¹, H. Hong², J. Park¹, Y. Koh², W. Choi¹, S. Woo², K. Park², W. Oh¹. ¹KAIST, Daejeon, Korea (the Republic of); ²Bundang Seoul National University Hospital, Seongnam, Korea (the Republic of)

Exhibit/Poster Hall B0268-B0287

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Visual Neuroscience

482 Clinical electrophysiology

Moderators: Suresh Viswanathan and Paul DeMarco

4879 — B0268 Flash and Pattern ERG Findings in Schizophrenia and Their Relationships to Visual Function. Steven Silverstein¹, D. Demmin¹, R. Mathew¹, Q. Davis², F. Taranto³, A. Menon¹. ¹Psychiatry, Rutgers University, Piscataway, NJ; ²LKC Technologies, Inc., Gaithersburg, MD; ³Diopsys, Inc., Pine Brook, NJ *CR

4880 — B0269 Pattern ERG as an objective measure of contrast sensitivity function. Rustum Karanjia^{3,1}, J. J. Tian^{4,3}, K. Anderson^{3,4}, A. G. Irvine⁴, K. L. Lu^{3,4}, S. G. Coupland^{1,2}, A. A. Sadun³. ¹Ophthalmology, University of Ottawa, Ottawa, ON, Canada; ²Ottawa Hospital Research Institute, Ottawa, ON, Canada; ³Ophthalmology, David Geffen School of Medicine at UCLA, Los Angeles, CA; ⁴Doheny Eye Institute, Los Angeles, CA

4881 — B0270 Eye shall return: investigation on double take during free-saccade visual search task. Makoto Miyakoshi¹, S. Makeig¹, A. Diniz-Filho², F. Medeiros². ¹Swartz Center for Computational Neuroscience, University of California San Diego, La Jolla, CA; ²Department of Ophthalmology, Laboratory of Performance and Visual Function, La Jolla, CA *CR

4882 — B0271 The Effect of the Full Field ERG on a Subsequent Multifocal ERG. Wendy W. Harrison, N. Biancardi, J. Langston, R. Gray, T. Kneip, R. Loveless, K. Osmotherly. Optometry, Midwestern Univ Arizona Coll of Optometry, Glendale, AZ

4883 — B0272 Full-field ERG measurements of the photopic negative response recorded under four different conditions in a clinical setting. Radouil T. Tzekov¹, G. Ortiz², C. Hyde². ¹Roskamp Institute, Sarasota, FL; ²Ophthalmology, University of South Florida, Tampa, FL

4884 — B0273 Effect Of Induced Refractive Error On Electroretinograms. Erin G. Sieck, R. Enzenauer, M. Pedler. Ophthalmology, University of Colorado, Denver, CO

4885 — B0274 The late foveal response component in slow flash multifocal electroretinogram: A parametric study. Yoshiaki Shimada. Ophthalmology, Fujita Health Univ Banbuntane Hosp, Nagoya, Japan

4886 — B0275 Electrophysiological Characterization of Macular Telangiectasia Type 2 (MacTel). Mali Okada¹, A. G. Robson^{1,2}, C. A. Egan¹, F. Sallo^{1,2}, S. Degli Esposti¹, T. F. Heeren^{1,3}, G. E. Holder^{1,2}. ¹Moorfields Eye Hospital, London, United Kingdom; ²Institute of Ophthalmology, University College London, London, United Kingdom; ³Department of Ophthalmology, University of Bonn, Bonn, Germany

4887 — B0276 Comparison of ERG responses obtained using a portable device and a conventional recording system. Rotem Kimia¹, R. M. Hansen^{1,2}, A. Moskowitz^{1,2}, A. B. Fulton^{1,2}. ¹Boston Children's Hospital, Boston, MA; ²Harvard Medical School, Boston, MA

4888 — B0277 Modeling the pattern electroretinogram in patients with primary open-angle glaucoma. Kate Godwin¹, B. Mueller², J. B. Soltau², J. Mohay-Ambrus², P. DeMarco¹. ¹Psychological and Brain Sciences, University of Louisville, Louisville, KY; ²Ophthalmology & Visual Science, University of Louisville, Louisville, KY

- 4889 — B0278 Normative parameters for rapid photopic electroretinogram recordings with a hand-held device: results from over 500 subjects.** Talha Soorma^{1,2}, I. Hossain¹, I. Sheriff¹, N. Hassan¹, D. Kozareva³, E. Yonova³, Y. Adelaja³, M. Stanford^{1,3}, K. M. Williams^{1,3}, C. J. Hammond^{1,3}, O. A. Mahroo^{1,4}. ¹Ophthalmology, St. Thomas' Hospital, London, United Kingdom; ²Barts and The London School of Medicine and Dentistry, London, United Kingdom; ³Department of Twin Research and Genetic Epidemiology, King's College London, St Thomas' Hospital Campus, Westminster Bridge Road, London, United Kingdom SE1 7EH, London, United Kingdom; ⁴NIHR Biomedical Research Centre for Ophthalmology at Moorfields Eye Hospital and the UCL Institute of Ophthalmology, 162 City Road, London, United Kingdom EC1V 2PD, London, United Kingdom
- 4890 — B0279 Evaluation of a soft, disposable, burian-ERG lens electrode prototype vs. Burian-Allen lens and DTL fiber electrodes.** Safa Rahmani¹, T. Ban², S. Patangay⁴, J. C. Park³, J. McAnany^{3,4}, J. R. Hetling^{4,3}. ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²RetMap, Inc., Greys Lake, IL; ³Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL; ⁴Bioengineering, University of Illinois at Chicago, Chicago, IL *CR
- 4891 — B0280 Routine Testing of Visual Evoked Potential Asymmetry in Pediatric Patients with Albinism.** Simone L. Li, R. W. Hertle. Ophthalmology, Akron Children's Hospital, Akron, OH
- 4892 — B0281 Electrophysiological Findings in Non Proliferative Sickle Cell Retinopathy according to Hemoglobin type.** Olivia Zambrowski¹, C. Bottin¹, J. Racine², S. Y. Cohen¹, C. JUNG¹, A. Miere¹, E. Souied¹. ¹Ophthalmology, Centre hospitalier intercommunal de Creteil, Creteil, France; ²Ophthalmology, National wide hospital, Columbus, OH
- 4893 — B0282 Head acceleration induced by blast wave exposure leads to abnormal visual evoked potential and electroretinography in rats.** Yanli Zhu, R. Morris, P. Edsall, A. Akers, W. Elliott, B. Lund, J. Cleland. Ocular Trauma and Vision Restoration, US Army Institute of Surgical Research, Fort Sam Houston, TX
- 4894 — B0283 Visual Evoked Potential as a Clinical Tool with Regard to mTBI.** Robert Orsillo. Orsillo Vision Care, Tallahassee, FL; Diopsys Inc, Pine Brook, NJ
- 4895 — B0284 The effect of simulated pendular nystagmus on pattern-reversal and pattern-onset VEPs.** Stuart G. Coupland^{3,82}, L. Kantungane^{3,82}, J. Hamilton^{1,3}, R. Karanjia^{3,82}. ¹New England College of Optometry, Boston, MA; ²Ottawa Hospital Research Institute, Ottawa, ON, Canada; ³University of Ottawa Eye Institute, Ottawa, ON, Canada *CR
- 4896 — B0285 Relative motion loss in high functioning children with Cerebral Visual Impairment (CVI).** Arvind Chandna^{1,2}, A. Norcia³, S. Migas². ¹Smith Kettlewell Eye Research Institute, San Francisco, CA; ²Department of Paediatric Ophthalmology, Alder Hey Children's Hospital, Liverpool, United Kingdom; ³Psychology, Stanford University, Stanford, CA
- 4897 — B0286 Visual evoked potentials measure luminance contrast masked by color noise.** Genevieve Schade¹, K. Brodeur², O. Akinduru², J. dos Santos Freitas³, R. Cruz Salomão⁴, D. Leite Guimarães³, M. E. Fitzgerald^{1,2}, G. S. Souza⁵. ¹Southern College of Optometry, Memphis, TN; ²MHIRT, Christian Brothers University, Memphis, TN; ³Núcleo de Medicina Tropical, Universidade Federal do Pará, Belém, Brazil; ⁴Instituto de Ciências Biológicas, Universidade Federal do Pará, Belém, Brazil; ⁵Núcleo de Medicina Tropical, Instituto de Ciências Biológicas, Universidade Federal do Pará, Belém, Brazil
- 4898 — B0287 Relative genetic and environmental contributions to variations in electroretinogram responses quantified in a twin study.** Mohsin Patel¹, T. Bhatti^{1,2}, A. Tariq¹, T. Shen¹, K. M. Williams^{1,2}, C. J. Hammond^{1,2}, O. A. Mahroo^{1,3}. ¹Ophthalmology, King's College London, London, United Kingdom; ²Twin Research and Genetic Epidemiology, King's College London, London, United Kingdom; ³NIHR BRC for Ophthalmology, Moorfields Eye Hospital and UCL Institute of Ophthalmology, London, United Kingdom *CR
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- Exhibit/Poster Hall B0317-B0337
Wednesday, May 10, 2017 3:45 PM-5:30 PM
Biochemistry/Molecular Biology
- 483 Glaucoma: Biochemical and molecular disease mechanisms**
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- Moderator: Markus H. Kuehn**
- 4899 — B0317 Correlations between cytokine levels in aqueous humor, disease duration and intraocular pressure in acute angle closure glaucoma attack.** Tomohito Sato¹, M. Takeuchi¹, Y. Karasawa¹, T. Kanda¹, M. Ito², T. Enoki³. ¹Ophthalmology, National Defense Medical College, Tokorozawa, Japan; ²Developmental Anatomy and Regenerative Biology, National Defense Medical College, Tokorozawa, Japan; ³ENOKI EYE CLINIC, Sayama, Japan
- 4900 — B0318 Identification and characterization of variants and a novel 4bp deletion in the regulatory region of SIX6, a risk factor for Primary Open Angle Glaucoma.** MOHD H. SHAH¹, N. Tabanera^{2,3}, S. R. Krishnadas⁴, M. Pillai⁴, P. Bovolenta^{2,3}, P. Sundaresan¹. ¹Molecular Genetics, Aravind Medical Research Foundation, Madurai, India; ²Developmental biology, Centro de Biología Molecular Severo Ochoa, CSIC-UAM, Madrid, Spain; ³CIBERER, ISCIII, Madrid, Spain; ⁴Glaucoma Clinic, Aravind Eye Hospital, Madurai, India
- 4901 — B0319 Aqueous humor biomarker of oxidative damage and antioxidant status: Correlations with oxygen and racial differences.** Carla J. Siegfried¹, Y. Shui¹, Y. Liu¹, A. J. Huang¹, P. L. Kaufman². ¹Ophthalmology and Visual Sciences, Washington University School of Medicine, St Louis, MO; ²Ophthalmology and Visual Sciences, University of Wisconsin School of Medicine and Public Health, Madison, WI
- 4902 — B0320 Dysregulated expression of POMP and TMEM136 may contribute to impaired proteasome function and endothelial dysfunction in eyes with pseudoexfoliation syndrome/glaucoma.** Matthias Zenkel¹, U. Schlotzer-Schrehard¹, D. Berner¹, F. E. Kruse¹, A. Reis², C. Khor⁴, T. Aung³, F. Pasutto². ¹Department of Ophthalmology, University Erlangen Nuernberg, Erlangen, Germany; ²Institute of Human Genetics, University Erlangen Nuernberg, Erlangen, Germany; ³Singapore National Eye Center, Singapore, Singapore; ⁴Genome Institute of Singapore, Singapore, Singapore
- 4903 — B0321 Synergistic protection from high pressure-induced injury by allopregnanolone and 24(S)-hydroxycholesterol in the ex vivo rat retina.** Makoto Ishikawa¹, T. Yoshitomi¹, C. F. Zorunski², Y. Izumi². ¹Ophthalmology, Akita Univ School of Medicine, Akita, Japan; ²Psychiatry, Washington University School of Medicine, St. Louis, MO *CR
- 4904 — B0322 A bioinformatics approach to identify molecular pathways that characterize the trabecular meshwork.** Ilona Liesenborghs^{1,2}, C. Webers¹, L. Eijssen³, M. Kutmon^{2,3}, T. G. Gorgels¹, W. Hubens¹, C. Evelo^{3,82}, H. J. Beckers¹, J. Schouten¹. ¹University Eye Clinic Maastricht, Maastricht University Medical Centre+, Maastricht, Netherlands; ²Maastricht Centre for Systems Biology (MaCSBio), Maastricht University, Maastricht, Netherlands; ³Department of Bioinformatics, BiGCaT, Maastricht University, Maastricht, Netherlands
- 4905 — B0323 Explore Potential Biomarkers for Retina Ganglion Cell Loss.** YUAN LIU, R. Cheng He, M. Tapia, R. K. Lee. Ophthalmology, Bascom Palmer, Miami, FL

4906 — B0324 Molecular architecture of myocilin and structural defects imparted by non-synonymous mutations in its coiled coil domain. Raquel L. Lieberman, S. E. Hill, E. Nguyen, R. K. Donegan. School of Chemistry & Biochemistry, Georgia Institute of Technology, Atlanta, GA

4907 — B0325 Structural properties of meningotheial cells in the retrobulbar, mid-orbital and intracanalicular sections of the optic nerve arachnoid mater. Nauke Zeleny¹, C. Kohler², A. Neutzner³, H. E. Killer¹, P. Meyer³. ¹Department of Ophthalmology, Kantonsspital Aarau, Aarau, Switzerland; ²Department for Biomedicine, Ocular Pharmacology and Physiology, University Hospital Basel, Basel, Switzerland; ³Department of Ophthalmology, University Hospital Basel, Basel, Switzerland

4908 — B0326 Stabilization Of Prdx6 Activity By Targeted Mutation Of Sumoylation Sites Protects Trabecular Meshwork Cells From Oxidative Damage. Dhirendra P. Singh¹, B. Chhunchha¹, P. Singh¹, W. Stamer², E. Kubo³. ¹Ophthalmology and Visual Sciences, Univ of Neb Med Center, Omaha, NE; ²Ophthalmology, Duke Eye Center, Duke University, Durham, NC; ³Ophthalmology, Kanazawa Medical University, Kanazawa, Japan

4909 — B0327 Alternative splicing and nonsense-mediated mRNA decay contribute to regulation of LOXL1 expression in response to cellular stress in pseudoexfoliation. Daniel Berner¹, M. Zenkel¹, F. Pasutto², J. Schödel³, A. Reis², F. E. Kruse¹, U. Schlotzer-Schrehardt¹. ¹Department of Ophthalmology, University of Erlangen-Nürnberg, Erlangen, Germany; ²Institute of Human Genetics, University of Erlangen-Nürnberg, Erlangen, Germany; ³Department of Nephrology and Hypertension, University of Erlangen-Nürnberg, Erlangen, Germany

4910 — B0328 Proteomics Analysis of LOXL1-containing Exosomes Secreted by Len Epithelial Cells. Jingwen Cai, M. L. Khaled, Y. Liu. Cellular Biology and Anatomy, Augusta University, Augusta, GA

4911 — B0329 Evaluation of the potential of iPSCs as a tool to study Pseudoexfoliation Syndrome. Coralia C. Luna, M. Parker, P. Challa, P. Gonzalez. Ophthalmology, Duke University, Durham, NC

4912 — B0330 Expression of Acid-Sensing Ion Channels in Optic Nerve Astrocytes. Tara Tovar-Vidales¹, Y. Liu¹, E. B. Gonzales², A. F. Clark¹. ¹NIH, University of North Texas Hlth Sci Ctr, Fort Worth, TX; ²Center for Neuroscience Discovery, Institute for Healthy Aging, University of North Texas Hlth Sci Ctr, Fort Worth, TX *CR

4913 — B0331 TXNRD2 and CDKN2B-AS1 gene polymorphisms in patients with Primary Open-Angle Glaucoma. Artur L. Tenório^{1,2}, R. F. do Carmo¹, R. P. Lira², R. P. Galvao Filho¹, P. T. Falcão Neto¹, R. T. Vaz⁶, W. L. Barbosa Junior³, L. D. e Silva³, R. E. de Lima³, A. L. Tenório⁵, C. M. Figueiroa⁵, I. C. de Macedo⁵, J. N. Monteiro⁵, G. H. Melo⁵, V. C. Lima⁵, L. R. Vasconcelos³. ¹Recife Eye Institute, Recife, Brazil; ²Ophthalmology, Federal University of Pernambuco, Recife, Brazil; ³Reserch Center Ageu Magalhães, Recife, Brazil; ⁴Federal University of São Francisco Valley, Petrolina, Brazil; ⁵University of Pernambuco, Recife, Brazil; ⁶Santa Luzia Eye Hospital, Recife, Brazil

4914 — B0332 Differential purification of retinal ganglion cells from human induced pluripotent stem cell derived 3D retinal organoids. Wataru Kobayashi^{1,2}, A. Onishi¹, S. Sugita¹, K. Iseki¹, Y. Takihara³, M. Inatani³, T. Nakazawa², M. Takahashi¹. ¹Retinal regeneration, RIKEN Center for developmental biology, Kobe, Japan; ²Department of Ophthalmology, Tohoku University, Sendai, Japan; ³Department of Ophthalmology, Faculty of Medical Science, University of Fukui, Fukui, Japan

4915 — B0333 MiR-214-3p/GUCA1A axis contributes to the development of glaucoma in a mouse model? Lu Lu¹, Q. Gu², B. Jones¹, R. Williams¹, J. Yue². ¹Department of Genetics, Genomics, and Informatics, University of Tennessee Health Science Center, Memphis, TN; ²Department of Pathology, University of Tennessee Health Science Center, Memphis, TN

4916 — B0334 Genome-wide transcriptome profiling of human trabecular meshwork cells treated with TGFβ-2. Colin E. Willoughby^{1,2}, K. Lester¹, K. Whysall³, A. Choudhary^{2,1}, K. J. Hamill¹, C. Sheridan¹. ¹Dept of Eye and Vision Science, University of Liverpool, Liverpool, United Kingdom; ²St. Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom; ³Institute of Ageing and Chronic Disease, University of Liverpool, Liverpool, United Kingdom

4917 — B0335 Angiotensin II type 1 receptor blockers lower IOP in mice and reduce TGFβ signaling in retinal ganglion cells. Ralph J. Hazlewood, J. Kuchtey, R. W. Kuchtey. Ophthalmology and Visual Sciences, Vanderbilt University Medical Center, Nashville, TN

4918 — B0336 Expression of fibrotic and inflammation markers in the human glaucomatous optic nerve head. Oliver W. Gramlich^{1,2}, D. F. Ahrum¹, M. H. Kuehn^{1,2}. ¹Dept. of Ophthalmology & Visual Sciences, The University of Iowa, Iowa City, IA; ²Center for the Prevention and Treatment of Visual Loss, Iowa City VA Health Care, Iowa City, IA

4919 — B0337 Characterization of the RNA-binding protein Rbfox1 in the Mouse Retina. Lei Gu, J. Caprioli, N. Piri. Ophthalmology, University of California Los Angeles, Los Angeles, CA

Exhibit/Poster Hall B0338-B0392

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Glaucoma

484 Surgery and Wound Healing

4920 — B0338 Ocular Hypotensive Medication Use in Patients Undergoing Combined Cataract Surgery and Supraciliary Micro-Stent Implantation for Open-Angle Glaucoma. Theresa Landry, G. Clasby. Alcon Research, Ltd, Fort Worth, TX *CR, f

4921 — B0339 Use of AT LISA tri 839MP in glaucoma suspect and mild glaucoma patients. Pre and postsurgical analysis of visual acuity, visual fields, and nerve fiber layer with OCT. Luis Daniel Garcia Arzate, A. Garcés Valencia, M. Escalante, J. Jimenez-Roman, R. Castañeda Diez. Asociación para Evitar la Ceguera, DF, Mexico

4922 — B0340 Association between intravitreal TriMoxi and IOP outcomes in microincisional glaucoma/ataract surgery. Samantha Ayoub¹, N. Tracer¹, D. Alvarez², N. M. Radcliffe¹. ¹Ophthalmology, New York University School of Medicine, NYC, NY; ²Asociación Para Evitar la Ceguera en México, IAP, Mexico City, Mexico *CR

4923 — B0341 Vision Blue for the Assessment of Filtering Bleb Functioning During Cataract Surgery. Arjun S. Patel¹, E. S. Yung², K. Rahmatenejad², M. R. Moster MD². ¹Sidney Kimmel Medical College, PHILADELPHIA, PA; ²Glaucoma Research, Wills Eye Hospital, Philadelphia, PA

4924 — B0342 Complications of Lens Extraction with Intraocular Lens Placement in Patients with Primary Angle Closure Spectrum Disease. spencer hayes², L. baker¹, A. Chuang², L. S. Blieden^{2,1}, R. M. Feldman^{2,1}, N. P. Bell^{2,1}. ¹Robert Cizik Eye Clinic, Houston, TX; ²Ruiz Department of Ophthalmology and Visual Science, McGovern Medical School at The University of Texas Health Science Center at Houston, Houston, TX

4925 — B0343 Outcomes of Phacoemulsification Vs Combined Phacoemulsification and iStent Implant in Glaucomatous Eyes. Kevin Lodewyk, N. Nassiri, C. Kim, A. Goyal, J. Tannir, A. Shukairy, M. S. Juzych, B. A. Hughes. Kresge Eye Institute, Detroit, MI

4926 — B0344 The implications of an ab interno vs. ab externo surgical approach on intraocular pressure (IOP) control. Richard M. Lee^{1,2}, Y. Bouremel^{1,3}, I. Eames^{1,3}, S. Brocchini^{1,2}, P. T. Khaw¹. ¹ORBIT, Institute of Ophthalmology, London, United Kingdom; ²UCL School of Pharmacy, London, United Kingdom; ³UCL Department of Mechanical Engineering, London, United Kingdom

- 4927 — B0345 Comparison of Outcomes Between Kahook Dual Blade and VISCO360 in the Treatment of Primary Open-Angle Glaucoma.** Nathaniel Tracer¹, S. Ayoub¹, D. Alvarez², N. M. Radcliffe¹. ¹Ophthalmology, New York University School of Medicine, New York, NY; ²Asociación Para Evitar la Ceguera en México, IAP, Mexico City, Mexico *CR
- 4928 — B0346 Reduction of Intraocular Pressure after Use of a Novel Goniotomy Blade Combined with Phacoemulsification.** Khaled A. Bahjri¹, S. A. Abdullah¹, M. C. Jasek², N. M. Radcliffe³, J. Jimenez-Roman⁴, G. S. Lazcano⁴, L. K. Seibold⁵, J. P. Berdahl⁶, J. K. Darlington⁷, S. K. Dorairaj⁸, A. A. Aref⁹. ¹R & D, New World Medical, Inc., Rancho Cucamonga, CA; ²B Through C, LLC, Burleson, TX; ³New York Eye Surgey Center, New York, NY; ⁴APEC, Mexico City, Mexico; ⁵University of Colorado, Denver, CO; ⁶Vance Thompson Vision, San Diego, CA; ⁷The Eye Institute, Melbourne, FL; ⁸Mayo Clinic, Jacksonville, FL; ⁹University of Illinois, Chicago, IL *CR
- 4929 — B0347 Rapid learning curve assessment in an ex vivo training system for microincisional glaucoma surgery.** CHAO WANG^{1,4}, Y. Dang¹, S. Waxman¹, H. Parikh¹, I. I. Bussell¹, R. Loewen¹, X. Xia², K. L. Lathrop¹, R. A. Bilonick^{1,3}, N. Loewen¹. ¹Department of Ophthalmology, School of Medicine, University of Pittsburgh, Pittsburgh, PA; ²Department of Ophthalmology, Xiangya Hospital of Central South University, Changsha, China; ³Biostatistics, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA; ⁴Xiangya School of Medicine, Central South University, Changsha, China
- 4930 — B0348 Development and characterization of a nano-structured glaucoma shunt.** Kunal S. Parikh^{1,2}, A. Josyula^{1,3}, J. Ahn^{1,2}, R. Omiadze^{1,4}, L. M. Ensign^{1,4}, A. K. Bicket⁴, J. Hanes^{1,4}, I. Pitha^{1,4}. ¹Center for Nanomedicine, Johns Hopkins University School of Medicine, Baltimore, MD; ²Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD; ³Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD; ⁴Ophthalmology, Johns Hopkins University School of Medicine, Baltimore, MD *CR
- 4931 — B0349 Thermal Sclerostomy Outcomes in a Retrospective Cohort.** Nathan W. Liles, S. Wang, J. D. Stein, P. Lichter. Ophthalmology, University of Michigan, Ypsilanti, MI
- 4932 — B0350 One year safety and endothelial cell count results of a prospective and randomized comparison of Ex-Press Vs Deep Sclerectomy combined surgery in glaucoma patients.** MARCOS R. MUNOZ¹, A. Anton-Lopez^{1,2}, J. Urceley³, F. Muñoz-Negrete⁴, G. Alfonso⁵, A. Martinez⁵, M. Castany⁶, G. Fatt², J. Moreno-Montanes⁷. ¹Glaucoma, Institut Catala Retina, Barcelona, Spain; ²Parc de Salut Mar, Barcelona, Spain; ³Hospital Gregorio Marañón, Madrid, Spain; ⁴Hospital Ramon y Cajal, Madrid, Spain; ⁵Hospital San Eloy, Bilbao, Spain; ⁶Hospital Vall d Hebron, Barcelona, Spain; ⁷Clinica Universitaria de Navarra, Pamplona, Spain *CR, x
- 4933 — B0351 Rates of visual field loss before and after non penetrating deep sclerectomy in chronic mild or moderate glaucoma.** Luis A. Pareja Aricó¹, M. I. Canut^{1,2}, F. Ruiz Tolosa^{1,2}, R. Michael¹. ¹Institut Universitari Barraquer, Universitat Autònoma de Barcelona, Barcelona, Spain; ²Centro de Oftalmología Barraquer, Universitat Internacional de Catalunya, Barcelona, Spain
- 4934 — B0352 Outcomes of 360-degree suture trabeculectomy with deep sclerectomy.** Yuta Kitamura, S. Yamamoto, S. Shirato. Chiba university, Chiba, Japan
- 4935 — B0353 The West London View on Phaco-iStent versus Phaco Alone.** Meena Arunakirinathan^{1,2}, D. Sibley^{1,2}, E. M. Normando¹, F. Ahmed¹. ¹Western Eye Hospital, Imperial College Healthcare NHS Trust, London, United Kingdom; ²Moorfields Eye Hospital, London, United Kingdom
- 4936 — B0354 Performance of a new ab interno gelatin stent in refractory glaucoma and 18-month safety results.** Davinder S. Grover¹, W. J. Flynn², K. P. Bashford³, A. Sheybani⁴, Y. Duh⁵, B. Niksch⁶. ¹Glaucoma Associates of Texas, Dallas, TX; ²Rashid Rice & Flynn Eye Associates, San Antonio, TX; ³Eye Center of Northern Colorado, Fort Collins, CO; ⁴Washington University School of Medicine, St. Louis, MO; ⁵StatServe Consulting Inc., Chino Hills, CA; ⁶Allergan plc, Irvine, CA *CR, x
- 4937 — B0355 Surgeon Perspectives and Learning Curve with an Ab-Interno Gelatin Microstent.** Gokulan Ratnarajan^{1,2}, A. Szigiató¹, S. Sandhu³, M. Dorey³, I. Ahmad¹. ¹University of Toronto, Chalfont St Peter, United Kingdom; ²Ophthalmology, Queen Victoria Hospital, East Grinstead, United Kingdom; ³Royal Alexandra Hospital, Edmonton, AB, Canada
- 4938 — B0356 Outcomes of resident-performed trabeculectomies with combined cataract surgery.** Benjamin T. Whigham¹, A. Aziz¹, W. Hou², I. Dersu¹. ¹Department of Ophthalmology, SUNY Downstate School of Medicine, Brooklyn, NY; ²Department of Family, Population and Preventive Medicine, Stony Brook University, Stony Brook, NY
- 4939 — B0357 Surgical Traceculectomy Training - Are we safe at supervising?** Hayun Lee¹, N. Anand¹, D. C. Broadway⁶, J. Huxtable¹, A. King⁷, J. Kirwan⁶, A. MacLeod⁵, A. I. McNaught³, S. Naylor¹, M. Senior¹, P. Shah², F. Sii², S. Turner³, A. Walkden¹, A. Bhargava¹. ¹Lancashire Teaching Hospital NHS Trust, Preston, United Kingdom; ²University Hospital Birmingham NHS Foundation Trust, Birmingham, United Kingdom; ³Gloucestershire Hospitals NHS Foundation Trust, Cheltenham, United Kingdom; ⁴Calderdale & Huddersfield NHS Foundation Trust, Huddersfield, United Kingdom; ⁵Southampton General Hospital, Hampshire, United Kingdom; ⁶Norfolk and Norwich University Hospital NHS Foundation Trust, Norwich, United Kingdom; ⁷Nottingham University Hospital, Nottingham, United Kingdom
- 4940 — B0358 Surgical outcome of trabeculectomy with phakia, pseudophakia, and phaco trabeculectomy for open-angle glaucoma - Utilizing the data from the Collaborative Bleb-Related Infection Incidence and Treatment Study.** Yuji Yamamoto⁵, K. Mori³, I. Yokota², K. Yoshii³, Y. Ikeda⁵, M. Ueno⁵, K. Imai¹, S. Teramukai², S. Kinoshita⁴, C. Sotozono³. ¹Medical Innovation and Translational Medical Science, Kyoto Prefectural University of Medicine, Kawaramachi Kamigyoku Kyoto, Japan; ²Biostatistics, Kyoto Prefectural University of Medicine, Kyoto, Japan; ³Mathematics and Statistics in Medical Sciences, Kyoto prefectural university of Medicine, Kyoto, Japan; ⁴Frontier Medical Science and Technology for Ophthalmology, Kyoto prefectural university of Medicine, Kyoto, Japan; ⁵Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto, Japan
- 4941 — B0359 Transconjunctival Suturing of the Scleral Flap to Treat Persistent Hypotony after Antimetabolite Supplemented Trabeculectomy. One-Year Results on Efficacy and Safety.** Yesenia Y. Dorantes Diez¹, J. A. Paczka^{1,2}, M. Romo Sainz¹, L. A. Giorgi Sandoval^{3,8,2}, K. Aguilera Ruiz⁴. ¹Universidad de Guadalajara, Jalisco, Mexico; ²Research and development, Unidad de Diagnóstico Temprano del Glaucoma, Guadalajara, Mexico; ³Research and development, Asistencia e Investigación en Glaucoma, Guadalajara, Mexico; ⁴Oftalmología, Instituto Mexicano del Seguro Social, Guadalajara, Mexico
- 4942 — B0360 Needling procedures following trabeculectomy - predictive factors and a retrospective study of outcomes.** Toby Al-Mugheiry¹, J. Than¹, J. Gale^{1,2}, K. R. Martin¹. ¹Cambridge University, Cambridge, United Kingdom; ²University of Otago, Wellington, New Zealand

4943 — B0361 Antimetabolite augmented slit-lamp needling for the management of post-trabeculectomy failing bleb. *Montserrat Romo Sainz¹, J. A. Paczka^{1,4}, Y. Y. Dorantes Diez¹, L. A. Giorgi Sandoval⁴, M. M. Gonzalez Lomeli⁴, K. Aguilera Ruiz², A. Orozco Garcia³.* ¹Instituto de Oftalmología y Ciencias Visuales, Universidad de Guadalajara, Guadalajara, Mexico; ²Oftalmología, Instituto Mexicano del Seguro Social, Guadalajara, Mexico; ³Oftalmología, Antiguo Hospital Civil de Guadalajara, Guadalajara, Mexico; ⁴Research & Development, Unidad de Diagnóstico Temprano del Glaucoma, Guadalajara, Mexico

4944 — B0362 Is bleb needling after failed trabeculectomy a procedure worth considering? 5 year outcome with a standardized technique. *Corrado Gizzi^{1,2}, J. Mohamed-Noriega^{1,3}, W. Nolan¹, T. Ho¹, D. Garway-Heath¹.* ¹NIHR Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ²DIBINEM, University of Bologna, Bologna, Italy; ³Departamento de Oftalmología, Hospital Universitario, UANL, Monterrey, Mexico *CR

4945 — B0363 Long-term postoperative outcome of trabeculectomy and trabeculectomy. *wenjun bao, H. Huang, K. Kawase, A. Sawada, T. Yamamoto.* Gifu University Graduate school of Medicine, Gifu, Japan

4946 — B0364 Clinical characteristics of autosomal recessive bestrophinopathy (ARB) with angle-closure glaucoma (ACG) and surgical outcomes of trabeculectomy and iridotomy. *Xing Liu, J. Luo, Y. Zhong, H. Xiao.* Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

4947 — B0365 Dexamethasone nanoparticle eye drops to replace Mitomycin C as postoperative treatment following trabeculectomy. *Einar Stefansson¹, G. Johannesson², G. M. Asgrimsdottir³, T. Loftsson⁴, M. S. Gottfredsdottir¹.* ¹Ophthalmology, University of Iceland, Reykjavik, Iceland; ²Department of Clinical Science, Ophthalmology, Umeå University, Umeå, Sweden; ³Oculis, Reykjavik, Iceland; ⁴School of Health Sciences, University of Iceland, Reykjavik, Iceland *CR, ✕

4948 — B0366 Antifibrotic effect of rapamycin, an inhibitor of mTOR pathway, on the TGF-β2 induced proliferation of human tenon fibroblasts. *Shaodan Zhang, L. Du, D. Wu, C. Liu, H. Wang.* Department of Ophthalmology, The Fourth People's Hospital of Shenyang, Shenyang, China

4949 — B0367 Blockade of Kca3.1: A Novel Therapeutic Target To Treat TGF-β1 Induced Fibrosis Associated With Glaucoma Filtration Surgery. *govindaraj anumanthan^{1,2}, P. J. Wilson³, T. Ratnakar^{1,2}, S. Gupta^{1,2}, N. P. Hesemann^{2,3}, E. A. Giuliano¹, R. R. Mohan^{1,2}.* ¹Dept. of Vet. Medicine and Surgery, University of Missouri, Columbia, MO; ²Harry S. Truman Memorial Veteran Hospital, Columbia, MO; ³Mason Eye Institute, School of Medicine, Columbia, MO

4950 — B0368 A single dose of layer-by-layer nanoparticles prolongs endogenous gene silencing for the treatment of fibrosis. *Yang Fei Tan¹, L. Seet², S. S. Venkatraman¹, T. T. Wong².* ¹School of Material Science & Engineering, Nanyang Technological University, Singapore, Singapore; ²Singapore Eye Research Institute, Singapore, Singapore

4951 — B0369 A Novel Flexible Microfluidic Meshwork to Reduce Fibrosis in Glaucoma Surgery. *Behzad Amoozgar¹, X. Wei², J. Lee¹, M. Bloomer¹, Z. Zhao², P. Coh¹, F. He², L. Luan³, C. Xie², Y. Han¹.* ¹Ophthalmology, University of California, San Francisco, San Francisco, CA; ²Department of Biomedical Engineering, The University of Texas at Austin, Austin, TX; ³Department of Physics, College of Natural Sciences, The University of Texas at Austin, Austin, TX

4952 — B0370 Would healing modulation in glaucoma surgery: an experimental study. *Hayana Rangel^{1,2}, H. Rolim¹, I. Duval de Araujo¹, P. Vidigal¹, S. Cronemberger¹.* ¹Federal University of Minas Gerais, Brazil, Belo Horizonte, Brazil; ²Santa Luzia Eye's Hospital, Recife, Brazil

4953 — B0371 Comparison of surgical outcomes of trabeculectomy, Ahmed shunt, and Baerveldt shunt in uveitic glaucoma. *Audrey Chow, B. Burkemper, R. Varma, D. C. Rodger, N. A. Rao, G. M. Richter.* Keck School of Medicine at the University of Southern California, Pasadena, CA *CR

4954 — B0372 Treatment Outcomes and Post-Operative Complications of Trabeculectomy and Glaucoma Drainage Device Surgery by Age. *Michael Abendroth^{1,3}, G. Papachristou¹, E. Lehman², C. Callahan¹.* ¹Penn State Hershey Eye Center, Penn State College of Medicine, Hershey, PA; ²Department of Public Health Sciences, Penn State College of Medicine, Hershey, PA; ³MacNeal Hospital, Berwyn, IL

4955 — B0373 First day postoperative evaluation after Ahmed Valve implant surgery. *Daniela Sánchez-Pereda.* Ophthalmology, Hospital Nuestra Señora de La Luz, Mexico, Mexico

4956 — B0374 What are the risk factors for failure of the first glaucoma drainage implant surgery? *Satoshi Watanabe¹, K. Kobayashi², T. Sakurai⁴, N. Ishida³, N. Ebihara⁴, T. Hamanaka².* ¹Ophthalmology, Juntendo urayasu hospital, Urayasu, Japan; ²Japanese Red Cross Medical Center, Shibuya-ku, Japan; ³Ishida eye clinic, Joetsu, Japan; ⁴Tokyo University of Science, Suwa, Chino, Japan

4957 — B0375 Magnetic Resonance Imaging in Eyes with Baerveldt Glaucoma Implants. *Kentaro Iwasaki¹, M. Kanamoto², Y. Takihara¹, S. Arimura¹, Y. Takamura¹, H. Kimura³, M. Inatani¹.* ¹Department of Ophthalmology, University of Fukui, Yoshida, Fukui, Japan; ²Radiological Center, University of Fukui Hospital, Fukui, Japan; ³Department of Radiology, University of Fukui, Fukui, Japan *CR

4958 — B0376 The occurrence of diplopia and its correlation with motility changes after Baerveldt implantation. *Esma Islamaj¹, C. Jordaan¹, K. A. Vermeer¹, P. T. de Waard², H. G. Lemij².* ¹Rotterdam Ophthalmic Institute, Rotterdam, Netherlands; ²Glaucoma, Rotterdam Eye Hospital, Rotterdam, Netherlands ✕

4959 — B0377 Outcomes of Ahmed Tube Implantation in Asian Eyes. *Jessica Choo¹, D. Chen², V. T. Koh², S. Liang³, M. D. Aquino², J. Aduan², C. Sng², P. Chew².* ¹Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore; ²Ophthalmology, National University Hospital, Singapore, Singapore; ³Biostatistics, National University Health System, Singapore, Singapore

4960 — B0378 Patterns of Tube Shunt Scleral Graft Melt. *Priyal Shah, T. Xia, A. S. Khouri.* Ophthalmology and Visual Science, Rutgers New Jersey Medical School, Chatham, NJ

4961 — B0379 Long-term clinical outcomes of pars plana (PP) versus anterior chamber (AC) placement of glaucoma tube implants. *Vivian Qin¹, M. A. Kaleem², E. J. Rockwood², A. Singh², S. Sood-Mendiratta², J. E. Sears², S. Trace², F. Q. Silva², J. Eisengart², R. P. Singh².* ¹Case Western Reserve University School of Medicine, Cleveland Heights, OH; ²Cleveland Clinic Cole Eye Institute, Cleveland, OH; ³University of Maryland School of Medicine, Baltimore, MD *CR

4962 — B0380 Comparison of tube implants versus trabeculectomy surgery outcomes among Medicare beneficiaries in the treatment of glaucoma. *Taylor Jones¹, S. Johnson².* ¹University of Virginia School of Medicine, Charlottesville, VA; ²Ophthalmology, University of Virginia Health System, Charlottesville, VA

4963 — B0381 Visual and Intraocular Pressure Outcomes of Combined Phacoemulsification and Ahmed Valve Implantation. *Kyle A. Den Beste, F. Gross.* Ophthalmology, Eastern Virginia Medical School, Norfolk, VA

4964 — B0382 Optimization of Stent Diameter for Use with Baerveldt Glaucoma Implants: a Laboratory Study. *Mark Disclafani.* Ophthalmology, University of South Florida, Treasure Island, FL

4965 — B0383 Outcomes of Tube Shunt Surgery By Fellows in Training. *Victor L. Quan¹, D. Liu¹, N. Khan¹, A. P. Tanna¹, L. Rosenberg².* ¹Department of Ophthalmology, Northwestern University, Chicago, IL; ²University Eye Specialists, Chicago, IL

4966 — B0384 Factors Affecting Conjunctival Erosion Following Ahmed Valve Implantation. *Xiao Yi Zhou, N. Nassiri, D. Zhou, C. Kim, J. Tannir, A. Goyal, S. Aman, M. S. Juzych, B. A. Hughes.* Kresge Eye Institute, Wayne State University School of Medicine, Detroit, MI

4967 — B0385 Dynamics of Ahmed Glaucoma Valve® in vitro. Ashutosh Richhariya¹, S. Vallabh Badakere², N. Choudhari², S. Chittajallu¹, S. Senthil², C. Garudadri². ¹Institute of Translational Research Engg and Advancement of Technology, L. V. Prasad Eye Institute, Hyderabad, India; ²VST Glaucoma Centre, L. V. Prasad Eye Institute, Hyderabad, India

4968 — B0386 Long-Term Outcome of Combined Implantation of Ahmed Valve Shunt and Intravitreal Flucinolone Acetonide in Uveitic Glaucoma. Jason Horowitz, N. Nassiri, C. Kim, J. Tannir, A. Goyal, S. Aman, M. S. Juzych, B. A. Hughes. Wayne State University School of Medicine, Detroit, MI

4969 — B0387 Glaucoma drainage device and trabeculectomy surgery is associated with a higher rate of post-operative blepharoptosis compared to cataract extraction in a prospective cohort. Gavin W. Roddy², C. Feng², Z. Bingying², J. Bajric^{1,2}, C. Khanna². ¹Ophthalmology, Medical College of Wisconsin, Milwaukee, WI; ²Ophthalmology, Mayo Clinic, Rochester, MN

4970 — B0388 Pilot Study Assessing the Use of High-Density Polyethylene (Su-Por®) for Tube Shunt Patch Grafts. Benjamin D. Abramowitz, M. Moster, M. Pro, C. Schmidt, E. Dale, E. S. Yung, A. Williams. Glaucoma, Wills Eye Hospital, Washington, DC

4971 — B0389 Trabeculectomy can be Successful after Glaucoma Drainage Device surgery. Reza Alizadeh¹, H. AKIL², J. C. Tan², S. K. Law¹, J. Caprioli¹. ¹Glaucoma, Jules Stein Eye Institute, UCLA, Los Angeles, CA; ²Doheny eye institute, Los Angeles, CA

4972 — B0390 Long-Term Outcome of Second Ahmed Valves in Glaucoma. Nucharee Parivisutt, R. Alizadeh, G. ang, E. Morales, N. Fatehi, J. Caprioli. Glaucoma, Jules Stein Eye Institute, Los Angeles, CA

4973 — B0391 Long-term postoperative outcome for childhood glaucoma. HAILONG HUANG, W. bao, K. Kawase, T. Yamamoto. Gifu University Graduate school of Medicine, Gifu, China

4974 — B0392 The lymphatic vessel repair after filtration surgery in mouse. Toshimitsu Kasuga, Y. Asada, S. Iwamoto, T. Hirakata, A. Matsuda. Department of Ophthalmology, Juntendo University Graduate School of Medicine, Tokyo, Japan

Exhibit/Poster Hall B0393-B0417

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Glaucoma

485 Laser Therapy and MIGS

Moderators: Carol B. Toris and Anne Coleman

4975 — B0393 Clinical outcomes of selective laser trabeculectomy in Korean eyes with uncontrolled pseudoexfoliation glaucoma. Su Chan Lee. Department of Ophthalmology, HanGil Eye Hospital, Incheon, Korea (the Republic of)

4976 — B0394 Effect of Increasing Shot Number in Micropulse Laser Trabeculectomy (MLT) for Open Angle Glaucoma. Kunjal K. Modi¹, S. M. Walsman^{1,2}. ¹Ophthalmology, Rutgers-New Jersey Medical School, Livingston, NJ; ²Hudson Eye Physicians and Surgeons, Jersey City, NJ

4977 — B0395 Outcomes of Resident-Performed Laser Peripheral Iridotomy on African-American Patients with Anatomical Narrow Angles. Charles D. McCanna, F. Cao, I. Dersu. Department of Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY

4978 — B0396 Persistence Of Appositional Angle Closure After Laser Peripheral Iridotomy In Hispanic Primary Angle Closure Suspects. Fernando F. Gomez Goyeneche^{1,2}, P. Hernandez^{1,2}. ¹Ophthalmology, Diagnostico Ocular del Country, Bogota, Colombia; ²Ophthalmology, Universidad Militar Nueva Granada, Bogota, Colombia

4979 — B0397 Comparison of intraocular pressure reduction after Argon Laser Peripheral Iridoplasty and combined Argon Laser Peripheral Iridoplasty with Selective Laser Trabeculectomy in white patients. Johanna Orphal, K. R. Pillunat, E. Spoerl, L. E. Pillunat. Department of Ophthalmology, University of Dresden, Dresden, Germany ✂

4980 — B0398 Comparison of Ocular Sensation in Right vs. Left Eyes Undergoing Glaucoma Laser Surgery. David B. Kay¹, R. Kay², J. Kay². ¹Ophthalmology, University of Texas Health Science Center at San Antonio, San Antonio, TX; ²University of Arizona, Tucson, AZ

4981 — B0399 iStent Outcomes in Pseudoexfoliative Glaucoma. Geraldine R. Slean, S. So, G. Tanaka. Ophthalmology, CPMC, San Francisco, CA *CR

4982 — B0400 Resident outcomes of trabecular micro-bypass stent placement surgery after a targeted surgical curriculum. Nitasha Gupta, K. Riaz. Ophthalmology and Visual Science, The University of Chicago, Chicago, IL

4983 — B0401 Implantation of trabecular micro-bypass stent (iStent) using a novel “landing strip” technique. Cindy X. Zheng, M. Waisbourd, P. Gogte, Y. Dai, R. Manzi Muhire, M. Moster. Glaucoma Research, Wills Eye Hospital, Philadelphia, PA

4984 — B0402 Safety and efficacy of suprachoroidal stent implantation in patients with primary angle closure/primary angle closure glaucoma. Oi Man Mandy Wong^{1,2}, C. K. Leung². ¹Ophthalmology, Hong Kong Eye Hospital, Hong Kong, Hong Kong; ²Department of Ophthalmology & Visual Sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong *CR

4985 — B0403 Combined Cataract Surgery and Supraciliary Micro-Stent Implantation for Open-Angle Glaucoma: BCVA Outcomes from the COMPASS Trial. Mat Rashidi, T. Landry. Alcon Research, Ltd, Fort Worth, TX *CR, ✂

4986 — B0404 Xen Gel Stent: efficacy, safety and filtering bleb analysis at one year. Carlo Alessandro Lavia, R. Spinetta, G. Consolandi, G. Pignata, P. Cannizzo, V. Aragno, A. Fea. Dipartimento di Scienze Chirurgiche, Clinica Oculistica Universitaria, Turin, Italy

4987 — B0405 One year results of the XEN45 Gel Stent in a multicenter Italian cohort. Antonio Fea¹, G. Manni², C. Lavia¹, G. Roberti², E. Martini³, C. Mazzini⁴, R. Spinetta¹, A. Miele², G. Ghirelli⁵, P. Quercioli⁶, F. Oddone². ¹Dipartimento di Scienze Chirurgiche, Clinica Oculistica Ospedale Oftalmico, Turin, Italy; ²Glaucoma Unit, IRCCS Fondazione G.B.Bietti, Roma, Italy; ³Ospedale di Sassuolo, Sassuolo, Italy; ⁴Clinica Oculistica - Universita' di Firenze, Firenze, Italy; ⁵Ospedale Fatebenefratelli San Pietro di Roma, Roma, Italy

4988 — B0406 The Outcomes of Gonioscopy-Assisted Transluminal Trabeculectomy (GATT) in Open-Angle Glaucoma. Marlene Moster¹, K. Rahmatnejad¹, S. Amanullah², M. Waisbourd¹, A. RESENDE¹. ¹Wills Eye Hospital, Philadelphia, PA; ²Sidney Kimmel Medical College, Philadelphia, PA

4989 — B0407 Clinical and anatomical evaluation of CO₂ laser-assisted sclerectomy. Carlo Alberto Cutolo, A. Bagnis, R. Scotto, C. Bonzano, C. E. Traverso. Clinica Oculistica, Di.N.O.G.M.I. University of Genoa and IRCCS Azienda Ospedaliera Universitaria San Martino IST, Genova, Italy

4990 — B0408 Picosecond infrared laser - fibre-assisted-sclerostomy (PIRL-FAST): A first proof of principle analysis. *Juliane Mehlant¹, S. Uschold², N. Hansen², T. Gosau³, D. Eggert⁴, M. S. Spitzer¹, H. Petersen⁵, U. Schumacher³, S. J. Linke⁶, D. Miller².*
¹Clinic of Ophthalmology, Center Hamburg-Eppendorf (UKE), Hamburg, Germany; ²Max Planck Institute for the Structure und Dynamics of Matter, Hamburg, Germany; ³Institute of Anatomy and Experimental Morphology, Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany; ⁴Heinrich Pette Institute - Leibniz Institute for Experimental Virology, Hamburg, Germany; ⁵Department of Otolaryngology, Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany; ⁶Zentrumsehstärke, Hamburg, Germany *CR

4991 — B0409 The effects of micropulse transscleral cyclophotocoagulation versus traditional transscleral cyclophotocoagulation diode on intraocular pressure in primary open angle glaucoma. *Krishna Patel¹, N. Gelinas², H. Rafay³, T. patrianakos¹, M. Giovingo¹.*
¹John H Stroger Jr Hospital of Cook County, Lombard, IL; ²Midwestern University, Downers Grove, IL; ³Chicago Medical School, North Chicago, IL

4992 — B0410 The Micropulse Cyclophotocoagulation technique can be a safe and effective treatment for patients with refractory glaucoma. *Fahad H. Khan, K. Pikey, R. Krishna.* Ophthalmology, University of Missouri: Kansas City, Kansas city, KS

4993 — B0411 Micropulse transscleral diode laser cyclophotocoagulation: mid to long-term results and anatomical effects. *Marisse Masis, S. Lin, P. Coh.* UCSF, San Francisco, CA

4994 — B0412 Micropulse Cyclophotocoagulation: Patients' Perceived Pain Score. *Di Zhou¹, A. M. Mas-Ramirez¹, M. J. Siegel^{1,2}.*
¹Kresge Eye Institute/Wayne State University, Detroit, MI; ²Glaucoma Center of Michigan, Southfield, MI

4995 — B0413 Micropulse Transscleral Cyclophotocoagulation on Advanced Glaucoma: Comparison Between Pediatric and Adult Glaucoma Patients. *Jun Hui Lee, Y. Shi, B. Amoozgar, A. De Alba Campomanes, S. Lin, Y. Han.* Ophthalmology, UCSF, San Francisco, CA *CR

4996 — B0414 Clinical Efficacy and Safety Profile of Micropulse Transscleral Cyclophotocoagulation in Advanced Glaucoma. *Alice Williams¹, M. Moster¹, K. Rahmatnejad¹, M. Reynolds², T. Horan², M. Waisbourd³.*
¹Glaucoma, Wills Eye Hospital, Philadelphia, PA; ²Sidney Kimmel Medical College at Thomas Jefferson University, Philadelphia, PA; ³Ophthalmology, Tel-Aviv Medical Center, Tel-Aviv, Israel ✕

4997 — B0415 Efficacy and safety of MicroPulse transscleral diode laser cyclophotocoagulation in the treatment of refractory glaucoma. *Ping Huang, B. Mcknight, H. AKIL, A. S. Huang, B. A. Francis.* Doheny Eye Institute UCLA, Los Angeles, CA *CR

4998 — B0416 Secondary glaucoma requiring glaucoma surgery / cyclodiode laser treatment following silicone oil injection. *Fidan Jmor, E. Agorogiannis, R. Cheeseman, A. Choudhary.* St Paul's Eye Unit, Royal Liverpool University Hospital, Liverpool, United Kingdom

4999 — B0417 Clinicopathological features of canine spontaneous glaucomas surgically treated via cyclodestructive and filtering techniques. *Leandro B. Teixeira.* Pathobiological Sciences, University of Wisconsin-Madison, Madison, WI; Comparative Ocular Pathology Laboratory of Wisconsin, University of Wisconsin-Madison, Madison, WI

Exhibit/Poster Hall B0418-B0442

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Retina

486 Vitreoretinal surgery novel approaches and vitreoretinal interface

5000 — B0418 Mobile Trocar: a New Device for PPV Surgery. A Histological Study Focusing on Sclerotomy Wound Healing. *Nadyr A. Damasceno^{1,2}, N. Migue³, M. P. Avila⁴, M. P. Ventura², E. F. Damasceno².*
¹Ophthalmology, Hospital Naval Marcilio Dias, Rio de Janeiro, Brazil; ²Ophthalmology, Universidade Federal Fluminense, Rio de Janeiro, Brazil; ³Histology and Morphology, Universidade Federal Rio de Janeiro, Rio de Janeiro, Brazil; ⁴Ophthalmology, CEROF - Universidade Federal de Goias, Goiania, Brazil *CR

5001 — B0419 Endoscopy Assisted Vitrectomy in Proliferative Vitreoretinopathy Associated Retinal Detachment: One year results. *Radwan Ajlan, J. Isenberg, F. Rezende.* Ophthalmology, University of Montreal, Montreal, QC, Canada

5002 — B0420 Intraoperative Optical Coherence Tomography (iOCT) guided intra- and subretinal surgery - a new surgical technique. *Sabrina Bohnacker, M. Nasser, N. Feucht, M. M. Maier, C. Lohmann.* Department of ophthalmology, Klinikum rechts der Isar, Munich, Germany

5003 — B0421 Intraoperative OCT Guided Robotic Sub-retinal Surgery. *M. Ali Nasser¹, A. Eslami², D. M. Zapp¹, S. Bohnacker¹, M. Zhou¹, C. Lohmann¹, M. M. Maier¹.*
¹Ophthalmology, Klinikum rechts der Isar, TUMuenchen, Muenchen, Germany; ²Carl Zeiss MEDITEC Muenchen, Munich, Germany, Munich, Germany *CR

5004 — B0422 A comparative study of the safety and efficacy of active silicone oil removal using either 23 or 25-gauge transconjunctival sutureless vitrectomy systems. *Leonardo Cunha^{1,2}, L. C. Zacharias², L. V. Costa-Cunha³, P. C. Ponte¹, M. R. Monteiro².*
¹Ophthalmology, Universidade Federal de Juiz de Fora, Juiz de Fora, Brazil; ²Ophthalmology, University of São Paulo, São Paulo, Brazil; ³Ophthalmology, Hospital de Olhos Juiz de Fora, Juiz de Fora, Brazil

5005 — B0423 27-gauge vs 25-gauge vitrectomy for different retinal pathologies. *Ermete Giancipoli, G. D'Amico Ricci, F. Boscia.* Ophthalmology, Sassari University Hospital, Bari, Italy *CR

5006 — B0424 The effect of albumin on the interfacial tension of silicone oil in vitrectomized eyes. *Jan O. Pralits¹, R. Repetto¹, I. Nepita¹, M. R. Romano², F. Ravera³, E. Santini³, L. Liggieri³.*
¹Civil, Chemical and Environmental Engineering, University of Genoa, Genoa, Italy; ²Department of Biomedical Sciences, Humanitas University, Milan, Italy; ³Institute for Condensed Matter Chemistry and Energy Technologies, CNR, Genoa, Italy

5007 — B0425 Foveal sparing internal limiting membrane peeling for Lamellar Macular Hole. *Nicolò Scaroni¹, F. Morescalchi¹, A. Russo¹, E. Gambicorti¹, C. Costagliola², F. Semeraro¹.*
¹Università degli Studi di Brescia, Brescia, Italy; ²University of Molise, Campobasso, Italy

5008 — B0426 A novel approach to surgical repair of visually significant lamellar macular holes. *Stephen M. Potter, O. Iqbal, S. M. Amin, G. S. Khurshid.* Department of Ophthalmology, University of Florida, Gainesville, FL

5009 — B0427 Epiretinal Membrane Peeling with Foveal Sparing of the Internal Limiting Membrane: A Pilot Study. *Andrea Russo¹, F. Morescalchi¹, N. Scaroni¹, E. Gambicorti¹, C. Costagliola², F. Semeraro¹.*
¹Univ degli Studi di Brescia - Italy, Brescia, Italy; ²Ophthalmology, University of Molise, Campobasso, Italy

5010 — B0428 Use of intraoperative Optical Coherence Tomography (i-OCT) in vitreous haemorrhage due to diabetic retinopathy. *Dominic Heinrich, S. Bohnacker, M. Nasser, N. Feucht, C. Lohmann, M. M. Maier.* Klinikum rechts der Isar TU Muenchen, Muenchen, Germany

5011 — B0429 Intraocular Diathermy Forceps. *Koen van Overdam^{1,2}, S. Manning¹.*
¹Vitreoretinal Surgery, Rotterdam Eye Hospital, Rotterdam, Netherlands; ²Rotterdam Ophthalmic Institute, Rotterdam, Netherlands *CR

5012 — B0430 Transitioning to the heads-up stereoscopic surgical display in a vitreoretinal fellowship program: impact on outcomes. *Irina De la Huerta¹, Y. Yonekawa², O. Moinuddin³, A. J. Ruby¹, T. S. Hassan¹, G. A. Williams¹.*
¹Associated Retinal Consultants, P.C., Royal Oak, MI; ²Retina Service, Massachusetts Eye and Ear Infirmary, Cambridge, MA; ³William Beaumont School of Medicine, Oakland University, Rochester, MI *CR

5013 — B0431 Longitudinal analysis of foveal microstructure following arcuate retinotomy for chronic large macular holes. *Christopher R. Adam¹, E. J. Sigler², J. C. Randolph³, J. I. Calzada⁴.* ¹Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY; ²Division of Retina and Vitreous, Ophthalmic Consultants of Long Island, Rockville Centre, NY; ³The Center for Retina and Macular Disease, Winter Haven, FL; ⁴Department of Vitreoretinal Surgery, Charles Retina Institute, Memphis, TN

5014 — B0432 Autologous Internal Limiting Membrane Flap Techniques for Optic Disc Pit Maculopathy: Optical Coherence Tomography Imaging Findings and Surgical Approach: Case Series. *Salvador Pastor^{1,2}, M. Gomez-Resca³, S. Karam⁴, D. Kyriakou⁵, S. Copete², J. Nadal Reus⁴, J. Garcia-Arumi^{2,3}.* ¹Ophthalmology, IOBA-University of Valladolid, Valladolid, Spain; ²Ophthalmology, Hospital Vall d Hebron, Barcelona, Spain; ³Ophthalmology, Ocular Microsurgery Institute (IMO), Barcelona, Spain; ⁴Ophthalmology, Barraquer Ophthalmology Center, Barcelona, Spain

5015 — B0433 A comparison of 3D video display and 2D video display in the ability to enhance medical students' understanding of different steps of vitreoretinal surgical procedures. *Nisarg Chhaya¹, O. Helmy¹, N. Piri², A. Palacio^{3,4}, S. Schaal¹.* ¹Department of Ophthalmology & Visual Sciences, University of Massachusetts, Worcester, MA; ²Department of Ophthalmology & Visual Sciences, University of Louisville School of Medicine, Louisville, KY; ³Consultores Oftalmológicos, Buenos Aires, Argentina; ⁴Hospital general de Agudos Juan A. Fernandez, Buenos Aires, Argentina

5016 — B0434 Findings on Live Porcine Retina 30 Days after Pars Plana Vitrectomy Surgery using a New Hypersonic Vitrector. *Soon W. Ch'ng^{1,4}, L. Irion², R. Bonshek², J. Shaw², S. Pastor-Idoate¹, P. Carlin⁴, P. E. Stanga^{1,3}.* ¹Manchester Vision Regeneration Lab, Manchester, United Kingdom; ²Central Manchester University Hospitals, National Specialist Ophthalmic Pathology Service, Manchester, United Kingdom; ³Division of Evolution & Genomic Sciences, School of Biological Sciences, Faculty of Biology, Medicine and Health, University of Manchester, Manchester, United Kingdom; ⁴Manchester Royal Eye Hospital, Manchester, United Kingdom *CR

5017 — B0435 Surgical approach and outcomes of pars plana vitrectomy in eyes harboring a treated posterior uveal melanoma. *Nika Bagheri, J. Fortun, J. H. Townsend, H. W. Flynn, J. Harbour.* Bascom Palmer Eye Institute, Miami, FL

5018 — B0436 Visco-assisted Internal Limiting Membrane Translocation Technique for Unclosed Macular Hole. *Michiyuki Saito¹, K. Noda^{1,2}, Y. Shibata¹, A. Fujiya¹, T. Suzuki¹, R. Ando¹, S. Mori¹, S. Kase¹, S. Ishida^{1,2}.* ¹Department of Ophthalmology, Hokkaido University Graduate School of Medicine, Sapporo, Japan; ²Department of Ocular Circulation and Metabolism, Hokkaido University Graduate School of Medicine, Sapporo, Japan

5019 — B0437 Double inverted flap of epiretinal membrane and internal limiting membrane technique for treatment of idiopathic lamellar macular hole. *Rino Frisina, E. Zampedri, L. Bertazzi, F. Romanelli.* Multizonal unit of Ophthalmology of Autonomous Province of Trento, Autonomous Province Of Trento, Italy

5020 — B0438 Post-hoc analysis of ellipsoid zone changes beyond the central subfield (CS) in symptomatic vitreomacular adhesion (VMA) subjects from the OASIS trial. *Srinivas R. Sadda^{2,1}, M. G. Nittala².* ¹Ophthalmology, University of California - Los Angeles, Los Angeles, CA; ²Doheny Image Reading Center, Doheny Eye Institute, Los Angeles, CA *CR, ✗

5021 — B0439 The origin and constituents of yellow pigments in the surgically removed epiretinal membrane. *Akira Obana^{1,2}, H. Sasano¹, Y. Otsuki³, T. Seto¹, Y. Gohto¹, S. Okazaki².* ¹Ophthalmology, Seirei Hamamatsu Gen Hosp, Hamamatsu, Japan; ²Medical Spectroscopy, Institute for Medical Photonics Research, Preeminent Medical Photonics Education & Research Center, Hamamatsu University School of Medicine, Hamamatsu, Japan; ³Pathology, Seirei Hamamatsu Gen Hosp, Hamamatsu, Japan *CR

5022 — B0440 Posterior vitreous mobility in eyes with epiretinal membrane, vitreomacular traction syndrome and macular hole. *Keisuke Mori^{1,2}, M. Tsukahara¹, K. Mori¹, P. L. Gehlbach³.* ¹Department of Ophthalmology, International University of Health and Welfare, Nasu-shiobara, Japan; ²Department of Ophthalmology, Saitama Medical University, Iruma, Japan; ³Department of Ophthalmology, Johns Hopkins University, Baltimore, MD

5023 — B0441 Postoperative sterile inflammation after pars plana vitrectomy with indocyanine green. *Dimosthenis Mantopoulos^{1,3}, J. Pate¹, J. Prenner^{1,3}, S. P. Shah^{1,3}, N. Chinsky^{1,3}, D. B. Roth^{1,3}, H. F. Fine^{1,3}.* ¹New Jersey Retina, New Brunswick, NJ; ²Medical School, Rutgers University, Newark, NJ; ³Department of Ophthalmology, Rutgers - Robert Wood Johnson University Hospital., New Brunswick, NJ

5024 — B0442 Displacement of the fovea assessed using en-face optical coherence tomography images after macular hole surgery. *Ji Eun E. Lee¹, I. Lee¹, S. LEE², H. Kwon², S. Park¹, I. Byon².* ¹Ophthalmology, Pusan National Univ Hospital, Busan, Korea (the Republic of); ²Pusan National Univ Yangsan Hospital, Yangsan, Korea (the Republic of) *CR

Exhibit/Poster Hall B0470-B0488

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Retina

487 Diabetic retinopathy clinical and surgical

5025 — B0470 Quantitative evaluation of diabetic retinopathy using optical coherence tomography angiography. *Yasuki Ito, S. Taira, T. Iwase, N. Nonobe, S. Yasuda, H. Terasaki.* Ophthalmology, Nagoya Univ Graduate School of Medicine, Nagoya, Japan

5026 — B0471 Accelerated Anti-VEGF Dosing for Treatment Resistant Macular Edema in Patients with Diabetic Macular Edema. *Yonwook J. Kim, T. Bryant, A. Seethala Thangappan, M. Subramanian.* Ophthalmology, Boston University School of Medicine, Boston, MA

5027 — B0472 Quantification of VEGF in peripheral blood as a marker of activity in diabetic retinopathy. *Ulises de Dios Cuadras¹, B. Juarez Dominguez¹, C. Vargas Riaño¹, J. M. Jimenez-Sierra¹, L. Hernandez-Zimbron², O. Vivanco Rojas¹.* ¹Asociación para Evitar la Ceguera en México "Hospital Dr.Luis Sánchez Bulnes" IAP, Mexico, Mexico; ²Universidad Nacional Autónoma de Mexico, Mexico, Mexico

5028 — B0473 Diabetes impairs central macular function and structure. *Katherine A. Joltikov, V. M. de Castro, J. R. Davila, R. Anand, S. Khan, N. Farbman, T. W. Gardner.* University of Michigan, Ann Arbor, MI

5029 — B0474 Real world evaluation of safety, compliance and retinopathy progression of the Noctura 400 Sleep Mask, a novel therapy for diabetic retinopathy. *Jia Yu Ng¹, E. Ting¹, A. Fisher², S. Ridsdale², L. Barclay², D. Collins¹.* ¹Ophthalmology, James Cook University Hospital, Gateshead, United Kingdom; ²Polyphotonix, Durham, United Kingdom *CR

5030 — B0475 Inner retinal layer and choroidal thickness in patients with type 1 diabetes mellitus with and without retinopathy. *Marc Carbonell Puig¹, X. Valldeperas¹, N. Alonso¹, E. Castelblanco¹, A. Traveset², C. Jurjo², D. Mauricio¹.* ¹Ophthalmology, Hospital Universitari Germans Trias i Pujol, Barcelona, Spain; ²Hospital Universitari Arnau de Vilanova, Lleida, Spain

5031 — B0476 Microaneurysm (MA) Wall Characteristics on Adaptive Optics Scanning Laser Ophthalmoscopy (AOSLO) are Related to MA Perfusion Status and Local Neural Retina Changes over Time. Omar Abu-Qamar^{1,3}, Y. Lu¹, S. R. Peterson¹, K. Sampani¹, G. L. Yau¹, C. Cai⁵, W. Fickweiler¹, P. Silva^{1,2}, L. P. Aiello^{1,4}, J. K. Sun^{1,4}. ¹Beetham Eye Institute, Joslin Diabetes Center, Boston, MA; ²Philippine Eye Research Institute, University of the Philippines, Manila, Philippines; ³Master of Medical Sciences In Clinical Investigation, Harvard Medical School, Boston, MA; ⁴Department of Ophthalmology, Harvard Medical School, Boston, MA; ⁵Biomedical Engineering, Columbia University, New York, NY *CR

5032 — B0477 Safety and efficacy of fluocinolone acetonide intravitreal implant (Iluvien®) in patients with chronic diabetic macular edema in a real-life setting. Monica Santos, A. Campos, A. Neves, P. Alfaiate, J. Pereira, J. Castro e Sousa. Ophthalmology, Centro Hospitalar de Leiria, Leiria, Portugal

5033 — B0478 Müller cells and deep retinal capillary plexus in diabetes. Edoardo Midena^{1,2}, G. Samartzis¹, G. Miglionico¹, S. Bini¹, R. Parrozzani¹, E. Pilotto¹, S. Vujosevic¹. ¹Ophthalmology, University of Padova, Padova, Italy; ²GB Bietti Foundation, Roma, Italy

5034 — B0479 The Visual Function of Type 2 Diabetics with Retinopathy in Correlation to Low Luminance Deficit. Ricardo R. Ong, S. O. Valero. Ophthalmology, Makati Medical Center, Makati, Philippines

5035 — B0480 An Internet-based Education Intervention to Improve Screening for Diabetic Retinopathy in Patients with Diabetes. John W. Kitchens¹, S. Scrivner², J. Anderson³. ¹Ophthalmology, Retina Associates of Kentucky, Lexington, KY; ²Ophthalmology, Novus Medical Education, Nicholasville, KY; ³Family Practice, The Frist Clinic, Nashville, TN *CR

5036 — B0481 Endolaserless Vitrectomy with Intravitreal Afibercept Injection (IAI) for Proliferative Diabetic Retinopathy (PDR)-Related Vitreous Hemorrhage (LASER LESS TRIAL). Dennis M. Marcus, H. Singh, A. Farooq, D. Starnes, H. Walia. Ophthalmology, Southeast Retina Center, Augusta, GA *CR, x²

5037 — B0482 The Effect of Tamponade Agent on the Visual and Anatomical Outcome of Vitrectomy in Diabetic Tractional Retinal Detachment. Hossein Ameri, P. Storey, A. Ter-Zakarian, S. A. Philander, L. C. Olmos, M. George, M. S. Humayun, D. C. Rodger. USC Roski Eye Institute, Keck School of Medici, University of Southern California, Los Angeles, CA

5038 — B0483 Simulation of panretinal laser photocoagulation based on the photoreceptor densities. Kentaro Nishida, K. Miura, H. Sakaguchi, K. Nishida. Ophthalmology, Osaka University Graduate School of Medicine, Suita, Japan

5039 — B0484 Manipulation of preretinal proliferative membranes using intraoperative optical coherence tomography during vitrectomy for proliferative diabetic retinopathy. Koichi Nishitsuka¹, K. Nishi^{1,2}, H. Namba¹, Y. Kaneko¹, S. Abe¹, E. Kirii¹, Y. Takeda¹, T. MURAKAMI¹, T. Matsushita¹, H. Yamashita¹. ¹Ophthalmology/Vis Sci, Yamagata University Sch of Med, Yamagata-shi, Japan; ²Okitama public medical hospital, Kawanishi, Japan *CR

5040 — B0485 An Analysis of Visual Outcomes in Patients With and Without Postoperative Vitreous Hemorrhage After Diabetic Vitrectomy. Ferdinand Rodriguez¹, S. Kim^{1,2}, A. Melamud^{2,1}. ¹Ophthalmology, Medstar Georgetown University Hospital, Washington, DC; ²Retina Group of Washington, Washington, DC

5041 — B0486 Histologic Study of Fibrovascular Membrane Regression by Pan-Retinal Photocoagulation and Intravitreal Bevacizumab in Proliferative Diabetic Retinopathy. Therese Sassalos, Y. Li, T. Zhou, P. A. Edwards, X. Qiao, H. Gao. Department of Ophthalmology, Henry Ford Hospital, Detroit, MI

5042 — B0487 Evaluation of the effect of intravitreal bevacizumab injection on the visual outcome following vitreous haemorrhage with PDR. Ibrahim Taskintuna¹, M. Elsayed², R. Khandekar³, P. Schatz^{1,4}, I. Kozak^{1,5}. ¹Vitreoretinal Division, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia; ²Jeddah Eye Hospital, Jeddah, Saudi Arabia; ³King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia; ⁴Dept of Ophthalmology, University of Lund, Lund, Sweden; ⁵Moorfield Eye Hospital Centre, Abu Dhabi, United Arab Emirates

5043 — B0488 The Effect of Panretinal Photocoagulation on the Peripapillary Retinal Nerve Fiber Layer of Diabetic Patients As Measured by Spectral Domain Optical Coherence Tomography (SD-OCT). Michael Ou², O. Saeedi³, M. Patronas¹, L. Schocket², L. Katzman², S. Kalarn³, X. Zhang¹, A. Jones³. ¹Ophthalmology, George Washington University, Washington, DC, DC; ²Morris Eye Group, Vista, CA; ³Ophthalmology, University of Maryland, Baltimore, MD; ⁴MedStar Harbor, Baltimore, MD

Exhibit/Poster Hall B0597-B0641

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Clinical/Epidemiologic Research

488 Eye Care Delivery and Economic Research

Moderator: Emily W. Gower

5044 — B0597 The Effect of a Brief, Glaucoma-Specific Motivational Interviewing Training Program on Patient Satisfaction and Glaucoma Self-Management. Sarah Miller¹, O. J. Killeen², C. MacKenzie³, K. Resnicow⁵, M. Heisler⁴, P. Newman-Casey². ¹Department of Epidemiology, University of Michigan School of Public Health, Ann Arbor, MI; ²Department of Ophthalmology & Visual Sciences, University of Michigan, Kellogg Eye Center, Ann Arbor, MI; ³Department of Psychiatry, University of Michigan, Ann Arbor, MI; ⁴Department of Internal Medicine, University of Michigan Medical school, Ann Arbor, MI; ⁵Department of Health Behavior & Health Education, University of Michigan School of Public Health, Ann Arbor, MI *CR

5045 — B0598 Designing a portable automated system for continuously measuring patient wait times, a quality improvement approach to improving glaucoma care. John A. Musser, A. Shee, L. Zhang, L. M. Niziol, A. Rao, D. Burke, N. Patel, S. Kamat, M. Shah, S. Gendler, A. Cohn, P. Newman-Casey. Glaucoma, University of Michigan - Kellogg Eye Center, Livonia, MI *CR

5046 — B0599 A Comparison Of Resource Use And Costs For Patients Who Are Newly Diagnosed With Exfoliation Syndrome Glaucoma Versus Primary Open-Angle Glaucoma. Siddarth Rathi¹, C. Andrews², D. S. Greenfield¹, J. D. Stein². ¹Bascom Palmer Eye Center, University of Miami, Miami, FL; ²University of Michigan, Ann Arbor, MI

5047 — B0600 Optic Nerve Exam PQRS Compliance in Glaucoma Tube Shunt Surgery. Elliot S. Crane, L. Thangmathesvaran, K. K. Modi, A. S. Khouri. Institute of Ophthalmology and Visual Science, Rutgers New Jersey Medical School, Newark, NJ

5048 — B0601 Lean evaluation of glaucoma clinic wait times to inform the development of an educational intervention. Nish Patel, C. Scavone, J. Musser, L. Niziol, A. Rao, E. Olin, A. Cohn, S. Kamat, M. Shah, P. Newman-Casey. University of Michigan, Ann Arbor, MI *CR

5049 — B0602 Assessment of Patient Satisfaction in a Glaucoma Private Practice. Megan Falls¹, K. Rahmatnejad², J. S. Myers², S. Myers², L. A. Hark², M. Waisbourd². ¹Sidney Kimmel Medical College, Philadelphia, PA; ²Glaucoma Research, Wills Eye Hospital, Philadelphia, PA

- 5050 — B0603 Applying Lean process methodology to improve patient experience, quality outcomes, and staff and provider satisfaction in an academic glaucoma practice.** Elizabeth Marlow¹, L. Robbins², K. Hutton¹, N. Aivazov¹, S. Muylaert¹. ¹Ophthalmology, New York Presbyterian/ Weill Cornell Medical College, New York, NY; ²Alright College, Reading, PA
- 5051 — B0604 Use of a Smartphone Application to Analyze and Incentivize Glaucoma Medication Adherence.** Meredith R. Klifto¹, G. M. Riley¹, J. L. Barger¹, D. Ariely², J. S. Schuman¹. ¹Department of Ophthalmology, NYU Langone Medical Center, New York, NY; ²Behavioral Economics, Duke University, Durham, NC
- 5052 — B0605 The Ophthalmology Residency Program Director Survey: Applicant Qualities Affecting the Invitation to Interview and Rank Position.** Nicholas Behunin, C. Hill, M. Lotpfour, I. U. Scott. Ophthalmology, Penn State Health, Hershey, PA
- 5053 — B0606 Resident Efficiency in Patient Care: Comparing the Rate of Patients Seen Per Hour as Walk-in vs. Scheduled Appointments in an Ophthalmology Outpatient Clinic.** Jerome V. Giovinazzo¹, E. Goncharuk², G. Silbert¹, A. Gupta¹. ¹New York Eye and Ear of Mount Sinai, New York, NY; ²University of New England College of Osteopathic Medicine, Biddeford, ME
- 5054 — B0607 A proposed intervention to decrease resident-performed cataract surgery cancellation.** Alexa Dessy³, E. Mayo³, R. Bailey², D. Wisner², A. Koka¹, L. A. Hark², B. Leiby², N. Dabbish², A. P. Murchison², A. Okulate², C. Green¹, L. Pizzi¹, J. A. Haller². ¹Thomas Jefferson University, Philadelphia, PA; ²Wills Eye Hospital, Philadelphia, PA; ³Sidney Kimmel Medical College, Philadelphia, PA ✕
- 5055 — B0608 Ophthalmology Urgent Care Preceptorship Pilot: Building Medical Student Ophthalmic Knowledge and Developing Residents-as-Teachers.** Mona Lotfipour¹, R. Rolius¹, M. Montijo¹, G. Williamson¹, C. Hill¹, A. Westcott², D. A. Quillen¹, S. Pantanelli¹. ¹Ophthalmology, Penn State Hershey Medical Center, Hummelstown, PA; ²Penn State Hershey Medical Center, Hershey, PA
- 5056 — B0609 First Year Ophthalmology Residency Call Structure and Its Association with Resident Anxiety and Confidence.** Akosua Nti, P. Tapino, G. Ying, W. Pan, V. Addis. Ophthalmology, University of Pennsylvania, Philadelphia, PA
- 5057 — B0610 Ophthalmology Training in Emergency Medicine Residency Programs in the United States.** Jason Kam¹, J. Branzetti¹, P. Taravati². ¹Emergency Medicine, University of Washington, Seattle, WA; ²Ophthalmology, University of Washington, Seattle, WA
- 5058 — B0611 Assessing and Promoting the Wellness of United States Ophthalmology Residents: A Survey of Program Directors.** Elaine M. Tran^{1,2}, I. U. Scott³, M. A. Clark⁴, P. B. Greenberg^{2,5}. ¹Program in Liberal Medical Education, Brown University, Providence, RI; ²Division of Ophthalmology, Warren Alpert Medical School of Brown University, Providence, RI; ³Departments of Ophthalmology and Public Health Sciences, Penn State College of Medicine, Hershey, PA; ⁴Department of Quantitative Health Sciences, University of Massachusetts Medical School, Worcester, MA; ⁵Section of Ophthalmology, Providence Veterans Affairs Medical Center, Providence, RI
- 5059 — B0612 Characteristics of Ophthalmology residency training in a developing country.** Nadia Rios-Acosta, V. C. Lansingh, M. Martinez. Instituto Mexicano de Oftalmologia, Queretaro, Mexico
- 5060 — B0613 Quantifying the Impact of Trainees on Outpatient Ophthalmology Clinic Workflow.** Isaac Goldstein¹, M. Hribar², S. Read-Brown¹, M. F. Chiang^{1,2}. ¹Ophthalmology, Oregon Health & Science University, Portland, OR; ²Medical Informatics & Clinical Epidemiology, Oregon Health & Science University, Portland, OR *CR
- 5061 — B0614 STEER: A National Pilot Program of Standardized Training to Elevate Eyecare in Rural China.** Mayinuer Yusufu¹, A. Hu¹, P. Xu², X. Yang¹, X. Yu¹, X. Zhang¹, Q. Lu², L. Wang², N. Wang¹. ¹Beijing Tongren Hospital, Capital Medical University, Beijing, China; ²Orbis International, Beijing, China
- 5062 — B0615 The Effect of Computer Position on Direct Eye Contact During a Patient-Physician Encounter.** Hannah Muniz Castro, S. Farukhi. University of California, Irvine, Irvine, CA
- 5063 — B0616 Analysis and Modification of the Electronic Health Record to Achieve Evidence-Based Ophthalmic Care.** Matthew Hartman, J. C. Fleming. Ophthalmology, UTHSC, Memphis, TN
- 5064 — B0617 Evaluating the Diagnostic Ability of Vision Screenings Compared to Comprehensive Eye Exams in Detecting Early Pathology.** Qisi Sun¹, L. Hall^{1,3}, S. Heung¹, P. Ryg¹, L. Chan¹, D. Sparks², H. Fazzone^{1,3}, S. Forster^{1,3}. ¹Yale School of Medicine, New Haven, CT; ²University of Connecticut School of Medicine, Farmington, CT; ³Yale Eye Center, New Haven, CT; ⁴Yale University, New Haven, CT
- 5065 — B0618 Design and Evaluation of a Telemedicine Program for Diagnosis of Urgent Ophthalmic Complaints.** John L. Romano¹, K. Lo^{1,2}, S. Grob^{1,2}, U. Bains^{1,2}, M. Hymowitz¹, L. R. Pasquale^{2,3}, A. Lorch^{1,2}. ¹Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ophthalmology, Harvard Medical School, Cambridge, MA; ³Division of Network Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA
- 5066 — B0619 Health system dynamics analysis of eyecare services in Trinidad and Tobago and progress towards Vision 2020 Goals.** Debra R. Bartholomew¹, B. Winford², P. Bridgemohan³, D. Singh⁷, S. Sharma⁴, R. Sharma⁸, A. Gray⁵, R. R. Bourne⁶, T. Braithwaite⁹. ¹Ophthalmology, General Hospital, Port-of-Spain, Port-of-Spain, Trinidad and Tobago; ²Royal College of Surgeons, Glasgow, Ireland; ³Sangre Grande General Hospital, Sangre Grande, Trinidad and Tobago; ⁴Department of Optometry, University of The West Indies, St. Augustine, Trinidad and Tobago; ⁵Health Economics Research Centre, Nuffield Department of Population Health, University of Oxford, Oxford, United Kingdom; ⁶Vision and Eye Research Unit, Anglia Ruskin University, Cambridge, United Kingdom; ⁷Caribbean Eye Institute, Valsayn, Trinidad and Tobago; ⁸Ophthalmology, Scarborough General Hospital, Scarborough, Trinidad and Tobago; ⁹Ophthalmology, Moorfields Eye Hospital, London, United Kingdom
- 5067 — B0620 A Comparison of Performance of Therapeutic Procedures by Ophthalmologists and Optometrists in States with Expanded Scope of Practice.** David Sanders¹, A. Sugar¹, J. D. Stein^{1,2}. ¹Department of Ophthalmology, Kellogg Eye Center, University of Michigan, Ann Arbor, MI; ²Center for Healthcare Policy and Innovation, University of Michigan, Ann Arbor, MI *CR
- 5068 — B0621 Low Vision Needs Assessment of Essex County, MA.** Alexis G. Malkin¹, R. W. Massof¹. ¹New England College of Optometry, Boston, MA; ²Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD
- 5069 — B0622 Have the CATT Trial Results and Introduction of Aflibercept to the Marketplace Influenced Utilization of Bevacizumab and Ranibizumab for Retinal Diseases?** Stephen T. Armenti¹, J. Grubbs¹, V. Dedania¹, N. Talwar³, J. M. Rosenthal¹, S. Pershing², J. D. Stein¹. ¹Ophthalmology, University of Michigan, Ann Arbor, MI; ²Ophthalmology, Stanford University School of Medicine, Palo Alto, CA; ³University of Michigan, Ann Arbor, MI
- 5070 — B0623 Cost-effectiveness of FDA-approved anti-VEGF treatments, ranibizumab and aflibercept, for diabetic macular edema from a US perspective: analysis of 2-Year Protocol T comparative effectiveness results.** Steve Duff¹, N. Holekamp², Y. Rajput³. ¹Veritas Health Economics Consulting, Inc., Carlsbad, CA; ²Pepose Vision Institute, Chesterfield, MO; ³Genentech, Inc., South San Francisco, CA *CR, ✕
- 5071 — B0624 Impact of CMS Data on Provider Utilization Patterns Among Ophthalmologists.** Nader Moifar^{1,2}, P. Lee³, M. Rivera³, R. Metzinger³, A. Lee⁴. ¹Florida Retina Consultants, Longwood, FL; ²University of Central Florida College of Medicine, Orlando, FL; ³Retina Consultants of Western New York, Buffalo, NY; ⁴Pulmonology, Mayo Clinic, Jacksonville, FL *CR

5072 — B0625 Federal Payments to Ophthalmologists: Analysis of Charges and Collections from the Center for Medicare and Medicaid Services 2012-2014. *Ashvini Reddy¹, G. Bounds², S. J. Bakri³, J. E. Thorne¹, M. X. Repka¹.* ¹Ophthalmology, Wilmer Eye Institute, Johns Hopkins, Baltimore, MD; ²School of Public Health, University of Texas, Houston, TX; ³Ophthalmology, Mayo Clinic, Rochester, MN

5073 — B0626 The Impact of Vision Loss on Healthcare Use by Medicare Beneficiaries Following Hospital Discharge. *Alan R. Morse^{1,2}, P. P. Lee^{3,4}, W. H. Seiple^{1,5}, T. Nidhi³, J. D. Stein^{3,4}.* ¹Lighthouse Guild, New York, NY; ²Harkness Eye Institute, Columbia University, New York, NY; ³Department of Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ⁴Institute for Healthcare Policy and Innovation, University of Michigan, Ann Arbor, MI; ⁵Department of Ophthalmology, New York University, New York, NY

5074 — B0627 A Quantitative Analysis of Medicare Payment and Retina Procedural and Surgical Volume from 2005 to 2009. *Dan Gong¹, J. Maslin², J. Liu³, J. C. Tsai⁴, C. Teng³.* ¹Ophthalmology, Columbia University, New York, NY; ²Ophthalmology, USC Keck School of Medicine, Los Angeles, CA; ³Ophthalmology, Yale University School of Medicine, New Haven, CT; ⁴New York Eye and Ear Infirmary of Mount Sinai, New York, NY

5075 — B0628 Applied Machine Learning to Medicare Utilization Data. *Paul Lee¹, A. Lee², N. Moinfar¹, M. Rivera¹, R. Metzinger¹.* ¹Retina Consultants of WNY, Williamsville, NY; ²Pulmonology, Mayo Clinic Jacksonville, Jacksonville, FL

5076 — B0629 A Comparison of Regulatory Approval Time for Ophthalmic Devices in the United States and Japan. *Ravi Parikh, A. Gopal, C. Teng, L. Del Priore, J. S. Ross.* Yale University, New Haven, CT *CR

5077 — B0630 Modifications to High-Risk Ophthalmic Devices Following Initial FDA Premarket Approval, 1979-2015. *Anand Gopal¹, V. K. Rathi², C. Teng¹, L. V. Del Priore¹, J. S. Ross³.* ¹Department of Ophthalmology and Visual Science, Yale University School of Medicine, New Haven, CT; ²Department of Otolaryngology, Massachusetts Eye and Ear Infirmary, Boston, MA; ³Department of Internal Medicine, Yale University School of Medicine, New Haven, CT *CR

5078 — B0631 Malpractice litigation in ocular oncology. *Stephanie B. Engelhard¹, C. Shah¹, A. Sim¹, A. Reddy².* ¹University of Virginia, Charlottesville, VA; ²Wilmer Eye Institute, Baltimore, MD

5079 — B0632 Who should we be screening for eye disease? The impact of demographic and socioeconomic background on attendance and referral patterns at an integrated vision screening program. *Jennifer O. Adegate, A. Port, N. Papworth-Jones, G. Sun.* Ophthalmology, Weill Cornell Medical College, New York, NY

5080 — B0633 Automatic Diabetic Retinopathy Screening System at a Network of Comprehensive Diabetes Care Clinics in Monterrey, Mexico. *E Simon Barriga¹, J. Benson¹, G. Zamora¹, C. Agurto¹, J. Lozano², S. C. Nemeth¹, O. Meza², E. Martinon², P. Soliz¹.* ¹VisionQuest Biomedical, Albuquerque, NM; ²Clinicas del Azucar, Monterrey, Mexico *CR

5081 — B0634 The Impact of Conversion to International Classification of Diseases, 10th revision (ICD-10) on an Academic Ophthalmology Practice after 1 year. *Justin Hellman, M. Lim, C. Blount, G. Yiu.* Department of Ophthalmology & Vision Sciences, UC Davis Medical Center, Sacramento, CA *CR

5082 — B0635 Impact of the Affordable Health Care Act on No-Show Rates and Demographics of Patients Presenting for Eye Care in an Underserved Inner City Population - a 2-year Update. *Joyce khandji¹, A. Ostrovsky^{1,2}.* ¹Ophthalmology, New York University, New York, NY; ²Ophthalmology, Woodhull Hospital and Medical Center, New York, NY

5083 — B0636 Large Geographic Variation in Rates of Visits to the Emergency Department for Ocular Problems Among 306 US Communities. *V Swetha Jegathanan², M. A. Woodward^{2,3}, B. C. Stagg^{2,3}, N. Talwar¹, J. D. Stein^{2,4}.* ¹Department of Ophthalmology and Visual Sciences, University of Michigan, Kellogg Eye Center, Ann Arbor, MI; ²University of Michigan Medical School, Department of Ophthalmology and Visual Sciences, Ann Arbor, MI; ³Institute for Healthcare Policy and Innovation, Ann Arbor, MI; ⁴University of Michigan School of Public Health, Department of Health Management and Policy, Ann Arbor, MI *CR

5084 — B0637 Why don't patients follow up after an emergency room ophthalmic consultation? - An assessment of risks factors. *Cecilia Q. Dong, J. Kruh.* Department of Ophthalmology, Jamaica Hospital Medical Center - New York Medical College, Richmond Hill, NY

5085 — B0638 Improving Clinic Workflows through Simulations. *Michelle Hribar¹, D. Biermann², S. Read-Brown³, L. G. Reznick³, L. Lombardi³, M. Parikh³, W. Chamberlain³, T. R. Yackel¹, M. F. Chiang^{3,1}.* ¹DMICE, OHSU, Portland, OR; ²OHSU, Portland, OR; ³Ophthalmology, OHSU, Portland, OR *CR

5086 — B0639 Referral pathways for non-urgent macular disease. *Angelica Ly^{1,2}, L. Nivison-Smith^{1,2}, M. Yapp^{1,2}, M. Kalloniatis^{1,2}.* ¹Centre for Eye Health, Sydney, NSW, Australia; ²UNSW Australia, School of Optometry and Vision Science, Sydney, NSW, Australia

5087 — B0640 The impact of clinic volume and level of service on time requirements for electronic health records (EHRs) within ophthalmology. *Sarah Read-Brown¹, M. Hribar², T. R. Yackel², M. F. Chiang^{1,2}.* ¹Ophthalmology, Oregon Health & Science University, Portland, OR; ²Medical Informatics and Clinical Epidemiology, Oregon Health & Science University, Portland, OR *CR

5088 — B0641 Longitudinal trends in the eye care workforce over two decades. *Paula Wu¹, H. Feng², R. A. Adelman¹.* ¹Department of Ophthalmology and Visual Sciences, Yale School of Medicine, New Haven, CT; ²The Ronald O. Perleman Department of Dermatology, New York University School of Medicine, New York, NY

Exhibit/Poster Hall B0699-B0709

Wednesday, May 10, 2017 3:45 PM-5:30 PM

Eye Movements/Strabismus/Amblyopia/
Neuro-Ophthalmology

489 Pupil

Moderator: Randy Kardon

5089 — B0699 Pupillary light response changes in patients with Mild Cognitive Impairment. *Kallene S. Vida², B. Nagy^{2,6}, M. T. Barboni², A. V. Milioni², P. A. Hidalgo¹, G. L. Duque-Chica³, G. Busatto-Filho^{4,5}, D. F. Ventura^{2,4}.* ¹Prevent Senior, São Paulo, Brazil; ²Department of Experimental Psychology, University of São Paulo, São Paulo, Brazil, São Paulo, Brazil; ³Departamento de Psicologia, Universidad de Medellín, Medellín, Colombia; ⁴Núcleo de Apoio à Pesquisa em Neurociência Aplicada (NAPNA), Universidade de São Paulo, São Paulo, Brazil; ⁵Laboratory of Psychiatric Neuroimaging (LIM 21), Departamento de Psiquiatria, Faculdade de Medicina, São Paulo, Brazil; ⁶Department of Mechatronics, Optics and Engineering Informatics, Budapest University of Technology and Economics, Budapest, Hungary

5090 — B0700 Development of an open-source pupilometer for testing melanopsin responses. *Jesse Gale¹, E. Eldridge², S. Pathmanathan², K. Polutea², G. Gouws², S. Fraser³.* ¹University of Otago, Wellington, New Zealand; ²School of Engineering and Computer Science, Victoria University of Wellington, Wellington, New Zealand; ³School of Design, Victoria University of Wellington, Wellington, New Zealand

5091 — B0701 Post-illumination pupillary light response (PIPR) to intermittent light exposure is larger than the response evoked by the continuous light stimulus. *Shakoor Ba-Ali^{2,1}, H. Lund-Andersen^{2,1}, A. Brøndsted^{2,1}.* ¹University of Copenhagen, Copenhagen, Denmark; ²Department of Ophthalmology, Rigshospitalet, Glostrup, Denmark

5092 — B0702 Light-Induced Tearing Reflects the Spectral Characteristics of Melanopsin Phototransduction. *Shaobo Lei¹, X. Chen², M. Zivcevska¹, H. C. Goltz^{3,82}, A. M. Wong^{3,4}.* ¹Program in Neurosciences and Mental Health, The Hospital for Sick Children,, Toronto, ON, Canada; ²The Krembil Research Institute, Toronto Western Hospital, Toronto, ON, Canada; ³Department of Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada; ⁴Department of Ophthalmology and Vision Sciences, The Hospital for Sick Children, Toronto, ON, Canada

5093 — B0703 The ipRGC-Driven Pupil Response with Light Exposure in Children. *Lisa A. Ostrin.* Optometry, University of Houston College of Optometry, Houston, TX

5094 — B0704 Evaluation of Quantitative Pupillometry for Detection of Intracranial Pressure Changes in Healthy and Idiopathic Intracranial Hypertension Subjects. *Timothy Soeken¹, A. Alonso², A. Grant¹, E. Calvillo², J. Clark², D. Donoviel², E. Bershad².* ¹Ophthalmology, San Antonio Uniformed Services Health Education Consortium, Fort Sam Houston, TX; ²Baylor College of Medicine, Houston, TX

5095 — B0705 The dynamic pupillometry assesses retinal functions in cataract patients. *Jun Yuan², C. Hu¹.* ¹Ophthalmology, Hubei University of Science and Technology, Xianning, China; ²Ophthalmology, Zhengzhou Second Hospital, Zhengzhou, China

5096 — B0706 Does Pupillary Diameter Change In Branch Retinal Vein Occlusion? *Zeliha Yazar, E. Durgunlu, H. Cagatay.* Ophthalmology Department, Kafkas University, Faculty of Medicine, Kars, Turkey

5097 — B0707 Repeatability of Objective Pupil Function Measurement Among Collegiate Athletes. *Mark W. Swanson¹, J. Jones², M. Goodlet², K. Brock², J. Edison², S. Abdullah², K. Weise¹, H. Hale³.* ¹Optometry, Univ of Alabama at Birmingham, Birmingham, AL; ²Edward Via College of Medicine, Auburn University, Auburn, AL; ³Sports Medicine at Children's Hospital, University of Alabama at Birmingham, Birmingham, AL

5099 — B0709 Clinical Presentations of Pediatric Horner Syndrome at Children's Hospital and Medical Center in Omaha. *Frankie Smith¹, G. Rathore^{1,2}, D. Suh^{1,2}.* ¹University of Nebraska Medical Center, Omaha, NE; ²Children's Hospital and Medical Center, Omaha, NE

Hall G

Wednesday, May 10, 2017 5:45 PM-6:30 PM

490 Cogan Award and Lecture

The Cogan Award recognizes a young researcher who is 40 years of age or less at the time of nomination. This person will have made important and worthwhile contributions to research in ophthalmology or visual science which directly relates to disorders of the human eye or visual system, and will have shown substantial promise for the future.

— 5:45 **Introduction: David Berson**

5100 — 5:50 Visual restoration and function: from genetics to virtual reality. *Andrew Huberman*. Neurobiology, Stanford University School of Medicine, Palo Alto, CA

Hall G

Wednesday, May 10, 2017 6:45 PM-7:30 PM

491 Friedenwald Award and Lecture

The Friedenwald Award is presented annually to recognize outstanding research in the basic or clinical sciences as applied to ophthalmology.

— 6:45 **Introduction: Martin Wax**

5101 — 6:50 Presbyopia and Glaucoma - The Missing Link? *Paul L. Kaufman*. Ophthalmology & Visual Sciences, Univ of Wisconsin Sch of Med & Public Hlth, Madison, WI

Thursday

May 11, 2017

ARVO
2017

Global Connections
in Vision Research

MAY 7 - 11 | BALTIMORE

Thursday, May 11

8:30–10:30am Symposia		11:30am–1:15pm Papers/Minisymposia		1:30 – 3:15pm	
Room					
Hall G				551 ARVO/Alcon Closing Keynote: What's next in the investigation of genetics of age-related macular degeneration?	
Ballroom 1			525 Cellular and molecular bases of retinal development [RC] #5567-5572		
Ballroom 2			524 Keratoconus: Basic Science and Clinical Applications [CO] #5560-5566		
Ballroom 3	501 Genes and disease: How knowledge of genetics can guide treatment, now and in the future [AP, CO, EY, GL, RE] #5102-5108		526 Surgery, Laser Therapy, Wound Healing [GL] #5573-5579		
Ballroom 4	502 The global problem of antibiotic resistance: Impact on ocular health worldwide and researching alternatives [AP, BI, CL, CO, PH, RE] #5109-5113		527 Novel methods and Mechanisms of Disease [GEN] #5580-5586		
Room 301			528 Molecular pharmacology and ocular toxicology [PH] #5587-5592		
Room 307			529 Lens Biochemistry [LE] #5593-5599		
Room 308			530 Photoreceptors [VN, VI] #5600-5606		
Room 309			531 Glaucoma: Frequency, Risk Factors, and Care [CL] #5607-5613		
Room 310			532 Genomics and proteomics to dissect normal and diseased ocular sites: an immunology and microbiology perspective [IM] #5614-5619		
Room 314			533 Biochemistry and Molecular Biology implicated in diabetic retinopathy and glaucoma [BI] #5620-5626		
Room 316			534 Visual perception with defocus, distortions, and training [VI] #5627-5633		
Room 321			535 Novel findings and approaches in myopia research [AP] #5634-5640		
Room 324			536 Retinal Abnormalities and Neuropathology [EY, VN] #5641-5647		
<p>ARVO Annual Meeting Registration Pratt Street Lobby 7am – 2:30pm</p> <p>ARVO 2018 —Honolulu Kickoff Reception 10:30 – 11:30am Exhibit Hall</p> <p>ARVO/Alcon Closing Keynote What's next in the investigation of genetics of age-related macular degeneration? 2:15–3:30pm Hall G</p>					

Thursday, May 11 ■ Posters

8:30–10:15am

Session Number	Session Title	Program Number	Board Number
503	Neurodegenerative Diseases and Brain Trauma [EY, MOI, VN]	5114 - 5137	B0001 - B0024
504	Orbital and Thyroid Eye Disease [EY, MOI]	5138 - 5163	B0025 - B0050
505	Toxicology; hypoxia; ischemia; oxidative stress; corneal disease [PH]	5164 - 5188	B0051 - B0075
506	Diabetic Retinopathy: Neurodegeneration and pathology associated with the neurovascular unit. [RC]	5189 - 5205	B0076 - B0092
507	Molecular mechanisms of diabetic retinopathy [BI]	5206 - 5227	B0093 - B0114
508	Biochemistry and Molecular Biology of AMD II [BI]	5228 - 5263	B0115 - B0150
509	Corneal Refractive Surgery [CO]	5264 - 5297	B0217 - B0250
510	Crystallins [LE]	5298 - 5311	B0266 - B0279
511	IOP Measurement and Characterization II [GL]	5312 - 5338	B0409 - B0435
512	Retinal Function: ERG studies [VN]	5339 - 5351	B0436 - B0448
513	Oxidative damage, ER stress and autophagy [RC, RE]	5352 - 5374	B0509 - B0531
514	Non-neural cells of the retina: Glia and Microglia [RC, CO, RE]	5375 - 5403	B0532 - B0560
515	Color vision, binocular and stereoscopic vision [VI, VN]	5404 - 5430	B0561 - B0587
516	Advancements in OCT [MOI]	5431 - 5444	B0588 - B0601
517	Wide field retinal imaging [MOI, VI]	5445 - 5459	B0602 - B0616
518	Factors mediating myopia [AP]	5460 - 5479	B0617 - B0636
519	High myopia, associated complications and potential treatments [AP]	5480 - 5495	B0637 - B0652
520	Endophthalmitis and trauma [RE]	5496 - 5522	B0678 - B0704
521	Retinopathy of Prematurity [RE]	5523 - 5559	B0723 - B0759

11:30am–12:45pm

Session Number	Session Title	Program Number	Board Number
537	Genetics of Corneal dystrophies [GEN]	5648 - 5661	B0151 - B0164
538	Corneal Non-refractive Surgery [CO]	5662 - 5712	B0165 - B0215
539	Cataract/Reporting of Research [CL]	5713 - 5727	B0251 - B0265
540	Immune mechanisms in Eye disease: perception and reality [IM]	5728 - 5759	B0280 - B0311
541	Infection and immunology [IM]	5760 - 5787	B0312 - B0339
542	Diabetic retinopathy [PH]	5788 - 5807	B0340 - B0359
543	Structure-Function Relationships II [GL]	5808 - 5842	B0360 - B0394
544	Electrophysiology [GL]	5843 - 5856	B0395 - B0408
545	Visual Disease Models and Restoration [VN]	5857 - 5886	B0449 - B0478
546	Paradigms of retinal degeneration and rescue [RC]	5887 - 5916	B0479 - B0508
547	Myopic CNV and CSCR [RE, AP, LV, MOI]	5917 - 5941	B0653 - B0677
548	Ocular Trauma [CL, VI]	5942 - 5959	B0705 - B0722
549	Retinal detachment: Basic research [RE]	5960 - 5979	B0760 - B0779
550	Clinical retinal imaging 2 and lasers [RE, MOI, VN]	5980 - 6009	B0780 - B0809

Poster board numbers correspond to poster location in the Exhibit Hall
A = Poster Area A, B = Poster Area B

10:30–11:30am: All Posters and Networking — authors will be present at poster boards

10:30 –11 :30 am: ARVO 2018— Honolulu Kickoff Reception — Exhibit Hall

2:15–3:30pm: ARVO/Alcon Closing Keynote — What's next in the investigation of genetics of age-related macular degeneration? — Hall G

Ballroom 3

Thursday, May 11, 2017 8:30 AM-10:30 AM

Anatomy and Pathology/Oncology / Cornea / Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology / Glaucoma / Retinal Cell Biology / Retina

501 Genes and disease: How knowledge of genetics can guide treatment, now and in the future

This symposium will examine how variations that cause disease are discovered, mechanisms of how genetic variations contribute to diseases of the eye, the hurdles to treatment, and the current and future ways that this information can be used to manage and treat disorders of the visual system.

Moderator: Janey L. Wiggs

— 8:30 **Introductory Comments**

5102 — 8:35 Gene discovery and Mendelian retinal degenerations. *David Valle.* Inst Genetic Med, Johns Hopkins, Baltimore, MD

5103 — 8:50 Genetic basis of complex macular disease: interactions between genes and environment. *Caroline Klaver.* Ophthalmology and Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands; Ophthalmology, Radboudumc, Nijmegen, Netherlands *CR

5104 — 9:05 Autophagy genes and new insights into the pathogenesis and treatment of glaucoma. *John Fingert.* Ophthalmology, University of Iowa, Iowa City, IA; Stephen A. Wynn Institute for Vision Research, University of Iowa, Iowa City, IA *CR

5105 — 9:20 Toward genome editing to treat inherited autosomal dominant eye disease. *Tara Moore.* Biomedical Sciences, University of Ulster, Coleraine, United Kingdom; Avellino Labs, San Francisco, CA *CR

5106 — 9:35 Molecular genetics of choroidal melanoma: Impact on prognosis and therapies. *Emine Kilic.* Dept of Ophthalmology, Erasmus University, Rotterdam, Netherlands

5107 — 9:50 Gene replacement for a blinding mitochondrial disease. *John Guy.* Bascom Palmer Eye Institute, University of Miami Bascom Palmer Eye Institute, Miami, FL *CR, ✕

5108 — 10:05 Engineering new virus vectors for the retina. *John Flannery.* Helen Wills Neuroscience Institute, University of California at Berkeley, Berkeley, CA; School of Optometry, University of California, Berkeley, Berkeley, CA

— 10:20 **Discussion**

Ballroom 4

Thursday, May 11, 2017 8:30 AM-10:30 AM

Anatomy and Pathology/Oncology / Biochemistry/Molecular Biology / Clinical/Epidemiologic Research / Cornea / Immunology/Microbiology / Physiology/Pharmacology / Retinal Cell Biology

502 The global problem of antibiotic resistance: Impact on ocular health worldwide and researching alternatives

Antibiotic resistance has been steadily rising worldwide despite newer classes of antibiotics being developed. This problem impacts those with any predisposing condition or those undergoing ocular surgery. Clinicians and basic scientists interested in ocular surface and intraocular infections, systemic conditions such as diabetes and immunodeficiencies that predispose patients to ocular infection, and complications arising from ocular surgery, are the target audience of this symposium. This symposium will discuss the current epidemiological trends in resistance worldwide and highlight novel and alternative research strategies that aim to circumvent the problem of antibiotic resistance.

Moderators: Michelle C. Callegan and Jun Shimazaki

5109 — 8:30 The role of surveillance studies in understanding antibiotic resistance: U.S. trends. *Penny A. Asbell.* Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY *CR

5110 — 8:54 Antibiotic resistance in India and the development of a rapid system for diagnosing corneal infections using pathogen responsive polymers. *Prashant Garg.* Tej Kohli Cornea Institute, Hyderabad, India; Prof Brian Holden Eye Research Centre, L V Prasad Eye Institute, Hyderabad, India *CR, ✕

5111 — 9:18 Comparative genomics reveals the ancient origins of antibiotic resistance in hospital pathogens. *Mike Gilmore.* Harvard Medical School, Boston, MA; Massachusetts Eye and Ear Infirmary, Boston, MA

5112 — 9:42 Networks of exchanging antibiotic resistance between environmental, commensal, and pathogenic microbes. *Gautam Dantas.* Washington University in St. Louis, St. Louis, MO

5113 — 10:06 Antibiotic alternatives for bacterial keratitis. *Linda Hazlett.* Anatomy and Cell Biology, Wayne State University, Detroit, MI *CR

Exhibit/Poster Hall B0001-B0024

Thursday, May 11, 2017 8:30 AM-10:15 AM

Eye Movements/Strabismus/Amblyopia/
Neuro-Ophthalmology**503 Neurodegenerative Diseases and
Brain Trauma**

Moderator: Ari Z. Zivotofsky

5114 — B0001 Spectral Domain Optical Coherence Tomography Findings in Tunisian Patients with Multiple Sclerosis. *Salim Ben Yahia, R. Kahloun, A. Chebbah, I. Ksiasa, H. Ben Amor, B. Jelliti, M. Khairallah.* Ophthalmology, Fattouma Bourguiba Univ Hosp, Monastir, Tunisia

5115 — B0002 Optic neuritis does not mask progression of retinal neurodegeneration in multiple sclerosis. *Danko Coric¹, J. Nij Bijvank^{1,2}, J. Killestein¹, B. Uitdehaag¹, A. Petzold^{1,2}, L. Balk¹.* ¹Neurology, VU University Medical Center, Amsterdam, Netherlands; ²Ophthalmology, VU University Medical Center, Amsterdam, Netherlands *CR

5116 — B0003 Retinal Sensitivity Reduced in Patients with Multiple Sclerosis with no History of Optic Neuritis. *kanako suzuki, H. Yokouchi, T. Oshitari, M. Kitahashi, T. Baba, S. Yamamoto.* Ophthalmology and Visual Science, Graduate School of Medicine, Chiba University, Chiba, Japan

5117 — B0004 Is there a relationship between saccadic eye movements and cognitive function in multiple sclerosis? *Jenny Nij Bijvank^{1,2}, A. Eijlers⁴, L. Balk², S. Tan¹, B. Uitdehaag², A. Petzold^{2,3}, R. van Rijn¹.* ¹Ophthalmology, VU University Medical Center, Amsterdam, Netherlands; ²Neurology, VU University Medical Center, Amsterdam, Netherlands; ³Moorfields Eye Hospital, London, United Kingdom; ⁴Anatomy & Neurosciences, VU University Medical Center, Amsterdam, Netherlands

5118 — B0005 Microvascular Abnormalities and Inner Retinal Thickness in Multiple Sclerosis. *Sarah Houston¹, A. Nandoskar², R. Nicholas², J. Chataway³, J. Greenwood⁴, A. M. Dubis¹.* ¹NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ²Imperial College NHS Healthcare Trust, London, United Kingdom; ³Queen Square Multiple Sclerosis Centre, Department of Neuroinflammation, UCL Institute of Neurology, University College London, London, United Kingdom

5119 — B0006 Ophthalmological parameters could indicate the safety of nanomembrane plasmapheresis in patients with relapsing-remitting form of Multiple Sclerosis (RRMS) during remission and with Neuromyelitis Optica (NMO). *Peter K. Sapundzhiev¹, P. I. Vassileva¹, A. Alexandrov², A. Momchilova², Z. Tsonchev³, M. Orozova³.* ¹University Eye Hospital “Prof. Pashev”, Sofia, Bulgaria; ²Institute of Biophysics and Biomedical Engineering, Bulgarian Academy of Science, Sofia, Bulgaria; ³Clinic of Neurology, University Hospital “Queen Joanna- ISUL”, Sofia, Bulgaria

5120 — B0007 The sensitivity of OCT in detecting optic neuritis. *Sarah C. Xu¹, J. Leavitt¹, D. Hodge², J. J. Chen^{1,3}.* ¹Department of Ophthalmology, Mayo Clinic Hospital, Rochester, MN; ²Department of Biostatistics, Mayo Clinic Hospital, Rochester, MN; ³Department of Neurology, Mayo Clinic Hospital, Rochester, MN

5121 — B0008 Acute vision Loss Attributed to Optic Neuritis at a Level One Trauma Center and County Hospital. *Luv Patel, L. S. Ediriwickrema, S. Patel, V. Patel.* University of Southern California, Los Angeles, CA

5122 — B0009 Early retinal atrophy predicts long-term visual impairment after acute optic neuritis. *Bernardo Sanchez Dalmau¹, E. H. Martinez-Lapiscina², R. Torres Torres¹, S. Ortiz-Perez¹, S. Alba-Arbalaz¹, A. Guerrero-Zamora², D. Calbet³, L. Sanchez-Vela², P. Villoslada².* ¹Ophthalmology, Hospital Clínic, Sabadell, Spain; ²IDIBAPS, Barcelona, Spain; ³Investigaciones Estadísticas, Barcelona, Spain

5123 — B0010 In vivo Retinal Structural and Microvascular Changes that Occur in Early Alzheimer’s Disease Using Optical Coherence Tomography Angiography. *William Robert Kwapong, M. Shen, P. Chenlei, S. Huang, F. Lu.* The Eye Hospital of Wenzhou Medical University, Wenzhou, China

5124 — B0011 Quantification of amyloid beta in the eye: Novel biomarkers for Alzheimer’s disease. *Sijia Cao¹, J. Z. Cui¹, J. Gao¹, A. Wang¹, S. Lee^{1,2}, M. F. Beg², M. V. Sarunic², J. A. Matsubara¹.* ¹Ophthal & Visual Sciences, University of British Columbia, Vancouver, BC, Canada; ²School of Engineering Science, Simon Fraser University, Burnaby, BC, Canada

5125 — B0012 Retinal Biomarkers for Early Alzheimer’s Disease. *Aleid van de Kreeke¹, E. H. Runhar², H. Nguyen¹, E. Konijnenberg², T. L. Ponsioen², P. Visser², F. Verbraak¹.* ¹Ophthalmology, VU University Medical Center, Amsterdam, Netherlands; ²Neurology, VU University Medical Center, Amsterdam, Netherlands; ³Ophthalmology, Isala, Zwolle, Netherlands

5126 — B0013 Drusen in the Peripheral Retina of the Alzheimer’s Eye. *Kresimir Ukalovic¹, S. Cao¹, S. Lee², Q. Tang¹, M. F. Beg², M. V. Sarunic², R. Hsiung³, I. R. Mackenzie³, V. Hirsch-Reinshagen³, J. Z. Cui¹, J. A. Matsubara¹.* ¹Ophthalmology, University of British Columbia, Vancouver, BC, Canada; ²Simon Fraser University, Burnaby, BC, Canada; ³Pathology, University of British Columbia, Vancouver, BC, Canada; ⁴Neurology, University of British Columbia, Vancouver, BC, Canada

5127 — B0014 Retinal amyloid beta load is associated with cerebral amyloid angiopathy. *Brandon J. McIlmoyle¹, S. Lee², V. Hirsch-Reinshagen³, I. R. Mackenzie³, R. Hsiung⁵, S. Cao⁴, Q. Tang⁴, B. Eadie⁴, K. Jiang⁴, M. V. Sarunic², M. F. Beg², J. Z. Cui⁴, J. A. Matsubara¹.* ¹Medicine, University of British Columbia, Vancouver, BC, Canada; ²Simon Fraser University, Burnaby, BC, Canada; ³Pathology, University of British Columbia, Vancouver, BC, Canada; ⁴Ophthalmology and Visual Sciences, University of British Columbia, Vancouver, BC, Canada; ⁵Neurology, University of British Columbia, Vancouver, BC, Canada

5128 — B0015 Evaluation of Feasibility and Acceptability of the Convergence Insufficiency Symptom Survey for Concussion (CISS-CON) Among Concussed Youth. *Katherine Weise¹, J. B. Christy², M. Scheiman⁴, E. Borsting³, H. Hale⁶, S. D. Lee³, S. Terry⁷, L. E. Dreer⁵.* ¹Pediatric Optometry, University of Alabama at Birmingham, Birmingham, AL; ²Physical Therapy, University of Alabama at Birmingham, Birmingham, AL; ³Southern California College of Optometry, Marshall B. Ketchum University, Fullerton, CA; ⁴Pennsylvania College of Optometry, Salus University, Philadelphia, PA; ⁵Ophthalmology, University of Alabama at Birmingham, Birmingham, AL; ⁶Children’s of Alabama, University of Alabama at Birmingham Sports Medicine, Birmingham, AL; ⁷Arts and Sciences, University of Alabama at Birmingham, Birmingham, AL

5129 — B0016 The effect of carotid stenosis on brain morphology and behavior, evaluated for 11 to 13 months, in a rat animal model. *Arieh S. Solomon¹, A. Nitzan⁴, N. Rudoler^{2,3}, Y. Piontkovitz⁵.* ¹Goldschleger Eye Research Institute, Tel-Aviv University, Tel-Hashomer, Israel; ²Health Science, Ben Gurion University, Beer Sheva, Israel; ³Shraga Segal School of Microbiology, Ben Gurion University, Beer Sheva, Israel; ⁴Eye Department, Surasky Medical Center, Tel Aviv University, Tel Aviv, Israel; ⁵Strauss Center for Computational Neuroimaging, Tel Aviv University, Tel Aviv, Israel

5130 — B0017 Baseline mobility measures and patient perceptions in stroke induced hemianopia. *Claire Howard, F. J. Rowe.* Health Sciences Research, University of Liverpool, Liverpool, United Kingdom

5131 — B0018 The Effect of Topical Prostaglandins on Migraine Headaches. *Laura Hall¹, V. Brahma¹, R. L. Lesser², A. Fisayo¹, M. Wand³, C. Teng¹.* ¹Yale Eye Center, Yale University School of Medicine, New Haven, CT; ²Neuro-ophthalmology, The Eye Care Group, New Haven, CT; ³Consulting Ophthalmologists, PC, Farmington, CT *CR

5132 — B0019 Indications of mitochondrial dysfunction in Wolfram syndrome. *Chiara La Morgia^{1,2}, M. Carbonelli¹, L. Caporali¹, F. Tagliavini¹, G. Amore^{2,1}, F. sadun¹, C. Tonon³, L. Gramegna³, R. Lodi³, P. Barboni¹, R. Liguori^{1,2}, V. Carelli^{1,2}.* ¹IRCCS Institute of Neurological Sciences of Bologna, Neurology Clinic, Bellaria Hospital, Bologna, Italy; ²Department of Biomedical and Neuromotor Sciences, University of Bologna, Bologna, Italy; ³Functional MR Unit - S.Orsola-Malpighi Hospital, University of Bologna, Bologna, Italy; ⁴Ospedale San Giovanni Evangelista, Tivoli, Italy

5133 — B0020 Cognitive measure may identify atrophy in visual brain regions associated with posterior cortical atrophy. *Elizabeth Couser¹, C. Pettrigrew², A. Soldan², M. S. Albert².* ¹Gerontology, University of Maryland, Baltimore, MD; ²Neurology, Johns Hopkins, Baltimore, MD

5134 — B0021 New insights into malaria retinopathy using optical coherence tomography. *Jack Gormley¹, Z. Tu², V. Sheth², F. A. Proudlock³, K. Seydel³, T. Taylor³, G. Msukwa⁴, N. V. Beare¹, S. P. Harding¹, I. Gottlob².* ¹University of Liverpool, Leeds, United Kingdom; ²University of Leicester, Leicester, United Kingdom; ³University of Michigan, Ann Arbor, MI; ⁴College of Medicine, Blantyre, Malawi

5135 — B0022 Subclinical changes on handheld optical coherence tomography in apparently malaria retinopathy-negative patients with cerebral malaria. *Zhanhan Tu¹, J. Gormley², V. Sheth¹, F. A. Proudlock¹, K. Seydel³, T. Taylor³, G. Msukwa⁴, N. Beare², S. P. Harding², I. Gottlob¹.* ¹Neuroscience, Psychology and Behaviour, University of Leicester, Leicester, United Kingdom; ²University of Liverpool, Leeds, United Kingdom; ³University of Michigan, Ann Arbor, MI; ⁴College of Medicine, Blantyre, Malawi

5136 — B0023 Quantifying Visual Photosensitivity in Veterans with Traumatic Brain Injury. *Mariela C. Aguilar^{1,2}, A. Gonzalez¹, C. J. Rowaan¹, A. Galor^{3,4}, N. Gregori^{3,4}, H. A. Durkee¹, P. R. Rosa³, B. L. Lam³, J. A. Parel^{1,5}, S. S. Asfour².* ¹Ophthalmic Biophysics Center, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ²Department of Industrial Engineering, College of Engineering, University of Miami, Coral Gables, FL; ³Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine, Miami, FL; ⁴VA Medical Center, Miami, FL; ⁵Brien Holden Vision Institute and Vision Cooperative Research Centre, Sydney, NSW, Australia

5137 — B0024 Spectral Domain Optical Coherence Tomography Identifies Outer Retina Thinning in Frontotemporal Lobar Degeneration. *Benjamin J. Kim¹, D. Song¹, D. J. Irwin^{2,3}, E. Daniel¹, J. D. Leveque¹, A. R. Raquib¹, W. Pan¹, G. Ying¹, T. S. Aleman¹, J. L. Dunaief¹, M. Grossman^{2,3}.* ¹Ophthalmology, Scheie Eye Institute / UPenn, Philadelphia, PA; ²Neurology, University of Pennsylvania, Philadelphia, PA; ³Neurology, Penn Frontotemporal Degeneration Center, Philadelphia, PA

Exhibit/Poster Hall B0025-B0050

Thursday, May 11, 2017 8:30 AM-10:15 AM

Eye Movements/Strabismus/Amblyopia/Neuro-Ophthalmology

504 Orbital and Thyroid Eye Disease

5138 — B0025 Personalized 3D-printed conformers for the treatment of severe microphthalmia/ anophthalmia. *Maayke M. Kuijten¹, J. S. Remmers¹, D. L. Mourits¹, P. de Graaf², D. T. Hartong¹.* ¹Ophthalmology, VU University Medical Center, Amsterdam, Netherlands; ²Radiology and Nuclear Medicine, VU University Medical Center, Amsterdam, Netherlands

5139 — B0026 Retrospective review of ocular pain management with eye removal surgery at Yale New Haven Hospital. *Jenny Dohman, K. Kalyam, M. Ehrlich.* Yale School of Medicine, New Haven, CT

5140 — B0027 Clinical results of porous silicone orbital implants. *JunHyuk Son¹, E. Cho¹, A. Jeong¹, S. Cha¹, S. Lee², J. Yang³.* ¹Ophthalmology, Yeungnam uiniversity, Daegu, Korea (the Republic of); ²Ophthalmology, Chungnam university, Daejeon, Korea (the Republic of); ³ophthalmology, Inje university Busan Paik hospital, Busan, Korea (the Republic of) ✂

5141 — B0028 Management of orbital fractures: A survey of common practices among oculoplastic surgeons. *Liza M. Cohen, M. K. Yoon.* Ophthalmology, Massachusetts Eye & Ear Infirmary, Boston, MA

5142 — B0029 Posterior Orbital Floor Fractures. *Juan C. Jiménez-Pérez¹, M. K. Yoon^{1,2}.* ¹Ophthalmic Plastic and Reconstructive Surgery, Massachusetts Eye and Ear, Boston, MA; ²Harvard Medical School, Boston, MA

5143 — B0030 A Novel Surgical Approach for the Removal of Pediatric Orbital Dermoid Cysts. *Hans B. Heymann¹, B. Rahman².* ¹Ophthalmology, Northwestern University, Chicago, IL; ²Ophthalmology, Robert H. and Anne Lurie Children's Hospital, Chicago, IL

5144 — B0031 Compound Coherent Plane-Wave Ultrasound (CCPU) Imaging of Vascular Malformations in the Orbit. *Ashley Campbell, A. Callahan, R. Urs, R. H. Silverman, M. Kazim.* Ophthalmology, Columbia University Medical Center, New York, NY

5145 — B0032 Correlation Between Histopathology and Optical Coherence Tomography in Periocular Tumors. *Denise Miyamoto¹, S. Bergeron¹, B. Arthurs², D. Sanft², C. Mastromonaco¹, M. N. Burnier¹.* ¹MUHC-McGill University Ocular Pathology Laboratory, Montreal, Canada, Montreal, QC, Canada; ²Ophthalmology, McGill University, Montreal, QC, Canada

5146 — B0033 Value of 3-Tesla Diffusion-Weighted Imaging in the evaluation of diffuse orbital masses. *Silvana A. Schellini^{1,2}, A. Galindo², S. M. Elkhamary², L. AlGhafri², R. Khandekar².* ¹Ophthalmology, Universidade Estadual Paulista - Faculdade Medicina, Botucatu, Brazil; ²Oculoplastic, King Khaled Specialist Eye Hospital, Riyadh, Saudi Arabia

5147 — B0034 Orbital cellulitis with subperiosteal abscess: a retrospective study of 11 consecutive cases. *Justin N. Karlin, S. A. Newman.* Ophthalmology, University of Virginia, Charlottesville, VA

5148 — B0035 Pediatric Orbital Cellulitis Requiring Diverse Surgical Approaches. *Preema M. Buch^{1,2}, W. Katowitz^{2,1}, K. Revere^{2,1}.* ¹Ophthalmology, University of Pennsylvania/Scheie Eye Institute, Philadelphia, PA; ²Ophthalmology, Children's Hospital of Philadelphia, Philadelphia, PA

5149 — B0036 Allergic Fungal Sinusitis-Masquerade Syndrome and Delay in Diagnosis. *Steven A. Newman¹, J. N. Karlin¹, J. Gurrola².* ¹Ophthalmology, University of Virginia, Charlottesville, VA; ²Otolaryngology, University of Virginia, Charlottesville, VA

5150 — B0037 Treatment of Adult Orbital Xanthogranuloma with Intravenous Rituximab. *Michelle W. Latting², C. Kim¹, M. Stefanyszyn¹.* ¹Oculoplastic and Orbital Surgery, Wills Eye Hospital, Philadelphia, PA; ²Ophthalmology, Wills Eye Hospital, Philadelphia, PA

5151 — B0038 A Rare Case of Granuloma Faciale affecting the Tarsal conjunctiva. *Christopher M. Knapp, M. Reed, E. Farcas, L. Lu.* Ophthalmology, Lincoln County Hospital, Lincoln, United Kingdom

5152 — B0039 Clinical Features of IgG4 Related Orbital Disease and Graves Ophthalmopathy. *Andrea Tooley, J. Garrity.* Ophthalmology, Mayo Clinic, Rochester, MN

5153 — B0040 Reducing Diplopia in patients with graves orbitopathy - efficacy of intravenous glucocorticoids with and without combination of orbital radiotherapy. Michael Oeverhaus¹, T. Witteler², H. Lax³, J. Esser¹, A. Eckstein¹.

¹Center for Ophthalmology, University Hospital Essen, Essen, Germany; ²Department of Medical Oncology, Kliniken Essen-Mitte, Essen, Germany; ³Institute of Medical Informatics, Biometry and Epidemiology, University of Duisburg-Essen, Essen, Germany

5154 — B0041 RNA-Sequencing Gene Expression Profiling of Orbital Adipose Derived Stem Cell Population of Thyroid Associated Orbitopathy (TAO). Wensi Tao, J. Ayala-Haedo, M. Field, D. Pelaez, S. Wester. ophthalmology, Bascom Palmer Eye Institut, University of Miami, Miami, FL

5155 — B0042 Larger lacrimal gland size associated with clinical symptomatology in patients with thyroid eye disease and compressive optic neuropathy. Tavish Nanda¹, R. Bathras¹, A. Campbell¹, C. Wu², T. Wang², M. Kazim¹.

¹Harkness Eye Institute, New York, NY; ²Radiation Oncology, Columbia University Medical Center, New York, NY

5156 — B0043 Choroidal thickness (CT) in thyroid associated orbitopathy (TAO).

Kam-hung, Kelvin Chong^{1,2}, T. Iao¹, F. Lai^{1,3}, D. S. Ng⁴, J. Leung⁴, A. Au⁴, T. Ko⁴, A. L. Young².

¹Ophthalmology and Visual Science, The Chinese University of Hong Kong, Hong Kong, Hong Kong; ²Ophthalmology and Visual Science, The Prince of Wales Hospital, Hong Kong, Hong Kong; ³Ophthalmology, Caritas Medical Centre, Hong Kong, Hong Kong; ⁴Ophthalmology, Hospital Authority-Hong Kong East Cluster, Hong Kong, Hong Kong

5157 — B0044 Thyroid Eye Disease-Compressive optic neuropathy is not inversely associated with exophthalmos. Kristen E. Dunbar, T. Nanda, A. Campbell, R. Bathras, M. Kazim. Ophthalmology, Columbia University Medical Center, New York, NY

5158 — B0045 Investigation of dislocation of the eyeball in patients with endocrine ophthalmopathy with the Dynamic Scheimpflug Analyzer. Anna Leszczynska¹, K. Moehler², E. Spoerl¹, L. E. Pillunat¹. ¹Ophthalmology, Univ. Hospital Carl Gustav Carus, TU Dresden, Germany, Dresden, Germany; ²University of Applied Sciences, Jena, Germany

5159 — B0046 Improvement in Eccentric and Primary gaze ocular alignment in Thyroid Eye Disease-Strabismus Surgery by the addition of Tenon recession. Stacy Scofield-Kaplan, K. Dunbar, G. Stein, M. Kazim. Ophthalmology, Columbia University, Harkness Eye Institute, New York, NY

5160 — B0047 Quantitative Analysis of Goldmann Visual Fields Following Orbital Decompression for Thyroid Eye Disease. Taylor W. Starnes¹, M. Ali¹, P. W. Macintosh¹, P. Setabutr¹, H. E. Moss², V. K. Aakalu¹. ¹Ophthalmology, University of Illinois at Chicago, Chicago, IL; ²Ophthalmology, Stanford University, Palo Alto, CA

5161 — B0048 ⁹⁹Tc^m-Octreotide Scintigraphy in Evaluation of Thyroid-Associated Ophthalmopathy in Pediatric Patients. Bin Sun^{1,2}, Z. Zhang¹, C. Bao¹, S. Li². ¹The Department of Ophthalmology, First Hospital of Shanxi Medical University, Taiyuan, China; ²The Key Laboratory of National Ministry of Health for Forensic Science, College of Medicine, Xi'an Jiaotong University, Xi'an, China

5162 — B0049 Clinical Characterization of Pediatric Thyroid Eye Disease. Michael Chua, L. Tomlinson, G. Binenbaum, W. Katowitz. Ophthalmology, Children's Hospital of Philadelphia, Philadelphia, PA

5163 — B0050 Pediatric thyroid eye disease: A 5-year review of clinical presentation, management, and outcomes at a single tertiary care center. Valerie Chen, P. Frias, H. J. Kim. Ophthalmology, Emory University, Atlanta, GA

Exhibit/Poster Hall B0051-B0075

Thursday, May 11, 2017 8:30 AM-10:15 AM

Physiology/Pharmacology

505 Toxicology; hypoxia; ischemia; oxidative stress; corneal disease

Moderator: Claudio Bucolo

5164 — B0051 Determination of a No Observable Effect Level (NOEL) for Endotoxin following a Single Intravitreal Administration to Cynomolgus Macaques. Brian J. Christian³, P. Miller¹, T. Nork¹, C. A. Rasmussen¹, T. Larsen⁴, E. A. Thackaberry³, H. Booler³, V. Bantseev³. ¹OSOD (Ocular Services On Demand) LLC, Madison, WI; ²Toxicology, Covance Laboratories Inc., Madison, WI; ³Genentech Inc., South San Francisco, CA; ⁴Pathology, Covance Laboratories Inc., Chantilly, VA

5165 — B0052 Toxic keratopathy due to zoanthid coral palytoxin. Asim V. Farooq¹, A. Gibbons², M. Council³, G. J. Harocopos⁴, S. Holland⁵, J. Judelson⁶, B. Shoss⁴, E. Schmidt¹, U. Md Noh^{5,7}, A. D'Angelo³, R. Chundury³, R. Judelson⁶, V. L. Perez², A. J. Huang⁴. ¹Ophthalmology and Visual Science, University of Chicago, Chicago, IL; ²University of Miami, Miami, FL; ³St. Louis University, St. Louis, MO; ⁴Washington University in St. Louis, St. Louis, MO; ⁵University of British Columbia, Vancouver, BC, Canada; ⁶Pasqua Hospital, Regina, SK, Canada; ⁷National University of Malaysia, Bangi, Malaysia

5166 — B0053 Ocular side effects of novel and traditional chemotherapeutic agents. Anne Kunkler, K. Kendra, C. M. Cebulla. The Ohio State University, Columbus, OH

5167 — B0054 Reduction of macular pigment as early feature of Tamoxifen retinopathy: a pilot study. Chiara Preziosa, I. D'Agostino, U. Nava, M. Cozzi, M. V. Cigada, M. Pellegrini, G. Staurenghi. Sacco Hospital, Eye Clinic, University of Milan, Milan, Italy *CR

5168 — B0055 Safety and tolerability of trabodensin and latanoprost in dogs following a 39 week ocular (topical) instillation. Adam Brockman, D. Albers, W. K. McVicar. NonClinical Development, Inotek Pharmaceuticals Inc, Lexington, MA *CR

5169 — B0056 Preclinical safety assessment of novel pharmaceuticals following intravitreal biologics in rabbits. Yong Li^{1,2}, J. Busoy¹, B. Achirn Zaman², J. Wei^{1,2}, W. Hong², T. Wong^{1,3}. ¹Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore, Singapore; ²Institute of Molecular and Cell Biology, A*STAR, Singapore, Singapore, Singapore; ³Duke NUS Medical School, Singapore, Singapore, Singapore *CR

5170 — B0057 Ocular safety of high doses Polyhexanide (PHMB) in healthy volunteers. Vincenzo Papa¹, I. J. van Der Meulen², S. Rottey³, G. Saller⁴, I. Overweel⁵, M. op 't Hof⁶, A. Asero¹, J. K. Darf⁶. ¹SIFI SPA, Laviniaio, Italy; ²Academic Medical Center (AMC), Amsterdam, Netherlands; ³DRUG Research Unit, Ghent, Belgium; ⁴O.L.V. Research Centre, Aalst, Belgium; ⁵PSR Group, Amsterdam, Netherlands; ⁶Moorfields Eye Hospital and the UCL Institute of Ophthalmology, London, United Kingdom *CR, x⁷

5171 — B0058 Safety of Polyhexanide (PHMB) 0.08% ophthalmic solution after 26-week repeated-dose ocular administration in rabbits. Antonino Asero¹, M. Salvador², S. Venturella², G. Oberto², A. Blanco¹. ¹SIFI SPA, Laviniaio - Aci S. Antonio, Italy; ²RTC SPA, Pomezia - ROMA, Italy *CR

5172 — B0059 Dual enkephalinase inhibitor (DENKI) PL265: a novel topical treatment for ocular pain? Annabelle Reaux-le Goazigo¹, H. Poras², T. Ouimet², C. Baudouin^{1,3}, S. Melik Parsadaniantz¹, M. Wurm². ¹Therapeutic Department, INSERM, UMR_S968, Vision Institute, Paris, France; ²Pharmaleads, Paris, France; ³INSERM-DHOS CIC 1423, Quinze-Vingts National Ophthalmology Hospital, PARIS, France *CR

5173 — B0060 Effects of botulinum toxin type A for the treatment of dry eye syndrome and tear biomarkers. Joonhyung Yeo, J. Kim. Ophthalmology, Chung-Ang university Hospital, Seoul, Korea (the Republic of)

5174 — B0061 Exploring the effects of an ophthalmic solution containing high concentration hyaluronic acid (0.4%) and taurine 0.5% on the ocular surface of glaucoma patients under topical hypotensive therapy.

Francesca Berardo¹, M. Ferrazza¹, G. Roberti¹, L. Agnifili², L. Tanga¹, G. Manni¹, M. Figus³, M. Michelessi¹, F. Oddone¹. ¹IRCCS FONDAZIONE G.B. BIETTI, Rome, Italy; ²University of Chieti-Pescara, Chieti, Italy; ³University of Pisa, Pisa, Italy; ⁴University of Rome Tor Vergata, Rome, Italy *CR

5175 — B0062 Moxifloxacin, voriconazole and chlorhexidine eye-drops: a new combined treatment for *Acanthamoeba* keratitis.

Ángel Ortillés^{1,2}, E. Gámez¹, M. Sierra², E. Rubio³, M. Benito³, M. Fernández⁴, J. Cristóbal⁴, B. Calvo², P. Goñi². ¹Animal Pathology, University of Zaragoza, Zaragoza, Spain; ²Aragón Institute of Engineering Research (i3A), University of Zaragoza, Zaragoza, Spain; ³Microbiology, Preventive Medicine and Public Health, University of Zaragoza, Zaragoza, Spain; ⁴Physiatry and Nursery, University of Zaragoza, Zaragoza, Spain; ⁵Ophthalmology, “Lozano Blesa” University Clinic Hospital, Zaragoza, Spain

5176 — B0063 Minimum inhibitory concentration of corneal storage media. *Talita Mizushima.* ISCMSP, Sao Paulo, Brazil

5177 — B0064 Corneal neovascularization and inflammation in pterygium mouse model induced by subconjunctival injection of human pterygium epithelial cells.

Minsup Lee¹, S. Yun¹, S. Choi¹, J. Yang^{1,2}. ¹T2B Infrastructure Center for Ocular Disease, Inje University Busan Paik Hospital, Busan, Korea (the Republic of); ²Department of Ophthalmology, Inje University College of Medicine, Busan, Korea (the Republic of)

5178 — B0065 Granular corneal opacities in workers of BCMP manufacturing factory: a suspicious occupational eye injury. *Xiao Lin¹, Y. Wang², H. Zhou¹.* ¹Ophthalmology and visual science, Fudan University, Shanghai, China; ²School of Optometry, Indiana University, Bloomington, IN

5179 — B0066 Distinct effects of trehalose and chloroquine on acute inflammatory response in human ocular surface and immune cells. *Trailokyanath Panigrahi¹, R. Shetty², S. Shivakumar¹, N. Jeyabalan¹, A. Ghosh¹.* ¹GROW Research Laboratory, Narayana Nethralaya Foundation, Bangalore, India; ²Cornea Department, Narayana Nethralaya, Bangalore, India

5180 — B0067 Effect of a low concentration of desonide disodium phosphate on inflammatory parameters in a model of endotoxin-induced uveitis. *Francesco Giuliano¹, V. Vitale¹, G. De Pasquale¹, M. Mazzone².* ¹Research and Preclinical Development, S.I.F.I. S.p.A., Lavinaio-Aci S. Antonio, Italy; ²Business and Portfolio Development, S.I.F.I. S.p.A., Lavinaio-Aci S. Antonio, Italy *CR

5181 — B0068 Effect of Recombinant Human Heat Shock Protein 27 on the Ultraviolet B-Irradiated Pterygial-derived Fibroblast.

Yoo Jeong Park, C. Moon, J. Shin, S. Kang, H. Tchah, J. Kim. Ophthalmology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Korea (the Republic of)

5182 — B0069 PAMAM dendrimer based injectable gels for the treatment of corneal inflammation. *Siva Pramodh Kambhampati^{2,3}, U. Soiberman^{2,3}, T. Wu^{1,3}, S. C. Yiu^{2,3}, A. Towerki¹, W. Stark², K. Rangaramanujam^{2,3}.* ¹Biomedical engineering, Johns Hopkins University, Baltimore, MD; ²Ophthalmology, Johns Hopkins School of Medicine, Baltimore, MD; ³Center for Nanomedicine, Johns Hopkins School of Medicine, Baltimore, MD; ⁴King Khaled Eye Specialist Hospital, Riyadh City, United Arab Emirates *CR

5183 — B0070 D-Arginine as a Novel Excipient Resulted in Retinal Degeneration Following Intravitreal Administration to Male New Zealand White Rabbits. *Roxanne Andaya, H. Boole, C. Sioson, V. Bantseev.* Genentech, Inc., South San Francisco, CA

5184 — B0071 The Influences of Smartphone Use on the Tear film and Oxidative Stress.

Yung Hui Kim¹, W. Choi¹, Y. Li¹, L. Cui^{1,2}, J. Choi¹, I. You³, K. Yoon^{1,2}. ¹Department of Ophthalmology, Chonnam National University Medical School and Hospital, Gwangju, Korea (the Republic of); ²Department of Biomedical Sciences and Center for Creative Biomedical Scientists, Chonnam National University, Gwangju, Korea (the Republic of); ³Department of Ophthalmology, Chonbuk National University Medical School and Hospital, Jeonju, Korea (the Republic of)

5185 — B0072 Paradoxical neuroprotective effect induced by a single intravitreal injection of TNF- α following optic nerve crush. *Moran Friedman Gohas^{1,2}, S. Weiss^{1,2}, N. Goldenberg-Cohen^{1,3}.* ¹The Krieger Eye Research Laboratory, Felsenstein Medical Research Center, Petach Tikva, Israel; ²Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel; ³Ophthalmology Department, Bnai Zion Medical Center, Haifa, Israel

5186 — B0073 Ophthalmic artery occlusion causes endothelin-1 mediated vasoconstriction 48 hours post ischemia. *Frank W. Blixt¹, K. Warfvinge², L. Edvinsson^{1,2}.* ¹Department of Clinical Sciences, Lund University, Lund, Sweden; ²Department of Clinical Experimental Research, Glostrup Research Institute, Glostrup, Denmark

5187 — B0074 Hypoxia protects horizontal cells from low glucose-induced Ca²⁺ dysregulation in the anoxia-tolerant goldfish. *Michael W. Country, B. Campbell, M. Jonz.* Department of Biology, University of Ottawa, Ottawa, ON, Canada

5188 — B0075 Effects of hypobaric hypoxia on rat retina and protective response of resveratrol to the stress. *Xiaorong Xin.* Ophthalmology, Qinghai Red Cross Hospital, Xining, China ✗

Exhibit/Poster Hall B0076-B0092

Thursday, May 11, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

506 Diabetic Retinopathy: Neurodegeneration and pathology associated with the neurovascular unit.

Moderators: Susanne Mohr and Mei Chen

5189 — B0076 Diabetes Reduces Phosphorylation in Human Retina of α -Crystallin on T148, a Site Regulating its Protective Function in Neurons and Glia. *Patrice E. Fort^{1,2}, A. Ruebsam¹, K. Schey³, Y. Shan¹.* ¹Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ²Molecular and Integrative Physiology, University of Michigan, Ann Arbor, MI; ³Biochemistry, Vanderbilt University, Nashville, TN

5190 — B0077 Effect of hypoxia on autophagy in R28 cells under low and high glucose conditions. *Larissa H. Tang¹, F. K. Fung¹, A. C. Lo^{1,2}.* ¹Department of Ophthalmology, The University of Hong Kong, Hong Kong, Hong Kong; ²Research Centre of Heart, Brain, Hormone and Healthy Aging, The University of Hong Kong, Hong Kong, Hong Kong

5191 — B0078 Corneal nerve fiber morphology and neurodegeneration of the retina in diabetic rats. *Sean D. Kim¹, P. Nguyen¹, B. baccouche^{1,2}, W. Wang¹, J. Sundstrom¹, A. J. Barber¹.* ¹Ophthalmology, Penn State Hershey College of Medicine, Hershey, PA; ²Higher Institute of Biotechnology of SidiThabet, Tunis, Tunisia

5192 — B0079 Simulating diabetic retinopathy in organotypic retinal explant cultures: Comparison of diabetic conditions on early vs. late post-natal retina. *Francois Paquet-Durand¹, S. Vagionitis¹, K. Martinovic¹, J. Valdes³, D. Trifunovic¹, M. Miranda², O. Schmachtenberg³.* ¹Institute for Ophthalmic Research, University of Tuebingen, Tuebingen, Germany; ²Universidad CEU Cardenal Herrera, Valencia, Spain; ³Universidad de Valparaiso, Valparaiso, Chile

5193 — B0080 Upregulation of activated Müller cell marker independent of local ischemia in diabetic retinopathy. *Marina V. Yasvoina¹, A. Dawood¹, M. B. Powner², M. Fruttiger¹.* ¹UCL Institute of Ophthalmology, London, United Kingdom; ²City, University of London, London, United Kingdom

5194 — B0081 Newly Designed Culture System to Study Effects of Hyperglycemia on the Cross-Talk between Müller and Retinal Endothelial Cells. *Susanne Mohr, B. Coughlin.* Department of Physiology, Michigan State University, East Lansing, MI

5195 — B0082 Diabetes induced neurodegeneration in the retina and the brain of mice are associated and independent of microvasculopathy. *Chunhua Jiao¹, M. D. Abramoff^{1,5}, K. Lee³, I. Oguz¹, P. Adamson⁴, A. Hedberg-Buenz^{2,3}, M. G. Anderson^{1,3}, E. Sohn¹.* ¹Department of Ophthalmology, Stephen A. Wynn Institute For Vision Research, Iowa City, IA; ²Department of Veterans Affairs, Iowa City, IA; ³Department of Molecular Physiology and Biophysics, University of Iowa, Iowa City, IA; ⁴UCL Institute of Ophthalmology, London EC1V 9EL, United Kingdom; ⁵Iowa Institute for Biomedical Imaging, IA, IA *CR

5196 — B0083 Muller Cell-derived Paraoxonase 2 Reverses Vascular Dysfunction in Diabetic Retinopathy. *Jingming Li^{1,2}, G. Chen², F. Zhang², G. Ding¹, Q. Liu².* ¹Ophthalmology, First Affiliated Hospital of Xi'an Jiaotong University, Xian, China; ²Ophthalmology, Affiliated Eye Hospital of Nanchang University, Nanchang, China

5197 — B0084 A selective PPAR α modulator has preventive effects in murine models of retinopathy. *Yohei Tomita^{2,1}, Y. Miwa^{2,1}, M. Miyauchi^{2,1}, A. Ishida^{2,1}, H. Kunimi^{2,1}, Y. Katada^{2,1}, K. Tsubota², T. Kurihara^{2,1}.* ¹Laboratory of Photobiology, Keio University School of Medicine, Tokyo, Japan; ²Ophthalmology, Keio University School of Medicine, Tokyo, Japan *CR

5198 — B0085 Spermine Oxidase: a novel mediator of diabetes-induced retinal neurodegeneration. *S. Priya Narayanan^{1,3}, A. Saul^{1,2}, Z. Xu¹, P. Pichavaram^{1,3}.* ¹Vision Discovery Institute, Augusta University, Augusta, GA; ²Department of Ophthalmology, Augusta University, Augusta, GA; ³College of Allied Health Sciences, Augusta University, Augusta, GA

5199 — B0086 Modulation of Spermine Oxidation in Müller Glial Cells under Hypoxic Condition. *Di Wu^{1,2}, K. Noda^{1,2}, M. Murata^{1,2}, Y. Liu^{1,2}, A. Kanda^{1,2}, S. Ishida^{1,2}.* ¹Laboratory of Ocular Cell Biology and Visual Science, Hokkaido University Graduate School of Medicine, Sapporo, Japan; ²Department of Ophthalmology, Hokkaido University Graduate School of Medicine, Sapporo, Japan

5200 — B0087 Alpha-1-Anti-Trypsin increased Na⁺/K⁺-ATPase expression in an *in vitro* Müller cells diabetic retinopathy model. *Maria Constanza Potilinski, G. Ortiz, J. E. Gallo.* IIMT, Universidad Austral, Pilar, Argentina

5201 — B0088 Alpha-1-antitrypsin ameliorates features of oxidative stress and structural retinal damage in diabetic mice. *Gustavo Ortiz, M. Potilinski, J. P. Salica, J. E. Gallo.* Universidad Austral, Buenos Aires, Argentina

5202 — B0089 High glucose induces mitochondrial dysfunction and mitophagy in retinal Müller cells: Role of TXNIP. *Lalit P. Singh¹, T. S. Devi², M. Somayajulu³.* ¹Anatomy/Cell Biology and Ophthalmology, Wayne State University, Detroit, MI; ²Anatomy and Cell Biology, Wayne State University, Detroit, MI; ³Center for Molecular Medicine and Genetics, Wayne State University, Detroit, MI

5203 — B0090 TLR4 plays an important role in regulating ZO-1 and occludin levels, as well as retinal damage following ischemia-reperfusion injury. *Li Liu¹, Y. Jiang¹, E. Curtiss¹, J. J. Steinle^{1,2}.* ¹Anatomy and Cell Biology, Wayne State University, Detroit, MI; ²Ophthalmology, Wayne State University, Detroit, MI

5204 — B0091 Circadian rhythm disruption leads to an abnormal Kir4.1 expression due to AMPK inactivation in retinal Müller cells. *Alpha Alex¹, M. Ali², Q. Luo¹, A. D. Bhatwadekar¹.* ¹Ophthalmology, The Eugene and Marilyn Glick Eye Institute, Indianapolis, IN; ²Indiana University School of Medicine, Indianapolis, IN

5205 — B0092 Circadian Arrhythmia Alters Retinal Kir4.1 Expression. *Ashay D. Bhatwadekar, O. Mufii, Q. Luo.* Ophthalmology, Eugene and Marilyn Glick Eye Institute, Indianapolis, IN *CR

Exhibit/Poster Hall B0093-B0114

Thursday, May 11, 2017 8:30 AM-10:15 AM

Biochemistry/Molecular Biology

507 Molecular mechanisms of diabetic retinopathy

Moderator: Pamela M. Martin

5206 — B0093 Advanced Glycation End Products Link Inflammatory Response to Upregulation of Galectin-1 in Diabetic Retinopathy. *Atsuhiko Kanda, Y. Dong, K. Noda, W. Saito, S. Ishida.* Ophthalmology, Hokkaido University, Sapporo, Japan *CR

5207 — B0094 Comparative miRNA Microarray Analysis of Diabetic Mice Retinas and Human Retinal Endothelial Cells Challenged With 15-HETE or High Glucose. *Khaled Elmasry^{1,3}, A. M. Tawfik^{2,3}, A. Ibrahim^{2,3}, M. A. Al-Shabrawey^{2,3}.* ¹Cellular Biology & Anatomy, Augusta University, Augusta, GA; ²Oral Biology, Augusta University, Augusta, GA; ³Vision Discovery Institute, Augusta University, Augusta, GA

5208 — B0095 Erythropoietin Protects Outer Blood-Retina Barrier in Experimental Diabetic Retina Through Up-regulating ZO-1 and occludin. *Jingfa Zhang¹, C. Zhang¹, Q. Yang¹, W. Li², G. Xu¹.* ¹Department of Ophthalmology of Shanghai Tenth People's Hospital, and Tongji Eye Institute, Tongji University School of Medicine, Shanghai, China; ²Department of Ophthalmology, Drexel University College of Medicine, Philadelphia, PA

5209 — B0096 Involvement of N-formyl peptide receptors in modulating the pro-angiogenic/pro-inflammatory activity of human vitreous in proliferative diabetic retinopathy (PDR). *Mohd I. Nawaz¹, S. Rezzola¹, M. Corsini¹, P. Chioldelli¹, A. Cancarini², D. Coltrini¹, S. Mitola¹, R. Ronca¹, M. Belleri³, L. Lista³, D. Rusciano⁴, M. De Rosa⁵, V. Pavone³, F. Semeraro², M. Presta¹.* ¹Department of Molecular and Translational Medicine, University of Brescia, BRESCIA, Italy; ²Department of Ophthalmology, University of Brescia, BRESCIA, Italy; ³Department of Chemical Sciences, "Federico II" University of Naples, Naples, Italy; ⁴Sooft Italia Spa, Montegiorgio, Italy; ⁵Department of Experimental Medicine, Second University of Naples, Naples, Italy

5210 — B0097 A comprehensive analysis of serum levels of prorenin/renin and inflammation-associated molecules in proliferative diabetic retinopathy. *Keitaro Hase^{1,2}, A. Kanda^{1,2}, K. Noda^{1,2}, S. Ishida^{1,2}.* ¹Laboratory of Ocular Cell Biology and Visual Science, Hokkaido University Graduate School of Medicine, Sapporo, Japan; ²Department of Ophthalmology, Hokkaido University Graduate School of Medicine, Sapporo, Japan

5211 — B0098 The Deranged Vitreous Biochemistry in Diabetic Retinopathy: Probable Diagnostic, Prognostic and Therapeutic Targets. *Nikhil S. Sahajpal^{1,2}, V. Vig², P. Singh², R. Singh², S. Jain¹.* ¹Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar, India; ²Dr Sohan Singh Eye Hospital, Amritsar, India

5212 — B0099 Site specific phosphorylation of NF- κ B p65 in human retinal cells exposed to pro-versus anti-inflammatory cytokines under high glucose conditions. *Haoshen Shi¹, J. J. Steinle^{1,2}, E. A. Berger^{1,2}.* ¹Anatomy and Cell Biology, Wayne State University, Detroit, MI; ²Ophthalmology, Kresge Eye Institute, Detroit, MI

5213 — B0100 Oral delivery of Angiotensin-(1-7) bioencapsulated in plant cells protect against diabetes-induced retinopathy and other complications. *Amrisha Verma¹, K. Xu¹, T. Du¹, M. Kulkarni¹, P. Zhu¹, T. Prasad¹, H. Daniel², Q. Li¹.* ¹Ophthalmology, University of Florida, Gainesville, FL; ²Biochemistry and Pathology, School of Dental Medicine, University of Pennsylvania, Philadelphia, PA

5214 — B0101 Down-Regulation of PPAR α through MicroRNA-Associated Mechanism in Diabetic Retinopathy. Yusuke Takahashi^{1,2}, Q. Chen³, F. Qiu³, H. Matlock^{3,2}, E. P. Moran^{3,2}, R. V. Rajala^{4,3}, J. Ma^{3,2}. ¹Medicine-Endocrinology, Univ of Oklahoma Hlth Sci Ctr, Oklahoma City, OK; ²Harold Hamm Diabetes Center, Oklahoma City, OK; ³Physiology, Univ of Oklahoma Hlth Sci Ctr, Oklahoma City, OK; ⁴Ophthal/Dean McGee Eye Inst, Univ of Oklahoma Hlth Sci Ctr, Oklahoma City, OK

5215 — B0102 Endothelial but not Leukocytic 12/15-Lipoxygenase Contributes to Retinal Leukostasis in Diabetic Retinopathy. Ahmed S. Ibrahim^{2,1}, M. El-Shafey⁴, H. M. Saleh², K. Elmasry^{2,4}, N. Sheibani³, A. Tawfik², M. A. Al-Shabrawey^{2,5}. ¹Biochemistry and Clinical Biochemistry, Mansoura University, Augusta, GA; ²Oral Biology and Anatomy; Vision Discovery Institute, Augusta University, Augusta, GA; ³Ophthalmology, Univ of Wisconsin-Madison, Madison, WI; ⁴Department of Anatomy, Mansoura University, Mansoura, Egypt; ⁵Cell Biology and Anatomy, Augusta University, Augusta, GA

5216 — B0103 Pentraxin3 in proliferative diabetic retinopathy. Kazunori Tamaki, A. Usui, N. Ebihara. Department of ophthalmology, Juntendo University Urayasu Hospital, Urayasu city, Japan

5217 — B0104 Anti-inflammatory cytokine levels in diabetic retinopathy patients. Stephanie C. Joachim, S. Kuehn, G. Stute, N. Tsiampalis, M. Vu, T. Tsai, V. Kakkassery, B. Dick. Experimental Eye Research Institute, Ruhr-University Bochum, Bochum, Germany

5218 — B0105 Retinal mitochondria respiration changes precede hyperglycemia in the Nile grass rat model of type 2 diabetes. Woo Hyun Han¹, S. Kuniy¹, Y. Saive^{1,3}, H. Lemieux². ¹Ophthalmology, University of Alberta, Edmonton, AB, Canada; ²Faculty Saint-Jean, University of Alberta, Edmonton, AB, Canada; ³Physiology, University of Alberta, Edmonton, AB, Canada

5219 — B0106 Montelukast modulates diabetes-induced inflammation and electrophysiological changes in early diabetic retinopathy in the mouse. Reena Bapputty¹, I. S. Samuels², R. Talahalli¹, R. A. Gubitosi-Klug¹. ¹Pediatric Endocrinology, Case Western Reserve University, Cleveland, OH; ²Research Service, Louis Stokes Cleveland VA Medical Center, Cleveland, OH

5220 — B0107 Effect of Hyperglycemic and hypoxic stresses on the primary cultures of retinal neuron and glial populations: a model system to understand the role of glia in diabetic retinopathy. S Shahna¹, L. Giri², S. Swain³, J. Chhablani², R. Pappuri², M. Tyagi², S. Chakrabarti¹, I. Kaur¹. ¹Kallam Anji Reddy Molecular Genetics Laboratory, Prof. Brien Holden Eye Research Centre, LV Prasad Eye Institute, Hyderabad, India; ²Smt Kannuri Santhamma Retina Vitreous Centre, LV Prasad Eye Institute, Hyderabad, Hyderabad, India; ³Department of Chemical engineering, Indian Institute of Technology-Hyderabad, Hyderabad, India

5221 — B0108 The inhibitory effect of substance P on retinal neurodegeneration with diabetic rat model. Eung-Suk Kim¹, K. Kim¹, H. Hyun Sook², S. Yu¹. ¹Ophthalmology, Kyung Univ Medical Center, Seoul, Korea (the Republic of); ²Kyung Hee Institute of Regenerative Medicine, Kyung Hee University Hospital, Seoul, Korea (the Republic of)

5222 — B0109 Expression of S100 proteins in Diabetic Retinopathy. Rayne R. Lim^{1,2}, V. A. Barathi³, R. R. Mohan^{1,4}, A. Ghosh⁵, S. S. Chaurasia^{1,2}. ¹Veterinary Medicine & Surgery, University of Missouri, Columbia, MO; ²Biomedical Sciences, College of Veterinary Medicine, Columbia, MO; ³Translational Pre-Clinical Model Platform, Singapore Eye Research Institute, Singapore, Singapore; ⁴Mason Eye Institute and VMTH, University of Missouri, Columbia, MO; ⁵Molecular Signalling and Gene Therapy, Narayana Nethralaya, Bengaluru, India

5223 — B0110 670 nm Photobiomodulation Modifies NF κ B Signaling in an *in vitro* Model of Diabetic Retinopathy. Hannah Fisher^{1,2}, G. Senthikumar³, J. T. Eells⁴, E. S. Liedhegner¹. ¹Biomedical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI; ²Interdisciplinary Ph.D. Training Program, Medical College of Wisconsin, Milwaukee, WI; ³Biomedical Engineering, University of Wisconsin, Madison, WI *CR

5224 — B0111 Hydroxycarboxylic acid receptor 2 (HCAR2/GPR109A) regulates CCR7-dependent retinal immunity and tolerance. Folami Powell¹, M. Jones¹, R. Jadeja¹, M. Thounaojam², M. Bartoli², P. M. Martin¹. ¹Biochemistry and Molecular Biology, Medical College of Georgia at Augusta University, Augusta, GA; ²Ophthalmology, Medical College of Georgia at Augusta University, Augusta, GA

5225 — B0112 Role of Adiponectin as a Therapeutic Intervention for Mitigating Hyperglycemia-Induced human Retinal Endothelial Dysfunction. Nasser Rizk, A. Fadel, R. Bari, A. Sahara, S. Bushra. Biomedical Sciences, CHS-Qatar University, Doha, Qatar

5226 — B0113 Impaired Retinoid Visual Cycle in Diabetic Retinopathy. Volha Malechka, G. P. Moiseyev, Y. Takahashi, Y. Shin, J. Ma. OUHSC, Oklahoma City, OK

5227 — B0114 Fenofibrate Attenuates Diabetic Retinopathy by Affecting Nrf2 Expression and NLRP3 Inflammasome Activation. Qiuping Liu, F. Zhang, L. Yu, J. Yi, J. Li. Ophthalmology, Affiliated Eye Hospital of Nanchang University, Nanchang, China

Exhibit/Poster Hall B0115-B0150

Thursday, May 11, 2017 8:30 AM-10:15 AM

Biochemistry/Molecular Biology

508 Biochemistry and Molecular Biology of AMD II

Moderators: Goldis Malek and Royce Mohan

5228 — B0115 Non-histone nuclear protein play important roles for photoreceptor function and experimental choroidal neovascularization. Toshiaki Abe, A. Katsuyama, S. Yamada, N. Nagai, R. Daigaku, K. Ishida, Y. Katsukura. Division of Clinical Cell Therapy, Tohoku Univ School of Medicine, Sendai, Japan *CR

5230 — B0117 Serum lipidomic analysis showed a dysregulation of sphingolipids in AMD patients, which may reflect the response of cells to lipid peroxidation products. Luciana Pujol-Lereis¹, G. Liebisch², T. Schick², S. Fauser², F. Graßmann¹, B. H. Weber¹. ¹Institute of Human Genetics, University of Regensburg, Regensburg, Germany; ²Department of Ophthalmology, University Hospital of Cologne, Cologne, Germany; ³Institute of Clinical Chemistry and Laboratory Medicine, University of Regensburg, Regensburg, Germany

5231 — B0118 Guanidine hydrochloride treatment of rat isolated eye tissues for quantification of amyloid-beta. Wangfei Wang, T. Nguyen, D. Cao, D. R. Pepperberg. Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL

5232 — B0119 Relationship between aqueous humor 25-hydroxyvitamin D and age related macular degeneration. Sung Pyo Park, S. shin. Hallym University Medical Center, KangDong Sacred Heart Hospital, Seoul, Korea (the Republic of)

5233 — B0120 Complement Membrane Attack Complex Release Basic Fibroblast Growth Factor from Human RPE Cells. Ping Yang¹, M. Abu-Rmaileh¹, P. Baciu², G. J. Jaffe¹. ¹Ophthalmology, Duke University Eye Center, Durham, NC; ²Biology, Allergan, Inc, Irvine, CA *CR

5234 — B0121 The Small Heat Shock Protein α B-crystallin is Essential for the Organization of Detergent-Resistant Membrane Microdomains in Human Retinal Pigment Epithelial Cells in Culture. Rajendra K. Gangalum³, D. Mock³, I. Dighe², K. Ranganathan³, L. L. David², S. P. Bhat^{3,1}.
¹Molecular Biology & Brain Research Institute at UCLA, Los Angeles, CA; ²Biochemistry and Molecular Biology, Oregon Health & Sciences University, Portland, OR; ³Stein Eye Institute, UCLA, Los Angeles, CA

5235 — B0122 Accumulation of damaged nDNA promotes RPE cellular senescence and pro-inflammation. Haijiang Lin^{1,2}, B. Tian², A. Al Moujahed², J. W. Miller², D. G. Vavvas².
¹Ophthalmology and Visual Science, University Of Massachusetts, Newton Highlands, MA; ²Ophthalmology, Mass Eye and Ear, Harvard Medical School, Boston, MA

5236 — B0123 The breakdown of tight junction in retinal pigment epithelium by $\text{A}\beta$ via RAGE signaling pathway. Chung Young Kim¹, S. Park^{2,3}, H. Jun², J. Kim², J. Kim^{2,3}.
¹Department of Ophthalmology, Seoul National University College of Medicine, Seoul National University Hospital, Seoul, Korea (the Republic of); ²Fight against Angiogenesis-Related Blindness Laboratory, Biomedical Research Institute, Seoul National University Hospital, Seoul, Korea (the Republic of); ³Department of Biomedical Sciences, College of Medicine, Seoul National University, Seoul, Korea (the Republic of)

5237 — B0124 Tubedown Regulation of Retinal Blood Vessel Permeability During Aging and Age-related Macular Degeneration. Damien Pike, H. Paradis, M. Whalen, B. Tennakoon, R. Gendron. Department of Biomedical Sciences, Memorial University of Newfoundland, St. John's, NF, Canada

5238 — B0125 Cigarette Smoke induced autophagy-impairment regulates AMD pathogenesis mechanisms in RPE cells. Viren Govindaraju¹, N. Vij^{1,2}.
¹Central Michigan University College of Medicine, Mt. Pleasant, MI; ²School of Medicine, Johns Hopkins University, Baltimore, MD

5239 — B0126 $\text{A}\beta$ induced dysregulation of autophagy in retinal pigment epithelium contributes to the pathogenesis of dry age-related macular degeneration. Sung Wook Park^{1,2}, H. Jun¹, J. Kim¹, B. Lee^{1,2}, K. Lee³, W. Park⁴, J. Kim^{1,2}.
¹FARB, Department of Ophthalmology, Seoul National University Hospital, Seoul, Korea (the Republic of); ²Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea (the Republic of); ³Ophthalmology, Ajou University School of Medicine, Seongnam-si, Korea (the Republic of); ⁴Life Sciences Concentration GIST, Gwangju, Korea (the Republic of)

5240 — B0127 Might retinal degeneration in the CFH-/- mouse have a developmental footprint? Chrishne Sivapathasuntharam¹, M. Hayes¹, H. Shinmar¹, J. Hoh Kam¹, S. Sivaprasad², G. Jeffery¹.
¹Institute of Ophthalmology, UCL, London, United Kingdom; ²Moorfields Eye Hospital, London, United Kingdom

5241 — B0128 Oxidative stress impacts the AMD pathology through modulating Wnt signaling pathway. Peter Shaw¹, H. Du², D. Ho¹, T. Chin¹, M. Matsumo¹, A. May¹, J. Chen¹, X. Xiao³.
¹UC San Diego, La Jolla, CA; ²Xijing Hospital, Xi'an, China; ³Sichuan Provincial Hospital, Chengdu, China

5242 — B0129 Phagocytosis Assay to Measure Function of Human RPE Cells with AMD vs Normal Mitochondria. Thomas Vo, S. Abedi, M. Chwa, C. M. Kenney. Ophthalmology, Gavin Herbert Eye Institute, Buena Park, CA

5243 — B0130 β A3/A1-crystallin modulates endolysosomal acidification in astrocytes by preventing phosphorylation of the V_0 a1 subunit of V-ATPase. Subrata H. Mishra, M. Yazdankhah, P. Shang, J. Zigler, Jr., D. Sinha. Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, School of Medicine, Baltimore, MD

5244 — B0131 Role of Glutaredoxin 2 (Grx2) in protecting the retina from light-induced damage. Hongli Wu^{1,2}, X. Liu², Y. Liu¹, S. Maansson¹, C. Xavier².
¹North Texas Eye Research Institute, University of North Texas Health & Science Center, Fort Worth, TX; ²UNT System College of Pharmacy, Fort Worth, TX

5245 — B0132 Measurements of 11-cis retinal deficiency in human autopsy eyes with macular degeneration. Anne M. Hanneken¹, T. Neikirk¹, J. Johnson¹, M. Kono².
¹Molec & Exp Med, Scripps Research Institute, La Jolla, CA; ²Department of Ophthalmology, Medical University of South Carolina, Charleston, SC

5246 — B0133 Putative biomolecular pathways of retinal pigmented epithelial cytochrome c oxidase rescue by 670 nm red light as outlined in a virtual study environment. Naryan Sabherwal, S. Kovach, M. Nelligan, B. I. Gaynes. Ophthalmology, Loyola University College of Medicine, Chicago, IL

5247 — B0134 Cell layer specific proteome of the outer retina: laser capture microdissection of drusen and its cellular environment from paraffin embedded sections. Elod Korvely¹, E. Emri^{2,3}, S. Dammeier¹, M. Ueffing¹, I. Lengyel^{2,3}.
¹Centre for Ophthalmology, University of Tuebingen, Tuebingen, Germany; ²Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom; ³Institute of Ophthalmology, University College London, London, United Kingdom

5248 — B0135 Inflammasome Activation in Primary RPE Cultures from Human Donors with and without Age-related Macular Degeneration. Mara Supik, M. Terluk, S. Monetzuma, D. A. Ferrington. Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN

5249 — B0136 Lipoprotein synthesis and deposition in the eye is regulated by the complement system and glycosaminoglycans (GAGs). Una L. Kelly¹, M. Landowski¹, N. Skiba¹, J. Liu², C. Bowes Rickman^{1,3}.
¹Ophthalmology, Duke University Medical Center, Durham, NC; ²Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC; ³Cell Biology, Duke University Medical Center, Durham, NC

5250 — B0137 Identification of microRNA Biomarkers in AMD. David J. Keegan^{1,2}, H. Elshelmani³, M. Wride³.
¹Ophthalmology, Mater Misericordiae Univ Hospital, Dublin, Ireland; ²University College Dublin, Dublin, Ireland; ³Zoology, Trinity College Dublin, Dublin, Ireland *CR

5251 — B0138 Mitochondrial DNA sensing by STING pathway mediates complement, inflammation and epigenetic genes. Cristina M. Kenney¹, K. Schneider¹, S. Attilano¹, M. Chwa¹, S. R. Nashine¹, S. Y. Lu^{1,2}, A. B. Nesburn¹, B. D. Kuppermann¹.
¹Ophthalmology, Gavin Herbert Eye Inst, UC Irvine, Irvine, CA; ²Ophthalmology, Long Beach VA Medical Center, Long Beach, CA *CR

5252 — B0139 CFH and CD46 Knockdown Alters Genes Involving Cell Apoptosis, Adhesion, Immune System Processing and Melanin Synthesis in Human Retinal Pigment Epithelium (RPE): a comparative study. Hui Cai, M. Fields, J. Gong, L. V. Del Priore. Department of Ophthalmology and Visual Science, Yale School of Medicine, New Haven, CT

5253 — B0140 Epigenetic regulation of autophagy by histone deacetylases in retinal pigment epithelium. Sushil K. Dubey, D. Lou, J. Roney, K. Jung, J. Brown, K. Mohan, M. E. Kleinman. Ophthalmology and Visual Science, University of Kentucky, Lexington, KY

5254 — B0141 Systemic treatment with xanthohumol protects against light-induced retinal degeneration and maintains retinal redox potential. Nathaniel F. Henneman, S. Foster, P. E. Girardot, J. H. Boatright. Ophthalmology, Emory University, Atlanta, GA

5255 — B0142 Effect of High Energy Visible Light on A2E-loaded Retinal Pigmented Epithelium in Age-Related Macular Degeneration. Marie-Christine Lambert, M. Ouellette, Q. Maestracci, E. Boisselier, S. Proulx, P. J. Rochette. Université Laval, Quebec, QC, Canada

5256 — B0143 Luteolin decreases mitochondrial damage-associated inflammation in human retinal pigment epithelial cells. *Maria Hytti¹, E. Korhonen¹, N. Piippo¹, K. Kaarniranta^{1,2}, A. Kauppinen¹.* ¹University of Eastern Finland, Kuopio, Finland; ²Kuopio University Hospital, Kuopio, Finland

5257 — B0144 Identifying the hydroxyapatite interactome: Involvement of serum proteins in the formation of sub-RPE deposits. *Swati Arya¹, S. Synowsky², S. Shirran², C. Botting², I. Lengyel³, A. Stewart¹.* ¹School of Medicine, University of St Andrews, St Andrews, United Kingdom; ²Biomedical Sciences Research Complex, University of St Andrews, St Andrews, United Kingdom; ³Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom

5258 — B0145 High-Energy Collisional Dissociation Fragmentation of CEP and CML Peptides. *Geeng-Fu Jang¹, J. S. Crabb¹, L. Zhang¹, J. G. Hollyfield^{1,2}, R. G. Salomon³, J. W. Crabb^{1,2}.* ¹Ophthalmic Research, Cole Eye Institute, Cleveland Clinic, Cleveland, OH; ²Depts of Ophthalmology and Molecular Medicine, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, OH; ³Department of Chemistry, Case Western Reserve University, Cleveland, OH

5259 — B0146 An exploration of the role of MAB21II in MAC-Spectrum Anomalies. *Sarah DeBehnke¹, B. Deml¹, L. Reis¹, R. Jamieson², E. Semina¹.* ¹Medical College of Wisconsin, Milwaukee, WI; ²The University of Sydney, Sydney, NSW, Australia

5260 — B0147 Whole and phosphoproteome analysis of epithelial to mesenchymal transition in ES derived RPE. *Joseph Mertz, S. Sripathi, X. Yang, N. Esumi, H. Zhang, D. J. Zack.* Johns Hopkins Medical School, Baltimore, MD

5261 — B0148 Single human retinal pigmented epithelial cells (hRPE) transcriptome analysis reveals upregulation of a subset of autophagy-related genes in response to uncompensated oxidative stress (UOS). *Filipe A. Muhale, A. Asatryan, J. Heap, M. I. Kautzmann, N. G. Bazan.* Neuroscience Center of Excellence, School of medicine, Louisiana State University Health Sciences Center, New Orleans, LA

5262 — B0149 Endogenous complementary DNA in age-related macular degeneration. *Shinichi Fukuda¹, T. Yasuma², B. J. Fowler², B. D. Gelfand¹, N. Kerur¹, R. Yasuma¹, B. Werner³, J. Ambati¹.* ¹Department of Ophthalmology and Center for Advanced Vision Science, University of Virginia, Charlottesville, VA; ²Ophthalmology & Visual Science, University of Kentucky, Lexington, KY; ³Department of Orthopaedic Surgery, University of Virginia, Charlottesville, VA *CR

5263 — B0150 Mitochondrial regulation of microRNA and implications for macular degeneration. *Kevin Schneider¹, C. M. Kenney¹, M. S. Ghiam².* ¹Ophthalmology, University of California Irvine, San Juan Capistrano, CA; ²Cedars Sinai Medical Center, Los Angeles, CA

Exhibit/Poster Hall B0217-B0250

Thursday, May 11, 2017 8:30 AM-10:15 AM

Cornea

509 Corneal Refractive Surgery

Moderators: Yi Wei and Neeta Roy

5264 — B0217 Quality of Vision After Femtosecond Laser or Mechanical Keratome for Laser In Situ Keratomileusis: A Prospective Randomized Contralateral Eye Study. *Irma Muminovic, E. E. Manche.* Ophthalmology, Stanford University, Palo Alto, CA *CR

5265 — B0218 Tear film proteomics after LASIK surgery. *Janika Nättinen¹, A. Jylhä¹, P. Mäkinen^{1,2}, J. Pietilä^{1,2}, A. Huhtala², T. Rajala², V. Alho², U. Aapola¹, R. W. Beuerman^{1,4}, H. M. Uusitalo^{1,3}.* ¹SILK, Department of Ophthalmology, University of Tampere, School of Medicine, Tampere, Finland; ²Silmäasema Eye Hospital, Tampere, Finland; ³TAUH Eye Center, Tampere University Hospital, Tampere, Finland; ⁴Singapore Eye Research Institute, Singapore, Singapore *CR, ✗

5266 — B0219 Interface bonding with corneal crosslinking after laser in situ keratomileusis (LASIK). *Irene E. Kochevar, M. Engler, E. Beck, T. G. Seiler.* Wellman Center for Photomedicine, Massachusetts General Hospital, Boston, MA *CR

5267 — B0220 Biomechanical changes associated with LASIK flap creation and rapid cross-linking measured with Brillouin microscopy. *James B. Randleman¹, G. Scarcell^{1,2}.* ¹Ophthalmology, USC Roski Eye Institute, Atlanta, GA; ²School of Engineering, University of Maryland, College Park, MD

5268 — B0221 The effect of transient glare on shape discrimination threshold after laser in situ keratomileusis. *LIN MENG^{1,2}, B. B. Su^{1,2}, Z. Y. Wu^{1,2}, L. Hu^{1,2}.* ¹The Eye Hospital of Wenzhou Medical University, Wenzhou, China; ²School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China

5269 — B0222 Corneal collagen crosslinking in post-LASIK ectasia. *Michele A. Pacheco¹, A. J. Ramirez-Miranda¹, J. Serna-Ojeda¹, A. Navas¹, A. Jimenez-Corona³, O. Santana-Cruz², E. O. Graue-Hernandez¹.* ¹Cornea and Refractive Surgery, Instituto de Oftalmología Conde de Valenciana, Ciudad de México, Mexico; ²Instituto de Oftalmología Conde de Valenciana, Ciudad de México, Mexico; ³Epidemiología Ocular y Salud Visual, Instituto de Oftalmología Fundación Conde de Valenciana, Ciudad de México, Mexico *CR

5270 — B0223 Algorithms for Reducing Post-Operative Induction of Spherical Aberration for LASIK Surgeries. *Guang-ming G. Dai, D. Chernyak. R & D, Abbott Medical Optics, Milpitas, CA *CR*

5271 — B0224 Tears mirror the stromal response to surgery- Novel insights into molecular changes in SMILE and LASIK. *Natasha Pahuja¹, K. Nishtala², R. Shetty¹, A. Sinha Roy², A. Ghosh².* ¹Cornea & Refractive, Narayana Nethralaya, Pimple Saudagar, Pune, India; ²GROW laboratories, Narayana Nethralaya foundation, Bangalore, India *CR

5272 — B0225 Topography-guided (TG) LASIK vs Small Incision Lenticule Extraction (SMILE) : Posterior and Anterior Corneal Power Outcomes. *Sucharita Boddu¹, L. T. Sperber¹, A. J. Kanellopoulos^{1,2}.* ¹Ophthalmology, NYU School of Medicine, New York, NY; ²Laservision.gr Clinical and Research Eye Institute, Athens, Greece *CR

5273 — B0226 Femtosecond Laser in situ keratomileusis versus Epi-LASIK: Visual outcomes and complications. *Samar A. Al-Swailem, M. Al-Amro.* Anterior Segment, King Khaled Eye Specialist Hosp, Riyadh, Saudi Arabia ✗

5274 — B0227 Effect of Intraocular Pressure Reduction on post-LASIK Myopia. *Maria E. Mendoza Mendieta¹, M. Yu², V. Jhanji¹.* ¹Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong, Kowloon, Hong Kong; ²Department of Mathematics and Statistics, Hang Seng Management College, Hong Kong, Hong Kong ✗

5275 — B0228 Refractive outcomes of moderate astigmatism correction using wavefront-guided and wavefront-optimized PRK and LASIK. *Rose K. Sia¹, D. S. Ryan¹, B. Rivers¹, J. F. Pasternak², R. D. Stutzman³, L. Peppers¹, J. B. Eaddy¹, L. Logan¹, K. S. Bower⁴.* ¹Warfighter Refractive Eye Surgery Program, Fort Belvoir Community Hospital, Fort Belvoir, VA; ²Ophthalmology, Walter Reed National Military Medical Center, Bethesda, MD; ³Ophthalmology, George Washington University, Washington, DC; ⁴Ophthalmology, Johns Hopkins University, Baltimore, MD ✗

5276 — B0229 Influence of Central Corneal Thickness on Refractive Outcomes in Combined Cataract Surgery and Descemet's Stripping Endothelial Keratoplasty. *Steven Naidis, B. Ayres, I. Raber.* Cornea, Wills Eye Hospital, Philadelphia, PA

5277 — B0230 Preoperative simulation of iris-fixed phakic intraocular lenses (IF-pIOLs) does not add a significant benefit in the prediction of endothelial cell (EC) loss in myopic eyes. *Soraya M. Jonker, T. Berendschot, A. Ronden, I. Saelens, N. Bauer, R. M. Nuijts.* Ophthalmology, University Eye Clinic Maastricht, Maastricht, Netherlands

5279 — B0232 Influence of post crosslinking haze on the repeatability of topography machines. *Ashima Bajaj, R. Shetty, R. Deshmukh, T. Grover, N. Pahuja.* Cornea And Refractive Services., Narayana Nethralaya, Bangalore, India

5280 — B0233 Corneal Wound Repair after Rose Bengal and Green Light Cross-linking: Clinical and Histological Study. *Carmen Martinez-Garcia¹, I. Kochevar², P. Gallego-Muñoz¹, L. Ibares-Frias⁴, E. Lorenzo¹, S. Marcos³.* ¹Cell Biology, University of Valladolid, Valladolid, Spain; ²Wellman Center for Photomedicine, Harvard Medical School, Boston, MA; ³CSIC, Instituto de Optica, Madrid, Spain; ⁴GIR de Técnicas Ópticas para el Diagnóstico, Madrid, Spain

5281 — B0234 Comparison of Iris Registration using Scotopic and Photopic Eye Images. *Li Chen.* AMO Development, LLC, Milpitas, CA *CR, ✕

5282 — B0235 Hydrogel Sealant in Prevention of Epithelial Ingrowth. *andrew R. davis, M. J. Rojas, P. Neatrou.* Ophthalmology, Eastern Virginia Medical School, Norfolk, VA

5283 — B0236 Three-Month Outcomes from a Prospective, Randomized, Contralateral, Eye-to-Eye Comparison of Wavefront-Guided and Wavefront-Optimized PRK in Myopes. *Ryan Smith, E. E. Manche.* Ophthalmology, Stanford University, Los Altos, CA *CR, ✕

5284 — B0237 Mitomycin-C Aqueous Humor Concentration in Rabbit after PRK or TPRK for -3D, -6D or -9D Treatment. *Ye Yuan^{1,2}, D. K. Lui⁵, S. Liu², Y. Xiao², K. Chu⁴, Y. Wang³, C. Pang⁴, D. S. Lam^{3,2}.* ¹Sun Yat-sen University, Guangzhou, China; ²C-MER (Shenzhen) Dennis Lam Eye Hospital, 1 Tairan 9th Rd, Futian, Shenzhen, Guangdong, PRC, Shenzhen, China; ³Shenzhen Polytechnic, Xili Lake, Nanshan District, Shenzhen, Guangdong, PRC, Shenzhen, China; ⁴Department of Ophthalmology & Visual Sciences, The Chinese University of Hong Kong, 4/F, Hong Kong Eye Hospital, 147K Argyle Street, Kowloon, Hong Kong, HongKong, China; ⁵Dennis Lam & Partners Eye Center, Suite 1515, Central Building, 1-3 Pedder Street, Central, Hong Kong, HongKong, China

5286 — B0239 Safety of Implantable Collamer Lens (ICL): 10 years follow-up. *Ana S. Serrano-Ahumada, L. Aguilar-Lozano, G. De Wit, V. Sanchez-Huerta, E. Hernandez-Quintela.* Asociación Para Evitar la Ceguera IAP, Los Mochis, Mexico

5287 — B0240 Central flow toric implantable collamer lens implantation. *Alejandro Navas, E. Martinez-Sánchez, V. Oliva-Biénobas, A. Gómez-Bastar, A. Jimenez-Corona, A. Lichtinger, A. J. Ramirez-Miranda, E. O. Graue-Hernandez.* Institute of Ophthalmology “Conde de Valenciana”, Mexico City, Mexico

5288 — B0241 In vivo confocal laser microscopy of morphologic changes after Small Incision Lenticule Extraction with Accelerated Cross-Linking (SMILE Xtra) in Patients with Thin Corneas and high myopia. *Yugui Zhou, Q. Liu.* Zhongshan Ophthalmic Center, Guangzhou, China ✕

5289 — B0242 A Novel Ultrashort Femtosecond Laser with Ultrafast Scanner for Corneal Lenticule Surgery. *Alireza Malek Tabrizi, J. E. Hill, N. Khatibzadeh, S. Taheri, H. Fu.* R&D, Abbott Medical Optics, Milpitas, CA *CR

5290 — B0243 Retinal Safety Analysis for a Novel Ultrashort Femtosecond Laser. *Zheng Sun, H. Fu.* R&D, Abbott Medical Optics, Milpitas, CA *CR

5291 — B0244 Fiber Beam Delivery for Novel Ultrashort Femtosecond Laser Technologies. *Vladimir G. Lemberg¹, S. Rahaman², N. Khatibzadeh², A. Malek Tabrizi², H. Fu².* ¹Advanced R&D, Abbott Medical Optics, Santa Clara, CA; ²Abbott Medical Optics, Milpitas, CA *CR

5292 — B0245 Laser Tissue Evaluation for a Novel Ultrashort Femtosecond Laser with Auto-Z Calibration. *Nima Khatibzadeh, A. Malek Tabrizi, J. E. Hill, S. Rahaman, Z. Witowski, Z. Sun, S. Taheri, H. Fu.* Abbott Medical Optics, San Jose, CA *CR

5293 — B0246 Novel Ultrashort Femtosecond Laser Characterization. *Zenon Witowski, S. Rahaman, Z. Sun, A. Malek Tabrizi, J. E. Hill, H. Fu.* R&D, Abbott Medical Optics Inc, Milpitas, CA *CR

5294 — B0247 Comparison of wavefront-guided and wavefront-optimized refractive surgeries for astigmatism of 0.75 diopters or less. *Bruce Rivers¹, R. K. Sia¹, D. S. Ryan¹, R. D. Stutzman², J. F. Pasternak³, L. Peppers¹, L. Logan¹, J. B. Eaddy¹, K. S. Bower⁴.* ¹Warfighter Refractive Surgery Program, Fort Belvoir Community Hospital, Fort Belvoir, VA; ²Ophthalmology, George Washington University, Washington, DC; ³Ophthalmology, Walter Reed National Military Medical Center, Bethesda, MD; ⁴Ophthalmology, Johns Hopkins University, Baltimore, MD ✕

5295 — B0248 Thinning of corneal grafts with excimer laser for posterior lamellar keratoplasty - where are the limits? *Katarzyna I. Palka¹, C. L. Thannhäuser¹, H. Aurich¹, H. Häberle¹, J. Schroeter², I. Wilkemeyer¹, H. Herbst³, D. Pham¹.* ¹Ophthalmology, Department of Ophthalmology, Vivantes Kliniukm Neukölln Berlin, Berlin, Germany; ²Institut of Transfusion Medicine, Charité, University Tissue Bank, Cornea Bank Berlin, Berlin, Germany; ³Department of Pathology, Vivantes Klinikum Neukölln Berlin, Berlin, Germany

5296 — B0249 Effects of Flap Diameters on Corneal Sensation and Dry Eye Parameters after Femtosecond Laser-assisted LASIK. *Chi-Chin Sun^{1,2}, Y. Tai¹.* ¹Ophthalmology, Chang Gung Memorial Hospital, Keelung, Keelung, Taiwan; ²Chinese Medicine, Chang Gung University, Taoyuan, Taiwan

5297 — B0250 Safety evaluation of cationic emulsions following refractive surgery procedures. *Yann Quentric¹, P. DaulP², E. Gros¹, S. Antonelli¹, V. Mauro¹, L. Feraille¹, J. Garriguet².* ¹Iris Pharma, La Gaude, France; ²Novagali Innovation Center, Santen SAS, Evry, France *CR

Exhibit/Poster Hall B0266-B0279

Thursday, May 11, 2017 8:30 AM-10:15 AM

Lens

510 Crystallins

Moderator: Larry L. David

5298 — B0266 Use of CRISPR/Cas9 to assess the role of α A-crystallin in zebrafish lens development. *Mason Posner, K. L. Murray, M. Brown.* Biology and Toxicology, Ashland University, Ashland, OH

5299 — B0267 α A-crystallin derived mini chaperone stabilizes bovine γ -crystallin aggregation by affecting its zeta (ζ) potential. *Ashutosh Phadte^{1,2}, P. Santhoshkumar², K. Sharma^{2,1}.* ¹Biochemistry, University of Missouri, Columbia, MO; ²Ophthalmology, University of Missouri, Columbia, MO

5300 — B0268 Association of α A-N101D with Lens Membrane Leads to Cell Membrane Disorganization, Intracellular Ionic Imbalance and Cataract Development in Transgenic α AN101D Mice. *Om P. Srivastava, K. Srivastava, R. Joseph.* Optometry and Vision Science, University of Alabama at Birmingham, Birmingham, AL

5301 — B0269 In vitro studies on the interaction of guinea pig α A crystallin and α A crystallin (66-80) peptide using fluorescence polarization and transmission electron microscopy. *Anbarasu Kumarasamy^{1,2}, S. Jeyarajan¹, V. A. Kimler¹, A. Premceski¹, J. Cheon¹, V. Mishra¹, F. J. Giblin¹.* ¹Eye Research Institute, Oakland University, Rochester, MI; ²Marine Biotechnology, Bharathidasan University, Tiruchirappalli, India

- 5302 — B0270 Towards a Mechanism of Action of VP1-001 in R120G cryAB-Associated Cataracts.** Yevgeniy Izrayelit¹, B. McGlasson², P. D. Hamilton³, M. Qian³, K. Molnar¹, D. Covey³, J. Gestwicki⁴, L. Makley¹, U. P. Andley². ¹ViewPoint Therapeutics, San Francisco, CA; ²Ophthalmology and Visual Sciences, Washington University, St. Louis, MO; ³Developmental Biology and Biochemistry, Washington University School of Medicine, St. Louis, MO; ⁴Institute for Neurodegenerative Diseases, University of California at San Francisco, San Francisco, CA *CR
- 5303 — B0271 α B-crystallin: Roles in Signaling, Autophagy, and Apoptosis in Ocular Melanoma.** Gregory Konar, S. Ghosh, P. Shang, S. Mishra, D. Sinha. Ophthalmology, Johns Hopkins School of Medicine, Marlborough, MA
- 5304 — B0272 Heparin sulfate mediates lens cell uptake of α B-crystallin fused to the gC cell penetration peptide.** Niklaus H. Mueller^{1,2}, M. E. Keener¹, S. Droho¹. ¹Ophthalmology, University of Colorado School of Medicine, Aurora, CO; ²Linda Crnic Institute for Down Syndrome, University of Colorado School of Medicine, Aurora, CO *CR
- 5305 — B0273 α B-Crystallin is the Major Succinylated Protein in Human Lenses.** SANDIP K. NANDI¹, S. Rakete¹, R. Nahomi¹, C. Michel², A. Dunbar¹, K. S. Fritz², R. H. Nagaraj^{1,2}. ¹Ophthalmology, University Of Colorado, School Of Medicine, Aurora, Co; ²Pharmaceutical Sciences, University Of Colorado, School Of Pharmacy, Aurora, CO
- 5306 — B0274 Knock-out of Hsp27 in Danio rerio Smriti Mishra, S. Mishra, A. Fuller, S. WU, H. S. Mchaourab.** Molecular Physiology & Biophysics, Vanderbilt University, Nashville, TN
- 5307 — B0275 Cryba1: Do its two gene products (β A3- and β A1-crystallin) have distinct functions?** J Samuel Zigler¹, E. F. Wawrousek², L. Lu³, G. Xu³, D. Sinha¹. ¹Ophthalmology, Wilmer Eye Institute, The Johns Hopkins University School of Medicine, Baltimore, MD; ²National Eye Institute, National Institutes of Health, Bethesda, MD; ³Tongji University School of Medicine, Shanghai, China
- 5308 — B0276 Self-interaction and stability of human lens GammaC-crystallin.** Ajay Pande, J. Pande. Chemistry, University at Albany-SUNY, Albany, NY
- 5309 — B0277 The Relationship Between Oxidation, Disulfide Formation And Aggregation Of Human Gamma D Crystallin.** Ramkumar Srinivasagan¹, B. Wang², X. Fan¹, V. M. Monnier¹. ¹Pathology, Case Western Reserve University, Cleveland, OH; ²Center for Proteomics and Bioinformatics, Case Western Reserve University, Cleveland, OH
- 5310 — B0278 A Novel Inhibitor against Advanced Glycation Endproduct Formation in Eye Tissues.** Stefan Rakete¹, M. Linetsky², A. Dunbar¹, R. H. Nagaraj¹. ¹Ophthalmology, UC Denver, Aurora, CO; ²Chemistry, Case Western Reserve University, Cleveland, OH
- 5311 — B0279 $\text{A}\beta$ -potentiated and $\text{A}\beta$ -independent age-related changes in the lens of wild-type and Alzheimer's Disease mice.** Juliet A. Moncaster¹, M. W. Wojnarowicz^{3,4}, O. Minaeva², S. Sarangi², Z. Brasher⁴, R. Zeng⁴, L. E. Goldstein^{1,5}. ¹Psychiatry, Boston University, Boston, MA; ²Biomedical Engineering, Boston University, Boston, MA; ³Pathology and Laboratory Medicine, Boston University, Boston, MA; ⁴Graduate Medical Sciences, Boston University, Boston, MA; ⁵Alzheimer's Disease Center, Boston University, Boston, MA *CR
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- Exhibit/Poster Hall B0409-B0435
- Thursday, May 11, 2017 8:30 AM-10:15 AM
- Glaucoma**
- 511 IOP Measurement and Characterization II**
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- Moderator: J Crawford C. Downs**
- 5312 — B0409 Role of the Water-Drinking Test in Medically Treated Primary Open Angle Glaucoma Patients.** Hugo Salcedo¹, D. Arciniegua¹, M. Mayorga². ¹Instituto de Ciencias de la Vision - Hospital Dr. Rodolfo Robles, Guatemala, Guatemala; ²Instituto de Cirugia Ocular, San Jose, Costa Rica
- 5313 — B0410 Patient Outcomes for a Glaucoma Referral Refinement Clinic.** Peter Campbell^{1,2}, L. Edwards¹, J. Egan², P. Patel², K. Lim². ¹Optomery and Vision Sciences, City, University of London, London, United Kingdom; ²Ophthalmology, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom
- 5314 — B0411 Philadelphia Telemedicine Glaucoma Detection and Follow-up Study: Diagnostic Positive Predictive Value between Visit 1 and Visit 2.** Andrew Ines^{2,3}, K. Rahmatnejad², L. A. Hark², L. Katz², M. Waisbourd², J. S. Myers², B. T. Leiby^{1,2}, S. Fudemberg², A. Mantravadi², V. Doyle², D. Johnson², J. Molineaux², M. Divers², C. Burns², J. A. Haller². ¹Thomas Jefferson University, Philadelphia, PA; ²Glaucoma Research, Wills Eye Hospital, Philadelphia, PA; ³Sidney Kimmel Medical College, Philadelphia, PA *CR
- 5315 — B0412 The Impact of Cataract Surgery in Patients with Low-Tension Glaucoma in a University Setting.** Shannon Hunt, B. I. Gaynes, M. Chaku. Ophthalmology, Loyola University Medical Center, Elmhurst, IL
- 5316 — B0413 The influence of prostaglandin treatment on measurement of intraocular pressure using a pneumatonometer.** Christopher S. Pappa¹, C. J. Roberts^{1,2}, A. M. Mahmoud^{1,2}, A. N. Springer³, R. H. Small^{3,2}, W. Bloom¹, G. Fleming¹. ¹Ophthalmology & Visual Science, The Ohio State University, Columbus, OH; ²Biomedical Engineering, The Ohio State University, Columbus, OH; ³Anesthesiology, The Ohio State University, Columbus, OH *CR
- 5317 — B0414 Comparison of intraocular pressure measurements in patients with glaucoma with Perkins, Schiottz and Icare Pro tonometers in supine position.** Uriel Moreno Páramo¹, J. Jimenez Arroyo¹, M. Escalante¹, F. Gil Carrasco¹, M. Garcia Huerta¹, M. Turati Acosta¹, J. Jimenez-Roman¹, F. Dominguez². ¹Glaucoma, Asociación Para Evitar la Ceguera IAP, Mexico City, Mexico; ²Oftalmología, Instituto Nacional de Rehabilitación, Mexico City, Mexico
- 5318 — B0415 Comparison of disposable Goldmann applanation tonometer and ICare ic100 to standards of care Goldmann nondisposable applanation tonometer and Tonopen XL for Measuring Intraocular Pressure.** Benny Wong^{1,2}, D. Parikh¹, M. Angert¹, M. Gorski¹, C. Shih¹. ¹Ophthalmology, Northwell Health, Brooklyn, NY; ²Hofstra Northwell School of Medicine, Hempstead, NY
- 5319 — B0416 Comparison of Goldmann applanation tonometry and dynamic contour tonometry for measuring intraocular pressure in normal tension glaucomatous eyes.** Jing Grace Wang^{1,2}, M. A. Latina^{1,2}. ¹Advanced Glaucoma Specialists, Reading, MA; ²Glaucoma, Mass Eye and Ear Infirmary, Boston, MA
- 5320 — B0417 Comparison of Three Methods to Measure Intraocular Pressure: ic100 Icare, TAOli Icare and Goldmann Applanation Tonometry.** Garcia Y Otero Sanchez Sara Aurora¹, J. A. Paczka², M. Romo Sainz², Y. Y. Dorantes Diez². ¹Oftalmología, Issste, Zapopan, Mexico; ²Universidad De Guadalajara, Guadalajara, Mexico
- 5321 — B0418 Rebound Tonometry as an Alternative Method of Intraocular Pressure Measurement in Aqueous Humour Dynamics Studies.** Stephanie Jones, P. Alaghand, A. De Antonio Ramirez, E. Galvis, K. Lim. Ophthalmology, St Thomas' Hospital, London, United Kingdom *CR
- 5322 — B0419 The Relationship Between Ocular Pulse Amplitude (OPA) and Arterial Pulse Pressure.** Daniel Turner¹, C. A. Girkin², J. C. Downs². ¹Vision Sciences, University of Alabama at Birmingham, Birmingham, AL; ²Ophthalmology, University of Alabama at Birmingham, Birmingham, AL

5323 — B0420 The Relationship between IOP, IOP Transient Impulse, Ocular Perfusion Pressure (OPP), and Average Blood Pressure (BP) in Nonhuman Primates (NHP) Instrumented with Telemetry. John Markert¹, J. V. Jasien², D. Turner², C. A. Girkin¹, J. C. Downs¹. ¹Ophthalmology, School of Medicine, University of Alabama at Birmingham, Birmingham, AL; ²Optometry and Vision Sciences, School of Optometry, University of Alabama at Birmingham, Birmingham, AL

5324 — B0421 Time Of Year Variation Of Intraocular Pressure. Christina E. Morettin¹, D. K. Roberts^{1,2}, T. L. Newman¹, M. F. Roberts¹, B. A. Teitelbaum¹, J. E. Winters¹. ¹Illinois College of Optometry/Illinois Eye Institute, Chicago, IL; ²Department of Ophthalmology and Visual Sciences, University of Illinois at Chicago, School of Medicine, Chicago, IL

5325 — B0422 Assessment of intraocular pressure as a function of time of day during normal patient care delivery hours in a primary eye care teaching facility. Daniel K. Roberts^{1,2}, C. E. Morettin¹, T. L. Newman¹, M. F. Roberts¹, B. A. Teitelbaum¹, J. E. Winters¹. ¹Clinical Education, Illinois College of Optometry, Chicago, IL; ²Epidemiology and Biostatistics, University of Illinois at Chicago, Chicago, IL

5326 — B0423 IOP Fluctuations in glaucoma patients measured by a self-administered tonometer. Jessie Huang^{1,2}, M. Kalloniatis^{1,2}, P. Katalinic², B. Zangerl^{1,2}. ¹Optometry and Vision Science, University of New South Wales, Kensington, NSW, Australia; ²Centre For Eye Health, Sydney, NSW, Australia ✕

5327 — B0424 Slit-Lamp light triggers sustained IOP reduction in rats. Malcolm J. Plunkett, J. P. Wood, G. Chidlow. South Australian Institute of Ophthalmology, Adelaide, SA, Australia

5328 — B0425 Statistical analysis of continuous IOP recordings in awake rats. Simon Bello^{2,1}, C. L. Passaglia¹. ¹Chemical and Biomedical Engineering, University of South Florida, Tampa, FL; ²Electrical Engineering, University of South Florida, Tampa, FL

5329 — B0426 Simultaneous ambulatory 24-hour blood pressure monitoring and intraocular pressure-related patterns estimated with a contact-lens sensor in treated glaucoma patients. Joseph H. Lee¹, C. G. De Moraes², L. J. Mená⁵, Z. Jin⁴, G. Maestre³, J. M. Liebmann², R. Ritch⁶. ¹Sergieievsky Center, Columbia University, New York, NY; ²Bernard and Shirlee Brown Glaucoma Research Laboratory Columbia University Medical Center, Columbia University Medical Center, New York, NY; ³Department of Biomedical Sciences, University of Texas at Rio Grande Valley, Brownsville, TX; ⁴Biostatistics, Columbia University, New York, NY; ⁵Academic Unit of Computing, Universidad Politecnica de Sinaloa, Mazatlan, Mexico; ⁶Einhorn Clinical Research Center, New York Eye and Ear of Mount Sinai, New York, NY *CR, ✕

5330 — B0427 Continuous Intraocular Pressure monitoring in patients with Obstructive Sleep Apnea Syndrome (OSAS) using Sensimed Triggerfish™. Elena M. Carnero¹, E. Urrestarazu², E. Rivas-Navas², V. Polo³, J. Larrosa³, V. Antón¹, A. Guarnieri¹, J. Moreno-Montanes¹. ¹Ophthalmology, Clinica Universidad de Navarra, Pamplona, Spain; ²Neurophysiology, Clinica Universidad de Navarra, Pamplona, Spain; ³Ophthalmology, Hospital Miguel Servet, Zaragoza, Spain *CR

5331 — B0428 The Effect of Obstructive Sleep Apnea and CPAP therapy on Intraocular Pressure. Cindi Yim, D. Zhou, R. Hienrich, T. P. Fox, A. Wu. Icahn School of Medicine at Mount Sinai, New York, NY

5332 — B0429 Can Central Intraocular Pressure Be Predicted Accurately from Peripheral Intraocular Pressure? Viswanathan Ramasubramanian, S. Gupta. College of Optometry, Lotus College of Optometry, Mumbai, Maharashtra, India

5333 — B0430 Wind Instruments: A cause of chronic elevation of Intraocular Pressure in pediatric population. Brett Mueller, R. Raj, R. Bhola. Ophthalmology, University of Louisville, Louisville, KY

5334 — B0431 Subject experience during guided lumbar puncture in glaucoma research. William R. Bloom¹, C. J. Roberts^{1,2}, A. N. Springer³, J. Pandya³, R. H. Small^{3,2}, C. S. Pappa¹, G. Fleming¹. ¹Ophthalmology & Visual Science, The Ohio State University, Columbus, OH; ²Biomedical Engineering, The Ohio State University, Columbus, OH; ³Anesthesiology, The Ohio State University, Columbus, OH *CR

5335 — B0432 Effect of Trendelenburg positioning during Robot-assisted laparoscopic radical prostatectomy (RALP) on IOP and visual function. Yi-Ning Chen¹, F. Araki¹, Y. Taketani¹, Y. Okagami², M. Asamoto², G. Kawamura², N. Ito², S. Kakutani², H. Fukuhara³, M. Aihara¹. ¹Ophthalmology and Vision Correction, The University of Tokyo Hospital, Tokyo, Japan; ²Anesthesiology and Pain Relief Center, The University of Tokyo Hospital, Tokyo, Japan; ³Urology and Andrology, The University of Tokyo Hospital, Tokyo, Japan

5336 — B0433 Eye Dynamics & Engineering Network (EDEN) Consortium: Study Design and Baseline Description. Sayoko E. Moroi⁵, D. M. Reed⁵, A. J. Sit⁶, C. B. Toris^{3,4}, V. Gulati⁴, J. W. McLaren², D. Burnett⁵, J. Gilbert⁵, T. Kristoff⁶, M. Trese¹, A. Kazemi², S. Fan⁴, D. C. Musch^{5,6}. ¹William Beaumont School of Medicine, Oakland University, Royal Oak, MI; ²Ophthalmology, The Mayo Clinic, Rochester, MN; ³Ophthalmology and Visual Sciences, Case Western Reserve University, Cleveland, OH; ⁴Ophthalmology and Visual Sciences, University of Nebraska Medical Center, Omaha, NE; ⁵Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ⁶Epidemiology, University of Michigan, Ann Arbor, MI *CR, ✕

5337 — B0434 Incidence of post traumatic Glaucoma in “Asociacion Para Evitar la Ceguera en México” in 5 Years. Montserrat Pinto Croker¹, A. Martínez Báez¹, N. Ramos Betancour², J. Gamiochipi-Arjona¹, J. Jimenez Arroyo², J. Jimenez-Roman², M. Garcia Huerta², M. Turati Acosta². ¹Resident, Apec, Mexico, Mexico; ²Apec, Mexico, Mexico

5338 — B0435 Functional and Histological Analysis of a Mouse Model of Oculocerebrorenal Syndrome of Lowe. Jorge A. Alvarado¹, N. Luo¹, E. Song¹, J. Quigley¹, Y. Sun^{1,2}. ¹Ophthalmology, Indiana University, Indianapolis, IN; ²Roudebush Veterans Administration, Indianapolis, IN

Exhibit/Poster Hall B0436-B0448

Thursday, May 11, 2017 8:30 AM-10:15 AM

Visual Neuroscience

512 Retinal Function: ERG studies

Moderators: Jan J. Kremers and Vivian Choh

5339 — B0436 Is an electroretinogram in Sudden Acquired Retinal Disorder (SARDS) really flat? Olga Kraszewska¹, B. Cichocki², Q. Davis¹. ¹LKC Technologies Inc, Gaithersburg, MD; ²Texas Veterinary Ophthalmology, Fort Worth, TX *CR

5340 — B0437 Scotopic electroretinogram a- and b-wave alterations in adult rats after an acute exposure to ozone. Carlos A. Garcia^{1,2}, J. M. Wetzel², A. P. Aitsebaom². ¹Mathematics, Science and Engineering, University of the Incarnate Word, San Antonio, TX; ²Rosenberg School of Optometry, University of the Incarnate Word, San Antonio, TX

5341 — B0438 Rod versus cone driven ERGs at different stimulus sizes. Avinash Aher⁴, D. J. McKeefry², N. R. Parry³, J. Maguire², I. J. Murray⁴, T. I. Tsai¹, C. R. Huchzermeyer¹, J. J. Kremers¹. ¹University Hospital Erlangen, Erlangen, Germany; ²University of Bradford, School of Optometry and Vision Science, Bradford, United Kingdom; ³Manchester Royal Eye Hospital, Vision Science Center, Manchester, United Kingdom; ⁴University of Manchester, Faculty of Life Sciences, Manchester, United Kingdom

5342 — B0439 Characterization of Focal Electroretinogram and Visual Evoked Potential in Normal Pigmented Rats. Yossi Mandel, A. Gross, N. Farah. Optometry and Visual Sciences, Faculty of Life Sciences and Bar-Ilan Institute for nanotechnology and Advanced Materials (BINA), Bar-Ilan University, Ramat Gan, Israel

5343 — B0440 Scotopic dim blue and white flash responses closely correlated in full-field electroretinography. Gaurav M. Chandra, S. E. Brodie. Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY

5344 — B0441 Normal parameters of the full field ERG recorded with bipolar electrodes in Cynomolgus Macaque (*Macaque fascicularis*). Arkady Lyubarsky^{1,2}, E. Wielechowski³, T. S. Aleman⁴, A. M. Maguire^{1,4}, G. Ying⁴, E. Bote³, L. Makaron³, J. Wilson³, J. Bennett^{1,4}, A. P. Tretiakova³. ¹Center for Advanced Retinal and Ophthalmic Therapeutics, SOM Univ. of Pennsylvania, Philadelphia, PA; ²Vision Research Center, University of Pennsylvania, Philadelphia, PA; ³Gene Therapy Program, University of Pennsylvania SOM, Philadelphia, PA; ⁴Scheie Eye Institute, University of Pennsylvania SOM Ophthalmology, Philadelphia, PA *CR

5345 — B0442 Spatial maps of the sensitivity parameter I₁₂ derived from multi-electrode electroretinography (meERG) responses in healthy rat eyes and eyes with experimental lesions. John R. Heiting^{1,2}, Z. Derafshi¹, B. Kunzer¹. ¹Bioengineering, Univ of Illinois at Chicago, Chicago, IL; ²Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL *CR

5346 — B0443 Evaluation of Anesthetic Effects on Electroretinogram (ERG) Recording in Rats. Kelly Tenneson, M. Vezina. Ocular and Neuroscience, Charles River, Senneville, QC, Canada *CR

5347 — B0444 Effects of Vascular endothelial growth factor (VEGF) on electroretinogram (ERG) amplitude in rats are mediated by bradykinin. Allen C. Clermont¹, N. Murugesan², T. Ustunkaya², B. Mastromarino¹, L. P. Aiello¹, E. P. Feener². ¹Beetham Eye Institute, Joslin Diabetes Center, Boston, MA; ²Vascular Cell Biology, Joslin Diabetes Center, Boston, MA

5348 — B0445 Assessment of the photopic negative response in full-field electroretinogram in optic nerve-sectioned young chick eyes. Clement Afari, D. L. McCulloch, C. K. Fung, A. Gurdita, V. Choh. School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada *CR

5349 — B0446 Dynamics of adaptation process to different light levels in the mouse retina studied with ERGs. Annela Joachimsthaler^{1,2}, T. I. Tsai^{1,2}, J. J. Kremers¹. ¹Dept of Ophthalmology, University Hospital Erlangen, Erlangen, Germany; ²Div of Animalphysiology, Friedrich-Alexander University Erlangen-Nürnberg, Erlangen, Germany

5350 — B0447 Contributions of Second- and Third-Order Retinal Neurons to Cone Electroretinograms after Loss of Rod Function in Rhodopsin P347L Transgenic Rabbits. Taro Kominami¹, S. Ueno¹, S. Okado¹, A. Nakanishi¹, M. Kondo², H. Terasaki¹. ¹Ophthalmology, Nagoya University Graduate School of Medicine, Nagoya, Japan; ²Ophthalmology, Mie University Graduate School of Medicine, Tsu, Japan *CR

5351 — B0448 Outer retinal photoreceptors in the postnatal mouse retina are electrically photoresponsive prior to eye opening. Paul Bonezzi, J. M. Renna. Department of Biology, The University of Akron, Akron, OH

Exhibit/Poster Hall B0509-B0531

Thursday, May 11, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

513 Oxidative damage, ER stress and autophagy

Moderator: Erica L. Fletcher

5352 — B0509 Neuroprotectin D1 (NPD1) upregulates Iduna expression and provides protection against uncompensated oxidative stress (UOS) in Human Retinal Pigment Epithelial Cells. Pranab K. Mukherjee, V. Bender, J. M. Calandria, N. G. Bazan. Neuroscience Cntr/ Ophthalmology, LSU Health Sciences Center, New Orleans, LA

5353 — B0510 Combination of oral progesterone and lipoic acid treatment and its effect on oxidative stress in an animal model of retinal degeneration. Maria Miranda¹, R. T. Dolores¹, R. López-Pedrajas¹, R. Gimeno-Hernández¹, Á. Fernández-Carbonell¹, I. Almansa¹, J. Araiz^{2,3}. ¹Physiology, Univ CEU-Cardenal Herrera, Moncada, Valencia, Spain; ²ICQO, Bilbao, Spain; ³Universidad del País Vasco, Leioa, Spain

5354 — B0511 Protective effect of N-Acylsphingosine Amidohydrolase 1 (acid Ceramidase) in RPE cells against oxidative stress. Eriko Sugano¹, M. A. Nawajes², K. Tabata¹, M. Tamai³, H. Tomita¹. ¹Department of Chemistry and Biological Sciences, Iwate Univ, Morioka, Japan; ²Ophthalmology, Anatomy and Neurobiology, University of Tennessee Health Sciences Center, Hamilton Eye Institute, Memphis, TN; ³Sendai City Hospital, Sendai, Japan

5355 — B0512 Characterization of pathological mechanisms during aging of the Prpf31-mutant mouse model of retinitis pigmentosa. Emeline F. Nandrot, N. Hadjout, D. Lew, A. Hamieh. Therapeutics, Institut de la Vision, Paris, France

5356 — B0513 Effect of Bax Inhibitor 1 overexpression on Tunicamycin-induced ER Stress in Human RPE Cells. Muhammad A. Abu-Rmaileh, V. Treboschi, P. Yang, G. J. Jaffe. Ophthalmology, Duke University, Durham, NC

5357 — B0514 Effects of two SERPINS on ARPE-19 Cells after Acute Induced-NaIO₃ Damage. Francisco M. Nadal-Nicolas, S. Becerra. National Eye Institute (NEI) - LRCMB, National Institute of Health (NIH), Bethesda, MD

5358 — B0515 MicroRNA-302d promotes dedifferentiation of the retinal pigment epithelium by targeting the CDKN1A. chao jiang, X. Chen, C. Zhao. Jiangsu Province People's Hospital, Nanjing, China

5359 — B0516 The retinal pigment epithelium of the canine area centralis is uniquely susceptible to mitochondrial toxicant damage. Melanie L. Foster¹, R. L. Lane¹, A. Oh¹, S. Nagar², M. C. McGahan², P. S. Mettu³, S. W. Cousins³, F. M. Mowat¹. ¹Department of Clinical Sciences, North Carolina State University, Raleigh, NC; ²Molecular Biomedical Sciences, North Carolina State University, Raleigh, NC; ³Duke Eye Center/ Ophthalmology, Duke University School of Medicine, Durham, NC

5360 — B0517 Effects of Ginkgo biloba Extract on Endoplasmic Reticulum Stress in A2E-containing Retinal Pigment Epithelial Cells Exposed to Blue Light. Jong-Hyun Oh¹, A. Togloom¹, M. Kim². ¹Ophthalmology, Dongguk University Ilsan Hospital, Goyang, Kyunggi-do, Korea (the Republic of); ²Kangwon National University, Chuncheon, Korea (the Republic of)

5361 — B0518 The mitochondrial-derived peptide humanin improves mitochondrial bioenergetics after endoplasmic reticulum stress in human RPE cells. Hiroto Terasaki^{1,2}, P. G. Sreekumar¹, H. H. Mehta³, P. Cohen³, D. R. Hinton^{4,5}, R. Kannan¹. ¹Doheny Eye Institute, Los Angeles, CA; ²Ophthalmology, Kagoshima University, Kagoshima, Japan; ³USC Leonard Davis School of Gerontology, University of Southern California, Los Angeles, CA; ⁴Ophthalmology, University of Southern California, Los Angeles, CA; ⁵Pathology, University of Southern California, Los Angeles, CA *CR

5362 — B0519 The fundus camera delivered-light induced retinal degeneration model is mediated by oxidative stress. Cynthia X. Wang¹, B. Aredo¹, Y. Ding¹, X. Zhong², K. Zhang³, R. Ufret-Vincenty¹. ¹Ophthalmology, UTSW Medical Center, Dallas, TX; ²Ophthalmology, The First Affiliated Hospital of Guangxi Medical University, Nanning, China; ³Ophthalmology, Hainan Provincial People's Hospital, Haikou, China

5363 — B0520 The Nrf2 and PGC-1 α deficient murine retina reveals retinal pigment epithelium damage that coincides with autophagy decline and damaged mitochondria. Jussi J. Paterno^{1,2}, N. Kivinen^{1,2}, J. Viiri¹, J. Hyttinen¹, A. Koskela¹, M. Winiarczyk³, D. A. Ferrington⁴, S. Felszeghy⁵, A. Kauppinen⁶, K. Kaarniranta^{1,2}. ¹Department of Ophthalmology, University of Eastern Finland, Kuopio, Finland; ²Department of Ophthalmology, Kuopio University Hospital, Kuopio, Finland; ³Department of Vitreoretinal Surgery, Medical University of Lublin, Lublin, Poland; ⁴Department of Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN; ⁵Institute of Biomedicine and Institute of Dentistry, University of Eastern Finland, Kuopio, Finland; ⁶School of Pharmacy, University of Eastern Finland, Kuopio, Finland

5364 — B0521 Protective action of a novel HDL mimetic peptide, HM-10/10 in RPE in vitro and in a murine model of sodium iodate induced retinal degeneration. Ram Kannan¹, F. Su², R. Farias-Eisner³, C. Spee³, E. Barron¹, D. R. Hinton^{3,4}, S. T. Reddy^{5,6}. ¹Ophthalmology, Doheny Eye Institute, Los Angeles, CA; ²Obstetrics and Gynecology, University of California, Los Angeles, CA; ³Pathology, University of Southern California, Los Angeles, CA; ⁴Ophthalmology, University of Southern California, Los Angeles, CA; ⁵Medicine, University of California, Los Angeles, CA; ⁶Molecular and Medical Pharmacology, University of California, Los Angeles, CA *CR

5365 — B0522 Monomethylfumurate induces NAD⁺ and SIRT1 in Human Retinal Pigment Epithelial Cells: Relevance to Development of New Therapies for Dry AMD. Ravirajsinh Jadeja¹, F. Powell¹, M. Jones¹, M. Bartoli², P. M. Martin¹. ¹Biochemistry and Molecular Biology, Augusta University, Augusta, GA; ²Ophthalmology, Augusta University, Augusta, GA

5366 — B0523 The effects of zinc supplementation on autophagy in primary human fetal retinal pigment epithelial cells - new molecular target pathway. Eszter Emri^{1,2}, X. Yang², J. Kriston-Vizi³, R. Ketteler³, I. Lengyel^{1,2}. ¹Centre for Experimental Medicine, Queens University, Belfast, United Kingdom; ²Ocular biology and Therapeutics, University College London, London, United Kingdom; ³Bioinformatics Image Core, MRC Laboratory for Molecular Cell Biology, London, United Kingdom

5367 — B0524 Nrf2 Protects Mitochondrial Function from Cigarette Smoke (CS) Independent of its Mitochondrial Antioxidant Capability. Marisol D. Cano, S. Datta, L. Wang, T. Liu, S. Dike, J. T. Handa. Wilmer Eye Institute/ Ophthalmology, Johns Hopkins University, Westminster, MD

5368 — B0525 Neuroprotectin D1 (NPD1) downregulates amyloid beta (Aβ42) oligomer-induced senescence in human retinal pigment epithelial (RPE) cells. Khanh Do, N. G. Bazan. LSU-Health Science Center, New Orleans, LA

5369 — B0526 Sigma 1 Receptor (Sig1R) regulates retinal ER & Oxidative (OX) Stress. Jing Wang^{1,2}, S. B. Smith^{1,2}. ¹Cellular Biology and Anatomy, Medical College of Georgia at Augusta University, Augusta, GA; ²James & Jean Culver Vision Discovery Institute, Augusta University, Augusta, GA

5370 — B0527 N-Acetyl Cysteine Amide (NACA) Provides Greater Protection from Oxidative Damage in the Retina Than N-Acetyl Cysteine (NAC). Lili Lu, Y. Kanan, P. A. Campochiaro. Ophthalmology, Johns Hopkins Univ, Baltimore, MD

5371 — B0528 Exogenous thioredoxin attenuates oxidative stress in retinal degeneration but does not modify retinal expression of other growth factors. Javier Araiz^{1,2}, R. Gimeno-Hernández³, Á. Fernández-Carbonell³, F. Bosch-Morell³, T. Olivar³, I. Almansa³, M. Miranda³. ¹ICQO, Bilbao, Spain; ²Universidad del País Vasco, Leioa, Spain; ³Universidad CEU-Cardenal Herrera, Valencia, Spain

5372 — B0529 Photoreceptor expression of functional Crx is required to maintain retinal pigment epithelium and retinal vasculature integrity. Jerome E. Roger, E. Grellier, N. Sahakian, M. Perron. Neuropsi, Certo / CNRS, Orsay, France

5373 — B0530 The role of pro-apoptotic proteins Bak and Bax in *rd1* rodent model of retinitis pigmentosa. Kiana Kakavand¹, A. I. Jobling¹, R. De Jongh¹, S. Chappaz², B. T. Kyle², E. L. Fletcher¹. ¹Department of Anatomy and Neuroscience, The University of Melbourne, Melbourne, VIC, Australia; ²The Walter and Eliza Hall Institute of Medical Research, Melbourne, VIC, Australia

5374 — B0531 Characterization of autophagy in normal and degenerating rod photoreceptors of *Xenopus laevis* using dually fluorescent LC3 markers. Runxia Wen, P. Stanar, O. L. Moritz. Ophthalmology and Visual Science, University of British Columbia, Vancouver, BC, Canada

Exhibit/Poster Hall B0532-B0560

Thursday, May 11, 2017 8:30 AM-10:15 AM

Retinal Cell Biology

514 Non-neural cells of the retina: Glia and Microglia

Moderators: Brahim Chaqour and Vera L. Bonilha

5375 — B0532 CXCL13, an aging-related microglial-derived cytokine, promotes epithelial-mesenchymal transformation (EMT) in RPE cells. Wenxin Ma¹, L. Zhao¹, L. Dong², M. M. Campos³, R. N. Fariss⁴, W. T. Wong¹. ¹UNGIRD, National Eye Institute, Bethesda, MD; ²Genetic Engineering Facility, NEI, Bethesda, MD; ³Histopathology Core Facility, NEI, Bethesda, MD; ⁴Biological Imaging Core, NEI, Bethesda, MD

5376 — B0533 Human lipofuscin induces a distinct immune reaction and elevated VEGF levels in microglial cells *in vitro*. Martin Dominik Leclair¹, P. Heiduschka¹, G. Nettek-Hackert¹, J. Koenig², T. Grune², C. Uhlig³, U. Hansen⁴, N. Eter¹. ¹Research Laboratory of the Department of Ophthalmology, University of Muenster Medical Center, Muenster, Germany; ²German Institute of Human Nutrition, Potsdam-Rehbruecke, Germany; ³Cornea Bank of the Department of Ophthalmology, University of Muenster Medical Center, Muenster, Germany; ⁴Institute of Experimental Musculoskeletal Medicine, Faculty of Medicine, University of Muenster, Muenster, Germany

5377 — B0534 Novel Characterization of Resident Plasmacytoid Dendritic Cells in the Retina and Choroid. Aakash Gupta¹, A. Jamali¹, M. J. Lopez², V. G. Sendra¹, T. Blanco¹, D. L. Harris¹, H. Moein¹, P. Hamrah^{1,2}. ¹Center for Translational Ocular Immunology, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA; ²Cornea Service, New England Eye Center, Department of Ophthalmology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA

5378 — B0535 Characterization of the Response of Microglia in a Rodent Model of Retinal Detachment. Bing Ross, J. Yao, S. Shanmugam, S. Abcouwer, D. N. Zacks. Department of Ophthalmology and Visual Science, University of Michigan, Ann Arbor, MI

5379 — B0536 Microglia and immune factors during retinal regeneration in the zebrafish. Diana Mitchell, A. G. Lovel, S. Roberts, D. L. Stenkamp. Biological Sciences, University of Idaho, Moscow, ID

5380 — B0537 Microglia are maintained by retinal ganglion cells. Emily Okoren¹, R. Mathew¹, M. Merad², D. Saban^{1,3}. ¹Ophthalmology, Duke University School of Medicine, Durham, NC; ²Oncology, Icahn School of Medicine at Mount Sinai, New York, NY; ³Immunology, Duke University School of Medicine, Durham, NC

5381 — B0538 Targeting NF-κB signaling reduces retinal neovascularization by inhibiting MMP-2/9 expression and promoting cell apoptosis and macrophage polarization shift via integrinα5β1. AILING SUI, B. XIE. ophthalmology, ruijin hospital,shanghai jiao tong university school of medicine, Shanghai, China

5382 — B0539 Lipopolysaccharide Induced Microglial Activation Exacerbates Retinal Degeneration in Animal Models of Retinitis Pigmentosa. Pedro Lax¹, A. Noailles¹, L. Campello¹, O. Kutsyr¹, V. Maneu², N. Cuenca^{1,3}. ¹Physiology, Genetics and Microbiology, University of Alicante, Alicante, Spain; ²Optics, Pharmacology and Anatomy, University of Alicante, Alicante, Spain; ³Institute Ramón Margalef, University of Alicante, Alicante, Spain

- 5383 — B0540 MiR-30a-5p inhibition prevents neovascularization through CCL2 upregulation and microglia activation in a model of ischemic retinopathy.** *Salome Murinello¹, Y. Usui^{1,2}, S. Sakimoto¹, M. Kitano¹, E. Aguilar¹, M. Friedlander¹.* ¹Cell and Molecular Biology, The Scripps Research Institute, La Jolla, CA; ²Tokyo Medical University, Tokyo, Japan
- 5384 — B0541 NF-κB signaling prevents the formation of Müller glia-derived progenitor cells in avian retina.** *Isabella Palazzo, K. Deistler, A. J. Fischer.* Neuroscience, The Ohio State University, Columbus, OH
- 5385 — B0542 Role of 24-S-hydroxycholesterol in membrane dynamics during retinal gliosis in glaucoma.** *Pierre-Henry Gabrielle^{1,2}, S. Gamber¹, L. Breillon², A. M. Bron^{1,2}, C. P. Creuzot Garcher^{1,2}.* ¹Ophthalmology, University Hospital Dijon, Dijon, France; ²INRA, CNRS, University of Burgundy, Eye & Nutrition Research Group, Dijon, France
- 5386 — B0543 Reduction of CRB2 Specifically in Mouse Photoreceptors with Concomitant Loss of CRB1 in Müller Glial Cells Mimics Early-onset Retinitis Pigmentosa.** *Celso Alves, P. M. Quinn, J. Wijnholds.* Ophthalmology, Leiden University Medical Center, Leiden, Netherlands
- 5387 — B0544 Retinal cell death dependent reactive proliferative gliosis in the mouse retina.** *Sheik Pran Babu Sardar Pasha^{1,3}, M. Robert^{1,2}, S. Patrick^{1,2}, O. Peter¹, M. O. Karl^{1,2}.* ¹Retinal Regeneration and Degeneration, Technische Universität Dresden, DFG-Center for Regenerative Therapies Dresden (CRTD) & Cluster of Excellence, Dresden, Germany; ²Retinal Regeneration and Degeneration, German Center for Neurodegenerative Diseases e.v. (DZNE), Dresden, Germany; ³Department of Ophthalmology, School of Medicine, IUPUI, Eugene & Marilyn Glick Eye Institute, Indianapolis, IN
- 5388 — B0545 Comparative effects of Transforming growth factor-β1 and Heparin-binding epidermal growth factor on the production of anti-oxidants by human Müller glial cells.** *Weixin Wang, K. Eastlake, E. Aquino, G. Limb.* NIHR Biomedical Research Centre for Ophthalmology, UCL Institute of Ophthalmology and Moorfields Eye Hospital, University College London, London, United Kingdom
- 5389 — B0546 TSP0 agonist XBD173 protects photoreceptors in a murine model of retinal ischemia.** *Antje Grosche¹, K. Mages¹, H. Jaegle².* ¹Institute of Human Genetics, University of Regensburg, Regensburg, Germany; ²Department of Ophthalmology, University of Regensburg, Regensburg, Germany
- 5390 — B0547 Vitreal cytokines stimulate glial membrane formation.** *Manasee Gedam, I. A. Bhutto, G. A. Lutty, M. M. Edwards.* Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD
- 5391 — B0548 Elevated homocysteine (Hcy) upregulates the NRF2 antioxidant pathway in retinal Müller cells.** *Soumya Navneet^{1,2}, J. Wang^{1,2}, X. Cui^{1,2}, S. B. Smith^{1,2}.* ¹Cellular Biology and Anatomy, Medical College of Georgia at Augusta University, Augusta, GA; ²James & Jean Culver Vision Discovery Institute, Augusta University, Augusta, GA
- 5392 — B0549 Withferin-A can modulate Müller cell gliosis in the mouse retina.** *Vijay P. Sarthy¹, V. Dudley¹, J. Zhu², D. A. Lamba².* ¹Ophthal-Feinberg Med Sch, Northwestern University, Chicago, IL; ²Buck Institute for Aging, Novato, CA
- 5393 — B0550 Differential effect of corticosteroids on Müller glial cells.** *Audrey Giocanti Auregan^{1,2}, L. Siqueiros-Marquez², H. Charles-Messance², R. Bénard², C. Montañez³, J. sahel², F. Sennlaub², X. Guilloneau², B. Bodaghi^{2,4}, R. Tadayoni^{2,5}, A. Rendon².* ¹Ophthalmology, Hospital Avicenne, Bobigny, France; ²Institut de la Vision, Paris, France; ³Investav, Mexico City, Mexico; ⁴Pitié Salpêtrière, Ophthalmology Department, Paris, France; ⁵Lariboisiere, Ophthalmology department, Paris, France
- 5394 — B0551 Sox2 deficiency leads to the abnormal development of retinal astrocytes and vasculature in the mouse.** *Amanda G. Kautzman^{1,2}, P. W. Keeley², M. M. Nahmou², G. Luna², S. K. Fisher^{2,3}, B. E. Reese^{1,2}.* ¹Psychological & Brain Sciences, UC Santa Barbara, Santa Barbara, CA; ²Neuroscience Research Institute, UC Santa Barbara, Santa Barbara, CA; ³Molecular, Cellular, and Developmental Biology, UC Santa Barbara, Santa Barbara, CA
- 5395 — B0552 Cellular stress response in human Müller cells (MIO-M1) after bevacizumab treatment.** *Monique Matsuda¹, P. G. Krempel¹, M. V. Marquezini², A. Sholl-Franco³, N. C. Miguel⁴, M. R. Monteiro¹.* ¹Laboratory of investigation in Ophthalmology (LIM-33), Division of Ophthalmology, University of São Paulo Medical School, Sao Paulo, Brazil; ²Laboratory of Experimental Air Pollution (LIM-05), Division of Pathology, University of São Paulo Medical School, Sao Paulo, Brazil; ³Laboratório de Neurogênese, Programa de Neurobiologia, Instituto de Biofísica Carlos Chagas Filho, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil; ⁴Program of Cell and Developmental Biology, Institute of Biomedical Sciences, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil
- 5396 — B0553 Rapid entry of RPE and Müller glia cells into the cell cycle following rod-specific ablation in *Xenopus laevis*.** *Reyna Martinez-De Luna¹, R. Y. Choi², C. M. Ly¹, A. S. Viczian¹, M. Zuber¹.* ¹Ophthalmology, SUNY Upstate Medical University, Syracuse, NY; ²Ophthalmology and Visual Sciences, John A. Moran Eye Center, University of Utah, Salt Lake City, UT
- 5397 — B0554 The regulatory role of hypoxic macroglia on endothelial cells.** *Kepong Ou^{1,2}, J. Wu², J. Liu², S. Wesselborg³, A. D. Dick^{2,4}, S. Schrader^{1,5}, L. Liu².* ¹Labor für Experimentelle Ophthalmologie, University of Düsseldorf, Düsseldorf, Germany; ²Academic Unit of Ophthalmology, School of Clinical Sciences, University of Bristol, Bristol, United Kingdom; ³Institute of Molecular Medicine I, Heinrich-Heine-University, Düsseldorf, Germany; ⁴National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital and University College London Institute of Ophthalmology, London, United Kingdom; ⁵Augenklinik, Universitätsklinikum Düsseldorf, Düsseldorf, Germany
- 5398 — B0555 Synergistic effect among BDNF, GDNF, or VEGF on protecting Müller cells in hypoxia: implication in neuroprotection in age-related macular degeneration and diabetic retinopathy and in anti-VEGF therapies.** *Yun-Zheng Le¹, M. Zhu².* ¹Departments of Medicine, Cell Biology, and Ophthalmology and Harold Hamm Diabetes Center, University of Oklahoma Health Sciences Center, Oklahoma City, OK; ²Department of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 5399 — B0556 Fluorescent Microglia Imaging and OCT Angiography (OCTA) of CNV.** *Jonathan Luisi^{1,2}, W. Zhang^{3,2}, M. Motamedi^{2,3}.* ¹Graduate School of Biomedical Science, University of Texas Medical Branch, Galveston, TX; ²Center for Biomedical Engineering, University of Texas Medical Branch, Galveston, TX; ³Ophthalmology and Visual Science, University of Texas Medical Branch, Galveston, TX
- 5400 — B0557 Microglia Activation and Polarization Associated with Retinal Inflammation and Degeneration in rd1 mouse model.** *Tian Zhou, C. He, Z. Huang, X. Sun, X. Liu.* Zhongshan Ophthalmic Center, Sun Yat-Sen University, Guangzhou, China
- 5401 — B0558 Fgf8a regulates Müller glia proliferation in the uninjured and injured retina.** *Jin Wan, D. Goldman.* Molecular & Behavioral Neuroscience Institute, University of Michigan, Ann Arbor, MI
- 5402 — B0559 Ischemic Neovascular Retinopathies: Autophagy flux deregulation in Glial Müller cells under oxygen deprivation conditions.** *Paula V. Subirada Caldarone, M. C. Paz, M. E. Ridano, P. F. Barcelona, G. A. Chiabrando, M. C. Sanchez.* Clinical Biochemistry Department (CIBICI-CONICET), Chemistry Science Faculty, Córdoba National University, Córdoba Capital, Argentina

5403 — B0560 Neuroretina-Specific Caveolin-1 Depletion Blunts Retinal Inflammation: Potential Role of Enhanced TRAF3 Production. *Jami Gurley¹, D. J. Carr^{1,2}, S. M. Hauck³, M. H. Elliott¹.* ¹Ophthalmology, OU Health Sciences Center/Dean McGee Eye Institute, Oklahoma City, OK; ²Microbiology & Immunology, OU Health Sciences Center, Oklahoma City, OK; ³Research Unit Protein Science, Helmholtz Center Munich, Neuherberg, Germany

Exhibit/Poster Hall B0561-B0587

Thursday, May 11, 2017 8:30 AM-10:15 AM

Visual Psychophysics/Physiological Optics

515 Color vision, binocular and stereoscopic vision

Moderator: Ayeswarya Ravikumar

5404 — B0561 Predicting the CN Lantern Test for Railways with clinical color vision tests. *Ali Almustanyir^{1,2}, J. K. Hovis¹.* ¹Optometry, University of Waterloo, Kitchener, ON, Canada; ²Optometry, King Saud University, Riyadh, Saudi Arabia *CR

5405 — B0562 Objective and Subjective Wavelength Transmission Assessment of EnChroma Glasses. *Nawaf M. Almutairi¹, S. Aljohani², N. Muthuramalingam^{2,3}, J. Kundart^{4,1}.* ¹Vision Science, Pacific University, Forest Grove, OR; ²Optometry, Qassim University, Buraidah, Saudi Arabia; ³Optometry, Salus University, Philadelphia, PA; ⁴College of Optometry, Pacific University, Forest Grove, OR

5406 — B0563 Comparison of color visual acuity measured using a liquid crystal display and a paper-based chart. *Yoshiki Tanaka¹, M. Takagi², S. Yokoyama³, R. Horai¹, S. Tanabe¹, K. Ichikawa¹.* ¹Vision Research Laboratory, Chukyo Eye Clinic, Nagoya, Japan; ²Japan Community Health care Organization Chukyo Hospital, Nagoya, Japan

5407 — B0564 Dark Adaptation Delays and Retinaldehyde Dimerization Products. *Leonide Saad^{1,2}, D. Zhang¹, I. Washington¹.* ¹Harkness Eye Institute, Columbia University Medical Center, New York, NY; ²Alkeus Pharmaceuticals, Boston, MA *CR

5408 — B0565 Dark adaptation in Duchenne muscular dystrophy with a short protocol. *Balazs V. Nagy^{1,2}, Z. Ashman³, M. T. Barboni², L. Padua², K. S. Vidal², D. F. Ventura².* ¹Department of Mechatronics, Optics and Engineering Informatics, Budapest University of Technology and Economics, Budapest, Hungary; ²Institute of Psychology, University of Sao Paulo, SAO PAULO, Brazil; ³University at Buffalo, Buffalo, NY

5409 — B0566 Extrinsic noise modifies the post-receptoral pathway rod weights. *Amithavikram R. Hathibelagal¹, B. K. Feig^{2,3}, A. J. Zele¹.* ¹Visual Science Laboratory, School of Optometry and Vision Science & Institute of Health and Biomedical Innovation, Queensland University of Technology, Brisbane, QLD, Australia; ²Medical Retina Laboratory, School of Biomedical Sciences & Institute of Health and Biomedical Innovation, Queensland University of Technology, Brisbane, QLD, Australia; ³Queensland Eye Institute, Brisbane, QLD, Australia

5410 — B0567 Objective Assessment of Visual Fatigue by Ability to Maintain Binocular Fusion. *Masakazu Hirota¹, T. Morimoto¹, H. Kanda¹, T. Endo², T. Miyoshi³, S. Miyagawa^{1,4}, Y. Hirohara⁴, T. Yamaguchi⁴, M. Saika⁴, T. Fujikado¹.* ¹Applied Visual Science, Osaka University Graduate School of Medicine, Suita-shi, Japan; ²Ophthalmology, Osaka University Graduate School of Medicine, Suita, Japan; ³Integrative Physiology, Osaka University Graduate School of Medicine, Suita, Japan; ⁴Topcon corporation, Itabashi, Japan *CR, ✕

5411 — B0568 Modelling cue weighting for naturalistic vergence and accommodation responses. *Patricia Riddell, A. M. Horwood, P. Scarfe.* School of Psychology and Clinical Language Sciences, University of Reading, Reading, United Kingdom

5412 — B0569 The effect of a prolonged near vision task on near vergence in a non-clinical population. *Chris Dickinson, W. Lin.* Faculty of Biology, Medicine and Health, University of Manchester, Manchester, United Kingdom

5413 — B0570 The relationship between response time in ocular dominance test and stereopsis test. *haoran wu¹, H. Bi², X. zhang³, W. Lan¹, X. li¹, Z. Yang¹, B. Zhang².* ¹Aier Institute of Optometry & Vision Science, ChangSha, China; ²Nova Southeastern University, Fort Lauderdale, FL; ³Wenzhou Medical University, Wenzhou, China

5414 — B0571 Stereoscopic displays reduce the quality of both vergence and accommodation responses. *Ana Fernandez, L. S. Gray, L. E. Sweeney, D. Seidel.* Vision Sciences, Glasgow Caledonian University, Glasgow, United Kingdom

5416 — B0573 Validating physics based 3D renderings for use with low vision psychophysics. *Brent S. Carpenter, Q. Lei, D. Kersten, G. E. Legge.* Psychology, University of Minnesota, Minneapolis, MN

5417 — B0574 Effects of Inter-Pupillary Distance Misalignment on Virtual Reality Sickness when using a 3D Stereoscopic Roller Coaster Simulation. *Adam Hickenbotham.* School of Optometry, University of Pikeville, Pikeville, KY

5418 — B0575 Motion sharpening processes in stereoscopic motion-in-depth. *Jeff Ferrucci¹, P. Bex², G. L. McCormack¹.* ¹Optometry / Vision Science, The New England College of Optometry, Cumberland, RI; ²Psychology, Northeastern University, Boston, MA

5419 — B0576 Autonomic Innervation And Digital Eye Strain. *Kathleen Hoang, M. Rosenfield, J. K. Portello.* SUNY College of Optometry, New York, NY

5420 — B0577 Cell Phone Viewing Distance And Age In A Chinese Population. *Mark Rosenfield¹, M. Lan², L. Liu².* ¹SUNY College of Optometry, New York, NY; ²Dept of Optometry & Visual Science, West China Hospital, Sichuan University, Chengdu, China

5421 — B0578 Sensitivity to binocular disparity is reduced by mild traumatic brain injury. *Gunnar Schmidtmann^{1,2}, A. Reynaud¹, D. P. Spiegel¹, T. Ruiz^{1,2}, M. Laguë-Beauvais², R. F. Hess¹, R. Farivar^{1,2}.* ¹Ophthalmology, McGill Vision Research, Montreal, QC, Canada; ²The Research Institute of the McGill University Health Centre, Traumatic Brain Injury Program, Montreal, QC, Canada

5422 — B0579 Effect of correcting associated phoria on reading speed. *Jessica Gustavsson, B. Theagarayan.* Medicine and Optometry, Linnaeus University, Örebro, Sweden

5423 — B0580 The Short-Term Effect of Low-Addition Progressive Lenses on Binocular Vision in Chinese Young Adults. *Anna Chwee Hong Yeo¹, C. Su², M. Ma², N. Singh¹, X. Chen².* ¹R&D, Essilor International, Singapore, Singapore; ²Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China *CR

5424 — B0581 Superior dynamic visual acuity performance of athletes. *Alan Yee, B. Thompson, K. Dalton.* Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada *CR

5425 — B0582 The influence of orthokeratology on blur detection threshold and accommodation in myopic children. *Chunwen Tao^{2,1}, J. Xu^{2,1}, X. Lu³, J. Bao^{2,1}, B. Drobe^{4,1}, H. Chen^{2,1}.* ¹WEIRC-Wenzhou Medical University-Essilor International Research Center, Wenzhou, China; ²School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China; ³Ningbo Medical Center Lihuli Hospital, Ningbo, China; ⁴R&D Optics AMERA, Essilor International, Singapore, Singapore *CR

5426 — B0583 Visual characteristics of high-functioning premature children. *Arnulf Myklebust^{1,2}, P. M. Riddell¹.* ¹Dept. of Visual Impairment, Statped, Oslo, Norway; ²School of Psychology and Clinical Language Sciences, University of Reading, Reading, United Kingdom

5427 — B0584 Population Norms for the Lee-Ryan Eye Hand Coordination App. *Barbara M. Junghans, J. Guo, R. W. So, S. Khuu.* School of Optometry and Vision Science, Univ of New South Wales Australia, UNSW Sydney, NSW, Australia *CR

5428 — B0585 Oculomotor tracking deficits in children with dyslexia. Kathryn Hannis¹, S. Gowrisankaran², E. A. Swanson², D. Waber^{2,3}, A. Raghuram^{2,3}. ¹New England College of Optometry, Boston, MA; ²Boston Children's Hospital, Boston, MA; ³Harvard Medical School, Boston, MA

5429 — B0586 Ocular accommodation deficits and near work associated symptoms in children with dyslexia. Kristen Kerber¹, S. Gowrisankaran², E. A. Swanson², D. Waber^{2,3}, A. Raghuram^{2,3}. ¹The New England College of Optometry, Boston, MA; ²Boston Children's Hospital, Boston, MA; ³Harvard Medical School, Boston, MA

5430 — B0587 Unilateral multifocal intra ocular lens implantation in pediatric cataract surgery: 5 years review. mohamad tawfeek hakim¹, A. Coutu², H. Khan³, P. M. Aduriz-Lorenzo¹, A. al naqi¹, H. nezzar^{1,3}. ¹ophthalmology, dubai government hospital, Dubai, United Arab Emirates; ²ophthalmology, CHU de Clermont Ferrand, Clermont Ferrand, France; ³IGCNC (Image-Guided Clinical Neuroscience and Connectomics), Universite d'Auvergne, Clermont Ferrand, France

Exhibit/Poster Hall B0588-B0601

Thursday, May 11, 2017 8:30 AM-10:15 AM

Multidisciplinary Ophthalmic Imaging Group

516 Advancements in OCT

Moderator: Daniel H. hammer

5431 — B0588 For OCT angiography images of choriocapillaris, how fast is too fast? Justin V. Migacz¹, I. Gorczynska^{1,2}, R. S. Jonnal¹, R. J. Zawadzki¹, J. S. Werner². ¹Ophthalmology and Vision Science, UC Davis, Sacramento, CA; ²Physics, Astronomy, and Informatics, Nicolaus Copernicus University, Torun, Poland

5432 — B0589 Motion-free en face OCT Angiography and Pigment Imaging based on Modified Lissajous Scan. Yiwei Chen, Y. Hong, S. Makita, Y. Yasuno. University of Tsukuba, Tsukuba, Japan *CR

5433 — B0590 Handheld swept source optical coherence tomography angiography. Gangjun Liu, J. Yang, L. Liu, J. Campbell, D. Huang. Casey Eye Institute, Portland, OR *CR

5434 — B0591 Using a contrast agent to explain vascular scattering patterns in OCT angiography. Marcel T. Bernucci¹, C. Merkle¹, V. J. Srinivasan^{1,2}. ¹Biomedical Engineering, University of California, Davis, Davis, CA; ²Ophthalmology and Vision Science, University of California Davis School of Medicine, Sacramento, CA *CR

5435 — B0592 Assessment of Retinal Blood Flow in Systemic Hypertensive Patients Using Doppler Fourier-Domain Optical Coherence Tomography (FD-OCT). Sowmya Srinivas¹, O. Tan², X. Zhang², M. Nittala¹, D. Huang², S. R. Sadda¹. ¹Ophthalmology, Doheny Eye Institute and Department of Ophthalmology, David Geffen School of Medicine, University of California, Los Angeles, CA; ²Ophthalmology, Casey Eye Institute, Oregon Health & Science University, Portland, Oregon, Portland, OR *CR

5436 — B0593 Volume of therapeutics delivered into the subretinal space can be measured using swept-source microscope-integrated optical coherence tomography. S. Tammy Hsu¹, H. Gabr^{1,3}, K. Sleiman¹, A. Dandridge¹, C. Viehland², O. Carrasco-Zevallos², L. Vajzovic¹, J. A. Izatt², A. N. Kuo^{1,2}, C. A. Toth^{1,2}. ¹Ophthalmology, Duke University School of Medicine, Durham, NC; ²Biomedical Engineering, Duke University, Durham, NC; ³Ophthalmology, Ain-Shams University, Cairo, Egypt *CR, ✗

5437 — B0594 High-contrast and polarization-artifact-free optical coherence tomography by maximum a-posteriori intensity estimation. Aaron C. Chan¹, Y. Hong¹, S. Makita¹, M. Miura², Y. Yasuno¹. ¹Computational Optics Group, University of Tsukuba, Tsukuba, Japan; ²Department of Ophthalmology, Tokyo Medical University Ibaraki Medical Center, Ami, Japan *CR

5438 — B0595 A method of identifying and semi-quantifying retinal pigment epithelial damage following pre-clinical subretinal injections. Karen M. Joos^{1,4}, R. Matthews², N. Simaan³, R. Prasad¹, T. Moreno¹, Y. Tao⁴, J. H. Shen¹. ¹Vanderbilt Eye Institute, Vanderbilt University Medical Center, Nashville, TN; ²Molecular Physiology and Biophysics, Vanderbilt University, Nashville, TN; ³Mechanical Engineering, Vanderbilt University, Nashville, TN; ⁴Biomedical Engineering, Vanderbilt University, Nashville, TN *CR

5439 — B0596 Multi-directional optical coherence tomography in the retina. Andreas Wartak¹, R. Haindl¹, F. Beer^{1,2}, M. Augustin¹, M. Salas¹, M. Laslandes¹, B. Baumann¹, M. Pircher¹, C. K. Hitzenberger¹. ¹Center for Medical Physics and Biomedical Engineering, Medical University of Vienna, Vienna, Austria; ²Institute for Applied Physics, Vienna University of Technology, Vienna, Austria

5440 — B0597 Human Factor and Usability Testing of a Binocular OCT System - EASE Study. Reena Chopra¹, P. J. Mulholland^{1,2}, A. M. Dubis⁴, R. S. Anderson^{1,2}, P. A. Keane¹. ¹NIHR Biomedical Research Centre for Ophthalmology, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ²Optometry and Vision Science Research Group, School of Biomedical Sciences, Ulster University, Coleraine, Northern Ireland, United Kingdom ✗

5441 — B0598 Optical coherence tomography compatible surgical instruments for real-time intraoperative optical coherence tomography during vitreoretinal surgery. Atsuro Uchida, S. K. Srivastava, C. Calabrese, J. Reese, J. Ehlers. Ophthalmology, Cole Eye Institute, Cleveland Clinic, Cleveland, OH *CR

5442 — B0599 In-vivo Imaging of the Cellular Structure of Keratoconic Human Cornea with Sub-micrometer Axial Resolution OCT. Luigina Sorbara¹, O. Kralj², B. Tan², B. MacLellan², K. Carter¹, E. Mason², L. Haines¹, D. Hileeto¹, K. K. Bizheva^{2,3}. ¹School of Optometry and Vision Science, University of Waterloo, Waterloo, ON, Canada; ²Physics and Astronomy, University of Waterloo, Waterloo, ON, Canada; ³Systems Design Engineering, University of Waterloo, Waterloo, ON, Canada

5443 — B0600 In vivo measurement of hemodynamic parameters and its association factors in Chinese healthy subjects. CE SHI, S. Huang, Q. MA, M. Shen, F. Lu. Wenzhou Medical University, Wenzhou, China

5444 — B0601 Spectroscopic imaging of the outer retina with visible light OCT. Vivek J. Srinivasan^{1,2}, S. Chong¹, M. T. Bernucci¹. ¹Biomedical Engineering, University of California, Davis, Davis, CA; ²Department of Ophthalmology and Vision Sciences, UC Davis, Sacramento, CA *CR

Exhibit/Poster Hall B0602-B0616

Thursday, May 11, 2017 8:30 AM-10:15 AM

Multidisciplinary Ophthalmic Imaging Group

517 Wide field retinal imaging

Moderator: Yuhua Zhang

5445 — B0602 Evolution of vitreoretinal separation in normal subjects as described by wide-angle montage imaging of optical coherence tomography. Mayuka Tsukahara¹, K. Mori¹, P. L. Gehlbach², K. Mori¹. ¹Department of Ophthalmology, International University of Health and Welfare, Nasu-Shiobara, Tochigi, Japan; ²Department of Ophthalmology, Johns Hopkins University, Baltimore, MD

5446 — B0603 Wide-field multimodal ophthalmic imaging using scanning laser ophthalmoscopy and optical coherence tomography at 400 kHz. Mohamed T. El-Haddad¹, K. M. Joos², S. Patel², Y. Tao¹. ¹Biomedical Engineering, Vanderbilt University, Nashville, TN; ²Ophthalmology and Visual Sciences, Vanderbilt University, Nashville, TN *CR

5447 — B0604 Ultra-wide field optical coherence tomography angiography for evaluation of diabetic retinopathy. *Qinqin Zhang¹, C. Chen¹, Z. Chu¹, K. Attaran-Rezaei², R. K. Wang¹.* ¹Department of Bioengineering, University of Washington, Seattle, WA; ²Department of Ophthalmology, Seattle, WA *CR

5448 — B0605 Ocular morphometry from wide-field, whole eye OCT compared to MRI and PCI. *Ryan P. McNabb¹, R. R. Vann¹, J. A. Izatt^{2,1}, A. N. Kuo^{1,2}.* ¹Ophthalmology, Duke University Medical Center, Durham, NC; ²Biomedical Engineering, Duke University, Durham, NC *CR

5449 — B0606 Usability of Widefield Slit-Scanning Ophthalmoscopes for Fundus Autofluorescence Imaging. *Mary K. Durbin, J. Luu, C. Leahy, R. Sprowl, T. K. Brock.* R & D, Carl Zeiss Meditec, Inc, Dublin, CA *CR

5450 — B0607 Impact of Ultrawide Field Retinal Imaging (UWFI) on the Rapid Assessment of Avoidable Blindness and Diabetic Retinopathy(RAAB-DR) Survey. *Gary L. Yau³, P. S. Silva^{3,2}, L. D. Cubillan¹, K. M. Claudio¹, K. M. Panggat¹, M. G. Ledesma¹, M. A. Villano¹, J. C. Macenas¹, C. M. Pitoc¹, C. M. Paraz¹, J. K. Sun^{3,2}, L. P. Aiello^{3,2}.* ¹University of the Philippines, Philippine Eye Research Institute, Manila, Philippines; ²Ophthalmology, Harvard Medical School, Boston, MA; ³Beetham Eye Institute, Joslin Diabetes Center, Boston, MA *CR

5451 — B0608 Analysis of peripheral vascular staining in anterior and intermediate uveitis using ultra-widefield fluorescein angiography. *Joon-won Kang¹, Y. Yu¹, H. Chung², J. Heo¹.* ¹Ophthalmology, Seoul National University Hospital, Seoul, Korea (the Republic of); ²Ophthalmology, Chung-Ang University Hospital, Seoul, Korea (the Republic of)

5452 — B0609 Assessing retinal vascular biomarkers for Alzheimer's disease using ultra-widefield imaging (UWFI). *Lajos Csincsik^{2,1}, E. Flynn⁶, E. Pellegrini³, G. Papanastasiou⁷, T. MacGillivray^{3,7}, C. Ritchie⁸, T. Peto^{5,4}, I. Lengyel^{2,1}.* ¹Ocular Biology and Therapeutics, UCL-Institute of Ophthalmology, London, United Kingdom; ²Centre for Experimental Medicine, Queen's University Belfast, Belfast, United Kingdom; ³Centre for Clinical Brain Sciences, The University of Edinburgh, Edinburgh, United Kingdom; ⁴Queen's University Belfast, Belfast, United Kingdom; ⁵NIHR Biomedical Research Centre, Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ⁶School of Medicine and Health Sciences, The George Washington University, Washington, DC; ⁷Clinical Research Imaging Centre, University of Edinburgh, Edinburgh, United Kingdom; ⁸Centre for Dementia Prevention, University of Edinburgh, Edinburgh, United Kingdom *CR

5453 — B0610 Quantitative Measurement of Retinal Features on Widefield Fundus Images. *Conor Leahy¹, J. Luu¹, A. Eslami², G. C. Lee¹, K. E. O'Hara¹, M. K. Durbin¹.* ¹R&D, Carl Zeiss Meditec Inc., Dublin, CA; ²Carl Zeiss Meditec AG, Munich, Germany *CR

5454 — B0611 Image Quality Comparison Between Non-Mydriatic and Mydriatic High-resolution True-Color Widefield Fundus Images. *Jochen Straub, C. Leahy, J. Luu, J. Schmidt, M. K. Durbin.* R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR

5455 — B0612 Comparison of Nonmydriatic Eye Images Acquired Using a Widefield 90° Slit-Scanning Ophthalmoscope and Standard 45° Commercial Fundus Cameras. *Jennifer Luu, C. Leahy, M. K. Durbin.* R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR

5456 — B0613 Comparison of Usable Image Area Acquired on Nonmydriatic Eyes Using a Widefield Slit-Scanning Ophthalmoscope and Commercial Fundus Cameras. *Nathan D. Shemonski, J. Luu, A. Eslami, G. C. Lee, C. Leahy, T. K. Brock.* R&D, Carl Zeiss Meditec, Inc., Dublin, CA *CR

5457 — B0614 Imaging of Pseudophakic Eyes Using a Widefield Slit-Scanning Ophthalmoscope. *Matthew J. Everett, J. Luu, T. K. Brock, C. Leahy, J. Schmidt.* Carl Zeiss Meditec, Inc., Dublin, CA *CR

5458 — B0615 Revisiting oral fluorescein angiography with an ultra-wide field scanning laser ophthalmoscope; a case series from clinical practice. *Nicole Lemanski^{1,2}, B. Lemanski^{1,3}.* ¹Ophthalmology, Mabel MP Cheng MD, PLLC, Niskayuna, NY; ²Ophthalmology, Albany Medical Center, Albany, NY; ³Division of Applied Vision Research, Mabel MP Cheng MD, PLLC, Niskayuna, NY *CR

5459 — B0616 Choroidal vascular abnormalities by UWF ICGA in central serous chorioretinopathy. *Min Sagong¹, D. Noh¹, J. V. Hemert², J. Lee¹, J. Ahn¹, J. Jeon¹, J. Son¹, S. Cha¹.* ¹Department of Ophthalmology, Yeungnam University College of Medicine, Daegu, Korea (the Republic of); ²Optos Plc, Dunfermline, United Kingdom

Exhibit/Poster Hall B0617-B0636

Thursday, May 11, 2017 8:30 AM-10:15 AM

Anatomy and Pathology/Oncology

518 Factors mediating myopia

Moderator: Regan Ashby

5460 — B0617 Opposing contributions by D2 receptor activation on form-deprivation myopia development in mice. *Xiangtian Zhou, F. Huang, Q. Wang, L. Zhang, J. Qu.* School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, Zhejiang, China

5461 — B0618 The efficacy of the dopamine D2 agonist quinpirole at inhibiting ocular growth in chicks is dependent on time-of-day. *Kelsey Jordan, K. Totonnelly, D. L. Nickla.* Bioscience, The New England College of Optometry, Boston, MA

5462 — B0619 The Effects of Adenosine Antagonist, 7-Methylxanthine, on Emmetropization in Rhesus Monkeys. *Li-Fang Hung^{1,2}, B. Arumugam^{1,2}, L. A. Ostrin¹, K. Trier³, M. Jong², E. L. Smith^{1,2}.* ¹College of Optometry, University of Houston, Sugar Land, TX; ²Brien Holden Vision Institute, Sydney, NSW, Australia; ³Trier Research Laboratories, Hellerup, Denmark *CR

5463 — B0620 Adenosine Receptor Immunoreactivity in the Non-Human Primate Ocular Posterior Segment. *Krista Beach, B. Arumugam, L. Hung, E. L. Smith, L. A. Ostrin.* Optometry, University of Houston, Houston, TX

5464 — B0621 Subconjunctival injection of gap junction antagonist (18-β-glycyrrhetic acid) induces myopia in guinea pigs. *Zhina Zhi, S. Zhang, X. Zhou.* Wenzhou Medical University, Wenzhou, China

5465 — B0622 Myopia-Inhibiting Muscarinic Antagonists Also Block α_{2A}-Adrenoceptor Signaling. *Brittany Carr¹, K. Mihara², R. Ramachandran⁴, M. Saifeddine², N. M. Nathanson⁵, W. K. Stell⁶, M. D. Hollenberg².* ¹Neuroscience, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada; ²Physiology and Pharmacology, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada; ³Cell Biology & Anatomy, Cumming School of Medicine, University of Calgary, Calgary, AB, Canada; ⁴Physiology and Pharmacology, Schulich School of Medicine & Dentistry, University of Western Ontario, London, ON, Canada; ⁵Pharmacology, University of Washington, Seattle, WA

5466 — B0623 The Effects of Atropine on the Development of Binocular and Monocular Lens-Induced Myopia in Marmosets. *Alexandra Benavente-Perez¹, A. Nour¹, T. Ansel¹, X. Zhu¹, R. Nieu¹, H. Feng¹, X. Cheng², N. A. Brennan², D. Troilo¹.* ¹Biological Sciences, SUNY College of Optometry, New York, NY; ²Johnson and Johnson Vision Care, Inc., Jacksonville, FL *CR

- 5467 — B0624 The Effect of Atropine on Lens Induced Myopia in the Guinea Pig.** *Sally A. McFadden.* Faculty of Science and IT, University of Newcastle, Callaghan, NSW, Australia *CR
- 5468 — B0625 Attenuation of myopia progression by aripiprazole is dependent on form deprivation.** *Furong Huang, F. Wan, Y. Yang, J. Qu, X. Zhou.* Wenzhou Medical University, Wenzhou, China
- 5469 — B0626 Effect of Topical Latanoprost on Myopia Progression in Guinea Pigs.** *Nevin El-Nimri, C. F. Wildsoet.* Vision Science, UC Berkeley, Berkeley, CA
- 5470 — B0627 Amphiregulin Antibody and Reduction of Axial Elongation in Experimental Myopia.** *Wen Jun Jiang¹, J. Wu¹, D. Guo¹, H. Bi¹, J. B. Jonas².* ¹Ophthalmology, Eye Institute of Shandong University of Traditional Chinese Medicine, Jinan, China; ²Medical Faculty Mannheim of the 16 Ruprecht-Karls-University Heidelberg, Mannheim, Germany *CR
- 5471 — B0628 Transient exposure of high concentration oxygen induces sustained myopia in adult mice.** *Kiwako Mori^{1,2}, T. Kurihara^{1,2}, X. Jiang^{1,2}, E. Yotsukura^{1,2}, Y. TANAKA^{1,2}, S. Ikeda^{1,2}, M. Miyauchi^{1,2}, H. Torii^{1,2}, K. Tsubota¹.* ¹Ophthalmology, Keio University, Shinjuku, Japan; ²Laboratory of Photobiology, Keio University, Tokyo, Japan
- 5472 — B0629 BMP2 Protein Increases the Expression of Genes for Inhibitor of DNA Binding Proteins in Cultured Chick Scleral Fibroblasts.** *Yan Zhang, W. Yang, A. Hang, E. Zin, M. Garcia, M. Li, C. F. Wildsoet.* School of Optometry, Univ of California, Berkeley, Berkeley, CA
- 5473 — B0630 Myopia progression in adult Lrp2/Bugeye fish.** *Tiffany Tran¹, K. Villafan¹, K. Z. Kwan¹, D. Cameron².* ¹Graduate College of Biomedical Sciences, Western University of Health Sciences, Pomona, CA; ²College of Optometry, Western University of Health Sciences, Pomona, CA
- 5474 — B0631 LRP2 mediates retinoid homeostasis to regulate eye growth.** *Ross F. Collery^{2,1}, K. N. Veth¹, B. A. Link¹.* ¹Cell Biology, Neurobiology and Anatomy, Medical College of Wisconsin, Milwaukee, WI; ²Ophthalmology and Visual Sciences, Medical College of Wisconsin, Milwaukee, WI
- 5475 — B0632 Inhibition of choroïdal retinoic acid synthesis by dichloro-all-trans-retinone (DAR).** *Angelica Harper¹, T. Mather², J. A. Summers Rada¹.* ¹Cell Biology, University of Oklahoma Health Sciences Center, Oklahoma City, OK; ²Oklahoma Medical Research Foundation, Oklahoma City, OK *CR
- 5476 — B0633 MicroRNA profiling reveals the differentially expressed microRNAs are associated with metabolic imbalance in myopic guinea pigs.** *Dadong Guo, W. Jiang, H. Bi.* Cell Biology, Eye Institute of Shandong University of Traditional Chinese Medicine, Ji'nan, China
- 5477 — B0634 Quantitative proteomics analysis of chick retina in response to nicotinic acid (NA) oral intake and lens-induced myopia (LIM).** *Hu XIAO, S. Shan, T. Lam, R. Chun, C. To.* School of Optometry, The Hong Kong Polytechnic University, Hong Kong, China
- 5478 — B0635 Ion and Proteome Expression in Early Development of Refractive Errors.** *Sheila G. Crewther¹, N. Riddell¹, A. Marshall².* ¹Psychological Science, La Trobe University, Melbourne, VIC, Australia; ²Department of Ecology, Evolution and Environment, La Trobe University, Melbourne, VIC, Australia
- 5479 — B0636 Retina/RPE proteome profiles in the chick model of optically-induced refractive error.** *Nina Riddell¹, S. G. Crewther¹, M. Murphy¹, L. Giummarra¹, P. Faou², D. Crewther³.* ¹Psychology and Counselling, La Trobe University, Melbourne, VIC, Australia; ²Department of Biochemistry and Genetics, La Trobe Institute for Molecular Sciences, La Trobe University, Melbourne, VIC, Australia; ³Centre for Human Psychopharmacology, Swinburne University of Technology, Melbourne, VIC, Australia
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- Exhibit/Poster Hall B0637-B0652
Thursday, May 11, 2017 8:30 AM-10:15 AM
Anatomy and Pathology/Oncology
519 High myopia, associated complications and potential treatments
-
- Moderator: Liqin Jiang**
- 5480 — B0637 Novel Myopia Genes and Pathways identified from Syndromic Forms of Myopia.** *Daniel I. Flitcroft^{1,2}, J. Loughman², C. F. Wildsoet³, C. Williams⁵, J. A. Guggenheim⁴.* ¹Ophthalmology, Childrens University Hospital, Dublin, Ireland; ²College of Sciences and Health, Dublin Institute of Technology, Dublin, Ireland; ³School of Optometry, University College Berkeley, Berkeley, Ireland; ⁴School of Optometry & Vision Sciences, Cardiff University, Cardiff, United Kingdom; ⁵Bristol Eye Hospital, Bristol, United Kingdom
- 5481 — B0638 Exome Sequence Analysis of 14 High-Grade Myopia Families.** *Terrri L. Young¹, B. Kloss¹, S. W. Tompson¹, K. N. Whisenhunt¹, S. Huang¹, K. Quow³, D. Pavelec⁴, T. Rosenberg².* ¹Ophthalmology and Visual Sciences, University of Wisconsin-Madison, Madison, WI; ²Haandvaerkerhaven 33, 1 TH, Copenhagen, Denmark; ³Center for Human Genetics, Duke University Medical Center, Durham, NC; ⁴Biotechnology Center, University of Wisconsin, Madison, WI
- 5482 — B0639 The change in AL/CR progression and spherical equivalent progression may predict the risk of high myopia.** *Monica Jong^{2,1}, P. Sankaridurg^{2,1}, T. J. Naduvilath^{2,1}, W. Li³, M. He^{4,5}.* ¹School of Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia; ²Clinical Research and Trials Centre, Brien Holden Vision Institute, Sydney, NT, Australia; ³Brien Holden Vision Institute, Guangzhou, China; ⁴Centre for Eye Research, University of Melbourne, Melbourne, VIC, Australia; ⁵Zhongshan Ophthalmic Centre, Guangzhou, China
- 5483 — B0640 Biometric Progression in Highly Myopic Eyes: The ZOC-BHVI Guangzhou High Myopia Cohort Study.** *Xinxing Guo^{1,2}, Z. Zhu¹, O. Xiao¹, I. G. Morgan¹, M. He^{1,3}.* ¹Division of Preventive Ophthal, Zhongshan Ophthalmic Center, Guangzhou, China; ²Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ³Centre for Eye Research Australia, University of Melbourne, Melbourne, VIC, Australia
- 5484 — B0641 Posterior Vitreous Detachment in High Myopia Eyes with Macular Disorders.** *Fenghua Wang, X. Wang.* Ophthalmology, Shanghai First People's Hospital, Shanghai, China
- 5485 — B0642 Vitreous Structure and Visual Function in Myopic Vitreopathy and Posterior Vitreous Detachment.** *Justin Nguyen, K. M. Yee, J. Nguyen-Cuu, J. Sebag.* VMR Institute for Vitreous Macula Retina, Huntington Beach, CA
- 5486 — B0643 Characteristics and outcomes of patients with myopic foveoschisis.** *Alexander R. Bottini¹, J. J. Tseng^{1,2}, M. Rothschild¹, K. J. Wald^{1,2}.* ¹Ophthalmology, New York University School of Medicine, New York, NY; ²Retina Associates of New York, New York, NY
- 5487 — B0644 Pseudo-PED in high-myopia.** *Vito Primavera¹, T. Centoducati^{1,2}, R. Sacconi^{2,4}, A. Carnevali^{2,3}, A. Rabiolo², M. Cicinelli², F. Gelormini², L. Querques², F. Bandello², G. Querques².* ¹Department of Ophthalmology, Ospedale della Murgia "Fabio Perinei" Altamura, Italy, Castellana Grotte, Italy; ²Department of Ophthalmology, University Vita-Salute, IRCCS Ospedale San Raffaele, Milan, Italy; ³Department of Ophthalmology, University of "Magna Graecia", Catanzaro, Italy; ⁴Department of Ophthalmology, University of Verona, University hospital of Verona, Verona, Italy

5488 — B0645 Comparison of clinical features between anatomic stable group and spontaneous improved group by OCT imaging in myopic macular schisis eyes. *Bingqian Liu, L. Lu, Y. Li.* Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China

5489 — B0646 Baseline parameters of the HELP study (long-term observation of Caucasians with pathologic myopia): distribution of age in pre-defined risk categories for developing a myopic choroidal neovascularization. *Charlotte Melzer¹, F. Ziemssen², N. Eter³, C. K. Brinkmann¹, H. Agostini⁴, G. Haeusser-Frueh⁵, S. Marc⁷, K. Lorenz⁶, F. G. Holz¹, S. Schmitz-Valckenberg¹.* ¹Department of Ophthalmology, University of Bonn, Grade Reading Center, Bonn, Germany; ²Department of Ophthalmology, Eberhard Karl University Tuebingen, Tuebingen, Germany; ³Department of Ophthalmology, University of Muenster, Muenster, Germany; ⁴Eye Center, University of Freiburg, Freiburg, Germany; ⁵Novartis Pharma, Nuremberg, Germany; ⁶Department of Ophthalmology, University of Mainz, Mainz, Germany; ⁷Schweinfurt Eye Hospital, Schweinfurt, Germany *CR

5490 — B0647 Retinal complications related to myopia and high myopia in a large multicentric cohort of French individuals. *Olivier Lichtwitz¹, E. Matamoros¹, P. INGRAND¹, F. M. Pelen², Y. lefèvre², P. Pouts², Y. bentaleb², N. LEVEZIEL¹.* ¹university hospital, Poitiers, France; ²Point vision, Paris, France *CR

5491 — B0648 Parapapillary Delta Zone as Risk Factor for Glaucoma in High Myopia. *Jost B. Jonas¹, K. Ohno-Matsui², N. Nagaoka², P. Weber¹.* ¹Ophthalmology, Medical Faculty Mannheim-Heidelberg, Mannheim, Germany; ²Department of Ophthalmology and Visual Science, Tokyo Medical and Dental University, Tokyo, Japan *CR

5492 — B0649 Observation of Paravascular Abnormalities by Optical Coherence Tomography and Relation to Retinoschisis in Highly Myopic Eyes. *Xiaodong Sun, T. Li, F. Wang.* Ophthalmology, Shanghai First Peoples Hospital, Shanghai, China

5493 — B0650 Interlink among Retinal Perfusion, Macular Structure, and Retinal Sensitivity Measurements in High Myopia. *Yimin Yuan, Q. Wu, Q. Chen, M. Shen, F. Lu.* School of Ophthalmology & Optometry; The Eye Hospital, Wenzhou Medical University, Wenzhou, China

5494 — B0651 Ranibizumab therapy for Myopic CNVM. *Hetvi Bhatt^{1,2}, O. Adenuga², R. Sandhu², V. Sundaram², M. Subash².* ¹Ophthalmology, NHS Forth Valley, Falkirk, United Kingdom; ²Ophthalmology, Luton and Dunstable University Hospital, Luton, United Kingdom

5495 — B0652 Flexible optical waveguides for uniform periscleral crosslinking. *Sheldon J. Kwok^{2,1}, M. Kim¹, H. H. Lin¹, T. G. Seiler¹, E. Beck¹, M. Engler¹, P. Shao¹, I. E. Kochevar¹, T. Seiler³, S. Yun^{1,2}.* ¹Wellman Center for Photomedicine, Massachusetts General Hospital, Cambridge, MA; ²Harvard-MIT Health Sciences and Technology, Massachusetts Institute of Technology, Cambridge, MA; ³Institut für Refraktive und Ophthalmochirurgie, Zurich, Switzerland *CR

Exhibit/Poster Hall B0678-B0704

Thursday, May 11, 2017 8:30 AM-10:15 AM

Retina

520 Endophthalmitis and trauma

5496 — B0678 Aqueous humor culture as a diagnosis tool for endophthalmitis. *Daniel Rangel O Shea, C. Sjöholm, V. Morales-Canton, J. J. Fromow-Guerra, R. Velez-Montoya.* Retina, Asociación Para Evitar La Ceguera En Mexico, Ciudad De Mexico, Mexico

5497 — B0679 Departmental Endophthalmitis study: Increased risk associated with iodine allergy. *Riddhi Thaker, S. Thivahar, M. Logendran.* Eye Department, Northampton General Hospital, Northampton, United Kingdom

5498 — B0680 Small gauge pars plana vitrectomy for endophthalmitis after cataract surgery: clinical and OCT findings. *Fiore Tito¹, M. Lupidi¹, C. Cagini¹, E. Spaccini¹, A. Cerquaglia¹, G. J. Coscas².* ¹Ophthalmology, S Marla Della Misericordia Hospital, Perugia, Italy; ²Centre Ophthalmologique de L'Odeon, Paris, France

5499 — B0681 No Clear Benefit of Vitrectomy for Post-Injection Endophthalmitis in Age-Related Macular Degeneration. *Mark Barakat, N. Palejwala, A. L. Levison, S. Ity, M. Haak, S. Mehta, D. Goldenberg, K. Jamal, E. Quinlan, D. Kunitomo, P. U. Dugel.* Retinal Consultants of Arizona, Phoenix, AZ

5500 — B0682 Microbial Spectrum and Antibacterial Susceptibility of Vitreous Cultures in a Tertiary Referral Center in the Midwestern United States. *Brent Aebi¹, P. Bracha¹, T. A. Ciulla^{2,1}.* ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²Midwest Eye Institute, Indianapolis, IN

5501 — B0683 Outcomes of Bleb-Related Endophthalmitis: A 15-Year Review at a Tertiary Care Center. *Lekha Mukkamala, R. J. Mady, L. Athwal, M. A. Zarbin, N. Bhagat.* Institute of Ophthalmology and Visual Science, Rutgers-New Jersey Medical School, Jersey City, NJ *CR

5502 — B0684 Short-term safety of intracameral moxifloxacin after cataract surgery. *Nelise D. Lucena, K. S. ferreira, M. Lynch, R. P. Lira.* Retina, Universidade Federal de Pernambuco, Recife, Brazil

5503 — B0685 Distribution and Group Specificity of the Accessory Gene Regulon (AGR) (Quorum Sensing Network) among *Staphylococcus (S.) Epidermidis* Endophthalmitis Isolates. *Jack Stringham, D. Miller, L. C. Huang, H. W. Flynn.* Ophthalmology, Bascom Palmer Eye Institute, Miami, FL

5504 — B0686 Trends of intravenous drug use associated endogenous endophthalmitis at a tertiary care center. *Preston M. Luong¹, E. Tsui², N. Bhat³, M. E. Zegans³.* ¹Geisel School of Medicine at Dartmouth, Hanover, NH; ²Department of Ophthalmology, New York University School of Medicine, New York, NY; ³Department of Ophthalmology, Dartmouth-Hitchcock Medical Center, Lebanon, NH

5505 — B0687 Controlled release of vancomycin from a thermoresponsive hydrogel system for the prophylactic treatment of post-operative acute endophthalmitis. *Emily Dosmar¹, W. F. Mieler², J. J. Kang-Mieler¹.* ¹Biomedical Engineering, Illinois Institute of Technology, Chicago, IL; ²Ophthalmology and Visual Sciences, University of Illinois at Chicago, Chicago, IL *CR

5506 — B0688 Clinical presentation, microbiologic profile and factors predicting outcomes in *Bacillus* endophthalmitis. *Vivek Dave, A. Pathengay, S. Sharma, R. Pappuru, R. Narayanan, T. Das.* LV Prasad Eye Institute, Hyderabad, India

5507 — B0689 The effect of antibiotic prophylaxis on endophthalmitis rate after intravitreal injection with antiangiogenic agents: a meta-analysis. *Raquel Mansilla Cuñarro, M. F. Bande, M. Fernandez, M. Blanco-Teijeiro, A. Piñeiro, F. Gomez-Ulla.* Ophthalmology, University of Santiago de Compostela, Santiago de Compostela, Spain

5508 — B0690 Endophthalmitis and Concurrent or Delayed-onset Rhegmatogenous Retinal Detachment managed with Silicone Oil. *Avinash Pathengay¹, V. Dave¹, N. Relhan², R. Pappuru¹, H. W. Flynn², T. Das¹.* ¹LV Prasad Eye Institute, Visakhapatnam, India; ²Bascom Palmer Eye Institute, Miami, FL

5509 — B0691 Vitreoretinal surgery after open globe injury. *Tomasz Strykowski, C. Ung, D. Elliott.* MEEI Dept of Ophthalmology Education, MEEI, Boston, MA

5510 — B0692 Visual, surgical, and anatomic outcomes of consecutive open-globe injuries: a ten-year experience at a single institution. *Jason Zhang, S. Kavoussi, T. Alasil, S. Meskin, R. A. Adelman.* Ophthalmology, Yale New Haven Hospital, Hamden, CT

5511 — B0693 Retinal Detachment in Open Globe Injury with Intraocular Foreign Body.

Yvonne Wang¹, S. R. Grob¹, Y. Chee², C. Andreoli^{3,1}, J. B. Miller¹. ¹Department of Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA; ²Department of Ophthalmology, University of Washington, Seattle, WA; ³Ophthalmology and Visual Services, Atrius Health, Boston, MA

5512 — B0694 Factors Affecting Outcomes in Traumatic Eye Injuries.

Hugh E. Wright¹, E. Ngo^{1,2}, A. Sallam¹, H. Spencer¹, S. Uwaydat¹. ¹Ophthalmology, University of Arkansas for Medical Sciences, Little Rock, AR; ²Ophthalmology, North Texas Eye Center, Plano, TX

5513 — B0695 Prevalence of Ocular Injuries at the Connaught Government Hospital in Freetown, Sierra Leone.

Matthew J. Vandy¹, J. Shantha², S. Yeh³. ¹Dept of Ophthalmology Connaught Hospital, Sierra Leone National Eye Health Programme, Freetown, Sierra Leone; ²Ophthalmology, Proctor Foundation, University of California, San Francisco, San Francisco, CA, CA; ³Ophthalmology, Emory Eye Center, Atlanta, GA

5514 — B0696 Serendipitous insight into the pathophysiology of retinal hemorrhages in Shaken Baby Syndrome. Richard Schroeder, S. M. Culican. Ophthalmology and Visual Sciences, Washington University in St. Louis, St. Louis, MO

5515 — B0697 Prognostic Factors in Ocular Trauma and Correlation with the Ocular Trauma Score (OTS).

Alejandro Zerneno, R. Moreno, R. Matsui-Serrano. General Ophthalmology, Instituto de Oftalmología Conde de Valenciana, Mexico City, Mexico

5516 — B0698 Intimate Partner Violence: an important etiology to identify in patients with open globe injuries.

Seanna R. Grob^{1,2}, K. E. Talcott^{3,1}, T. Strykowski^{4,5}, D. Elliott⁶, A. Lorch^{5,1}, Y. Chee^{7,1}. ¹Ocular Trauma, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Ocular Trauma, Massachusetts General Hospital, Boston, MA; ³Vitreoretinal Surgery, Wills Eye Hospital, Philadelphia, PA; ⁴Ophthalmology, Harvard Medical School, Boston, MA; ⁵Ophthalmology, Massachusetts Eye and Ear, Boston, MA; ⁶Vitreoretinal Surgery, Massachusetts Eye and Ear, Boston, MA; ⁷Vitreoretinal Surgery, University of Washington, Seattle, WA

5517 — B0699 Emerging Fluoroquinolone Resistance Among Vitreous Biopsy Specimens at a Midwestern Tertiary Care Hospital.

Adam C. Janot, J. Crews, D. V. Do. Ophthalmology, University of Nebraska, Truhlsen Eye Institute, Omaha, NE

5518 — B0700 Inpatient Ophthalmology Consults for Fungemia at an Urban Tertiary Care Center. Kenneth W. Price, E. Tsui, L. Park, I. A. Barbazetto. Ophthalmology, New York University Medical School, New York, NY

5519 — B0701 Clinical etiologies, microbial spectrum, antibiotic susceptibilities, and visual acuity outcomes of acute endophthalmitis. Louise Lu, R. A. Adelman. Department of Ophthalmology and Visual Science, Yale University School of Medicine, New Haven, CT

5520 — B0702 Microbiologic investigation and analysis of Staphylococcus lugdunensis associated endophthalmitis. Robert B. Garoon, D. Miller, H. W. Flynn. Bascom Palmer Eye Institute, Miami, FL

5521 — B0703 Outcomes of patients treated for Open Globe Injuries with Intraocular Foreign Bodies. tanuj p banker, H. W. Flynn, A. M. Berrocal, J. H. Townsend, T. A. Albin. Bascom Palmer, Houston, TX

5522 — B0704 Visual outcomes of endophthalmitis patients who underwent pars plana vitrectomy in regards to microbiology culture status. Chang Sup Lee¹, A. Bajwa¹, J. Patrie², M. Khan¹, Y. Shildkrot¹. ¹Ophthalmology, University of Virginia, Charlottesville, VA; ²Department of Public Health Sciences, University of Virginia, Charlottesville, VA

Exhibit/Poster Hall B0723-B0759

Thursday, May 11, 2017 8:30 AM-10:15 AM

Retina

521 Retinopathy of Prematurity

Moderators: Lejla Vajzovic and Michael T. Trese

5523 — B0723 Variations in Practice Patterns in Retinopathy of Prematurity (ROP) care: A Web-based Survey. Swati Agarwal. Ophthalmology, University of Florida, Gainesville, FL

5524 — B0724 Telemedical Diagnosis of Stage 4 and Stage 5 Retinopathy of Prematurity.

Robison V. Chan^{1,2}, S. N. Patel³, R. Singh⁴, K. E. Jonas¹, S. Ostmo⁵, M. P. Gupta⁶, J. Campbell⁷, M. F. Chiang⁵. ¹Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ²Center for Global Health, University of Illinois at Chicago, Chicago, IL; ³Ophthalmology, Memorial Sloan Kettering Cancer Center, New York, NY; ⁴Weill Cornell Medical College, New York, NY; ⁵Ophthalmology, Casey Eye Institute, Oregon Health & Science University, Portland, OR; ⁶Ophthalmology, Weill Cornell Medical College, New York, NY *CR

5525 — B0725 Clinical factors associated with dysbiosis of gut microbiota affects the risk of retinopathy of prematurity. YEONJI JANG^{1,2}, B. Lee^{2,3}, D. Jo^{2,3}, S. Shin⁴, E. Kim⁴, H. Kim⁴, Y. Yu¹, J. Kim^{2,3}. ¹Ophthalmology, Seoul national university Hospital, Seoul, Korea (the Republic of); ²Fight against Angiogenesis-Related Blindness (FARB) Laboratory, Clinical Research Institute, Seoul National University Hospital, Seoul, Korea (the Republic of); ³Department of Biomedical Sciences, Seoul National University College of Medicine, Seoul, Korea (the Republic of); ⁴Department of Pediatrics, Seoul National University College of Medicine, Seoul, Korea, Seoul, Korea (the Republic of)

5526 — B0726 Macular morphology following unilateral bevacizumab injection for retinopathy of prematurity: an OCT study. Nasrin N. Tehrani^{1,2}, A. Clark¹, M. Isaac¹, T. Wright¹, C. A. Westall¹, K. Mireskandari¹. ¹Ophthalmology, Hospital for Sick Children, Toronto, ON, Canada; ²Ophthalmology and Vision Sciences, University of Toronto, Toronto, ON, Canada

5527 — B0727 Increase of macular pigment optical density with age in premature infants measured by fundus reflectometry. Hiroyuki Sasano^{1,2}, A. Obana^{1,3}, Y. Gohto¹, T. Seto¹, S. Okazaki³, P. S. Bernstein⁴, M. Sharifzadeh⁵, W. Gellermann². ¹Ophthalmology, Seirei Hamamatsu General Hospital, Hamamatsu, Japan; ²Ophthalmology, Jikei University School of Medicine, Tokyo, Japan; ³Medical Spectroscopy, Institute for Medical Photonics Research, Preeminent Medical Photonics Education and Research Center, Hamamatsu University School of Medicine, Shizuoka, Japan; ⁴Ophthalmology and Visual Sciences, Moran Eye Center, University of Utah School of Medicine, Salt Lake, UT; ⁵Image Technologies, Salt Lake, UT *CR

5528 — B0728 Changes in relative position of choroidal versus retinal vessels in preterm infants. Sang Jin Kim^{1,4}, J. Campbell¹, S. Ostmo¹, K. E. Jonas², R. V. Chan², M. F. Chiang^{1,3}. ¹Department of Ophthalmology, Casey Eye Institute, Oregon Health & Science University, Portland, OR; ²Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ³Department of Medical Informatics and Clinical Epidemiology, Oregon Health & Science University, Portland, OR; ⁴Department of Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea (the Republic of) *CR

5529 — B0729 Progression and Outcomes of Fellow Eye After Unilateral Treatment for Retinopathy of Prematurity. Megan Ridley-Lane, J. Horowitz, J. S. Chang. Ophthalmology, Columbia University Medical Center, New York, NY

5530 — B0730 Optic Nerve Head Development of Premature and Full Term Infants from Term to Six Years of Age Using Hand-Held Ultra-High Resolution Spectral Domain Optical Coherence Tomography. Aarti Patel¹, S. Anwar¹, H. H. Lee², F. A. Proudlock¹, I. Gottlob¹. ¹Ophthalmology Group, University of Leicester, Leicester, United Kingdom; ²Clinical and Experimental Sciences, University of Southampton, Southampton, United Kingdom

5531 — B0731 Inconsistencies in the diagnosis of aggressive posterior retinopathy of prematurity. Mrinali Patel Gupta¹, S. Patel¹, R. Singh¹, K. E. Jonas², S. Ostmo³, P. Petrakos¹, J. Campbell⁴, M. F. Chiang^{3,4}, R. V. Chan^{2,5}. ¹Ophthalmology, Weill Cornell Medical College, New York, NY; ²Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ³Medical Informatics and Clinical Epidemiology, Oregon Health and Science University, Portland, OR; ⁴Ophthalmology, Casey Eye Institute at Oregon Health and Science University, Portland, OR; ⁵Center for Global Health, College of Medicine, University of Illinois at Chicago, Chicago, IL *CR

5532 — B0732 ROP Expert Confidence in Determining Plus Disease in Borderline Images. Eli Smith¹, E. Daniel¹, G. E. Quinn², A. Baumritter², G. Ying¹. ¹Department of Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Department of Pediatric Ophthalmology, Childrens Hospital of Philadelphia, Philadelphia, PA *CR

5533 — B0733 Neonates receiving anti-VEGF injections for retinopathy of prematurity: a 5-year retrospective analysis. Trevor Washburn, R. Weinstein, J. Zaveri, J. Cohen. Rush University Medical Center, Chicago, IL

5534 — B0734 Outcomes and Risk Factors for Treatment of Stage 3 Retinopathy of Prematurity Persisting Beyond 40 Weeks of Post Menstrual Age. Robert Koucheiki^{1,2}, M. Isaac¹, N. N. Tehrani^{1,2}, K. Mireskandari^{1,2}. ¹Ophthalmology, The Hospital for Sick Children, Toronto, ON, Canada; ²University of Toronto, Toronto, ON, Canada

5535 — B0735 Conjunctival bacterial flora and antiseptic effect of povidone-iodine for infants in the intensive care unit screened for retinopathy of prematurity. Ryan Vogel, I. S. Kassem, D. P. Han, D. Costakos. Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI

5536 — B0736 Weight Gain Acceleration and Risk of Retinopathy of Prematurity. Sila Bal¹, G. Ying², L. Tomlinson¹, G. Binenbaum¹. ¹Ophthalmology, The Children's Hospital of Philadelphia, Philadelphia, PA; ²Ophthalmology, University of Pennsylvania, Philadelphia, PA

5537 — B0737 Peripapillary Pigmentation and Optic Disc Morphology in Newborns with Treatment-Warranted Retinopathy of Prematurity. Tiffany A. Chen, C. Ludwig, D. M. Moshfeghi. Ophthalmology, Byers Eye Institute, Stanford University, Anaheim, CA

5538 — B0738 Outcomes In Type I Retinopathy of Prematurity Treated with Intravitreal Bevacizumab. Brian Savoie, A. Mallick, R. M. Lieberman. Ophthalmology, Hofstra Northwell School of Medicine, Great Neck, NY

5539 — B0739 Evaluation of computer-based image analysis for retinopathy of prematurity screening. Sapna Tibrewal¹, P. Tian², D. Kedariseti², J. Kalpathy-Cramer³, S. Ioannidis⁴, D. Erdogmus², J. Campbell¹, R. V. Chan⁵, M. F. Chiang^{1,6}. ¹Department of Ophthalmology, Casey Eye Institute, Oregon Health and Science University, Portland, OR; ²Cognitive Systems Laboratory, Department of Electrical and Computer Engineering, Northeastern University, Boston, MA; ³Athinoula A. Martinos Center for Biomedical Imaging, Department of Radiology, Massachusetts General Hospital, Charlestown, MA; ⁴Department of Electrical and Computer Engineering, Northeastern University, Boston, MA; ⁵Department of Ophthalmology and Visual Sciences, Illinois Eye and Ear Infirmary, University of Illinois at Chicago, Chicago, IL; ⁶Department of Medical Informatics and Clinical Epidemiology, Oregon Health and Science University, Portland, OR *CR

5540 — B0740 Foveal development in treated and untreated infants with retinopathy of prematurity observed with handheld spectral-domain optical coherence tomography. Oladipo Fagbemi, R. Vogel, P. Summerfelt, D. Costakos. Ophthalmology, Medical College of Wisconsin, Milwaukee, WI

5541 — B0741 Risk Factors for the Development of Plus Disease in the Telemedicine Approaches to Evaluating of Acute-Phase ROP (e-ROP) Study. Wei Pan¹, G. E. Quinn², E. Daniel¹, A. Baumritter², G. Ying¹. ¹Ophthalmology, Scheie Eye Institute, Philadelphia, PA; ²Ophthalmology, The Children's Hospital of Philadelphia, Philadelphia, PA *CR

5542 — B0742 Optical Coherence Tomography Evaluation Of The Peripheral Choroid In Infants At High Risk For Retinopathy Prematurity. Mohamed A. Hussein¹, A. Bhatt¹, D. Coats¹, L. Maier². ¹Ophthalmology, Baylor College of Medicine, Houston, TX; ²Ophthalmology, Texas Children's Hospital, Houston, TX

5543 — B0743 Fundus Pigmentation as a Risk Factor in Retinopathy of Prematurity. Sarah P. Read¹, N. Kothari¹, K. D. Tran¹, D. M. Moshfeghi², R. V. Chan³, A. M. Berrocal¹. ¹Retina, Bascom Palmer Eye Institute, Miami, FL; ²Stanford Byers Eye Institute, Palo Alto, CA; ³Illinois Eye and Ear Infirmary, Chicago, IL

5544 — B0744 The effect of a single anti-VEGF injection on growth and organ development of the neonatal rat. Sina Khalili¹, Y. Shifrin¹, J. Pan¹, J. Belik^{1,3}, K. Mireskandari^{1,2}. ¹The Hospital for Sick Children, Toronto, ON, Canada; ²Ophthalmology, University of Toronto, Toronto, ON, Canada; ³Pediatrics, University of Toronto, Toronto, ON, Canada

5545 — B0745 Natural course and predictive value of pre-plus disease in retinopathy of prematurity: results of a multicenter prospective cohort study. Ryan Swan^{1,2}, S. Kim^{2,3}, J. Campbell⁴, S. Ostmo², K. E. Jonas⁴, R. V. Chan⁴, M. F. Chiang². ¹DMICE, Oregon Health And Sciences University, Portland, OR; ²Casey Eye Institute, Oregon Health & Science University, Portland, OR; ³Department of Ophthalmology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea (the Republic of); ⁴University of Illinois, Chicago, Chicago, IL *CR

5546 — B0746 Laser versus Bevacizumab for Type-1 Retinopathy of Prematurity: long term effects of foveal dislocation on ocular alignment. Domenico Lepore¹, L. Orazi^{2,1}, F. M. Amore², D. Ricci², M. Petrianni², A. Baldascino¹, M. Ji¹, F. Molle¹. ¹Dept of Ophthalmology, Catholic University, Rome, Italy; ²IAPB ITALIA onlus, Italian National Center of services and Research for Prevention of Blindness and Rehabilitation of the Visually impaired, Rome, Italy ✕

5547 — B0747 Development of a scale for grading pre-plus and plus disease using retinal images: a pilot study. David Nasrazadani, D. K. Wallace, S. F. Freedman, S. G. Prakkalapakorn. Ophthalmology, Duke Eye Center, Durham, NC

5548 — B0748 Retinopathy of Prematurity: 9 years of Epidemiological Analysis in a Mexican Institution of Ophthalmology. Veronica A. Romero Morales, R. Garcia Franco, M. Vazquez, X. Mira, D. Ponce de Leon. Retina, Instituto Mexicano de Oftalmologia IAP, Queretaro, Mexico

5549 — B0749 Retrospective cost-benefit analysis of retinopathy of prematurity (ROP) screening, follow-up, and treatment with intravitreal bevacizumab. Jade G. Gieseke Guevara, S. M. Amin, S. Agarwal. Department of Ophthalmology, University of Florida, Gainesville, FL

5550 — B0750 Automated Image Quality Assessment for Fundus Images in Retinopathy of Prematurity. Aaron S. Coyner^{1,2}, R. Swan^{1,2}, J. Kalpathy-Cramer^{1,3}, S. Kim^{1,4}, J. Campbell¹, K. E. Jonas⁵, S. Ostmo¹, R. V. Chan⁶, M. F. Chiang¹. ¹Ophthalmology, Oregon Health & Science University, Portland, OR; ²Department of Medical Informatics and Clinical Epidemiology, Oregon Health & Science University, Portland, OR; ³MGH/Harvard Medical School, Boston, MA; ⁴Ophthalmology, Sungkyunkwan University School of Medicine, Seoul, Korea (the Democratic People's Republic of); ⁵University of Illinois at Chicago, Chicago, IL; ⁶Ophthalmology, Illinois Eye and Ear Infirmary, Chicago, IL *CR

5551 — B0751 Long-term anatomic and visual outcomes of vitrectomy for retinopathy of prematurity (ROP) stage 4 B and 5. *Elena Gusson¹, S. Pignatto², F. Allegrini¹, F. Bosello¹, G. Marchini¹, A. Capone³.* ¹Ophthalmology, University of Verona, Verona, Italy; ²Ophthalmology, University of Udine, Udine, Italy; ³Ophthalmology, Vitreoretinal Service, Beaumont Hospital, Royal Oak, MI

5552 — B0752 3D printed device for corneal contact funduscopy through a smartphone and its potential usefulness in ROP screening and evaluation of other pediatric retinal diseases. *Gabriela Saidman¹, Guillermo Monteoliva¹, Erna G. Knoll², Julio A. Urrestes-Zavalía².* ¹ROP, RED ROP ZONA SUR BA VI XI, Berazategui, Argentina; ²University Clinic Reina Fabiola, Universidad Católica de Córdoba

5553 — B0753 OCT Angiography and Handheld-OCT in young children with treated or spontaneously resolved ROP. *Birgit Lorenz, K. Holve, S. Schweinfurth, R. Knobloch, W. Bowl.* Ophthalmology, Justus-Liebig University Giessen, Giessen, Germany

5554 — B0754 Deep learning for the identification of plus disease in retinopathy of prematurity. *Jayashree Kalpathy-Cramer¹, J. Campbell², S. Kim^{2,3}, R. Swan², K. E. Jonas⁴, S. Ostmo², P. Tian⁵, D. Kedarisetti⁵, S. Ioannidis⁵, D. Erdogmus⁵, R. Chan⁴, M. F. Chiang².* ¹MGH/Harvard Medical School, Charlestown, MA; ²Ophthalmology, Casey Eye Institute, Oregon Health & Science University, Portland, OR; ³Ophthalmology, Samsung Medical Center, Seoul, Korea (the Republic of); ⁴Ophthalmology, University of Illinois, Chicago, Chicago, IL; ⁵Northeastern University, Boston, MA *CR

5555 — B0755 Combined Indocyanine Green and Fluorescein Angiography in Retinopathy of Prematurity. *C.K. Patel, T. Edwards, E. Carreras.* Department of Ophthalmology, Oxford University, Oxford, United Kingdom *CR

5556 — B0756 Bevacizumab and Angiogenesis Factors Levels in the Vitreous of Recurrent Retinopathy of Prematurity after Intravitreal Injection of Bevacizumab. *Lingkun Kong¹, E. Chang², A. Demny², S. Devaraj², T. Stout².* ¹Ophthalmology, Texas Tech University Health Science Center, Lubbock, TX; ²Ophthalmology, Texas Children's Hospital, Houston, TX ✕

5557 — B0757 Band keratopathy in pediatric patients treated with laser for retinopathy of prematurity. *Joshua Suelflow^{1,2}, K. G. Yen^{1,2}, J. Edmond^{1,2}.* ¹Ophthalmology, Baylor College of Medicine, Houston, TX; ²Ophthalmology and Pediatrics, Texas Children's Hospital, Houston, TX

5558 — B0758 bFGF deprivation promotes spontaneous differentiation of Human Embryonic Stem Cells into γ -synuclein positive ganglion cells and CRALBP positive muller cells. *K V Chalam, S. Grover, B. Mynampati.* Ophthalmology, Univ of Florida-Jacksonville, Jacksonville, FL

5559 — B0759 Comparison of developmental dynamics in human fetal retina and human pluripotent stem cell derived retinal tissue. *Igor Nasonkin, H. Sternberg, F. Binette, O. Cuzzani, M. West, R. Singh.* BioTime, Alameda, CA

Thursday – All Posters

Exhibit/Poster Hall

Thursday, May 11, 2017 10:30 AM-11:30 AM

522 All Posters and Networking

All presenters will be at their posters.

**Thursday All Posters
10:30 am – 11:30 am**

Ballroom 2

Thursday, May 11, 2017 11:30 AM-1:15 PM

Cornea

524 Keratoconus: Basic Science and Clinical Applications**Moderators: Rajiv Mohan and Daniel J. Gibson**

5560 — 11:30 Differential Expression of Coding and Long Noncoding RNAs in Keratoconic Corneas. *Yutao Liu¹, Y. Bykhovskaya², M. L. Khaled¹, M. Drewry¹, I. F. Aboobakar³, A. Estes⁴, X. Gao⁵, R. Allingham³, M. A. Hauser^{6,3}, Y. S. Rabinowitz².* ¹Cellular Biology and Anatomy, Augusta University, Augusta, GA; ²Regenerative Medicine Institute and Department of Surgery, Cedars-Sinai Medical Center, Los Angeles, CA; ³Ophthalmology, Duke University Medical Center, Durham, NC; ⁴Ophthalmology, Augusta University, Augusta, GA; ⁵Ophthalmology and Visual Science, University of Illinois at Chicago, Chicago, IL; ⁶Medicine, Duke University Medical Center, Durham, NC

5561 — 11:45 Mechanisms of corneal epithelial degeneration in keratoconus: Histology and microRNA analyses. *Yumeng Wang¹, T. Ng¹, H. Wong², K. Choy², C. Pang¹, V. Jhanji¹.* ¹Department of Ophthalmology and visual sciences, The Chinese University of Hong Kong, Hong Kong, Hong Kong; ²Department of Obstetrics and Gynaecology, The Chinese University of Hong Kong, Hong Kong, Hong Kong

5562 — 12:00 Keratoconus: Cellular and molecular characterization of a novel human Corneal Collagen Cross-linking 3-D in vitro model. *Rabab Sharif¹, J. Hjortdal², D. Karamichos¹.* ¹University of Oklahoma Health Sciences Center, Oklahoma City, OK; ²Aarhus University Hospital, Aarhus, Denmark

5563 — 12:15 Differential Gene Expression of Extracellular Matrix Components in Response to In Vivo Corneal Cross-linking (CXL) in Rabbit Corneas. *Sabine Kling¹, A. Hammer², F. Hafezi^{1,3}.* ¹Laboratory for Ocular Cell Biology, University of Zurich, Zurich, Switzerland; ²Laborator of Ocular Cell Biology, University of Geneva, Geneva, Switzerland; ³ELZA Institute AG, Dietikon/Zurich, Switzerland

5564 — 12:30 Cellular Therapy with Human Autologous Adipose-derived Adult Stem Cells for Advanced Keratoconus. *Jorge L. Alio del Barrio^{1,2}, J. Alio^{1,2}, M. El Zarif³, M. de Miguel⁴, C. Khalil⁵, N. Makdissi⁵, W. Harb⁶.* ¹Cornea, Cataract and Refractive Surgery, Vissum Corporación, Alicante, Spain; ²Universidad Miguel Hernández, Alicante, Spain; ³Optica General, Saida, Lebanon; ⁴Cell Engineering Laboratory, IdiPAZ, La Paz Hospital Research Institute, Madrid, Spain, Madrid, Spain; ⁵Reviva Regenerative Medicine Center, Beirut, Lebanon; ⁶University of Kaslik, Beirut, Lebanon ✗

5565 — 12:45 Shift in Progression Rate of Keratoconus before and after Corneal Collagen Crosslinking. *Vishal Jhanji¹, Y. Wang¹, T. Chan¹, M. Yu².* ¹Ophthalmology & Visual Sciences, Chinese Univ of Hong Kong, Kowloon, Hong Kong; ²Hang Seng Management College, Hong Kong, Hong Kong

5566 — 1:00 Collagen fiber crimping following in vivo UVA-induced corneal crosslinking (CXL). *Samantha Bradford¹, E. R. Mikula¹, T. Juhasz¹, D. J. Brown², J. Jester².* ¹Biomedical Engineering, University of California, Irvine, Irvine, CA; ²Ophthalmology, University of California, Irvine, Irvine, CA

Ballroom 1

Thursday, May 11, 2017 11:30 AM-1:15 PM

Retinal Cell Biology

525 Cellular and molecular bases of retinal development**Moderators: William J. Brunken and Xian-Jie Yang**

5567 — 11:30 Tet-mediated DNA hydroxymethylation is required for retinal neurogenesis. *Pawat Serittrakul^{1,2}, J. M. Gross¹.* ¹Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²University of Texas at Austin, Austin, TX

5568 — 11:45 Transcriptome Analysis of Optic Fissure Closure. *Jiamin Ouyang^{1,2}, M. Cao^{1,2}, S. Chen^{1,2}.* ¹Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ²State Key Laboratory of Zhongshan Ophthalmic Center, Guangzhou, China

5569 — 12:00 Mmp-9 regulates proliferation and photoreceptor regeneration in the zebrafish. *Nicholas Silva^{1,2}, L. Kakuk-Atkins², M. Ashrafzadeh³, P. Hitchcock².* ¹Neuroscience, University of Michigan, Ann Arbor, MI; ²Ophthalmology and Vision Sciences, University of Michigan, Ann Arbor, MI; ³University of Michigan, Ann Arbor, MI

5570 — 12:15 Murine Retinal Development, Morphology and Function in Albinism: Potential Implications for Therapeutic Development. *Helena H. Lee, J. Scott, H. Griffiths, A. J. Lotery.* Clinical and Experimental Sciences, University of Southampton, Southampton, United Kingdom

5571 — 12:30 Proteoglycan deficient retinas demonstrate a retinal degeneration phenotype. *Jeroen Bastiaans, K. Jeyaseelan, X. Zhang.* Ophthalmology, Columbia University, New York, NY

5572 — 12:45 Development of macular cone density in infant rhesus macaques measured longitudinally in vivo by adaptive optics imaging. *Lauren Renner¹, T. J. McGill^{2,1}, K. Paul¹, E. Johnson¹, T. B. Smith², J. W. Erdman³, M. Kuchan⁴, M. Neuringer^{1,2}.* ¹Neuroscience, Oregon Health & Science University, Beaverton, OR; ²Casey Eye Institute, Oregon Health Sciences University, Portland, OR; ³University Of Illinois, Urbana, IL; ⁴Abbott Nutrition, Columbus, OH *CR

Ballroom 3

Thursday, May 11, 2017 11:30 AM-1:15 PM

Glaucoma

526 Surgery, Laser Therapy, Wound Healing**Moderators: Osamah Saeedi and Mona A. Kaleem**

5573 — 11:30 Laser iridotomy does not result in cataract progression in primary angle closure suspect eyes. *Dolly S. Chang¹, Y. Jiang², B. Munoz¹, P. J. Foster², M. He³, T. Aung⁴, D. S. Friedman¹.* ¹Ophthalmology, Wilmer Eye Institute, Baltimore, MD; ²UCL Institute of Ophthalmology and Moorfields Eye Hospital, London, United Kingdom; ³Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ⁴Singapore National Eye Centre, Singapore, Singapore ✗

5574 — 11:45 **LiGHT: Laser in Glaucoma and Ocular Hypertension Trial - Methodology and Baseline characteristics of a multicentre randomised controlled trial.** *Gus Gazzard¹, E. Konstantakopoulou^{2,3}, D. Garway-Heath^{3,2}, K. Barton², R. Wormald^{2,3}, S. Morris⁴, R. Hunter⁵, G. Rubin³, M. Buszewicz³, G. Ambler⁷, C. V. Bunce^{2,8}, Y. Jiang^{2,3}, V. Vickerstaff⁹, N. Neil². ¹Glaucoma Research, Institute of Ophthalmology, London, United Kingdom; ²NIHR Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust, London, United Kingdom; ³Institute of Ophthalmology, University College London, London, United Kingdom; ⁴Department of Applied Health Research, Institute of Epidemiology & Health Care, University College London, London, United Kingdom; ⁵Priment Clinical Trials Unit, Royal Free Medical School, University College London, London, United Kingdom; ⁶Research Department of Primary Care and Population Health, University College London, London, United Kingdom; ⁷Department of Statistical Science, Faculty of Mathematics & Physical Sciences, University College London, London, United Kingdom; ⁸Department of Primary Care and Public Health Sciences, King's College London, London, United Kingdom; ⁹Marie Curie Palliative Care Research Department, Division of Psychiatry, University College London, London, United Kingdom *CR, ✗*

5575 — 12:00 **Longitudinal changes in the fibrosis score of filtering bleb using polarization-sensitive optical coherence tomography.** *Yuta Ueno¹, D. Kasaragod², S. Hoshi¹, A. Fujita¹, T. Okubo¹, S. Fukuda¹, Y. Yasuno², T. Oshika¹.* ¹Department of Ophthalmology, Faculty of Clinical Medicine, University of Tsukuba, Tsukuba, Japan; ²Computational Optics Group, University of Tsukuba, Tsukuba, Japan *CR

5576 — 12:15 **A novel approach to modeling the effect of sub-conjunctival blebs on flow pressure to enhance clinical bleb grading systems.** *Yann Bouremel^{1,2}, R. M. Lee^{1,3}, I. Eames^{2,1}, S. Brocchini^{3,1}, P. T. Khaw¹.* ¹National Institute for Health Research (NIHR) Biomedical Research Centre at Moorfields Eye Hospital NHS Foundation Trust and UCL Institute of Ophthalmology, London, United Kingdom; ²Mechanical Engineering, University College London, London, United Kingdom; ³School of Pharmacy, University College London, London, United Kingdom

5577 — 12:30 **Main results of the First-In Human single ascending dose phase I study of ISTH0036, an antisense oligonucleotide selectively targeting transforming growth factor beta 2 (TGF- β 2) in glaucoma filtration surgery.** *Bogomil Voykov¹, H. Thieme², K. Bell³, M. Weigel², G. Renieri², B. Wilhelm⁴, K. Lorenz³, P. Fettes³, E. Leo⁵, N. Pfeiffer³.* ¹Centre for Ophthalmology, University Hospital Tuebingen, Tuebingen, Germany; ²Department of Ophthalmology, Otto-von-Guericke-University, Magdeburg, Germany; ³Ophthalmology, University Medical Center Mainz, Mainz, Germany; ⁴STZ Eyetrail, University Hospital Tuebingen, Tuebingen, Germany; ⁵Isarna Therapeutics GmbH, Munich, Germany *CR, ✗

5578 — 12:45 **Grooved glaucoma drainage devices that continuously deliver cyclosporine A decrease postsurgical scar formation in rabbit eyes.** *Zhaoxing Dai, X. Sun.* Ophthalmology, EENT Hospital, Fudan University, SHANGHAI, China

5579 — 1:00 **Rate of scleral patch graft (SPG) melt after glaucoma tube shunt surgery: A long term cross sectional study.** *Tian Xia, P. Shah, K. Lee, A. S. Khouri.* Ophthalmology and Visual Science, Rutgers New Jersey Medical School, Livingston, NJ

Ballroom 4

Thursday, May 11, 2017 11:30 AM-1:15 PM

Genetics Group

527 Novel methods and Mechanisms of Disease

Moderators: Frans P. Cremers and John Fingert

5580 — 11:30 **Identification, RNA splice defect assessment and AON correction of non-coding variants of ABCA4 in Stargardt disease.** *Silvia Albert⁶, R. Sangermano⁶, A. Garanto⁶, M. Bauwens¹, A. Fakin², I. Van Den Born⁴, A. R. Webster², E. De Baere¹, H. Stoehr³, B. H. Weber³, C. C. Hoyng⁵, R. W. Collin⁶, F. P. Cremers⁶.* ¹Center for Medical Genetics, Ghent University and Ghent University Hospital, Ghent, Belgium; ²Institute of Ophthalmology and Moorfields Eye Hospital, London, United Kingdom; ³Institut für Humangenetik, Regensburg, Germany; ⁴Rotterdam Eye Hospital, Rotterdam, Netherlands; ⁵Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands; ⁶Human Genetics, Radboud university medical center and Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands

5581 — 11:45 **Size matters: ABCA4 midgenes facilitate accurate RNA splicing analysis of non-canonical splice site variants in Stargardt disease.** *Riccardo Sangermano^{1,2}, M. Khan^{1,3}, V. Richelle¹, S. Cornelis^{1,4}, A. Garanto^{1,2}, R. W. Collin^{1,2}, S. Albert^{1,2}, F. P. Cremers^{1,2}.* ¹Department of Human Genetics, Radboud University Medical Center, Nijmegen, Netherlands; ²Donders Institute for Brain, Cognition and Behaviour, Nijmegen, Netherlands; ³Department of Biosciences, Commission on Science and Technology for Sustainable Development in the South Institute of Information Technology, Islamabad, Pakistan; ⁴Department of Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands

5582 — 12:00 **Validating splice altering ‘variants of uncertain significance’ in genetically unsolved Leber congenital amaurosis patients using the RHCglo minigene.** *Justin Branch^{1,4}, Z. Soens^{1,4}, Y. Li^{1,4}, K. wang^{1,4}, M. xu^{1,4}, D. G. Birch², F. B. Porto³, J. M. Sallum⁵, P. Zhao⁶, R. Sui⁷, R. K. Koeneke^{8,9}, R. Chen^{1,4}.* ¹Molecular and Human Genetics, Baylor College of Medicine, Houston, TX; ²Retina Foundation of the Southwest and Department of Ophthalmology, University of Texas Southwestern Medical Center, Dallas, TX; ³Department of Retina and Vitreous, Ophthalmology Center of Minas Gerais, Minas Gerais, Brazil; ⁴Human Genome Sequencing Center, Baylor College of Medicine, Houston, TX; ⁵Department of Ophthalmology and Visual Sciences, Paulista School of Medicine, Sao Paulo, Brazil; ⁶Department of Ophthalmology, Xinhua Hospital Affiliated to Shanghai Jiao Tong University School of Medicine, Shanghai, China; ⁷Department of Ophthalmology, Peking Union Medical College, Dongcheng, Beijing, China; ⁸Department of Ophthalmology, McGill University Health Centre, Montreal, QC, Canada; ⁹Department of Paediatric Surgery, McGill University Health Center, Montreal, QC, Canada

5583 — 12:15 **miRNA-34a-TREM2 and miRNA-146a-CFH signaling regulates phagocytosis, amyloidogenesis and innate-immune functions in age-related macular degeneration (AMD).** *Walter J. Lukiw, Y. Zhao, V. Jaber.* Neurology, Neuroscience & Ophthalmology, Louisiana State Univ Hlth Sci Ctr, New Orleans, LA

5584 — 12:30 **Identification of microRNAs associated with glaucoma using GWAS data.** *Magda A. Meester³, M. Ghanbari¹, A. Iglesias¹, H. Springelkamp³, S. Erkeland², A. Dehghan¹, C. van Duijn¹, O. Franco¹, C. Klaver^{3,4}.* ¹Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands; ²Immunology, Erasmus Medical Center, Rotterdam, Netherlands; ³Ophthalmology and Epidemiology, Erasmus Medical Center, Rotterdam, Netherlands; ⁴Ophthalmology, Radboudumc, Nijmegen, Netherlands

5585 — 12:45 Combining CRISPR based genome editing and patient specific iPSCs to elucidate the pathophysiologic role of *WFS1* mutations in optic atrophy. *Tasneem P. Sharma, J. C. Giacalone, E. R. Burnight, K. R. Anfinson, J. S. Wiley, J. Fingert, R. F. Mullins, E. M. Stone, B. Tucker.* Ophthalmology and Visual Sciences, University of Iowa, Stephen A. Wynn Institute for Vision Research, Iowa City, IA

5586 — 1:00 Inheritance Pattern Prediction of Retinal Dystrophies: A Machine-Learning Model. *Dana Schlegel¹, E. Cunningham², X. Zhang², Y. Abdulhak², A. DeOrio², T. Jayasundera¹.* ¹Retinal Dystrophy, Kellogg Eye Center, Ann Arbor, MI; ²University of Michigan, Ann Arbor, MI

Room 301

Thursday, May 11, 2017 11:30 AM-1:15 PM

Physiology/Pharmacology

528 Molecular pharmacology and ocular toxicology

Moderators: Nicolas G. Bazan and Andrew F. Goldberg

5587 — 11:30 Vitamin D in Systemic Sclerosis Patients with Dry Eye Syndrome. *Caterina Gagliano^{1,2}, R. Foti^{3,2}, E. Visall^{3,2}, R. Amato^{1,2}, G. Cali⁴, G. Panta^{5,2}, D. Rocca^{5,2}, A. Pizzo^{4,2}, G. Amato^{3,2}, G. Malaguarnera^{1,2}.* ¹Ophthalmology, NEST (Neurovisual Science Technology), Catania, Italy; ²Rare Disease Center (Ra.Di.Ce.), Santa Marta Hospital, Catania, Italy; ³Rheumatologic Unit, Catania University, Catania, Italy; ⁴Eye Clinic, Catania University, Catania, Italy; ⁵Eye Clinic, Santa Marta Hospital, Catania, Italy

5588 — 11:45 Perfluoro-n-octane cytotoxicity in porcine neuroretina organotypic culture. *Ivan Fernandez-Bueno^{1,2}, G. K. Srivastava^{1,3}, M. L. Alonso-Alonso¹, M. Garcia-Gutierrez¹, M. Gayoso⁴, R. M. Coco¹, J. Pastor^{1,2}.* ¹IOBA - University of Valladolid, Valladolid, Spain; ²Red Tematica de Investigacion Cooperativa Sanitaria (RETICS), Oftared, Instituto de Salud Carlos III, Valladolid, Spain; ³Centro en Red de Medicina Regenerativa y Terapia Celular, Junta de Castilla y Leon, Valladolid, Spain; ⁴Cell Biology, Histology and Pharmacology, University of Valladolid, Valladolid, Spain

5589 — 12:00 Ocular Complications Following Intracameral Injection of an Elevated Dose of Cefuroxime During Phacoemulsification Surgery. *Andrew Melchioris, M. Zgrabik, J. Hornik, D. G. Miller.* Retina Associates of Cleveland, Cleveland, OH

5590 — 12:15 Identification of the hnRNPL and LOXL1-AS1 lncRNA complex: Implications for pathology in exfoliation glaucoma. *William M. Johnson¹, I. F. Aboobakar¹, L. Finnegan², R. Allingham^{1,3}, M. A. Hauser^{4,3}, W. Stamer¹.* ¹Department of Ophthalmology, Duke University Medical Center, Durham, NC; ²School of Genetics and Microbiology, Trinity College Dublin, Dublin, Ireland; ³Singapore Eye Research Institute, Singapore National Eye Center, Singapore, Singapore, Duke, National University of Singapore, Singapore, Singapore; ⁴Departments of Ophthalmology and Medicine, Duke University Medical Center, Durham, NC

5591 — 12:30 Electrophysiological determination of inhibition constants for phosphodiesterase (PDE6) inhibitors. *Teemu Turunen, A. O. Koskelainen.* Neuroscience and Biomedical Engineering, Aalto University, Espoo, Finland

5592 — 12:45 First-In-Man Pancreatic Islet Transplantation In The Anterior Chamber Of The Human Eye. *Nadine Gerber-Hollbach¹, M. Donath², D. Goldblum¹, P. Hasler¹, B. Trinh², J. Siegenthaler², M. Hepprich², T. Berney^{3,4}, D. Bosco³, J. Steiger^{2,5}, M. Dickenmann³, C. Henzen⁶, J. Meyer⁴, P. Berggren⁷.* ¹Ophthalmology, University Hospital of Basel, Basel, Switzerland; ²Endocrinology, University Hospital of Basel, Basel, Switzerland; ³Endocrinology, University Hospital of Geneva, Geneva, Switzerland; ⁴Surgery, University Hospital of Geneva, Geneva, Switzerland; ⁵Transplantation Immunology and Nephrology, University Hospital of Basel, Basel, Switzerland; ⁶Medicine, Cantonal Hospital of Lucerne, Lucerne, Switzerland; ⁷Karolinska Institute, Stockholm, Sweden ✂

Room 307

Thursday, May 11, 2017 11:30 AM-1:15 PM

Lens

529 Lens Biochemistry

Moderators: Ram H. Nagaraj and Xiaohua Gong

5593 — 11:30 A crystallographic model for mechanisms of aggregation in γ -crystallins. *Vatsala Sagar, G. Wistow.* National Eye Institute, National Institute of Health, Gaithersburg, MD

5594 — 11:45 Isoaspartate in γ S-crystallin is associated with protein insolubilization in age-related cataract. *Larry L. David¹, P. A. Wilmarth¹, K. J. Lampi².* ¹Biochemistry & Molecular Biology, Oregon Health Sciences Univ, Portland, OR; ²Integrative Biosciences, Oregon Health & Science Univ, Portland, OR

5595 — 12:00 Deamidation of asparagines destabilizes crystallins by promoting isomerization at nearby aspartic acid residues. *Kirsten J. Lampi¹, P. A. Wilmarth², L. L. David².* ¹Integrative Biosciences, Oregon Health and Science University, Portland, OR; ²Biochemistry and Molecular Biology, Oregon Health & Science University, Portland, OR

5596 — 12:15 The glutathione biosynthesis enzyme subunit GCLC undergoes age- and diabetes-related fragmentation and inactivation: relevance to age-related cataractogenesis. *Xingjun Fan, Z. WEI.* Pathology, Case Western Reserve Univ, Cleveland, OH

5597 — 12:30 Quantification of irreversible thioether GSH modification in human and guinea pig lens proteins. *Kevin L. Schey¹, Z. Wang¹, F. J. Giblin².* ¹Biochemistry, Vanderbilt University, Nashville, TN; ²Eye Research Institute, Oakland University, Rochester, MI

5598 — 12:45 Synthesis and Characterization of Cell-penetrating Peptide Chaperone. *K Krishna Sharma^{1,2}, M. Raju¹, P. Santhoshkumar¹.* ¹Ophthalmology, University of Missouri, Columbia, MO; ²Biochemistry, University of Missouri, Columbia, MO *CR

5599 — 1:00 Role of the N-terminal in tuning the chaperone activity of vertebrate α B crystallin. *Sanjay Mishra¹, H. S. Mchaourab².* ¹Chemical & Physical Biology Program, Vanderbilt University, Nashville, TN; ²Molecular Physiology & Biophysics, Vanderbilt University, Nashville, TN

Room 308

Thursday, May 11, 2017 11:30 AM-1:15 PM

Visual Neuroscience

530 Photoreceptors

Moderators: Iris Fahrenfort and Clint L. Makino

5600 — 11:30 Light acts directly on S-cone terminals to regulate transmitter release. *Xianshi Zhang^{1,2}, Y. Li¹, S. H. DeVries².* ¹School of Life Science and Technology, University of Electronic Science and Technology of China, Chengdu, China; ²Department of Ophthalmology, Northwestern University Feinberg School of Medicine, Chicago, IL

5601 — 11:45 Circadian clock gene *Bmal1* is necessary to establish the S-opsin gradient in murine cone photoreceptors. *Onkar Sawant¹, A. Horton¹, I. S. Samuels², S. Rao¹.* ¹Ophthalmic Research, Cleveland Clinic, Cleveland, OH; ²Ohio Department of Ophthalmic Research, Louis Stokes Cleveland Veterans Affairs Medical Center, Cleveland, OH

5602 — 12:00 Apo-opsin forms a photoactivated rhodopsin-like state. *Shinya Sato¹, B. Jastrzebska², A. Engel^{2,3}, K. Palczewski², V. J. Kefalov¹.* ¹Department of Ophthalmology and Visual Sciences, Washington University School of Medicine in St. Louis, Saint Louis, MO; ²Department of Pharmacology, Case Western Reserve University School of Medicine, Cleveland, OH; ³Department of Bionanoscience, Technical University Delft, Delft, Netherlands

5603 — 12:15 Unravelling the mystery of the Stiles Crawford Effect. *Ulrich Schraermeyer¹, S. Schultheiss¹, T. Oltrup², T. Bende², S. Schmelzle², A. Tschulakow¹.* ¹Centre for Ophthalmology, Experimental Vitreoretinal Surgery, University Hospital Tuebingen, Tuebingen, Germany; ²Centre for Ophthalmology, Experimental Ophthalmic Surgery, University Hospital Tuebingen, Tuebingen, Germany; ³Department of Biology, Technical University Darmstadt, Darmstadt, Germany

5604 — 12:30 Functional independence of synaptic ribbons in cone photoreceptors. *Justin J. Grassmeyer², M. J. Van Hook¹, W. B. Thoreson¹.* ¹Ophthalmology and Visual Sciences, University of Nebraska Medical Center, Omaha, NE; ²Pharmacology and Experimental Neuroscience, University of Nebraska Medical Center, Omaha, NE

5605 — 12:45 Cambrian origin of the rhodopsin/porphyropsin switch. *Gordon Fain^{1,5}, M. Toomey², A. Morshedian¹, G. Pollock¹, R. Frederiksen³, J. Enright², S. McCormick⁴, C. Cornwall¹, J. Corbo².* ¹Integrative Biology and Physiology, UCLA, Los Angeles, CA; ²Pathology and Immunology, Washington University, St Louis, MO; ³Physiology and Biophysics, Boston University Sch Medicine, Boston, CA; ⁴Biology, University of Massachusetts, Amherst, MA; ⁵Ophthalmology, UCLA, Los Angeles, CA

5606 — 1:00 Assessing Contributions of Kiss-and-run to Synaptic Exocytosis and Endocytosis from Photoreceptors with Optical Measurements of Fusion Pore Size. *Xiangyi Wen, G. Saltzger, W. B. Thoreson.* University of Nebraska Medical Center, Omaha, NE

Room 309

Thursday, May 11, 2017 11:30 AM-1:15 PM

Clinical/Epidemiologic Research

531 Glaucoma: Frequency, Risk Factors, and Care

Moderator: Pirro G. Hysi

5607 — 11:30 Unexpectedly High Prevalence of Glaucoma in Germany: Results from the Gutenberg Health Study. *Rene Hoehn^{1,2}, S. Nickels¹, A. K. Schuster², P. S. Wild^{3,4}, T. Münzel⁵, K. J. Lackner⁶, M. Blettner⁷, M. E. Beutel⁸, N. Pfeiffer².* ¹Ophthalmology, Inselspital, University Hospital Bern, University of Bern, Bern, Switzerland; ²Ophthalmology, University Medical Center Mainz, Mainz, Germany; ³Preventive Cardiology and Preventive Medicine / Center for Cardiology, University Medical Center Mainz, Mainz, Germany; ⁴Center for Thrombosis and Hemostasis (CTH), University Medical Center Mainz, Mainz, Germany; ⁵Center for Cardiology I, University Medical Center Mainz, Mainz, Germany; ⁶Department of Clinical Chemistry and Laboratory Medicine, University Medical Center Mainz, Mainz, Germany; ⁷Institute of Medical Biostatistics, Epidemiology and Informatics, University Medical Center Mainz, Mainz, Germany; ⁸Department of Psychosomatic Medicine and Psychotherapy, University Medical Center Mainz, Mainz, Germany

5608 — 11:45 The Incidence of Glaucoma over 5, 10 and 15 years. The Blue Mountains Eye Study. *Paul R. Healey, S. Kaushik, A. Lee, A. J. White, P. Mitchell.* Ophthalmology, University of Sydney, Sydney, NSW, Australia

5609 — 12:00 Association between self-reported phosphodiesterase inhibitor use and glaucoma in a representative sample of the US population. *Stephanie Chen¹, K. Singh¹, S. Lin².* ¹Ophthalmology, Stanford University School of Medicine, Stanford, CA; ²Ophthalmology, UCSF, San Francisco, CA *CR

5610 — 12:15 Similarities in POAG genetic risk factors between subjects of African and European ancestries. *Pirro G. Hysi^{2,1}, A. Nag¹, C. J. Hammond^{2,1}.* ¹Twin Research & Genetic Epidemiology, King's College London, London, United Kingdom; ²Department of Ophthalmology, King's College London, London, United Kingdom

5611 — 12:30 Genetics in Glaucoma patients of African descent study (GIGA): Genetic African ancestry is associated with central corneal thickness and intraocular pressure in primary open-angle glaucoma patients. *Pieter W. Bonnemaier¹, C. Cook², A. Nag^{3,4}, C. J. Hammond^{3,4}, C. van Duijn⁵, H. G. Lemij⁶, C. Klaver^{1,7}, A. A. Thiadens¹.* ¹Ophthalmology & Epidemiology, Erasmus MC, Rotterdam, Netherlands; ²Ophthalmology, University of Cape Town, Cape Town, South Africa; ³Twin Research and Genetic Epidemiology, King's College London, London, United Kingdom; ⁴Ophthalmology, King's College London, London, United Kingdom; ⁵Epidemiology, Erasmus MC, Rotterdam, Netherlands; ⁶Glaucoma service, the Rotterdam Eye Hospital, Rotterdam, Netherlands; ⁷Ophthalmology, Radboud UMC, Nijmegen, Netherlands

5612 — 12:45 Screening for Primary Angle Closure Disease in resource constraint region. *Nikhil S. Choudhari¹, P. Chandran¹, H. Rao¹, G. Jonnadula^{1,2}, U. Addepalli^{1,2}, S. Senthil¹, C. Garudadri¹.* ¹VST Glaucoma centre, L. V. Prasad Eye Institute, Hyderabad, India, Hyderabad, India; ²University of New South Wales, Sydney, NSW, Australia

5613 — 1:00 Exfoliation Syndrome - The Maccabi Glaucoma Study. *Tzukit Zehavi-Dorin¹, L. R. Pasquale², H. Levkovitch-Verbin¹.* ¹Goldschleger Eye Institute, Sheba Medical Center, Tel-Hashomer, Israel; ²Department of Ophthalmology, Harvard Medical School, Massachusetts Eye and Ear Infirmary, Boston, MA

Room 310

Thursday, May 11, 2017 11:30 AM-1:15 PM

Immunology/Microbiology

532 Genomics and proteomics to dissect normal and diseased ocular sites: an immunology and microbiology perspective

Moderators: Curtis R. Brandt and Graham R. Wallace

5614 — 11:30 The Conjunctiva has a Sparse Endogenous Flora that is Distinct from that of the Peri-Ocular Skin. *Olof H. Sundin¹, T. W. Reid², K. Mitchell², C. Ray², M. David², E. Morales¹, B. M. Fagan¹, S. N. Hantzopoulos¹, P. Lin³, M. F. Maldonado³.* ¹Biomedical Sciences, Texas Tech Health Sciences Center at El Paso, El Paso, TX; ²Ophthalmology, Texas Tech Health Sciences Center, Lubbock, Lubbock, TX; ³Department of Surgery, Texas Tech Health Sciences Center at El Paso, El Paso, TX

5615 — 11:45 The Temporal Stability Of The Ocular Surface Microbiome. *Jerome Ozkan, C. Diez-Vives, S. Nielsen, T. Thomas, M. T. Coroneo, M. Willcox.* University of New South Wales, Kensington, NSW, Australia

5616 — 12:00 Aqueous humor protein changes after rabbit lensectomy with intraocular lens insertion. *Jonathon Young, S. Jin, C. Skumatz, I. S. Kassem.* Medical College of Wisconsin, Milwaukee, WI

5617 — 12:15 Gene Expression Profiling Reveals Heterogeneity of Nonspecific Inflammation Affecting the Lacrimal Gland.

James T. Rosenbaum^{1,2}, D. Choi^{1,3}, C. A. Harrington⁴, D. J. Wilson¹, H. E. Grossniklaus⁵, C. H. Sibley⁶, J. D. Ng¹, R. A. Dailey¹, E. A. Steele¹, S. R. Planck^{1,2}. ¹Casey Eye Institute, Oregon Health & Science University, Portland, OR; ²Devers Eye Institute, Legacy Health System, Portland, OR; ³School of Public Health, Oregon Health & Science University, Portland, OR; ⁴Integrated Genomics Laboratory, Oregon Health & Science University, Portland, OR; ⁵Ophthalmology, Emory University, Atlanta, GA; ⁶Medicine, Oregon Health & Science University, Portland, OR *CR

5618 — 12:30 Diagnosing corneal infections in formalin fixed specimens using next generation sequencing.

Charles Eberhart¹, Z. Li^{2,1}, F. Breitwieser³, J. Lu^{3,4}, A. S. Jun⁵, S. L. Salzberg^{3,4}. ¹Pathology and Ophthalmology, Wilmer Eye Institute, Timonium, MD; ²Ophthalmology, First Affiliated Hospital, Zhengzhou University, Zhengzhou, China; ³Center for Computational Biology, McKusick-Nathans Institute of Genetic Medicine, Johns Hopkins University, Baltimore, MD; ⁴Biomedical Engineering, Johns Hopkins, Baltimore, MD; ⁵Wilmer Eye Institute, Baltimore, MD

5619 — 12:45 Bacteria-driven evolution of human adenoviruses.

James Chodosh¹, J. Lee¹, J. Lee¹, E. Materne¹, R. Rajala¹, A. Ismail¹, D. Seto², D. Dyer³, J. Rajaiya¹. ¹Ophthalmology, Mass Eye & Ear Infirmary/HMS, Boston, MA; ²George Mason University, Manassas, VA; ³University of Oklahoma Health Sciences Center, Oklahoma City, OK

Room 314

Thursday, May 11, 2017 11:30 AM-1:15 PM

Biochemistry/Molecular Biology

533 Biochemistry and Molecular Biology implicated in diabetic retinopathy and glaucoma

Moderators: Akrit Sodhi and Jean-Sebastien Joyal

5620 — 11:30 Transient Hypoglycemic Episodes Increase Hypoxia Inducible Factor-1 α Nuclear Accumulation and Enhances the Angiogenic Response in Diabetic Eye Disease.

Monika Deshpande¹, H. Megarity¹, I. Kachwala¹, S. Babapoor-Farrokhran¹, G. Semenza², S. Montaner³, A. Sodhi¹. ¹ophthalmology, Johns Hopkins University, Baltimore, MD; ²Pediatrics, Institute for cell Engineering, Baltimore, MD; ³Pathology, School of medicine, Baltimore, MD

5621 — 11:45 The Role of X-box Binding Protein 1 in Angiogenic Progenitor Cells and Vascular Repair in Diabetes.

Maulasri Bhatta^{1,2}, J. J. Wang^{1,2}, S. X. Zhang^{1,3}. ¹Department of Ophthalmology and Ross Eye Institute, University at Buffalo, State University of New York, Buffalo, NY; ²SUNY Eye Institute, State University of New York, Buffalo, NY; ³Department of Biochemistry, University at Buffalo, State University of New York, Buffalo, NY

5622 — 12:00 Knockdown of the lncRNA LOXLI-AS1 and the protein-coding gene LOXLI alters expression of genes and pathways implicated in exfoliation syndrome pathogenesis.

Inas F. Aboobakar¹, D. Corcoran², W. M. Johnson¹, R. Allingham^{1,3}, W. Stamer¹, M. A. Hauser^{2,3}. ¹Department of Ophthalmology, Duke University Medical Center, Durham, NC; ²Center for Genomic and Computational Biology, Duke University, Durham, NC; ³Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore; ⁴Departments of Medicine and Ophthalmology, Duke University Medical Center, Durham, NC

5623 — 12:15 Characterization of Optineurin E50K knock-in mouse model with normal tension glaucoma and evaluation of TBK1 inhibitor Amlexanox.

Mao Nakayama, Y. Minegishi, D. Jejima, T. Iwata. Molecular & Cellular Biol, Nat'l Hosp Org Tokyo Med Ctr, Tokyo, Japan

5624 — 12:30 Discovery-based identification of lipid signaling molecules in evolving glial scars after optic nerve crush.

David T. Stark¹, D. M. Anderson², N. H. Patterson³, J. Kwong¹, K. Schey², R. M. Caprioli², J. Caprioli¹. ¹Ophthalmology, UCLA David Geffen School of Medicine, Los Angeles, CA; ²Biochemistry, Vanderbilt University School of Medicine, Nashville, TN

5625 — 12:45 Molecular pathway analyses with bioinformatics in trabecular meshwork cells of patients with primary open angle glaucoma.

Johannes Schouten¹, I. Liesenborghs^{1,2}, L. Eijssen³, M. Kutmon^{2,3}, T. G. Gorgels¹, C. Evelo^{3,2}, H. J. Beckers¹, C. Webers¹. ¹University Eye Clinic Maastricht, Maastricht University Medical Centre+, Maastricht, Netherlands; ²Maastricht Centre for Systems Biology (MaCSBio), Maastricht University, Maastricht, Netherlands; ³Department of Bioinformatics, Maastricht University, Maastricht, Netherlands

5626 — 1:00 Role of the Autotaxin-Lyso phosphatidic Acid Signaling Axis in Trabecular Meshwork and Homeostasis of Intraocular Pressure.

Leona Ho¹, N. Skiba¹, C. Ullmer³, P. Rao^{1,2}. ¹Ophthalmology, Duke University School of Medicine, Durham, NC; ²Pharmacology and Cancer Biology, Duke University School of Medicine, Durham, NC; ³Roche Pharma Research & Early Development, F. Hoffmann-La Roche AG, Basel, Switzerland *CR

Room 316

Thursday, May 11, 2017 11:30 AM-1:15 PM

Visual Psychophysics/Physiological Optics

534 Visual perception with defocus, distortions, and training

Moderators: William S. Tuten and Jason D. Marsack

5627 — 11:30 Training-induced visual cortex activity correlates with duration of blindness and speed of performance during sensory substitution.

Kevin C. Chan^{1,2}, M. Murphy¹, J. Kashkoush¹, A. C. Nau¹. ¹UPMC Eye Center, Eye and Ear Institute, Ophthalmology and Visual Science Research Center, Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA; ²Department of Bioengineering, Swanson School of Engineering, University of Pittsburgh, Pittsburgh, PA

5628 — 11:45 Assessing fixation stability for 30 seconds - Is it long enough?

Arun K. Krishnan^{1,2}, M. N. Agaoglu^{2,3}, S. T. Chung^{2,3}. ¹Envision Research Institute, Envision Inc., WICHITA, KS; ²School of Optometry, University of California, Berkeley, CA; ³Vision Science Graduate Program, University of California, Berkeley, CA

5629 — 12:00 High-speed visual stimuli generator reveals minimum time required for letter identification.

Lucie Sawides, A. Gambin, A. de Castro, B. Lochocki, P. Artal. Laboratorio de Óptica, Universidad de Murcia, Murcia, Spain

5630 — 12:15 Face recognition and identification with simulated and real underwater blur.

Aiswaryah Radhakrishnan, K. Seemakurthy, R. A.N. Image Processing and Computer Vision Lab, Indian Institute of Technology Madras, Chennai, India

5631 — 12:30 Correction of Perceived Visual Distortions Using a Software Application and Correlation to Age-Related Macular Degeneration.

Muhammad Hassan¹, A. Chakarvarthy², M. Subramaniam², P. Chundi², M. Jawed⁵, M. S. Halim¹, M. A. Sadiq¹, R. Afridi¹, Y. J. Sepah^{1,3}, Q. D. Nguyen^{1,3}, D. V. Do^{1,3}, E. Margalit⁴. ¹Ophthalmology, Byers Eye Institute-Stanford University, Palo Alto, CA; ²University of Nebraska Omaha, Omaha, NE; ³Ocular Imaging Research and Reading Center, Menlo Park, CA; ⁴Island Eye Surgery Specialists, Tamuning, Guam; ⁵Ophthalmology, University of Nebraska Medical Center, Omaha, NE

5632 — 12:45 Defocus vibrations improve visual resolution of defocused targets. *Maciej M. Bartuzel^{1,2}, I. Marin-Franch², A. Del Águila-Carrasco^{3,4}, R. Iskander¹, N. Lopez-Gil².* ¹Faculty of Fundamental Problems of Technology, Wrocław University of Science and Technology, Wrocław, Poland; ²Vision Science Research Group (CiViUM), University of Murcia, Murcia, Spain; ³Interuniversity Laboratory for Research in Vision and Optometry, Mixed group UVEG-UMU, Valencia-Murcia, Spain; ⁴Department of Optics, and Optometry, and Vision Sciences, University of Valencia, Valencia, Spain

5633 — 1:00 The quick Change Detection method: Bayesian adaptive assessment of the time course of perceptual sensitivity change. *Yukai Zhao¹, L. A. Lesmes², Z. Lu¹.* ¹Psychology, the Ohio State University, Columbus, OH; ²Adaptive Sensory Technology, San Diego, CA *CR

Room 321

Thursday, May 11, 2017 11:30 AM-1:15 PM

Anatomy and Pathology/Oncology

535 Novel findings and approaches in myopia research

Moderators: Alexandra Benavente-Perez and Lisa A. Ostrin

5634 — 11:30 A genome-wide association study (GWAS) for myopia susceptibility in chicks. *Yu Huang^{1,2}, C. Kee², S. Yip³, J. A. Guggenheim^{1,2}.* ¹School of Optometry & Vision Sciences, Cardiff University, Cardiff, United Kingdom; ²School of Optometry, Hong Kong Polytechnic University, Hong Kong, China; ³Department of Health Technology and Informatics, Hong Kong Polytechnic University, Hong Kong, China

5635 — 11:45 Persistent activity of Muller glia-derived PRSS56 is required for refractive development. *Seyyedhassan Paylakhi¹, C. Labelle-Dumais¹, Y. Seymens², N. Kayarat Saldas¹.* ¹Ophthalmology, University of California, San Francisco (UCSF), San Francisco, CA; ²City College of San Francisco, San Francisco, CA

5636 — 12:00 Dynamic noise promotes myopic eye growth. *Christopher Taylor, B. Lieppman, F. J. Rucker.* Biomedical Science and Disease, New England College of Optometry, Boston, MA

5637 — 12:15 Altered dopamine release in VMAT2 mutant mice has little effect on refractive development. *Erica Landis³, V. Yang¹, L. He⁵, K. Lohr³, P. Iuvone^{4,5}, M. T. Pardue^{2,1}.* ¹Atlanta VA Medical Center, Atlanta, GA; ²Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA; ³Neuroscience, Emory University, Atlanta, GA; ⁴Ophthalmology, Emory University, Atlanta, GA; ⁵Pharmacology, Emory University, Atlanta, GA

5638 — 12:30 Differences in INL/ONL Ratios for Myopes and Emmetropes/Hyperopes. *Christopher A. Clark, A. E. Elsner, C. Carr, T. Chow.* School of Optometry, University of Indiana, Bloomington, IN

5639 — 12:45 Inter-Layer Differences in Elastic Properties of Guinea Pig Sclera at the Micrometer Scale with Acoustic Microscopy. *Quan V. Hoang^{1,2}, D. Rohrbach¹, S. A. McFadden³, R. H. Silverman^{1,4}, J. Mamou¹.* ¹Ophthalmology, Harkness Eye Institute, Columbia University, New York, NY; ²Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore; ³Vision Sciences Group, Faculty of Science and IT, School of Psychology, University of Newcastle, Newcastle, NSW, Australia; ⁴F. L. Lizzi Center for Biomedical Engineering, Riverside Research, New York, NY

5640 — 1:00 Egr-1 mRNA Expression in Response to Myopic Defocus. *Regan Ashby^{1,2}, C. Karout¹.* ¹Health Research Institute, University of Canberra, Canberra, ACT, Australia; ²Research School of Biology, Australian National University, Canberra, ACT, Australia

Room 324

Thursday, May 11, 2017 11:30 AM-1:15 PM

Eye Movements/Strabismus/Amblyopia/
Neuro-Ophthalmology

536 Retinal Abnormalities and Neuropathology

Moderator: Mays El-Dairi

5641 — 11:30 Evolution of Retinal Deformations Due to Acute NAION: Biomechanical Changes Not Related to Increased Pressure in the Neural Canal Region. *Mark J. Kupersmith¹, P. A. Sibony².* ¹Neuro-Ophthalmology, Icahn School of Medicine at Mount Sinia and NYEEI, New York, NY; ²Ophthalmology, University Hospital and Medical Center, Stony Brook, NY *CR

5642 — 11:45 A comparison of optic neuritis and NAION with OCT and OCT angiography. *John J. Chen¹, J. Leavitt¹, J. Abou Chehade¹, R. Iezzi¹, D. Hodge^{1,2}, R. Kardon³.* ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Health Sciences Research, Mayo Clinic, Rochester, MN; ³Ophthalmology, University of Iowa, Iowa City, IA

5643 — 12:00 Can grading foveal hypoplasia in infants using handheld optical coherence tomography predict future visual acuity? A longitudinal cohort study. *Sohaib R. Rufai¹, M. G. Thomas¹, H. Lee², F. A. Proudlock¹, I. Gottlob¹.* ¹Uiverscroft Eye Unit, University of Leicester, Kettering, United Kingdom; ²Clinical and Experimental Sciences, University of Southampton, Southampton, United Kingdom *CR

5644 — 12:15 Hemispheric analysis for detecting intraretinal thickness alterations in mild cognitive impairment and Alzheimer's disease. *Yi Shao^{1,2}, H. Jiang^{2,3}, Y. Wei^{2,4}, Y. Shi², C. Wright³, X. Sun³, B. L. Lam², T. Rundek³, J. Wang².* ¹Department of Ophthalmology, the First Affiliated Hospital of Nanchang University, Nanchang, China; ²Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL; ³Department of Neurology, University of Miami Miller School of Medicine, Miami, FL; ⁴Zhongshan Ophthalmic Centre, Sun Yat-sen University, Guangzhou, China

5645 — 12:30 Total macular thickness correlates with parietal cortical atrophy on MRI in early onset Alzheimer's disease. *Jurre den Haan¹, S. Janssen², J. van de Kreeke², P. Scheltens¹, F. Bouwman¹, F. Verbraak².* ¹Alzheimer Center, Neurology, VU University Medical Center, Amsterdam, Netherlands; ²Ophthalmology, VU University Medical Center, Amsterdam, Netherlands

5646 — 12:45 Evaluation of Retinal Layers in Patients with Multiple Sclerosis or Neuromyelitis Optica Spectrum Disease Using ERG Oscillatory Potentials, mfERG and OCT. *Thiago G. Filgueiras¹, M. Oyamada¹, R. C. Preti¹, S. A. Pereira², D. Calegari², M. R. Monteiro¹.* ¹Ophthalmology and Otolaryngology, University of São Paulo, São Paulo, Brazil; ²Neurology, University of São Paulo, Brazil, Brazil

5647 — 1:00 Retinal abnormalities in patients with different severities of traumatic brain injury. *Jakaria Mostafa, S. Wickum, L. J. Frishman, J. Porter.* College of Optometry, University of Houston, Houston, TX

Exhibit/Poster Hall B0151-B0164

Thursday, May 11, 2017 11:30 AM-1:15 PM

Genetics Group**537 Genetics of Corneal dystrophies****5648 — B0151 Transcriptomic Profiling of Posterior Polymorphous Corneal Dystrophy.**

Doug D. Chung, R. F. Frausto, B. Lin, E. M. Hanser, A. J. Aldave. Ophthalmology, Jules Stein Eye Institute, UCLA, Los Angeles, CA

5649 — B0152 Endothelial Corneal Dystrophy Associated with A3243G Mitochondrial DNA Point Mutation.

Mathieu F. Bakhom^{1,2}, E. C. White¹, W. Wu¹, J. D. Sengillo¹, G. D. Kramer², H. D. Perry^{3,2}, S. H. Tsang¹. ¹Ophthalmology, Columbia University Medical Center, Glen Oaks, NY; ²Ophthalmology, Nassau University Medical Center, East Meadow, NY; ³Ophthalmic Consultants of Long Island, Rockville Center, NY

5650 — B0153 Investigating the pathogenicity of VXS1 P247R and its role in corneal dystrophies.

Anastasia M. Litke, R. L. Chow. Biology, University of Victoria, Victoria, BC, Canada

5651 — B0154 Gene Mutation and Genotype-Phenotype Description in Corneal Dystrophy Associated with TGFBI Genes.

Xu Ke. Beijing Institute of Ophthalmology, Beijing, China

5652 — B0155 The functional impact of CRISPR-Cas9-mediated ZEB1 deficiency in human corneal endothelial cells.

Yue Li, R. F. Frausto, D. D. Chung, E. M. Hanser, A. Kassels, M. Zakharevich, A. J. Aldave. The Jules Stein Eye Institute, Monterey Park, CA

5653 — B0156 Generation of ZEB1-deficient human corneal endothelial cells using CRISPR-Cas9 as a model for posterior polymorphous corneal dystrophy 3.

E. Maryam M. Hanser^{2,1}, M. Zakharevich^{2,1}, R. F. Frausto^{2,1}, A. Kassels^{2,1}, Y. Li^{2,1}, A. J. Aldave^{2,1}. ¹University of California Los Angeles, Santa Monica, CA; ²Jules Stein Eye Institute, Los Angeles, CA

5654 — B0157 Rescue of Corneal Dystrophy-Causing SLC4A11 Mutants by Ophthalmological Non-Steroidal Anti-inflammatory Drugs.

Kumari Alka, J. R. Casey. Biochemistry, University of Alberta, Edmonton, AB, Canada

5655 — B0158 A novel model of corneal edema in mice with a disrupted endothelial bicarbonate transporter.

Mark D. Parker^{1,2}, S. P. Pate^{2,3}, A. Marshall¹, C. Mballo¹, E. E. Salerno^{1,4}. ¹Physiology and Biophysics, University at Buffalo, Buffalo, NY; ²Ophthalmology, University at Buffalo, Buffalo, NY; ³Research Service, VAWNYHS, Buffalo, NY; ⁴Notre Dame University, Notre Dame, IN

5656 — B0159 SLCA4A11 variant is associated with susceptibility to Fuchs endothelial corneal dystrophy patients in Korean.

Choun-Ki Joo^{1,2}, J. Seo¹, J. Mok¹. ¹Catholic Institutes of Visual Science, Catholic Univ of Korea, Seoul, Korea (the Republic of); ²Seoul St. Mary's hospital Eye Institute (SSEI), Seoul, Korea (the Republic of)

5657 — B0160 Genome-wide association study of Fuchs endothelial corneal dystrophy in a Japanese population.

Morio Ueno¹, M. Nakano², H. Nakagawa¹, H. Adachi², Y. Tokuda², Y. Ikeda¹, C. Sotozono¹, K. Tashiro², S. Kinoshita³. ¹Ophthalmology, Kyoto Prefectural Univ of Med, Kyoto, Japan; ²Genomic Medical Sciences, Kyoto Prefectural Univ of Med, Kyoto, Japan; ³Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefectural Univ of Med, Kyoto, Japan

5658 — B0161 ALDH3A1 variations are strongly associated with susceptibility to Keratoconus patients in Korean.

Jeewon Mok¹, C. Joo^{1,2}. ¹Catholic Institutes of Visual Science, Catholic Univ Korea, Seoul, Korea (the Republic of); ²Seoul St. Mary's hospital Eye Institute, Seoul, Korea (the Republic of)

5659 — B0162 5-years longitudinal evaluation of ocular manifestations in Fabry patients.

Langis Michaud. Optometry, Universite de Montreal, Montreal, QC, Canada *CR

5660 — B0163 Early Ocular Manifestations of Fabry Disease in α -galactosidase A-deficient Rats.

Iris S. Kassem^{1,4}, J. J. Miller², K. Aoki³, C. A. Murphy², J. Young⁴, M. Tiemeyer³, N. M. Dahms². ¹Ophthalmology, Medical College of Wisconsin, Milwaukee, WI; ²Biochemistry, Medical College of Wisconsin, Milwaukee, WI; ³Complex Carbohydrate Research Center, The University of Georgia, Athens, GA; ⁴Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin, Milwaukee, WI

5661 — B0164 Corneal Findings in**Arterial Tortuosity Syndrome.**

Joshua S. Hardin¹, Y. Zarate², B. Callewaert³, D. Warner¹. ¹Ophthalmology, University of Arkansas for Medical Sciences, Little Rock, AR; ²Section of Genetics and Metabolism, University of Arkansas for Medical Sciences, Little Rock, AR; ³Center for Medical Genetics, Ghent University Hospital, Ghent, Belgium

Exhibit/Poster Hall B0165-B0215

Thursday, May 11, 2017 11:30 AM-1:15 PM

Cornea**538 Corneal Non-refractive Surgery***Moderators: Golnar Shojaati and Sarah Weissbart***5662 — B0165 Intraocular Pressure and Big Bubble Diameter in Deep Anterior Lamellar Keratoplasty: An Ex-Vivo Microscope-Integrated OCT with Heads-Up-Display Study.**

Paramjit Bhullar¹, O. Carrasco-Zevallos², A. Dandridge¹, N. Pasricha¹, B. Keller², L. Shen², J. A. Izatt², C. A. Toth^{1,2}, A. N. Kuo¹. ¹Duke University Eye Center, Durham, NC; ²Biomedical Engineering, Duke University, Durham, NC *CR, ✗

5663 — B0166 Big-bubble technique with depth-sensing needle for precision lamellar keratoplasty.

Young-Sik Yoo¹, S. Moon², S. Choi¹, S. Shin³, W. Jung³, C. Joo¹. ¹The Catholic University of Korea, Seoul, Korea (the Republic of); ²Kookmin University, Seoul, Korea (the Republic of); ³Ulsan National Institute of Science and Technology, Ulsan, Korea (the Republic of)

5664 — B0167 Association between optical properties and visual disability in Fuchs endothelial corneal dystrophy.

Katrin Wacker^{1,2}, K. Baratz¹, K. M. Kane¹, S. V. Patel¹. ¹Department of Ophthalmology, Mayo Clinic, Rochester, MN; ²Eye Center, University Hospital Freiburg, Freiburg, Germany

5665 — B0168 Trinucleotide repeat expansion in the TCF4 gene and corneal ultrastructural changes in Fuchs endothelial corneal dystrophy.

Sanjay V. Patel¹, K. Wacker^{1,2}, R. Aleff³, E. Wieben³, K. Baratz¹. ¹Ophthalmology, Mayo Clinic, Rochester, MN; ²Eye Center, University Hospital Freiburg, Freiburg, Germany; ³Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN

5666 — B0169 Methotrexate and graft survival in high risk corneal transplantations.

Nallely Ramos Betancourt¹, V. Sanchez-Huerta¹, C. Ortiz Valencia¹, L. E. Concha del Rio², C. Robles Reyes¹. ¹Cornea and Refractive Surgery, Asociación para Evitar la Ceguera en México, Mexico City, Mexico; ²Uveitis, Asociación para Evitar la Ceguera en México, Mexico City, Mexico

5667 — B0170 The Relationship between Donor Graft Characteristics and Visual Acuity Outcomes after Descemet Stripping Automated Endothelial Keratoplasty.

Matthew Shear¹, C. Shih¹, L. Rosen², B. Hong¹, K. Chen¹, D. Nauheim¹, M. Gorski¹, J. Winokur¹, A. Steiner¹, I. J. Udell¹. ¹Ophthalmology, Hofstra Northwell Health, Great Neck, NY; ²Biostatistics, Hofstra Northwell Health, Manhasset, NY

5668 — B0171 Comparative Outcome Assessment of Descemet Membrane Endothelial Keratoplasty with and without Intraoperative Optical Coherence Tomography Guidance from the DISCOVER study. Ryan Jaber, J. Goshe, S. Wagenberg, M. Hu, S. K. Srivastava, J. Reese, J. Ehlers. Cole Eye Institute, Cleveland Clinic, Cleveland, OH *CR

5669 — B0172 Distance to surgery center and graft failure in penetrating keratoplasty for keratoconus. Elaine McElhinny, J. Fullerton. Ophthalmology, Virginia Commonwealth University Health System, Richmond, VA

5670 — B0173 Revisiting the Cornea and Trabecular Meshwork Junction with Two Photon Excitation Fluorescence Microscopy. Catherine Marando¹, C. Park², J. A. Liao¹, J. K. Lee¹, R. S. Chuck¹. ¹Ophthalmology, Albert Einstein College of Medicine, Bronx, NY; ²Department of Ophthalmology, Dongguk University, Ilsan Hospital, Kyunggi-do, Korea (the Republic of)

5671 — B0174 A Systematic Literature Review of Keratolimbal Allograft after Corneal Chemical Burn. Swapna Shanbhag, H. Saeed, J. Chodosh. Ophthalmology, Massachusetts Eye and Ear Infirmary- Harvard Medical School, Boston, MA

5672 — B0175 Light - and electron microscopy validation of graft preparation technique for Bowman Layer Transplantation. Javier Cabrerizo^{1,2}, M. Correll¹, S. K. Heegaard¹. ¹Rigshospitalet/University of Copenhagen, Copenhagen, Denmark; ²Copenhagen Eye Foundation, Copenhagen, Denmark

5673 — B0176 Optimal timing of DMEK graft procurement and the role of endothelial cells in the rolling of graft tissue. Matthew L. Haynie², H. Fukuoka², N. A. Afshari¹. ¹University of California San Diego, La Jolla, CA; ²Shiley Eye Institute, UC San Diego, San Diego, CA

5674 — B0177 In-Vitro Estimation of O₂ Concentrations during Corneal Cross-Linking (CXL) for Porcine Corneas and Collagen Type-I Gels. Rebecca M. McQuaid^{1,2}, M. Mrochen², R. Dmitriev³, D. Papkovski³, B. Vohnsen¹. ¹Physics, University College Dublin, Dublin, Ireland; ²IROC Science, Zurich, Switzerland; ³Biophysics, University College Cork, Cork, Ireland

5676 — B0179 Visual acuity gain after cross linking (CXL) cases : role of cone excitation. SOT Maxime, J. Francois, M. Luc, F. Tortuyaux, Y. Rekia, C. Jaud, N. Ouamara, C. Goetz, J. Perone. Ophthalmology, Chr Metz-Thionville, Nancy, France

5677 — B0180 One-Year Outcomes after Corneal Collagen Crosslinking in Japanese Patients with Progressive Keratoconus. Naoko Kato^{1,2}, K. Konomi², M. Shinzawa², K. Kasai^{2,4}, T. Ide⁵, C. Sakai³, K. Negishi³, I. Toda⁵, J. Shimazaki², K. Tsubota³. ¹Ophthalmology, Saitama Medical University, Iruma, Japan; ²Ophthalmology, Tokyo Dental College Ichikawa General Hospital, Chiba, Japan; ³Ophthalmology, Keio University School of Medicine, Tokyo, Japan; ⁴Ophthalmology, Jikei University, Tokyo, Japan; ⁵Minamiaoyama Eye Clinic, Tokyo, Japan *CR, ✗

5678 — B0181 Laser assisted robotic surgery in keratoplasty. Luca Menabuoni¹, A. Malandrini¹, A. Canovetti¹, I. Lenzetti¹, G. Magni², F. Micheletti², R. Pini², F. Leoni², B. Magnani³, F. Rossi². ¹Ophthalmology, Nuovo Ospedale S. Stefano, Prato, Italy; ²IFAC, CNR, Sesto Fiorentino, Italy; ³Ekymed, Milano, Italy; ⁴Fastenica, PIsa, Italy

5679 — B0182 Outcomes Following Combined DSAEK with Scleral-Glued IOL Placement. Annie Nguyen, E. Waisbren, A. Ragam, Y. Lin, J. Mathew, K. Lai, J. Seedor, D. Ritterband. Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY

5680 — B0183 Corneal cross-linking in children with progressive keratoconus: outcome differences in 2 age groups. Beatrice E. Frueh¹, C. Tappeiner¹, D. Epstein². ¹Ophthalmology, Univ of Bern Inselspital, Bern, Switzerland; ²Spitalgasse, Bern, Switzerland *CR

5681 — B0184 Outcomes of Descemet Membrane Endothelial Keratoplasty and Descemet Stripping Endothelial Keratoplasty in Patients With Previous Glaucoma Surgery. Shawn Lin, P. Prapaipanich, F. Yu, A. J. Aldave, S. X. Deng. Ophthalmology, Cornea Division, UCLA - Stein Eye Institute, Los Angeles, CA

5682 — B0185 Pain management in corneal collagen crosslinking for keratoconus: A prospective randomized study. Juan Carlos Serna-Ojeda, O. Santana-Cruz, N. Quiroz-Casian, J. Mercado-Orozco, J. Cabral, V. Oliva-Biñzobas, A. J. Ramirez-Miranda, A. Navas, A. Lichtinger, E. O. Graue-Hernandez. Ophthalmology, Institute of Ophthalmology "Conde de Valenciana", Mexico City, Mexico f

5683 — B0186 4D-OCT Guided DALK: Experimental proof-of-concept. Daniel M. Zapp, M. Nasseri, A. Eslami, H. Roodaki, M. M. Maier, C. Lohmann. Ophthalmology, Klinikum rechts der Isar der TU München, Munich, Germany *CR

5684 — B0187 Spontaneous double anterior chamber following DALK. Chi-Ying Chou^{1,2}, S. Gajree¹, K. Ramaesh¹, D. R. Anjjeet¹. ¹Tennent Institute of Ophthalmology, Glasgow, United Kingdom; ²Ophthalmology, University of Auckland, Auckland, New Zealand

5685 — B0188 The effect of positioning on gas-endothelial contact in an ex-vivo model. Mark Alberti, M. D. De La Cour, J. Cabrerizo. Dept. of Ophthalmology, Rigshospitalet - Glostrup, Copenhagen, Denmark

5686 — B0189 Outcomes of double-headed pterygium surgery performed with double conjunctival autografts. Jeannie Xu, H. J. Lee. Ophthalmology, Boston University School of Medicine, Boston, MA

5687 — B0190 Prospective Measurement of Pterygium Surgery Satisfaction. Alexander B. Crane¹, E. S. Crane¹, R. Friedman¹, L. Leon¹, M. Dastjerdi¹, D. S. Chu^{1,2}. ¹Rutgers New Jersey Medical School, Pine Brook, NJ; ²Metropolitan Eye Research and Surgery Institute, Palisades Park, NY

5688 — B0191 Feasibility of Implementing a National Corneal Transplant Registry: 2016 Update on the Ottawa Pilot Study. Harrish Nithianandan, P. Morales, Y. Chen, R. Tan, M. Taha, G. Mintsioulis, S. Ziai, K. Baig. Ophthalmology, University of Ottawa Eye Institute, Ottawa, ON, Canada

5689 — B0192 Incidence of Retinal Complications in Patients with Combined Keratoprosthesis and Glaucoma Drainage Device Surgery. Lindsay Machen, A. C. Arteaga, F. Y. Chau, A. A. Aref, T. S. Vajaranant, M. S. Cortina. Ophthalmology, University of Illinois at Chicago, Chicago, IL

5690 — B0193 Recurrent keratoconus in eyes after penetrating keratoplasty. Junko Yoshida¹, H. Murata¹, R. Shirakawa¹, T. Sakisaka¹, T. Toyono¹, T. Miyai¹, S. Yamagami², T. Usui¹. ¹Ophthalmology, The University of Tokyo, Tokyo, Japan; ²Nihon University, Tokyo, Japan

5691 — B0194 Late increase in corneal thickness after DMEK: A localized phenomenon? Anja K. Gruenert¹, F. E. Kruse¹, D. Epstein², T. Tourtas¹. ¹Department of Ophthalmology, University of Erlangen-Nurnberg, Erlangen, Germany; ²Eye Clinic Spitalgasse, Bern, Switzerland

5692 — B0195 Prediction of refractive outcomes in Descemet membrane endothelial keratoplasty combined with cataract surgery. Victor A. Augustin, J. M. Weller, F. E. Kruse, T. Tourtas. Ophthalmology, University of Erlangen, Erlangen, Germany

5693 — B0196 Pediatric corneal transplant: current practice patterns. Maria Carolina Marquazan da Silva, C. Prescott. Ophthalmology/ Cornea, The Wilmer Eye Institute/ Johns Hopkins University, Baltimore, MD

5694 — B0197 De Novo Glaucoma In Boston Keratoprosthesis Type 1: Patient Characteristics And Outcomes. Andrea C. Arteaga, L. Machen, A. A. Aref, M. S. Cortina, T. S. Vajaranant. Ophthalmology, University of Illinois, Chicago, IL

- 5695 — B0198 Combined Conjunctival Autograft Transplantation (CAT) and Overlay Amniotic Membrane Transplantation (AMT) Has Better Clinical Outcome in Primary and Recurrent Pterygium Surgery versus CAT or AMT Alone.** *Tejsu Malla¹, K. Hu².* ¹Ophthalmology, Zhongda hospital, Southeast University, Nanjing, China; ²Ophthalmology, Drum Tower Hospital, Nanjing University Medical School, Nanjing, China
- 5696 — B0199 Impact of bubbling pressure on endothelial cell quality in Pre-Descemet's endothelial keratoplasty (PDEK) preparation.** *Joshua H. Hou^{1,2}, P. Bedard^{1,2}.* ¹Ophthalmology & Visual Neurosciences, University of Minnesota, Minneapolis, MN; ²Minnesota Lions Eye Bank, St. Paul, MN
- 5697 — B0200 Correlating corneal endothelial cell loss to compressive forces caused by forceps manipulation.** *Edward F. Ruppel¹, M. A. Ramirez Garcia¹, Y. Khalifa², M. Buckley¹.* ¹Biomedical Engineering, University of Rochester, Rochester, NY; ²Emory Eye Center, Emory University, Atlanta, GA
- 5698 — B0201 Recurrence Rate of Narrow Strip Limbal Conjunctival Autograft with Amniotic Membrane Graft versus traditional Conjunctival Autograft alone for Treatment of Primary Pterygium.** *Shaily D. Shah, A. Rizzuti, A. Michael, A. Weitzner, S. Kaufman.* Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY
- 5699 — B0202 Corneal backscatter before and after Descemet membrane endothelial keratoplasty (DMEK).** *domenico schiano lomoriello¹, S. Venanzio¹, R. Colabelli Gisoldi², N. Boni^{3,2}, A. Pocobelli².* ¹Anterior Segment Unit, IRCSS Fondazione G. B. Bietti, Rome, Italy; ²U.O.C. Oftalmologia 1 Banca degli occhi, Azienda ospedaliera San Giovanni Addolorata, Rome, Italy; ³Ophthalmology, University of Rome Tor Vergata, Rome, Italy
- 5700 — B0203 Frozen, Pre-stripped Descemet Membrane Endothelial Keratoplasty (DMEK) Tissues for Surgical Training.** *David L. DeMill¹, K. D. Tran², Z. Mayko³, K. Downes³, C. S. Sales⁴, M. A. Terry¹.* ¹Devers Eye Institute, Portland, OR; ²Lions VisionGift, Portland, OR; ³Oregon Health Sciences University, Portland, OR; ⁴Ophthalmic Consultants of Boston, Boston, MA
- 5701 — B0204 Air versus SF6 in DMEK: a fellow eye comparison of side effects.** *Philipp von Marchtaler, J. M. Weller, F. E. Kruse, T. Tourtas.* Ophthalmology, University of Erlangen, Erlangen, Germany
- 5702 — B0205 DMEK And Cataract Surgery: Comparison Of Sequential Versus Combined Procedure.** *Yahia Reki^{1,2}, S. Maxime^{1,2}, F. Tortuyaux^{1,2}, N. ouamara³, J. Perone¹.* ¹Ophthalmology, Metz-Thionville Regional Hospital Center, Mercy Hospital, Metz, France; ²Lorraine University, Nancy, France; ³Metz-Thionville Regional Hospital Center, Mercy Hospital, 2 Clinical Research Support Unit, France
- 5703 — B0206 The influence that the temperature change of the donor cornea gives to corneal endothelium transplant postoperative endothelium cell density.** *Koji Kakisu, J. Shimazaki, T. Yamaguchi, Y. Satake, D. Tomida.* Ichikawa General hospital, Tokyo Dental Collage, Chiba, Japan
- 5704 — B0207 Structural and biochemical alterations of the posterior cornea associated with diabetes mellitus.** *Theofilos Tourtas¹, F. E. Kruse¹, B. T. Aldrich^{2,3}, J. M. Weller¹, J. M. Skeie^{2,3}, G. A. Schmid^{3,4}, C. R. Reed^{3,4}, M. A. Greiner^{2,3}, U. Schlotzer-Schrehardt¹.* ¹Department of Ophthalmology, University of Erlangen-Nuremberg, Erlangen, Germany; ²Department of Ophthalmology and Visual Sciences, University of Iowa Carver College of Medicine, Iowa City, IA; ³Iowa Lions Eye Bank, Coralville, IA; ⁴Cornea Research Center, University of Iowa, Iowa City, IA
- 5705 — B0208 Flexible Acrylic Keratoprosthesis.** *Charles Yu, A. Al-Qahtani, M. Rosenblatt.* Ophthalmology, University of Illinois Chicago, Chicago, IL
- 5706 — B0209 Validation of spiked pre- and post-mortem blood samples from cornea donors for viral infections.** *Ingo Schmack^{1,2}, S. Ballikaya¹, B. Erber¹, I. Vöhringer¹, U. Burkhardt³, P. Schnitzler⁴.* ¹Ophthalmology, University of Heidelberg, Heidelberg, Germany; ²Ophthalmology, University of Frankfurt, Frankfurt, Germany; ³Laboratory Medicine, Klinikum Ludwigshafen, Ludwigshafen, Germany; ⁴Infectious Diseases and Virology, University of Heidelberg, Heidelberg, Germany
- 5707 — B0210 Emergency therapeutic penetrating keratoplasties in a tertiary ophthalmic care facility.** *Catherine Croghan, C. Chou, S. Gajree, K. Ramaesh, D. R. Anijeet.* Tennent Institute of Ophthalmology, Glasgow, United Kingdom
- 5708 — B0211 Optimization of Spark Plasma Sintered Titania for Potential Application as a Keratoprosthesis Skirt.** *Jodhbir Mehta, G. Yam.* Cornea / Tissue Engineering and Stem Cell Group, Singapore National Eye Centre / Singapore Eye Research Institute, Singapore, Singapore
- 5709 — B0212 In quest of a novel artificial cornea using biomimetic nanotopography.** *Kate Xie¹, E. Liang², M. Dickson², P. Vu¹, A. Yee², M. Farid¹.* ¹Ophthalmology, Gavin Herbert Eye Institute, University of California, Irvine, Irvine, CA; ²Chemical Engineering and Materials Science, University of California, Irvine, Irvine, CA
- 5710 — B0213 Conjunctival autograft for pterygium: clinical study in primary and recurrent pterygium.** *Paolo Garimoldi, E. Premi, M. Chiaravalli, J. Cattaneo, C. Azzolini.* Surgical and Morphological Department, University of Insubria, Varese, Ophthalmology Clinic, Varese, Italy
- 5711 — B0214 Corneal nerve regeneration is linked to optical changes in patients with Fuchs' endothelial corneal dystrophy.** *Esbén Nielsen^{2,1}, A. Ivarsen¹, J. Hjortdal¹.* ¹Ophthalmology, Aarhus University, Aarhus C, Denmark; ²Ophthalmology, Aalborg University Hospital, Aalborg, Denmark
- 5712 — B0215 Outcomes of Optical Sector Iridectomy in Peters Anomaly.** *Mohamed S. Sayed¹, O. Spierer^{1,2}, C. J. Osigian¹, K. M. Cavuoto¹, C. A. McKeown¹, S. Suwannaraj¹, T. C. Chang¹.* ¹Ophthalmology, University of Miami Bascom Palmer Eye Institute, Miami, FL; ²Ophthalmology, Tel-Aviv Medical Center, Affiliated to the Sackler Faculty of Medicine, Tel-Aviv University, Tel-Aviv, Israel, Tel Aviv, Israel

 Exhibit/Poster Hall B0251-B0265

Thursday, May 11, 2017 11:30 AM-1:15 PM

Clinical/Epidemiologic Research

539 Cataract/Reporting of Research

Moderator: Ecosse L. Lamoureux

5713 — B0251 Fragility of Results in Ophthalmology Randomized Controlled Trials. *Carl Shen¹, I. Shamsudeen¹, F. Farrokhyan², K. Sabri^{1,3}.* ¹Ophthalmology, McMaster University, Hamilton, ON, Canada; ²Epidemiology and Biostatistics, McMaster University, Hamilton, ON, Canada; ³McMaster Paediatric Eye Research Group, McMaster University, Hamilton, ON, Canada

5714 — B0252 Visual acuity reporting in clinical research publications. *Brittany Tsou, N. Bressler.* Retina Division - Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD *CR

5715 — B0253 Discrepancies Between Peer-Reviewed Publications and Clinical Trial Registries in Ophthalmology. *Lynn W. Sun, D. J. Lee, J. A. Collins, T. C. Carill, K. Ramahi, S. J. Sandy, J. G. Unteriner, D. V. Weinberg.* Ophthalmology, Medical College of Wisconsin, Milwaukee, WI

5716 — B0254 Citation Rates of Open-Access and Non-Open Access Clinical Studies in Leading Ophthalmology Journals. *Michael Mimouni, Y. Barak, Y. Shapira, I. Beiran, E. Z. Blumenthal, S. Zayit-Soudry.* Ophthalmology, Rambam Health Care Campus, Atlit, Israel

5717 — B0255 Trends in prevalence of self-reported cataracts in Canada. *Yaping Jin^{1,2}, G. Yang³, Y. M. Buys¹, G. E. Trope¹.* ¹Ophthalmology & Vis Sci, University of Toronto, Toronto, ON, Canada; ²Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada; ³School of First Clinical Medicine, Southern Medical University, Guangzhou, China

5718 — B0256 *SLCO1B1* gene, statin use and incidence of age-related cataract: The Blue Mountains Eye Study. *Ava G. Tan¹, A. Kifley¹, B. E. Klein², K. E. Lee², S. K. Iyengar^{3,4}, G. Jun⁵, E. G. Holliday⁶, R. J. Scott^{6,7}, Y. Y. Teo^{8,9}, C. Cheng^{8,10}, T. Y. Wong^{10,11}, R. Cumming¹², P. Mitchell¹, J. Wang¹.* ¹Centre for Vision Research, The Westmead Institute for Medical Research, The University of Sydney, Sydney, NSW, Australia; ²Department of Ophthalmology and Visual Sciences, School of Medicine and Public Health, University of Wisconsin-Madison, Madison, WI; ³Department of Epidemiology and Biostatistics, Case Western Reserve University, Cleveland, OH; ⁴Department of Ophthalmology and Visual Sciences, Case Western Reserve University, Cleveland, OH; ⁵Andover Product Creation Innovation System, Esai Inc., Andover, MA; ⁶Centre for Clinical Epidemiology and Biostatistics, and School of Medicine and Public Health, University of Newcastle, Newcastle, NSW, Australia; ⁷Hunter Medical Research Institute and Hunter Area Pathology Service, Newcastle, NSW, Australia; ⁸Saw Swee Hock School of Public Health, National University of Singapore, Singapore, Singapore; ⁹Department of Statistics and Applied Probability, National University of Singapore, Singapore, Singapore; ¹⁰Singapore Eye Research Institute, Singapore National Eye Centre, Singapore, Singapore; ¹¹Graduate Medical School, Duke-NUS, Singapore, Singapore; ¹²School of Public Health, The University of Sydney, Sydney, NSW, Australia

5719 — B0257 Associations between the gut microbiome, a healthy diet, and age-related nuclear cataract. *Ekaterina Yonova¹, R. Bowyer¹, M. Jackson¹, K. M. Williams^{1,2}, M. Simcoe¹, C. J. Steves¹, C. J. Hammond^{1,2}.* ¹Twin Research and Genetic Epidemiology, King's College London, London, United Kingdom; ²Ophthalmology, King's College London, London, United Kingdom

5720 — B0258 Influence of ocular UV exposure on risk of cataract in Chinese. *Hisanori Miyashita, N. Hatusaka, Y. Seki, A. Nakano, M. Kojima, Y. Kawakami, E. Kubo, H. Sasaki.* Department of Ophthalmology, Kanazawa Medical University, Kahoku, Japan

5721 — B0259 Relationships of Macular Pigment Optical Density (MPOD) to Cataract Extraction in the Second Carotenoids in Age-Related Eye Disease Study (CAREDS 2), an ancillary study of the Women's Health Initiative (WHI) Observational Study. *Zhe Liu¹, S. Gangaputra², E. Johnson³, B. Hammond⁴, R. B. Wallace⁵, L. Tinker⁶, D. Snodderly⁷, G. Sarto⁸, J. A. Mares¹.* ¹Ophthalmology & Visual Science, University of Wisconsin Madison, Madison, WI; ²Lab of Immunology, National Eye Institute, Bethesda, MD; ³Jean Mayer USDA Human Nutrition Research Center on Aging, Tufts University, Boston, MA; ⁴Psychology, University of Georgia, Athens, GA; ⁵Epidemiology, University of Iowa School of Public Health, Iowa City, IA; ⁶Cancer Prevention Research Prog, Fred Hutchinson Cancer Research Center, Seattle, WA; ⁷Department of Human Ecology, Division of Nutritional Sciences, The University of Texas, Austin, TX; ⁸Obstetrics & Gynecology, University of Wisconsin, School of Medicine and Public Health, Madison, WI

5722 — B0260 Risk Factors for Lens Opacities in a Population-based Cohort of Adult Chinese Americans: The Chinese American Eye Study (CHES). *Mina Torres¹, C. E. Joslin², R. McKean-Cowdin³, X. Jiang¹, F. Choudhury^{1,3}, R. Varma¹.* ¹Ophthalmology, University of Southern California, Los Angeles, CA; ²Ophthalmology, University of Illinois, Chicago, Chicago, IL; ³Preventive Medicine, University of Southern California, Los Angeles, CA

5723 — B0261 Dietary Nutrients and Age-Related Cataract in the Age-Related Eye Disease Study: A Study of Prevalence, Incidence, and Progression to Cataract Extraction. *Lauren Doss¹, T. Glaser², E. Agron³, T. E. Clemons², J. SanGiovanni², E. Chew².* ¹New York Medical College, Valhalla, NY; ²National Eye Institute, Bethesda, MD

5724 — B0262 Cotton-Tip Applicator Lid Retraction Intravitreal Injections and Cataract Associations. *Joseph J. raavis, A. Yazdanyar, J. X. Li, A. Zaki, F. Yazdanie, E. Shrier.* Ophthalmology, SUNY Downstate Medical Center, Brooklyn, NY

5725 — B0263 Geographic Variation, National Trends, and Characteristics of Patients Receiving Co-Managed Cataract Surgery. *Nakul Shekhawat¹, C. Andrews¹, J. Vrabec¹, W. Richardson³, J. D. Stein^{1,2}.* ¹W.K. Kellogg Eye Center, Department of Ophthalmology and Visual Sciences, University of Michigan, Ann Arbor, MI; ²Center for Eye Policy and Innovation, University of Michigan, Ann Arbor, MI; ³Georgetown Eye Care, Georgetown, KY

5726 — B0264 Barriers to childhood cataract services across India. A mixed methods study using the Theoretical Domains Framework (TDF) of behaviour change. *Sheeladevi Sethu¹, J. Lawrenson¹, A. R. Fielder¹, R. Kekunnya², R. Ali³, R. Borah³, C. Suttle¹.* ¹Division of Optometry and Visual Sciences, City, University of London, London, United Kingdom; ²L V Prasad Eye Institute, Hyderabad, India; ³Orbis International, Gurgaon, India

5727 — B0265 Self-reported cataract and Quality of life in people aged 50 years and above in six nations. *Jldeofor K. Ndulue¹, N. Ng², S. N. Nwosu³, O. Ndulue³, C. L. Shields¹.* ¹Ocular Oncology Service, Wills Eye Hospital, Philadelphia, PA; ²Public Health, Umea University, Umea, Sweden; ³Ebony Eye Clinic, Onitsha, Nigeria

Exhibit/Poster Hall B0280-B0311

Thursday, May 11, 2017 11:30 AM-1:15 PM

Immunology/Microbiology

540 Immune mechanisms in Eye disease: perception and reality

Moderator: Ashok Kumar

5728 — B0280 In vitro effects of IL-6 and IL-6R blockade on the blood-retinal barrier. *Marina Mesquida^{1,2}, D. A. Copland³, P. J. Lai³, V. Llorens², M. Sainz De La Maza², A. Adan Civera², A. D. Dick³, R. W. Lee³, B. Molins¹.* ¹Ophthalmology, Clinic Foundation for Biomedical Research, Barcelona, Spain; ²Ophthalmology, Hospital Clinic Barcelona, Barcelona, Spain; ³School of Clinical Sciences, University of Bristol, Bristol, United Kingdom

5729 — B0281 Low concentration of thrombospondin-derived CD47 agonist inhibits IL-17 mediated leukocyte adhesion to vascular endothelial cells. *Sharmila Masli¹, L. Soriano-Romani², B. Turpie¹.* ¹Ophthalmology, Boston University School of Medicine, Boston, MA; ²IOBA, University of Valladolid, Valladolid, Spain

5730 — B0282 Corneal alkali injury induces retinopathy via inflammation that is preventable with anti-TNF- α treatment. *Fengyang Lei^{1,2}, C. Zhou^{1,2}, V. Kapoulea^{1,2}, J. Chodosh¹, C. H. Dohlman¹, E. I. Paschalis^{1,2}.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA; ²Boston Keratoprosthesis Lab, Schepens Eye Research Institute, Boston, MA

5731 — B0283 Corneal nerve ablation in one eye induces Langerhans cell infiltration into both eyes and abolishes immune privilege in both eyes. *Jerry Y. Niederkorn, J. Mo, S. Neelam, J. Mellon, A. Wilkerson.* Ophthalmology, Univ Texas Southwestern Med Ctr, Dallas, TX

- 5732 — B0284 Novel characterization and intravital imaging of lymphangiogenesis and valvulogenesis after lamellar keratoplasty.** Lu Chen^{1,2}, L. Zhang^{1,2}, D. G. Hwang³, G. Li^{1,2}. ¹Graduate Group in Vision Science, University of California at Berkeley, Berkeley, CA; ²Center for Eye Disease and Development, Program in Vision Science, and School of Optometry, University of California at Berkeley, Berkeley, CA; ³Ophthalmology, University of California at San Francisco, Berkeley, CA
- 5733 — B0285 Combined blockade of VEGFR-3 and integrin alpha9beta1 inhibits corneal lymphangiogenesis and valvulogenesis in vivo and promotes high-risk graft survival.** Guangyu Li^{1,2}, G. Kang^{1,2}, N. Lee^{1,2}, A. A. Gong^{1,2}, Y. Yokosaki³, L. Chen^{1,2}. ¹Graduate Group in Vision Science, University of California at Berkeley, Berkeley, CA; ²Center for Eye Disease and Development, Program in Vision Science, and School of Optometry, University of California at Berkeley, Berkeley, CA; ³Cell-Matrix Frontier Laboratory, Biomedical Research Unit, Hiroshima University, Hiroshima, Japan
- 5734 — B0286 Role of B7-H3/TL1-2 pathway in immune privilege of corneal allografts.** Hiroko Taniguchi¹, H. Hase², H. Akiba³, H. Hagita³, M. Azuma², J. Hori¹. ¹Ophthalmology, Nippon Medical School, Bunkyo-ku, Japan; ²Molecular Immunology, Tokyo Medical and Dental University, Tokyo, Japan; ³Immunology, Juntendo University School of Medicine, Tokyo, Japan
- 5735 — B0287 Retinal leukostasis in diabetic mice immunized with Keyhole Limpet Hemocyanin.** Manzo Taguchi¹, M. Inada¹, T. Murata¹, K. Harimoto¹, Y. Karasawa¹, M. Ito², M. Takeuchi¹. ¹Ophthalmology, National Defense Medical College, Tokorozawa, Japan; ²Developmental Anatomy, National Defense Medical College, Tokorozawa, Japan
- 5736 — B0288 Conditional, genetically-encoded, small molecule-regulated inhibition of NF-κB signaling in RPE cells.** John Hulleman, K. Vu. Ophthalmology and Pharmacology, Univ of Texas Southwestern Med Center, Dallas, TX
- 5737 — B0289 Investigation of the interactions between macrophages and retinal pigment epithelium (RPE) cells in AMD.** Takahiro Yamawaki, E. Ito, J. Yamada, S. Kinoshita, C. Sotozono, J. Hamuro. Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto City, Japan
- 5738 — B0290 The role of interleukin-33 in retinal tissue fibrosis after laser injury.** Akira Matsuda¹, T. Hirakata^{1,2}, T. Yokomizo², S. Nakae³. ¹Department of Ophthalmology, Juntendo Univ School of Med, Tokyo, Japan; ²Biochemistry, Juntendo University School of Medicine, Tokyo, Japan; ³Frontier Research Initiative, Institute of Medical Science, University of Tokyo, Tokyo, Japan
- 5739 — B0291 The gut microbiome in advanced age-related macular degeneration.** Lee Kiang¹, S. McClintic¹, M. Saleh², C. Metea², K. Mitio², M. Asquith², T. M. Martin², M. L. Klein¹, L. Karstens², P. Lin¹. ¹Ophthalmology, Casey Eye Institute, Oregon Health & Sciences University, Portland, OR; ²Oregon Health and Science University, Portland, OR
- 5740 — B0292 Association between macular phenotype and serum auto-antibodies (AAbs) against macular antigens in age-related macular degeneration (AMD): Preliminary studies.** Alessandro Iannaccone¹, T. Hollingsworth³, N. Lenchik², S. Beranova-Giorgianni¹, I. Gerling², M. Z. Radic⁵, F. Giorgianni¹. ¹Duke Eye Center, Duke University Medical Center, Durham, NC; ²Internal Medicine/Endocrinology, University of Tennessee Health Science Center, Memphis, TN; ³Neuroscience, University of Tennessee Health Science Center, Memphis, TN; ⁴Pharmaceutical Sciences, University of Tennessee Health Science Center, Memphis, TN; ⁵Microbiology, Immunology and Biochemistry, University of Tennessee Health Science Center, Memphis, TN
- 5741 — B0293 Regulation of antigen processing in macrophages by RPE.** Andrew W. Taylor, R. Shannon, I. Benque, T. Ng. Ophthalmology, Boston Univ School of Medicine, Boston, MA
- 5742 — B0294 Activation of NLRP3 by intracellular aggregates in RPE cells.** Anu Kauppinen¹, N. Piippo¹, E. Korhonen¹, M. Hytti¹, K. Kinnunen², K. Kaarniranta^{2,3}. ¹School of Pharmacy, University of Eastern Finland, Kuopio, Finland; ²Department of Ophthalmology, University of Eastern Finland, Kuopio, Finland; ³Department of Ophthalmology, Kuopio University Hospital, Kuopio, Finland
- 5743 — B0295 Chronic exposure to TNFα impairs RPE barrier and immunosuppressive functions.** Sara Touhami^{1,2}, F. Beguier², S. Augustin², S. Reichman², O. Goureau², E. F. Nandrot², X. Guillonnet², B. Bodaghi¹, F. Sennlaub². ¹Ophthalmology, Pitie Salpetriere Hospital, Paris, France; ²Institut de la Vision, Paris, France
- 5744 — B0296 Optic Nerve as a Source of Retinal Mononuclear Cells Post-Injury.** Dale S. Gregerson, N. D. Heuss, M. Pierson, S. W. McPherson. Ophthalmology & Visual Neurosciences, University of Minnesota, Minneapolis, MN
- 5745 — B0297 Evidence of melanoma immunoreactivity in patients with Birdshot retinochoroidopathy.** Lynn Hassman¹, M. Warren², K. R. Huxlin¹, M. M. Chung¹, L. xu². ¹Ophthalmology, University of Rochester, Flaum Eye Institute, Rochester, NY; ²Biomedical Genetics, University of Rochester, Rochester, NY
- 5746 — B0298 Functional characterisation of CD11c-eYFP⁺ cells during systemic inflammation reveals that the mouse retina is devoid of antigen presenting cells.** Samantha Dando¹, R. Kazanis¹, H. R. Chinnery², C. C. Bernard³, P. McMenamin¹. ¹Monash Biomedicine Discovery Institute and Department of Anatomy and Developmental Biology, Monash University, Clayton, VIC, Australia; ²Optometry and Vision Sciences, University of Melbourne, Parkville, VIC, Australia; ³Australian Regenerative Medicine Institute, Monash University, Clayton, VIC, Australia
- 5747 — B0299 Anti-Transgene Cellular Immune Reponses can be Induced by Subretinal Gene Transfer with rAAV in a Dose-Dependent Manner.** Sylvain Fisson^{1,2}, J. Vendomele^{1,2}, Q. Khebzizi^{1,2}, S. Dehmani^{1,2}, M. Mormin¹, S. Donnou-Triffault^{1,2}, A. Galy^{1,2}. ¹INSERM UMRS951, Genethon, Evry, France; ²University of Evry Val d'Essonne, Evry, France
- 5748 — B0300 Analysis of Factors Necessary for Recruitment and Retention of Mononuclear Cells in the Retina.** Scott W. McPherson, N. D. Heuss, M. Pierson, D. S. Gregerson. Ophthalmology and Visual Neurosciences, University of Minnesota, Minneapolis, MN
- 5749 — B0301 Association of Th17-cell related cytokines between Aqueous Humor and Vitreous Fluid in Proliferative Diabetic Retinopathy Patients.** Masaru Takeuchi, T. Sato, M. Taguchi, Y. Karasawa, Y. Sakurai, K. Harimoto, M. Ito. Ophthalmology, National Defense Medical College, Tokorozawa, Japan
- 5750 — B0302 Autophagy marker expression in Non-Sjögren and Sjögren syndrome dry eyes.** Soojung Shin^{1,2}, Y. Byun^{1,2}, H. Lee^{1,2}, S. Chung^{1,2}. ¹Department of Ophthalmology and Visual Science, Seoul St. Mary's Hospital, Catholic University of Korea, College of Medicine, Seoul, Korea (the Republic of); ²Catholic Institute for Visual Science, Catholic University of Korea, College of Medicine, Seoul, Korea (the Republic of)
- 5751 — B0303 Retrospective Analysis of Increment Instillation of Allergen During the Conjunctival Allergen Provocation Test (CAPT).** Holly I. Lorentz, V. Nelson, N. Tenorio, A. Salapatek. Inflamax Research Inc, Mississauga, ON, Canada *CR
- 5752 — B0304 Use of Conjunctival Allergen Challenge as a Tool for Predicting Response to Oral Food Challenge in Food Allergic Patients.** Paul J. Gomes¹, E. Schoemmel¹, S. Godek¹, E. Angjeli², K. J. Lane². ¹Allergy, ORA, Andover, MA; ²R&D, Ora, Inc, Andover, MA *CR
- 5753 — B0305 The role of Oncostatin M in the pathogenesis of severe allergic conjunctivitis.** Keitaro Mashimo, A. Usui, N. Ebiyara. Juntendo university Urayasu hospital, Urayasu city, Japan

5754 — B0306 Immediate Hypersensitivity vs Late Phase Responses in Allergic Conjunctivitis Can Be Traced to Differences in Tear Cytokine Profiles Prior to Allergen Challenge. Rachel Smith¹, F. Gizatullin², A. Whitlock², P. J. Gomes¹.
¹Allergy, Ora, Inc., Andover, MA; ²Pre-Clinical Department, Ora, Inc., Andover, MA *CR

5755 — B0307 Effect of resolvin on allergic conjunctivitis in mouse. Satoshi Iwamoto², M. Okano², T. Yokomizo¹, A. Matsuda². ¹Biochemistry, Juntendo Univ School of Med, Chiyodaku, Japan; ²Ophthalmology, Juntendo Univ School of Med, Tokyo, Japan

5756 — B0308 Suppressed Signaling of Interleukine 27, a Novel Immunosuppressive Cytokine, in Experimental Allergic Conjunctivitis Induced by Short Ragweed Pollen. Xin Chen^{1,2}, W. Chi^{1,3}, C. Wang¹, Z. Liu¹, X. Hua¹, R. Deng^{1,2}, F. Bian¹, S. C. Pflugfelder¹, D. Li¹. ¹Ophthalmology, Baylor College Of Medicine, Houston, TX; ²School of Ophthalmology and Optometry, Wenzhou Medical University, Wenzhou, China; ³Zhongshan Ophthalmic Center, Sun Yan-Sen University, Guangzhou, China

5757 — B0309 Ocular Allergy and Quality of Life: Patient Survey. Emily Schoemmel¹, K. Sicard¹, R. Smith¹, Y. Raval¹, P. J. Gomes¹, D. A. Hollander². ¹Allergy, Ora, Inc, Andover, MA; ²Ora, Inc, Andover, MA *CR

5758 — B0310 Crosslink between lipids and uveitis: a lipidomic analysis. Haiyan Wang. ophthalmology, shanghai first people's hospital affiliated to Jiaotong University, Shanghai, China

5759 — B0311 The superoxide dismutase 1 knock out (SOD1 KO) mouse develops age-dependent auto reactivity to ocular antigens. Diwa Koirala¹, A. Iannaccone², T. Hollingsworth³, S. Beranova-Giorgianni¹, I. Gerling⁴, M. Z. Radic⁵, F. Giorgianni¹. ¹Pharmaceutical Sciences, University of Tennessee Health Science Center, Memphis, TN; ²Duke Eye Center, Duke University Medical Center, Memphis, TN; ³Neuroscience, University of Tennessee Health Science Center, Memphis, TN; ⁴Internal Medicine/Endocrinology, University of Tennessee Health Science Center, Memphis, TN; ⁵Microbiology, Immunology, and Biochemistry, University of Tennessee Health Science Center, Memphis, TN

Exhibit/Poster Hall B0312-B0339

Thursday, May 11, 2017 11:30 AM-1:15 PM

Immunology/Microbiology

541 Infection and immunology

Moderator: Prashant Garg

5760 — B0312 The Impact of Ocular Pathogens on Autophagy. Kimberly Brothers, S. Tian, P. R. Kinchington, R. P. Kowalski, R. M. Shanks. Ophthalmology, Univ Pittsburgh Medical Center, Pittsburgh, PA

5761 — B0313 HMGB1 antagonist, Box A reduces severity of Pseudomonas keratitis in susceptible C57BL/6 mice. Sharon A. McClellan, L. Hazlett. Anatomy & Cell Biology, Wayne State Univ School of Med, Detroit, MI

5762 — B0314 Characterization of ocular clinical isolates and non-ocular multi-drug resistant strains of Pseudomonas aeruginosa and their susceptibility to killing by glycyrrhizin. Xudong Peng¹, S. Amarasingha Ekanayaka¹, S. A. McClellan¹, A. Eby², L. Hazlett¹. ¹Anatomy and Cell Biology, Wayne State University, Detroit, MI; ²Kresge Eye Institute, Detroit, MI *CR

5763 — B0315 The Type VI secretion system regulates Pseudomonas aeruginosa internalization in human corneal epithelial cells. Owais Ulhaq, D. M. Robertson. Ophthalmology, University of Texas Southwestern, Coppel, TX

5764 — B0316 Role of NLRP3 inflammasome in bacterial keratitis. Praveen Yerramotheu, A. Vijay, M. Willcox. Optometry and Vision Science, University of New South Wales, Sydney, NSW, Australia

5765 — B0317 The role of type 4 pilus, flagella and type III secretion system in the interactions between Pseudomonas aeruginosa bacteria and corneal fibroblasts in human microbial keratitis. Ahmad Elshah^{1,2}, M. Christodoulides¹, P. Hossain^{1,2}. ¹Clinical Experimental Sciences, University of Southampton, Southampton, United Kingdom; ²University Hospitals Southampton, Southampton, United Kingdom

5766 — B0318 ISG15 as a Key player in corneal innate defense against Pseudomonas aeruginosa keratitis. Nan Gao, F. X. Yu. Ophthalmology, Wayne State Univ/Kresge Eye Inst, Detroit, MI

5767 — B0319 Involvement of corneal lymphangiogenesis and macrophages in a murine bacterial keratitis model. Akitomo Narimatsu^{1,2}, T. Hattori¹, N. Koike², K. Tajima³, H. Nakagawa¹, H. Katahira¹, T. Minezaki¹, S. Kumakura¹, T. Matsumoto², H. Goto¹. ¹Department of Ophthalmology, Tokyo Medical University, Tokyo, Japan; ²Department of Microbiology, Tokyo Medical University, Tokyo, Japan; ³Department of Surgery, School of Medicine, Keio University, Tokyo, Japan

5768 — B0320 Keratin 6A regulation of corneal epithelial-derived inflammatory mediators during homeostasis and antigen challenge. K P Connie Tam^{1,2}, K. Bose¹, D. Man¹, J. K. Chan¹. ¹Department of Ophthalmic Research, Cleveland Clinic Cole Eye Institute and Lerner Research Institute, Cleveland, OH; ²Department of Ophthalmology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, OH *CR

5769 — B0321 Efficacy of a 10-amino-acid keratin-derived antimicrobial peptide (KAMP-10) against amikacin-resistant Pseudomonas aeruginosa keratitis in mice. Karthikeyan Bose¹, K. Tam^{1,2}. ¹Department of Ophthalmic Research, Cleveland Clinic Cole Eye Institute and Lerner Research Institute, Cleveland, OH; ²Department of Ophthalmology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, OH *CR

5770 — B0322 Pathway analysis provides insights into keratin 6A-mediated inflammatory network in human corneal epithelial cells. William M. Carrera¹, J. K. Chan², K. Tam^{2,3}. ¹School of Medicine, Case Western Reserve University, Cleveland, OH; ²Department of Ophthalmic Research, Cleveland Clinic Cole Eye Institute and Lerner Research Institute, Cleveland, OH; ³Department of Ophthalmology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, OH *CR

5771 — B0323 MyD88 Contributes to the Intrinsic Innate Defense of the Ocular Surface. Rose Y. Reins, J. Courson, C. Kunnen, C. Lema, R. L. Redfern. College of Optometry, Univ of Houston, Houston, TX

5772 — B0324 Impact of commensals on ocular immunity to infection. Mihaela Gadjeva. Medicine, Brigham and Women's Hospital, Boston, MA; Microbiology and Immunology, Harvard Medical School, Boston, MA

5773 — B0325 The effects of Escherichia coli Nissle and Salmonella typhimurium bacterial ghosts on human conjunctival epithelial cells. Ehsan Ghasemian¹, E. Stein¹, A. Inic-Kanada¹, N. Schuerer¹, N. Bittner¹, J. Rajic², T. Barisani-Asenbauer¹. ¹OCUVAC - Centre of Ocular Inflammation and Infection Laura Bassi Centre of Expertise Center of Pathophysiology, Infectiology & Immunology; Medical University of Vienna, Vienna, Austria; ²Institute for Biological Research "Siniša Stankovic", Department of Molecular Biology, University of Belgrade, Belgrade, Serbia

5774 — B0326 Phage Endolysins and Their Derived Antimicrobial Peptide: Alternative Antimicrobials to Combat Antibiotic Resistant Ocular Infections. Vipul Taxak¹, B. G. Rottmann¹, P. Singh^{1,4}, D. Donovan², V. A. Fischetti³, A. Kumar^{1,4}. ¹Ophthalmology, Wayne State University School of Medicine, Detroit, MI; ²ARS, USDA, Animal Biosciences and Biotechnology Lab, Beltsville, MD; ³Rockefeller University, Laboratory of Bacterial Pathogenesis and Immunology, New York, NY; ⁴Department of Anatomy/Cell Biology, Wayne State University, Wayne State University School of Medicine, Detroit, MI

5775 — B0327 The miR-183/96/182 Cluster Regulates Cytokine Production By Macrophages (MΦ) In Response To Lipopolysaccharide (LPS). Shunbin Xu, C. Muraleedharan. Ophthalmology/ Anatomy & Cell Biology, Wayne State University, Detroit, MI *CR

- 5776 — B0328 Trachoma strain Ba elicits an eicosanoid profile in primary conjunctival cells consistent with the phenotypic disease of trachomatous inflammation-intense (TI).** Kaleb M. Asfaha^{1,2}, A. Jolly², M. Nemcheck¹, D. Dean², K. Gronert¹. ¹Vision Science Group, School of Optometry; Infectious Diseases and Immunity Group, University of California Berkeley, Berkeley, CA; ²Children's Hospital Oakland Research Institute, Oakland, CA
- 5777 — B0329 Tetanus vaccination related to the decline of trachoma in the Western World? Anti-tetanus antibodies confer partial protection against ocular chlamydial infection.** Aleksandra Inic-Kanada¹, I. Lukic², M. Stojanovic², E. Stein¹, E. Marinkovic², A. Filipovic², R. Djokic², D. Kosanovic², N. Schuerer¹, E. Ghasemian¹, T. Barisani-Asenbauer¹. ¹OCUVAC - Center of Ocular Inflammation and Infection; Laura Bassi Centers of Expertise, Center for Pathophysiology, Infectiology and Immunology; Medical University of Vienna, Vienna, Austria; ²Institute of Virology, Vaccines and Sera - TORLAK, Belgrade, Serbia
- 5778 — B0330 Chlamydia trachomatis infection induces epithelial-mesenchymal transition in conjunctival epithelial cells.** Talin Barisani-Asenbauer¹, A. Inic-Kanada¹, J. rajic², N. Grdovic², E. Stein¹, E. Ghasemian¹, N. Schuerer¹, M. Vidakovic². ¹Center for Pathophysiology, Infectiology & Immunology, Laura Bassi Centre of Expertise Ocuvac, Vienna, Austria; ²University of Belgrade, Institute for Biological Research, Belgrade, Serbia
- 5779 — B0331 Low concentrations of levofloxacin can decrease UV-induced cellular damage.** takashi nishida^{1,2}, Y. Kuse², K. Mochizuki¹, T. Yamamoto¹, M. Shimazawa², H. Hara². ¹Department of Ophthalmology, Gifu University Graduate School of Medicine, Gifu, Japan; ²Molecular Pharmacology, Department of Biofunctional Evaluation, Gifu Pharmaceutical University, Gifu, Japan
- 5780 — B0332 Epigenetic Regulation of Ocular Immune Responses Using Bromodomain Inhibitors.** Victor L. Perez¹, R. Levy², S. Copsel², C. Casey Lightbourn², S. Duffort¹, A. Gore¹, J. Manov², H. Barreras², C. Wahlestedt³. ¹Ophthalmology, Bascom Palmer Eye Institute, Miami, FL; ²Microbiology & Immunology, University of Miami Miller School of Medicine, Miami, FL; ³University of Miami, Center for Therapeutic Innovation, Miami, FL *CR
- 5781 — B0333 Conjunctivitis and anterior uveitis induced by topical application of Nod1 ligand in rabbits.** Marilyn P. Langford, T. B. Redens, C. Liang, M. Landry, A. S. Kavanaugh, W. A. Byrd. Ophthalmology, Louisiana State Univ Hlth Sci Ctr, Shreveport, LA
- 5782 — B0334 Number of bacteria and time of co-incubation with bacteria required for the development of Acanthamoeba keratitis.** Hayate Nakagawa. ophthalmology, Tokyo Medical University, Tokyo, Japan
- 5783 — B0335 Mast cell activation protects cornea by promoting neutrophil infiltration via stimulating ICAM-1 and limbal vascular dilation and permeability in fungal keratitis.** Liya Wang^{1,2}, Y. Xie^{1,2}, H. Zhang^{1,2}, S. Liu^{1,2}, X. Dou^{1,2}, S. He^{1,2}, Z. Li^{1,2}. ¹Henan Eye Institute, Henan Eye Hospital, Zhengzhou, China; ²Henan Provincial People's hospital and People's Hospital of Zhengzhou University, Zhengzhou, China
- 5784 — B0336 The role of LOX-1 on innate immunity against Aspergillus keratitis in mice.** Qian Wang. University of Pittsburgh School of Medicine, Pittsburgh, PA; Affiliated Hospital of Qingdao University, Qingdao, China
- 5785 — B0337 LOX-1 regulates neutrophil apoptosis in A. fumigatus keratitis.** Guiqiu Zhao, J. Lin, C. Li, K. He. Ophthalmology, The Affiliated Hospital of Qingdao University, Qingdao, China
- 5786 — B0338 Temporal expression of genes involved in biofilm formation and virulence in antibiotic resistant Candida albicans isolated from patients with keratitis and cellulitis.** Shivaji Sisinthy, R. Konduri, S. Sharma. Jhaveri Microbiology Centre, L.V.Prasad Eye Institute, Hyderabad, India
- 5787 — B0339 Retinal Innate Response to Candida albicans in Exogenous Fungal Endophthalmitis.** Bruce G. Rottmann¹, P. Singh^{1,2}, A. Kumar^{1,2}. ¹Department of Anatomy and Cell Biology, Wayne State University School of Medicine, Detroit, MI; ²Department of Ophthalmology, Wayne State University School of Medicine, Detroit, MI

Exhibit/Poster Hall B0340-B0359

Thursday, May 11, 2017 11:30 AM-1:15 PM

Physiology/Pharmacology

542 Diabetic retinopathy

Moderator: Nicolas G. Bazan

5788 — B0340 Inhibition of VEGF receptor 2 but not of single downstream kinases is sufficient to prevent VEGF-A₁₆₅-induced biphasic weakening of the barrier formed by retinal endothelial cells. Heidrun L. Deissler, G. K. Lang, G. E. Lang. Department of Ophthalmology, Universitaetsklinikum Ulm, Ulm, Germany

5789 — B0341 Effects of zinc - acetylsalicylic acid complex on retinal inflammation of type 2 diabetic rats. Nil Celik¹, S. Korkmaz-Icoz², G. Szabo², G. Auffarth¹, J. Kopitz³. ¹Ophthalmology, University Hospital Heidelberg, Heidelberg, Germany; ²Department of Cardiac Surgery, Heidelberg, Germany; ³Department of Pathology, Heidelberg, Germany *CR

5790 — B0342 Effect of the oral administration of alpha-lipoic acid, B1 and B2 vitamins and rutoside on retinal sensitivity in patients with diabetes. Karolina Ciszewska¹, A. Swiech-Zubilewicz¹, J. Mackiewicz¹, M. K. Oseka³, A. Borsukiewicz². ¹Department of Retinal and Vitreous Surgery, Medical University of Lublin, Lublin, Poland; ²Verco S.A., Warsaw, Poland; ³Ofta Sp. z o.o., Warsaw, Poland *CR

5791 — B0343 Fluocinolone acetonide (FAc): Pharmacokinetics and clinical relevance. David Eichenbaum. Retina Vitreous Associates of Florida, St Petersburg, FL *CR

5792 — B0344 Transforming Growth Factor beta-Activated Kinase 1 (TAK1) is a novel target for retinal neovascularization. Jiang-Hui Wang^{1,2}, D. Ling^{2,3}, L. Tu⁴, M. Riaz^{1,2}, P. V. Wijngaarden^{1,2}, G. Dusting^{1,2}, G. Liu^{1,2}. ¹Ophthalmology, Department of Surgery, The University of Melbourne, Melbourne, VIC, Australia; ²Centre for Eye Research Australia, East Melbourne, VIC, Australia; ³Discipline of Ophthalmology, Sydney Medical School, University of Sydney, Sydney, NSW, Australia; ⁴Department of Ophthalmology, Jinan University, Guangzhou, China

5793 — B0345 Bezafibrate downregulates the retinal microvascular inflammation. Ayumi Usui, N. Ebihara. Ophthalmology, Juntendo University Urayasu Hospital, Urayasu, Jersey

5794 — B0346 Effect of tofogliflozin, a SGLT-2 inhibitor, on diabetic ocular complications in SDT rats. Akihiro Kakehashi¹, F. Toyoda¹, H. Hodaka², M. Kobayashi¹, R. Takagi¹, Y. Tanaka¹, M. Shimamura¹, H. Takano¹. ¹Ophthalmology, Saitama Med Ctr/Jichi Med Univ, Saitama, Japan; ²Endocrinology & Metabolism, Saitama Med Ctr/Jichi Med Univ, Saitama, Japan *CR

5795 — B0347 Topical administration of dipeptidyl peptidase IV (DPP-IV) inhibitors prevents retinal neurodegeneration in experimental diabetes. Cristina Hernández¹, P. Bogdanov², C. Solà-Adell¹, J. Sampedro¹, M. Valeri², O. Simó-Servat¹, R. Herance², R. Simó¹. ¹Diabetes and Metabolism Unit, Vall Hebron Research Institute. CIBERDEM, Barcelona, Spain; ²Vall d'Hebron Research Institute, Barcelona, Spain

5796 — B0348 The protective effects of a novel recombinant decoy receptor targeting both VEGF and EGF on retinas of diabetic rats. Xiaorong Li. Retina, Tianjin Medical University Eye Hospital, Tianjin, China *CR

5797 — B0349 Topical Administration Of Somatostatin And Brimonidine In The Early Stages Of Diabetic Retinopathy: Results Of The Eurocondor Study. *Rafael Simó¹, F. Bandello², C. A. Egan³, J. Garcia-Armi⁴, J. Gibson⁵, J. Grauslund⁷, S. P. Harding⁶, G. E. Lang⁸, P. Massin⁹, E. Midena¹⁰, P. Scanlon¹¹, B. Ponsati¹², M. Porta¹³, L. Ribeiro¹⁴, C. Hernández¹, J. G. Cunha-Vaz¹⁴.* ¹Diabetes and Metabolism Research Unit, Vall Hebron Research Institute. CIBERDEM, Barcelona, Spain; ²University Vita-Salute, Scientific Institute San Raffaele, Milano, Italy; ³Moorfields Eye Hospital NHS Foundation Trust, Institute of Ophthalmology/University College London, London, United Kingdom; ⁴Vall d'Hebron University Hospital, Barcelona, Spain; ⁵Aston University, Birmingham, United Kingdom; ⁶University of Liverpool, Liverpool, United Kingdom; ⁷University of Southern Denmark, Odense, Denmark; ⁸University of Ulm, Ulm, Germany; ⁹Lariboisière Hospital, Paris, France; ¹⁰University of Padova, Padova, Italy; ¹¹Gloucestershire Hospitals NHS Foundation Trust, Cheltenham, United Kingdom; ¹²BCN Peptides, Barcelona, Spain; ¹³University of Turin, Turin, Italy; ¹⁴Association for Innovation and Biomedical Research on Light and Image (AIBIL), Coimbra, Portugal *CR, ✗

5798 — B0350 The role insulin receptor-mediated signaling from the RPE in the development of retinal oxidative stress and inflammation in the STZ-induced mouse model of diabetes. *Matthew J. Tarchick^{1,2}, A. Cutler², B. Anand-Apte², I. S. Samuels^{1,2}.* ¹Research Service, Louis Stokes Cleveland VA Medical Center, Cleveland, OH; ²Ophthalmic Research, Cole Eye Institute, Cleveland Clinic, Cleveland, OH

5799 — B0351 Effect of the advanced non-retinoid RBP4 antagonist on vascular permeability in the mouse diabetic retinopathy model. *Boglarka Racz, K. Petrukhin.* Ophthalmology, Columbia University, New York, NY *CR

5800 — B0352 Acute and Chronic Hyperglycemia Enhance Constriction of Retinal Venules to Endothelin-1. *Yen-Lin Chen¹, W. Xu^{1,2}, L. Kuo^{1,2}, T. Hein^{1,2}.* ¹Departments of Medical Physiology and Surgery, Texas A&M University Health Science Center, Temple, TX; ²Department of Ophthalmology, Baylor Scott & White Health, Temple, TX

5801 — B0353 Drug discovery targeting HuR protein: small molecules to treat diabetic retinopathy. *Chiara B M Platania¹, V. Pittalà², A. Pascale³, F. Drago¹, C. Bucolo¹.* ¹Biomedical and Biotechnological Sciences, University of Catania, Catania, Italy; ²Department of Drug Sciences, University of Catania, Catania, Italy; ³Department of Drug Sciences, Section of Pharmacology, University of Pavia, Pavia, Italy

5802 — B0354 The Urokinase Receptor-Derived Peptide UPARANT as a novel therapy to recover high glucose-associated retinal damage in spontaneously diabetic Torii rats. *Stefania Marsili¹, M. Cammalleri¹, F. Locri¹, M. Dal Monte¹, D. Rusciano⁴, V. Pavone², M. De Rosa³, P. Bagnoli¹.* ¹Department of Biology, University of Pisa, Pisa, Italy; ²Department of Chemical Sciences, University of Naples “Federico II”, Naples, Italy; ³Department of Experimental Medicine, Second University of Naples, Naples, Italy; ⁴Bioos Italia srl, Montegiorgio, Italy *CR

5803 — B0355 Short-term effect on intraocular pressure after intravitreal aflibercept injection for diabetic macular edema. *Tariq S. Alshehri¹, A. A. Alshehri^{1,2}, A. Hassan¹.* ¹Ophthalmology, King Abdulaziz Medical City, Eastern Region, Saudi Arabia; ²University Of Dammam, Dammam, Saudi Arabia

5804 — B0356 Human Retinal Pericytes Protection: Role Of P2X7 receptor. *Claudio Bucolo, C. Platania, G. Giurdanella, F. Drago.* Biomedical and Biotechnological Sciences, University of Catania, Catania, Italy

5805 — B0357 Alpha-1-Antitrypsin Reduce Levels Of Tumor Necrosis Factor Alpha Both In Vitro And In Vivo Diabetes Models. *Juan E. Gallo^{1,2}, G. Ortiz², M. POTILINSKF, J. P. Salica^{1,2}, E. S. Lopez^{1,2}, E. Chuluyan^{3,4}.* ¹Ophthalmology, Hospital Universitario Austral, Pilar, Argentina; ²Instituto de Investigaciones en Medicina Traslacional, Universidad Austral, Pilar, Argentina; ³Pharmacology, Universidad de Buenos Aires, Buenos Aires, Argentina; ⁴CONICET, Buenos Aires, Argentina

5806 — B0358 MEDICARE study. Study design and time before recurrence of retinal neovascularization after anti-VEGF injections. *Quentin Dufour¹, E. Matamoros¹, M. Boissonnot¹, P. Ingrand¹, M. Saleh², N. Leveziel¹.* ¹Chu de Poitiers, Poitiers, France; ²CHU de Besançon, Besançon, France *CR, ✗

5807 — B0359 Analysis of Vitreous Biomarkers in Proliferative Diabetic Retinopathy and Macular Edema. *Namrata Nandakumar¹, F. J. Lopez², G. C. Teague¹, K. Lashkari¹.* ¹Ophthalmology, Massachusetts Eye and Ear Infirmary/ Schepens, Brookline, MA; ²Allergan, Irvine, CA

Exhibit/Poster Hall B0360-B0394

Thursday, May 11, 2017 11:30 AM-1:15 PM

Glaucoma

543 Structure-Function Relationships II

Moderators: Allison M. McKendrick and Koenraad A. Vermeer

5808 — B0360 Structure - Function Relationship In Glaucoma Using Enhanced Depth Imaging Optical Coherence Tomography-Derived Parameters. *Izabela Frota de Almeida^{1,2}, F. S. Lopes¹, D. T. Dias¹, M. Ushida², B. de Padua Soares Bezerra³, I. Matsubara³, F. N. Kanadani⁴, S. K. Dorairaj⁵, A. Paranhos Jr.¹, T. S. Prata^{1,2}.* ¹Ophthalmology, Federal University of São Paulo, Sao Paulo, Brazil; ²Glaucoma, Hospital Medicina dos Olhos, Osasco, Brazil; ³Royal Victorian Eye and Ear Hospital, Melbourne, VIC, Australia; ⁴Eye's Institute of Medical Science, Belo Horizonte, Brazil; ⁵Department of Ophthalmology, Mayo Clinic, Jacksonville, FL

5809 — B0361 Correlation of Bruch's Membrane Opening-Minimum Rim Width (BMO-MRW) and Visual Function Loss in Glaucoma Using Broken Stick Model. *Keunheung Park, J. Lee.* Ophthalmology, Pusan National University Hospital, Busan, Korea (the Republic of)

5810 — B0362 Comparison of reproducibility in glaucoma severity staging by structural measurement and functional test. *Daisuke Shiba, E. Hirano, S. Adachi, K. Yuki, K. Tsubota.* Ophthalmology, Keio University, Shinjuku-ku, Japan

5811 — B0363 The relationship between contrast sensitivity and retinal nerve fiber layer thickness in patients with glaucoma. *Sarah Amanullah¹, J. Okudolo¹, M. Waisbourd², K. Rahmatnejad³, S. Lin², S. S. Wizov², R. Manzi², T. Zhan^{2,3}, C. X. Zheng², J. S. Myers^{2,4}, S. S. Fudemberg^{2,4}, A. Mantravadi^{2,4}, L. Katz^{2,4}, M. Moster^{2,4}, M. Pro^{2,4}, G. L. Spaeth².* ¹Sidney Kimmel Medical College, Philadelphia, PA; ²Glaucoma Research, Wills Eye Hospital, Philadelphia, PA; ³Biostatistics, Thomas Jefferson University, Philadelphia, PA; ⁴Ophthalmology, Thomas Jefferson University, Philadelphia, PA *CR

5812 — B0364 High Resolution Mapping of Standard Automated Perimetry to Peripapillary Retinal Nerve Fiber Layer According to Refractive Status. *Seung Woo Hong, Y. Hwang, W. Park, S. Park.* Ophthalmology, The Catholic University of Korea, Seoul, Korea (the Republic of)

- 5813 — B0365 Glaucoma structure-function modeling improves by combining retinal nerve fiber layer thickness (RNFLT) with neuro-retinal rim thickness (NRRT) measurements.** Hui Wang^{1,2}, N. Baniyadi^{2,3}, Q. Jin⁴, M. Wang², L. Q. Shen³, L. R. Pasquale⁵, T. Elze². ¹Institute for Psychology and Behavior, Jilin University of Finance and Economics, Changchun, China; ²Schepens Eye Research Institute, Harvard Medical School, Boston, MA; ³University of Massachusetts, Lowell, MA; ⁴Jilin University, Changchun, China; ⁵Mass. Eye and Ear, Harvard Medical School, Boston, MA *CR
- 5814 — B0366 Correlation between structure and function each cluster of test points within the central 10 degrees in glaucoma.** Yuta Sakaue, T. Togano, A. Suetake, R. Iikawa, R. Igarashi, S. Ochiai, T. Fukuchi. Division of Ophthalmology, and Visual Science, Niigata University Graduate School of Medical and Dental Sciences, Niigata, Japan
- 5815 — B0367 Comparison between 24-2 and 10-2 visual fields and optical coherence tomography measurements in open-angle glaucoma.** Chiara Ancona, P. Cirafici, S. Telani, A. Masala, C. E. Traverso, M. M. Iester. DiNOGMI, University Eye Clinic Genoa, Genoa, Italy
- 5816 — B0368 Sectorial structural/function correlation of OCT in 10-2 and 24-2 visual fields.** Paola Cirafici, C. Ancona, A. Masala, S. Telani, C. E. Traverso, M. M. Iester. DiNOGMI, University Eye Clinic Genoa, Genoa, Italy
- 5817 — B0369 Structure-Function Relationships in Patients of African vs. European Descent with Established or Suspected Glaucoma.** Nima Fatehi, S. Henry, E. Morales, J. Caprioli, K. Nouri-Mahdavi. Glaucoma, Jules Stein Eye Institute UCLA, Los Angeles, CA *CR
- 5818 — B0370 Structure-function relationship in glaucoma using NIDEK spectral domain optical coherence tomography in Hispanic population.** Jeanneth Toquica^{1,3}, F. F. Gomez Goyeneche^{2,1}, M. Velandia^{3,1}, D. Sarmiento⁴, G. Ardila¹. ¹Universidad Militar Nueva Granada, Bogota, Colombia; ²Diagnostico ocular del Country, Bogota, Colombia; ³Ophthalmology, Hospital Militar Central, Bogota, Colombia; ⁴Pontificia Universidad Javeriana, Bogotá, Colombia
- 5819 — B0371 Factors affecting ISNT rule satisfaction in normal and glaucomatous eyes.** Ja Yoon Moon¹, K. Park¹, D. Kim¹, S. Kim². ¹Ophthalmology, Seoul National University Hospital, Seoul, Korea (the Republic of); ²Ophthalmology, Seoul Municipal Government-Seoul National University Boramae Medical Center, Seoul, Korea (the Republic of)
- 5820 — B0372 Does the raphe-fovea-disc angle contribute to the basis of the ISNT rule?** Katherine Tsang¹, L. Shi^{2,1}, R. Rajshekhar¹, B. Fortune³, J. Reynaud³, D. Hood^{1,2}. ¹Psychology, Columbia University, New York, NY; ²Ophthalmology, Columbia University, New York, NY; ³Devers Eye Institute, Portland, OR *CR
- 5821 — B0373 Glaucoma-related macular damage as measured by OCT and vision-related quality of life.** alisa prager, D. Hood, J. M. Liebmann, C. De Moraes, L. Al-Aswad, Q. Yu, G. A. Cioffi, D. Blumberg. Columbia University, New York, NY *CR
- 5822 — B0374 Deep defects seen on visual fields spatially correspond well to loss of retinal nerve layer seen on OCT circle scans.** Maria A. Mavrommatis¹, S. Naegel¹, J. Nunez¹, G. Moraes², R. Ritch³, D. Hood¹. ¹Psychology, Columbia University Visual Science Lab, New York, NY; ²Ophthalmology, Columbia University, New York, NY; ³Ophthalmology, New York Eye and Ear Infirmary, New York, NY *CR
- 5823 — B0375 A test of alternative models of early widespread glaucomatous damage.** Rashmi Rajshekhar¹, L. Shi^{2,1}, R. Ritch³, D. Hood^{1,2}. ¹Psychology, Columbia University, New York, NY; ²Ophthalmology, Columbia University College of Physicians and Surgeons, New York, NY; ³Ophthalmology, New York Eye and Ear Infirmary, New York, NY *CR
- 5824 — B0376 Systems for staging glaucoma based upon 24-2 visual fields have a fundamental flaw.** Ashley Sun¹, C. De Moraes², R. Jarukasetphon³, R. Rajshekhar¹, L. Shi^{2,1}, D. Blumberg², J. M. Liebmann², R. Ritch³, D. Hood^{2,1}. ¹Psychology, Columbia University, New York, NY; ²Ophthalmology, Columbia University, New York, NY; ³Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY *CR
- 5825 — B0377 Measurement and Associations of the Optic Nerve Subarachnoid Space in Normal Tension and Primary Open Angle Glaucoma.** hanruo liu, T. Ma, W. Shi, D. Yang, N. Wang. Beijing Tongren Hospital, Beijing, China
- 5826 — B0378 Prospective Comparison of Global and Cluster Visual Field Progression Criteria in Glaucoma and Their Relationship to Structural Changes.** Eduardo M. Normando^{2,1}, V. Bono², B. Davis¹, M. Cordeiro^{2,1}. ¹Visual Neuroscience, UCL Institute of Ophthalmology, London, United Kingdom; ²ICORG, Western Eye Hospital, Imperial College Healthcare NHS Trust, London, United Kingdom
- 5827 — B0379 How glaucoma shapes fixation: structure-function analysis using COMPASS fundus perimeter and SD-OCT.** Giovanni Montesano, P. Fogagnolo, M. Digiuni, L. M. Rossetti. Università degli Studi di Milano, Milano, Italy, Milano, Italy *CR
- 5828 — B0380 Optical Coherence Tomography analysis based prediction of Humphrey 24-2 visual field thresholds in patients with glaucoma.** zhihui guo¹, Y. H. Kwon^{2,3}, K. Lee⁴, K. Wang⁵, C. A. Johnson², M. K. Garvin^{4,6}, M. Sonka^{2,4}, M. D. Abramoff^{2,3}. ¹Biomedical Engineering, University of Iowa, Iowa City, IA; ²Ophthalmology and Visual Sciences, University of Iowa, Iowa City, IA; ³Stephen A. Wynn Institute for Vision Research, University of Iowa, Iowa City, IA; ⁴Electrical and Computer Engineering, University of Iowa, Iowa City, IA; ⁵Biostatistics, University of Iowa, Iowa City, IA; ⁶Iowa City VA Health Care System, Iowa City, IA *CR
- 5829 — B0381 Comparison of macular retinal vessel density under the functional and/or structural abnormal conditions in primary open-angle glaucoma (POAG) patients.** Kojiro Imai^{3,1}, K. Mori¹, Y. Ikeda^{2,1}, M. Ueno¹, Y. Maruyama¹, Y. Yamamoto¹, S. Kinoshita⁴, C. Sotozono¹. ¹Ophthalmology, Kyoto Prefectural Univ of Med, Kyoto, Japan; ²Oike-Ikeda Eye Clinic, Kyoto, Japan; ³MITMS, Kyoto Prefec. Univ. of Med., Kyoto, Japan; ⁴Frontier Medical Science and Technology for Ophthalmology, Kyoto Prefec. Univ. of Med., Kyoto, Japan
- 5830 — B0382 Vessel Density is Associated with Visual Field Damage in Advanced Glaucoma Eyes.** Adeleh Yarmohammadi¹, L. M. Zangwill¹, L. J. Saunders¹, A. Diniz-Filho^{1,2}, M. Suh^{1,3}, P. C. Manalastas¹, A. Belghith¹, T. Akagi^{1,4}, T. Shoji^{1,5}, R. C. Pentead¹, F. Medeiros¹, R. N. Weinreb¹. ¹Ophthalmology, Hamilton Glaucoma Center, Shiley Eye Institute, San Diego, CA; ²Ophthalmology and Otorhinolaryngology, Federal University of Minas Gerais, Belo Horizonte, Brazil; ³Ophthalmology, Haeundae Paik Hospital, Inje University, College of Medicine, Busan, Korea (the Republic of); ⁴Ophthalmology and Visual Sciences, Kyoto University Graduate School of Medicine, Kyoto, Japan; ⁵Ophthalmology, Saitama Medical University, Iruma, Japan *CR, ✗
- 5831 — B0383 Structure-function relationship in glaucoma assessed with the multifocal Photopic Negative Response (mfPbNR).** Nabin Joshi¹, D. Hood², M. W. Dul¹, S. Viswanathan¹. ¹Vision Science/Physiological Optics, SUNY College of Optometry, New York, NY; ²Columbia University, New York, NY
- 5832 — B0384 An evaluation of the RETICS Glaucoma Diagnostic Calculator to detect Pre-Perimetric Glaucoma.** Indira Aristeguieta osio¹, A. Garcia-Nieva², B. Alfonso-Bartolozzi², A. Morilla-Grasa¹, A. Anton-Lopez^{1,3}, J. Moreno-Montanes². ¹Institut Catala De Retina, Barcelona, Spain; ²Ophthalmology, University of Navarra, Pamplona, Spain; ³Universitat Internacional de Catalunya, Barcelona, Spain
- 5833 — B0385 Glaucomatous Progression In Glaucoma Suspect Eyes.** Satyesh Rana, J. Guest, D. St. Aubin, C. Kim, J. Tannir, A. Shukairy, M. S. Juzych, B. A. Hughes, N. Nassiri, A. Goyal. Ophthalmology, Kresge Eye Institute - Wayne State University, Royal Oak, MI

5834 — B0386 Understanding the relationship between longitudinal series of structural and functional measurements by time series analysis. Fang-I Chu, L. Racette. Ophthalmology, Glick Eye Institute, Indiana University SOM, Indianapolis, IN

5835 — B0387 Signal-to-Noise Ratio for Detection of Glaucoma Progression Using a Combined Index of Structure and Function. Alberto Diniz-Filho^{1,2}, F. B. Daga¹, L. M. Zangwill¹, N. G. Ogata¹, R. N. Weinreb¹, F. Medeiros¹. ¹Hamilton Glaucoma Center, Shiley Eye Institute, Department of Ophthalmology, University of California, San Diego, La Jolla, CA; ²Department of Ophthalmology and Otorhinolaryngology, Federal University of Minas Gerais, Belo Horizonte, Brazil

5836 — B0388 Repeatability and Reproducibility of a Combined OCT Structural Index. Sophia Yu¹, G. C. Lee¹, J. L. Warren², J. Mwanza³, M. K. Durbin¹, T. Callan¹, D. L. Budenz³. ¹R&D, Carl Zeiss Meditec, Inc., Dublin, CA; ²Yale University, New Haven, CT; ³University of North Carolina, Chapel Hill, NC *CR

5837 — B0389 Specificity and sensitivity of optical coherence tomography (OCT) parameters to detect glaucomatous visual field progression. SUSY C. PACHON, G. R. Gameiro, G. Wollstein, G. Triolo, J. Mwanza, D. Budenz, L. Vazquez, J. Schuman. Glaucoma, Bascom Palmer Eye Institute, Miami, FL

5838 — B0390 Baseline intraocular pressure is more strongly correlated with changes in optic nerve head and retinal structural parameters in open angle glaucoma patients of African descent after 4 years. Josh C. Gross¹, A. Harris¹, B. A. Siesky¹, N. Kim¹, T. Knight¹, A. Belamkar¹, G. Eckert¹, N. Geffen², A. Verticchio Vercellin³. ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²Department of Ophthalmology, Tel-Aviv University, Kfar-Saba, Israel; ³University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy; ⁴Biostatistics, Indiana University, Indianapolis, IN *CR

5839 — B0391 Open-angle glaucoma patients of African descent have more functional progression after 4 years compared to European descent patients while demonstrating similar structural progression. Priyanka Kanakamedala¹, A. Harris¹, B. A. Siesky¹, A. Verticchio Vercellin², T. Knight¹, A. Shah¹, C. P. Jonescu-Cuyper⁴, N. Geffen³, J. C. Gross¹. ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy; ³Department of Ophthalmology, Tel-Aviv University, Kfar-Saba, Israel; ⁴Neurosciences Cliniques, Ophthalmology, Hôpitaux Universitaires de Genève, Genève, Switzerland *CR

5840 — B0392 Baseline structural parameters are predictive of shorter time to functional progression in open angle glaucoma patients after 5 years. Mary Runkle¹, A. Harris¹, A. Verticchio Vercellin², J. C. Gross¹, C. Ridenour¹, I. Januleviciene³, D. WuDunn¹, B. A. Siesky¹.

¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy; ³Ophthalmology, Lithuanian University of Health Sciences, Kaunas, Lithuania *CR

5841 — B0393 Baseline intraocular pressure more strongly correlates with decreased visual function in open angle glaucoma patients with diabetes mellitus over 4 years. Katherine Hutchins¹, A. Harris¹, A. Verticchio Vercellin², J. C. Gross¹, C. Ridenour¹, I. Januleviciene³, J. Geng¹, B. A. Siesky¹. ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy; ³Ophthalmology, Lithuanian University of Health Sciences, Kaunas, Lithuania *CR

5842 — B0394 Changes in visual function are more strongly correlated with changes in optic nerve head morphology in open angle glaucoma patients with diabetes mellitus over 4 years. Nathaniel Kim¹, A. Harris¹, A. Verticchio Vercellin², J. C. Gross¹, C. Ridenour¹, A. Belamkar¹, D. WuDunn¹, B. A. Siesky¹. ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²University Eye Clinic, IRCCS Policlinico San Matteo, Pavia, Italy *CR

Exhibit/Poster Hall B0395-B0408

Thursday, May 11, 2017 11:30 AM-1:15 PM

Glaucoma

544 Electrophysiology

Moderators: Suresh Viswanathan and Mary A. Johnson

5843 — B0395 Objective Assessment of the Contrast Sensitivity Function using the nGoggle. Yute Wang^{1,2}, M. Nakanishi^{1,2}, F. B. Daga¹, N. G. Ogata¹, J. Zao³, T. Jung², F. Medeiros¹. ¹Visual Performance Laboratory, University of California San Diego, La Jolla, CA; ²Swartz Center for Computational Neuroscience, University of California San Diego, La Jolla, CA; ³Computer Science, National Chiao Tung University, Hsinchu, Taiwan *CR

5844 — B0396 Two Novel Electrophysiological Diagnostic Tests for Detection of Reversal of Retinal Ganglion Cell Dysfunction in Ocular Hypertension Patients. Dilru Amarasekera², A. RESENDE¹, M. Waisbourd¹, L. A. Hark¹, L. Katz¹, A. V. Mantravadi¹. ¹Glaucoma Research, Wills Eye Hospital, Exton, PA; ²Sidney Kimmel Medical College, Philadelphia, PA

5845 — B0397 Applications of Isolated-check Visual Evoked Potential in Early -Stage of Open-angle Glaucoma Patients. Xiang Fan, L. Wu. Department of Ophthalmology, Peking University Third Hospital, Beijing, China

5846 — B0398 Inverse Relationship between Hc & Lc VEP Latency in Paired Glaucomatous Eyes. Susan L. Johnson¹, W. E. Sponsel¹, R. Trevino¹, C. Majcher¹, M. A. Reilly². ¹Rosenberg School of Optometry, University of the Incarnate Word, San Antonio, TX; ²Biomedical Engineering, The Ohio State University, Columbus, OH *CR

5847 — B0399 Binocular inverse correlation of low- vs. high-contrast VEP latency in glaucoma shows association with pericentral vs. midperipheral visual field loss. Sylvia L. Groth¹, W. E. Sponsel^{3,4}, M. A. Reilly², S. L. Johnson³, R. Trevino³, C. Majcher³. ¹Ophthalmology, University of North Carolina, Chapel Hill, Chapel Hill, NC; ²Biomedical Engineering, Ohio State University, Columbus, OH; ³Rosenberg School of Optometry, University of the Incarnate Word, San Antonio, TX; ⁴Biomedical Engineering, University of Texas, San Antonio, San Antonio, TX *CR

5848 — B0400 Visual Evoked Potential and Pattern ERG correlation to Central Corneal Thickness and Intraocular Pressure. Annie Liu¹, P. H. Derr², A. Gonzalez-Garcia², R. Ritch^{1,2}. ¹Einhorn Clinical Research Center, New York Eye and Ear Infirmary of Mount Sinai, New York, NY; ²Diopsys Inc., Pine Brook, NJ *CR

5849 — B0401 Improved VEP and visual fields following panmacular subthreshold diode micropulse laser (SDM) in open angle glaucoma. Jeffrey K K. Luttrull¹, B. J. Lum², D. Kent³, J. R. Samples⁴. ¹Retina, Ventura County Retina Vitreous Medical Group, Ventura, CA; ²Glaucoma, Ventura Ophthalmology, Ventura, CA; ³Retina, The Eye Clinic, Kilkenny, Ireland; ⁴Glaucoma, The Eye Clinic PC, Portland, OR

5850 — B0402 Macular changes in multifocal photopic negative response (mfPhNR) and visual field sensitivity in glaucoma patients. Emily Freeman, N. Joshi, M. W. Dul, S. Viswanathan. SUNY College of Optometry, New York, NY

5851 — B0403 Positive Correlation of High- and Low-Contrast ERG in Glaucoma Patients with Negative Correlation of High- and Low-Contrast VEP Latency. Rick Trevino¹, W. E. Sponsel^{1,2}, S. L. Johnson¹, M. A. Reilly³, C. Majcher¹. ¹Rosenberg School of Optometry, University of the Incarnate Word, San Antonio, TX; ²Biomedical Engineering, University of Texas at San Antonio, San Antonio, TX; ³Biomedical Engineering, Ohio State University, Columbus, OH *CR

5852 — B0404 Neuro-Vascular changes associated with the Water Drinking Stress Test. Gustavo R. Gameiro, P. Monsalve, V. Porciatti. Ophthalmology, Bascom Palmer Eye Institute, São Paulo, Brazil

5853 — B0405 Agreement between early PERG changes and expert OCT evaluations in identifying high risk glaucoma suspects. Pedro Monsalve, G. R. Gameiro, G. Triolo, J. J. McSoley, K. M. Cavuoto, W. J. Feuer, L. E. Vazquez, V. Porciatti. Ophthalmology, Bascom Palmer, Miami, FL ✂

5854 — B0406 Glaucomatous retinal dysfunction and optic nerve phenotype in microfibril deficient mice. Hang Jing Wu, G. Naratadam, R. Hazelwood, A. Nashabi, J. Kuchtey, R. W. Kuchtey. Vanderbilt Eye Institute, Nashville, TN

5855 — B0407 Inducible retinal ganglion cell plasticity in DBA/2J mice. Tsung-Han Chou, G. R. Musada, G. L. Romano, V. Porciatti. Bascom Palmer Eye Inst, Univ of Miami, Miller Sch of Med, Miami, FL

5856 — B0408 Chronic, mild intraocular pressure elevation impacts contrast sensitivity of retinal ganglion cells in mice. Xiaofeng Tao, J. Sabharwal, S. M. Wu, B. J. Frankfort. Baylor College of Medicine, Houston, TX

Exhibit/Poster Hall B0449-B0478

Thursday, May 11, 2017 11:30 AM-1:15 PM

Visual Neuroscience

545 Visual Disease Models and Restoration

Moderators: Sarah X. Zhang and John R. Hetling

5857 — B0449 Light adaptation is impaired at the ganglion cell level after six weeks of diabetes. Michael Flood¹, E. D. Eggers². ¹Physiological Sciences, University of Arizona, Tucson, AZ; ²Physiology, University of Arizona, Tucson, AZ

5858 — B0450 Examining the relationship between cone density and Vernier acuity in human albinism. Erica N. Woertz¹, M. A. Wilk², J. Carroll³, E. A. DeYoe⁴. ¹Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin, Milwaukee, WI; ²HudsonAlpha Institute for Biotechnology, Huntsville, AL; ³Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI; ⁴Radiology, Medical College of Wisconsin, Milwaukee, WI

5859 — B0451 Blue light decreases VEGF in an *in vitro* model of AMD. Melanie Marie¹, P. Gondouin¹, C. Barrau², T. Villette², D. Cohen-Tannoudji², J. A. Sahel¹, S. A. Picaud¹. ¹Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, 17 rue Moreau, 75012 Paris, France, PARIS, France; ²Essilor International, Charenton-le-Pont, France *CR

5860 — B0452 Loss of Xbp1 in retinal cells accelerates age-related deterioration in the mouse visual system. Todd McLaughlin^{1,2}, J. J. Wang^{1,2}, S. X. Zhang^{1,2}. ¹Ophthalmology and Ross Eye Institute, SUNY at Buffalo, East Amherst, NY; ²SUNY Eye Institute, Buffalo, NY

5861 — B0453 Age-related beta-Synuclein alters the p53/MDM-2 pathway and induce apoptosis within Brain-Microvascular Endothelial Cells *in-vitro*. Michael Böhm^{1,2}, K. Brockhaus², H. Melkonyan², K. Steuhl¹, S. Thanos². ¹Department of Ophthalmology, Essen University Hospital, Essen, Germany; ²Institute for Experimental Ophthalmology, School of Medicine, Westfalian Wilhelms-University Muenster, Muenster, Germany *CR

5862 — B0454 Can the retina be used as a reliable mirror to evaluate changes occurring in the Alzheimer's brain? António F. Ambrósio^{1,2}, S. Chiquita^{1,2}, C. Neves^{1,2}, R. Carecho^{1,2}, F. Baptista^{1,2}, E. Campos^{1,2}, P. Moreira^{2,3}. ¹Institute for Biomedical Imaging and Life Sciences (IBILI), Faculty of Medicine, University of Coimbra, Portugal, Coimbra, Portugal; ²CNC. IBILI Consortium, Coimbra, Portugal; ³Center for Neuroscience and Cell Biology, University of Coimbra, Coimbra, Portugal

5863 — B0455 Multimodal investigation in a pediatric population affected by retinal disorders. Lucia Ziccardi¹, D. Giannini², G. Lombardo³, S. serra², P. Esposito Veneruso⁴, A. Magli², V. Parisi¹, M. Bertelli⁶, M. Lombardo². ¹Neurophthalmology Unit, Bietti Eye Foundation IRCCS, Rome, Italy; ²Fondazione Bietti, Rome, Italy; ³CNR-IPCF, Messina, Italy; ⁴GI.MA Eyecare Center, Naples, Italy; ⁵Ophthalmology, University of Salerno, Salerno, Italy; ⁶MAGI's Lab, Rovereto, Italy

5864 — B0456 Light-evoked properties of compound action potentials of the rat optic nerve. Sarah Davis, C. L. Passaglia. Biomedical Engineering, University of South Florida, Tampa, FL

5865 — B0457 Functional And Genetic Findings In Patients Affected By Joubert Syndrome: Retinal Dystrophy Is Connected With Definite Causative Genes. Caterina Toma¹, G. Ruberto², E. M. Valente^{3,4}, S. Signorini², C. Bertone², M. Antonini², P. Bianchi¹. ¹Department of Ophthalmology, IRCCS Policlinico S.Matteo, University of Pavia, Pavia, Italy; ²Department of Ophthalmology, IRCCS Policlinico S.Matteo, Pavia, Italy; ³Department of Medicine and Surgery, Section of Neurosciences, University of Salerno, Salerno, Italy; ⁴Neurogenetics Unit, IRCCS Santa Lucia Foundation, Rome, Italy; ⁵Unit of Child Neurology and Psychiatry, Centre of Child Neuro-ophthalmology, C. Mondino National Neurological Institute, Pavia, Italy

5866 — B0458 Novel Method to Assess the Function of Neurons and Glia Reveals Signal Transmission Potentiation during Rod Degeneration in Retinitis Pigmentosa Model. Frans Vinberg. Ophthalmology and Visual Sciences, Washington University in St. Louis, St Louis, MO

5867 — B0459 A pro-diabetic diet triggers early functional and structural changes in the rat retina. Elisa Vidal^{1,2}, E. Lalarme³, L. Decocq³, M. Maire¹, J. Lherminier⁴, M. Thierry², A. M. Bron⁵, C. P. Creuzot Garcher⁵, N. Acar¹, L. Bretillon¹. ¹INRA-CNRS-Univ Bourgogne Franche-Comte, Eye & Nutrition Research Group, Dijon, France; ²Horus Pharma laboratories, Saint Laurent du Var, France; ³Animalerie Experimentale, CSGA, UMR1324 INRA, 6265 CNRS, University of Burgundy Franche-Comté, Dijon, France; ⁴Dimacell - Cell Imaging Platform Cell Imaging Platform, INRA, University of Burgundy Franche-Comté, Dijon, France; ⁵Department of Ophthalmology, University Hospital, Dijon, France *CR

5868 — B0460 Visual function following Nitisinone treatment in a mouse model of OCA-1B (Tyr^{c^{hi}c^h}). Ighovie F. Onojafe^{1,3}, F. Kretschmer², J. Kim², K. Miyagishima¹, C. Zhang¹, H. Qian², T. C. Badaea², B. P. Brooks¹. ¹OGVFB, NIH/NEI, Clinton, MD; ²NNR-L, NEI/NIH, Bethesda, MD; ³POS, Priority One Services, Alexandria, VA

5869 — B0461 Visual Motor Response of a Transgenic Retinitis Pigmentosa Zebrafish Model. Logan Ganzen^{1,2}, C. Pang³, M. Zhang⁴, M. Tsujikawa⁵, Y. Leung^{2,6}. ¹Purdue University Interdisciplinary Life Sciences Program, Purdue University, West Lafayette, IN; ²Department of Biological Sciences, Purdue University, West Lafayette, IN; ³Department of Ophthalmology and Visual Sciences, Chinese University of Hong Kong, Kowloon, Hong Kong; ⁴Joint Shantou Eye Center, Shantou University & the Chinese University of Hong Kong, Shantou, China; ⁵Department of Ophthalmology, Osaka University Graduate School of Medicine, Osaka, Japan; ⁶Purdue Institute for Integrative Neuroscience, Purdue University, West Lafayette, IN

5870 — B0462 Taurine deficiency induces retinal inflammation. Wahiba Hadj Said¹, É. Dubus¹, S. Fouquet¹, S. Sanglier¹, D. Garcia-Ayuso², M. P. Villegas-Perez², J. A. Sahel^{1,3}, S. A. Picaud¹. ¹Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ²Departamento de Oftalmología, Facultad de Medicina, Universidad de Murcia, Murcia, Spain and Instituto Murciano de Investigación Biosanitaria- Hospital Virgen de la Arrixaca (IMIB-Arrixaca), Murcia, Spain; ³CHNO des Quinze-Vingts, DHU Sight Restore, INSERM-DHOS CIC, Paris, France

5871 — B0463 Nonlinear Mixed Effects Modeling of Electroretinography (ERG) b-wave Latency for Whole Eye Transplantation. *Richard A. Bilonick^{1,2}, V. L. Fu^{1,3}, L. He^{4,5}, C. Komatsu⁴, M. R. Miller⁴, I. Rosner⁴, W. Chen⁴, J. Noorikolouri^{1,4}, K. M. Washington^{4,6}.* ¹Ophthalmology, University of Pittsburgh School of Medicine, Pittsburgh, PA; ²Biostatistics, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA; ³Children's Hospital of Pittsburgh, Pittsburgh, PA; ⁴Plastic Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA; ⁵Plastic, Aesthetic and Craniofacial Surgery, First Affiliated Hospital of Xi'an Jiaotong University, Xi'an, China; ⁶Veterans Administration Pittsburgh Healthcare System, Pittsburgh, PA

5872 — B0464 Development of an acoustic-driven model of traumatic brain injury (TBI) in order to measure changes in the zebrafish retina and central visual pathways. *Salvatore L. Stella¹, D. McDevitt¹, L. Sommer², Y. Kim², M. Stahl^{2,1}.* ¹Neural and Behavioral Sciences, Penn State University College of Medicine, Hershey, PA; ²Neurology, Penn State University College of Medicine, Hershey, PA

5873 — B0465 Modeling the dynamics of light-driven microbial opsin ChrimsonR. *Quentin Sabatier^{3,1}, G. Gauvain³, C. Joffrois³, P. M. Daye^{2,4}, J. Chavas¹, J. Sahel³, D. Pruneau¹, S. A. Picaud³, R. Benosman².* ¹GenSight Biologics, Paris, France; ²Institut de la Vision, UPMC, Paris, France; ³Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ⁴StreetLab, Paris, France *CR

5874 — B0466 Effect of Hemiretinal Endodiathermy Axotomy (HEA) and Experimental Glaucoma (EG) on the Multifocal Electroretinographic (mfERG) Early Waveforms in Rhesus Macaques. *T. Michael Nork, C. B. Kim, A. W. Katz, C. A. Rasmussen, J. N. Ver Hoeve.* Ophthal & Visual Sciences, Univ of Wisconsin-Madison, Madison, WI

5875 — B0467 Pattern electroretinogram responses from the far-peripheral retina (ring and sector stimuli) in healthy eyes and in eyes with glaucoma. *Shrestha Patangay¹, J. C. Park², E. Ghahari², J. McAnany^{2,1}, T. S. Vajaranant², J. R. Helling^{1,2}.* ¹Bio-Engineering, University of Illinois at Chicago, Chicago, IL; ²Ophthalmology & Visual Sciences, University of Illinois at Chicago, Chicago, IL

5876 — B0468 Long term progression of retinal and cerebral deficits in the Goto-Kakizaki rat model of Type II diabetes. *Rachael S. Allen¹, A. Feola², C. T. Motz¹, A. Ottensmeyer¹, P. M. Thule^{3,1}, T. S. Kern¹, M. T. Pardue^{1,2}.* ¹Center for Visual and Neurocognitive Rehabilitation, Atlanta VA Medical Center, Decatur, GA; ²Department of Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA; ³Section Endocrinology and Metabolism, Emory University School of Medicine, Atlanta, GA; ⁴Department of Pharmacology, Case Western Reserve University, Cleveland, GA

5877 — B0469 Decreased expression of PKCα in retinal rod bipolar cell in an NMDA induced glaucoma model. *Yin Shen.* Eye Center, Wuhan University, Wuhan, China

5878 — B0470 Ion Channel Properties of Cells Expressing Two Different Types of Channelrhodopsin Genes. *Hiroshi Tomita^{1,2}, E. Sugano¹, K. Tabata¹, Y. Watanabe¹, T. Ozaki¹, M. Tamai¹.* ¹Chemistry and Biological Sciences, Iwate University, Morioka, Japan; ²Clinical Research, Innovation and Education Center, Tohoku University Hospital, Sendai, Japan *CR

5879 — B0471 The Influence of Dark and Light Adaptation on Phosphene Thresholds Elicited with DTL Electrodes. *renan R. memória, S. José Galdino Souza, R. Jorge, A. Messias.* Ophthalmology, FMRP-USP, Ribeirão Preto, Brazil

5880 — B0472 Mouse Retina after Kcnj13 Inhibition by RNAi is a Model for LCA and SVD. *Bikash R. Pattnaik^{1,2}, P. K. Shahi^{1,2}, B. Aul¹, A. Pattnaik¹, Y. Chang¹, D. M. Pillers^{1,2}.* ¹Pediatrics, Univ of Wisconsin, Madison, WI; ²McPherson Eye Research Institute, University of Wisconsin, Madison, WI

5881 — B0473 Microperimetry as a Screening Test for Hydroxychloroquine Toxicity. *Naheed W. Khan, H. Alghanem, L. M. Niziol, D. Musch, T. Jayasundera.* Ophthalmology and Visual Science, Kellogg Eye Center, University of Michigan, Ann Arbor, MI

5882 — B0474 Comparison of Macular Thickness in Diabetic Patients Without Retinopathy with Non-Diabetic Patients. *Diana Rodriguez, L. Wu.* Asociados de Macula, Vitreo y Retina de Costa Rica, San Jose, Costa Rica *CR

5883 — B0475 Visual acuity and optical flow in primate retinal ganglion cells treated with an optogenetic vision restoration strategy using ChrimsonR. *Himanshu Akolkar², G. Gauvain³, R. Caplette³, D. Dalkara⁴, C. Jaillard⁴, J. A. Sahel⁴, D. Pruneau¹, S. A. Picaud³, R. Benosman².* ¹GenSight Biologics, Paris, France; ²Vision and Natural Computation Lab, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ³Visual Information Processing, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Institut de la Vision, Paris, France; ⁴Institut de la Vision, Sorbonne Universités, UPMC Univ Paris 06, INSERM, CNRS, Paris, France *CR

5884 — B0476 A neuroprotective effect of HIF inhibitor topotecan in a murine model of retinal ganglion cell degeneration. *Hirimitsu Kunimi^{1,2}, Y. Miwa^{1,2}, Y. Katada^{1,2}, K. Tsubota¹, T. Kurihara^{1,2}.* ¹Department of Ophthalmology, Keio University School of Medicine, Tokyo, Japan; ²Laboratory of Photobiology, Keio University School of Medicine, Tokyo, Japan

5885 — B0477 Characteristics of patients with post-geniculate pathology and homonymous ganglion cell layer thinning. *Morgan Godin, M. El-Dairi.* Ophthalmology, Duke University, Durham, NC

5886 — B0478 Initial Proof-of-Concept of Photoacoustic Neural Stimulation; A Potential Approach to Retinal Stimulation: Preliminary In Vitro Study. *Peter L. Gehlbach¹, M. Harraz², J. U. Kang², J. Kang², E. Boctor².* ¹Ophthalmology, Johns Hopkins Wilmer Eye Inst, Baltimore, MD; ²The Johns Hopkins University, Baltimore, MD

Exhibit/Poster Hall B0479-B0508

Thursday, May 11, 2017 11:30 AM-1:15 PM

Retinal Cell Biology

546 Paradigms of retinal degeneration and rescue

Moderator: Sean Silverman

5887 — B0479 Retinoschisin is associated with the retinal Na/K-ATPase signaling complex - impact on disease pathology of X-linked juvenile retinoschisis. *Karolina A. Ploessl¹, M. Royer¹, S. Bernklau¹, N. Tavraz², T. Friedrich², B. H. Weber¹, U. Friedrich¹.* ¹Institute of Human Genetics, University of Regensburg, Regensburg, Germany; ²Institute of Chemistry, Technical University of Berlin, Berlin, Germany

5888 — B0480 Astaxanthin reduces retinal cell death and loss of neuron and glial cell markers in diabetic rats. *basma baccouche^{1,2}, S. D. Kim², W. Wang², A. J. Barber².* ¹Ecophysiologie et Procédés Agroalimentaires (EPA), Institut Supérieur de Biotechnologie Sidi Thabet, Université de la Manouba, BiotechPole Sidi Thabet, Tunis, Tunisia; ²Penn State Hershey Eye Center, Milton S. Hershey Medical Center, Penn State College of Medicine, Hershey, PA

5889 — B0481 Neuroprotective effects of the protein kinase inhibitors, SBJ-051 and sunitinib in light-induced photoreceptor cell death. *Byung-Jin Kim¹, T. Masuda¹, B. J. Antony², D. S. Welsbie¹, M. Liu¹, R. Nair⁴, T. D. Bannister⁴, J. L. Prince³, T. P. Spicer³, D. J. Zack¹.* ¹The Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ²Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD; ³Molecular Therapeutics, The Scripps Research Institute-FL, Jupiter, FL; ⁴Chemistry, The Scripps Research Institute-FL, Jupiter, FL

5890 — B0482 Low-to-moderate intensity forced exercise protects retinal function from light-induced retinal degeneration. *Lukas Mees^{1,2}, M. Coulter², M. A. Chrenek¹, C. T. Motz², E. Landis¹, J. H. Boatright^{2,1}, M. T. Pardue^{2,3}.* ¹Emory University, Atlanta, GA; ²Atlanta VA Medical Center, Decatur, GA; ³Georgia Institute of Technology, Atlanta, GA

- 5891 — B0483 Overexpression of spermine oxidase increases neuronal death and glial activation in a model of retinal excitotoxicity.** Prahalathan Pichavaram^{1,2}, C. Patel^{3,4}, Z. Xu^{2,4}, E. Shosha^{2,4}, M. Cervelli³, R. B. Caldwell^{2,4}, S. Narayanan^{4,1}. ¹College of Allied Health Sciences, Augusta University, Augusta, GA; ²Vascular Biology Center, Augusta University, Augusta, GA; ³Department of Science, Roma Tre University, Rome, Italy; ⁴Vision Discovery Institute, Augusta University, Augusta, GA
- 5892 — B0484 The Mechanism of Retinal Damage Following Ocular Surface Burn with Alkali.** Chengxin Zhou^{1,2}, F. Lei^{1,2}, N. Scott³, V. Kapoulea^{1,2}, M. Robert^{4,5}, J. Chodosh^{6,2}, C. H. Dohlman^{6,2}, E. I. Paschalis^{1,2}. ¹Department of Ophthalmology, Schepens Eye Research Institute-Massachusetts Eye and Ear, Boston, MA; ²Harvard Medical School, Boston, MA; ³Bascom Palmer Eye Institute, University of Miami Health System, Miami, FL; ⁴Department of Ophthalmology, Université de Montreal, Montreal, QC, Canada; ⁵Hospitaller de l'Université de Montreal, Hospital Notre-Dame, Montreal, QC, Canada; ⁶Department of Ophthalmology, Massachusetts Eye and Ear, Boston, MA
- 5893 — B0485 Amelioration of Visual Deficits and Pathology after Mild TBI with the CB2 Inverse Agonist SMM189.** Anton Reiner¹, N. Guley¹, N. Del Mar¹, B. M. Moore², M. G. Honig¹. ¹Dept of Anatomy & Neurobiology, Univ of Tennessee Health Sci Ctr, Memphis, TN; ²Pharmaceutical Sciences, Univ of Tennessee Health Sci Ctr, Memphis, TN
- 5894 — B0486 Toll-like receptor 2 promotes photoreceptor survival in acute retinal injury.** Marcus Hooper, C. P. Santiago, R. Ramchander, J. D. Ash. Ophthalmology, University of Florida, Gainesville, FL
- 5895 — B0487 Protective Role of Arginase 1 in Retinal Ischemia Reperfusion Injury.** Abdelrahman Fouda¹, Z. Xu¹, E. Shosha¹, W. Caldwell², S. Narayanan¹, R. B. Caldwell¹. ¹Vascular Biology Center, Augusta University, Augusta, GA; ²Pharmacology, Augusta University, Augusta, GA
- 5896 — B0488 K-ATP channels protect the retina at critical early stages of ischemia.** Andrey V. Dmitriev¹, R. A. Linssenmeier^{1,2}. ¹Department of Biomedical Engineering, Northwestern University, Evanston, IL; ²Neurobiology Department, Northwestern University, Evanston, IL
- 5897 — B0489 Enriched environment decreases retinal susceptibility to ischemic damage.** Maria Florencia Gonzalez Fleitas, D. Dorfman, M. Aranda, H. Dieguez, P. Sande, M. Chianelli, R. E. Rosenstein. Human Biochemistry, School of Medicine, University of Buenos Aires, CEFyBO/CONICET, Retinal Neurochemistry and Experimental Ophthalmology Laboratory, Buenos Aires, Argentina
- 5898 — B0490 Neuroprotective evaluation of topically delivered trabodenoson in an acute ischemic rodent model.** James A. Gow¹, C. E. Crosson², D. Albers¹, C. C. Rich¹, R. Baumgartner¹. ¹Inotek Pharmaceuticals, Lexington, MA; ²Ophthalmology, Medical University of South Carolina, Charleston, SC *CR
- 5899 — B0491 Retinal Ischemia Reperfusion: Role of Arginase 2.** Esraa Shosha^{1,2}, A. Fouda^{1,2}, A. Ibrahim³, M. A. Al-Shabrawey³, Z. Xu^{1,2}, T. Lemtalsi^{1,2}, W. Caldwell⁴, S. Narayanan^{5,2}, R. B. Caldwell^{1,2}. ¹Vascular Biology Center, Augusta University, Augusta, GA; ²Vision Discovery Institute, Augusta University, Augusta, GA; ³Oral Biology, Augusta University, Augusta, GA; ⁴Pharmacology and Toxicology, Augusta University, Augusta, GA; ⁵College of Allied Health Sciences, Augusta University, Augusta, GA
- 5900 — B0492 Daily Zeaxanthin Supplementation Improves RPE Function in a Mouse Model of RPE Oxidative Stress.** Manas Ranjan Biswal¹, B. Justis¹, P. Han¹, H. Li¹, C. Dorey², D. L. Gierhart³, A. S. Lewin¹. ¹Molecular Genetics and Microbiology, University of Florida College of Medicine, Gainesville, FL; ²Biomedical Science, Virginia Tech Carilion School of Medicine, Roanoke, VA; ³Research and Development, ZeaVision LLC, Chesterfield, MO *CR
- 5901 — B0493 Tamoxifen provides structural and functional rescue in murine models of photoreceptor degeneration.** Xu Wang¹, L. Zhao¹, W. Ma¹, Y. Zhang¹, S. Gonzalez¹, J. Fan², F. Kretschmer³, T. C. Badea³, H. Qian⁴, W. T. Wong¹. ¹Unit on Neuron-Glia Interactions in Retinal Disease, National Eye Institute, National Institutes of Health, Bethesda, MD; ²Section on Molecular Structure and Functional Genomics, National Eye Institute, National Institutes of Health, Bethesda, MD; ³Retinal Circuit Development and Genetics Unit, National Eye Institute, National Institutes of Health, Bethesda, MD; ⁴Visual Function Core, National Eye Institute, National Institutes of Health, Bethesda, MD *CR
- 5902 — B0494 Using RiboTag and Sun1-sfGFP technologies to map Müller cell-specific epigenetic regulation of stress-induced LIF expression in vivo.** Clayton P. Santiago, C. J. Keuthan, A. A. Imam, J. D. Ash. Ophthalmology, University of Florida, Gainesville, FL
- 5903 — B0495 Screen for Small Molecules that Promote Myelination of Human Stem Cell Derived Oligodendrocytes.** xitiz chamling¹, V. Sluch², K. J. Wahlin³, D. J. Zack¹. ¹Ophthalmology, Wilmer Eye Institute, Baltimore, MD; ²Novartis, Boston, MA; ³University of San Diego, San Diego, CA
- 5904 — B0496 Investigating temporal mechanisms of retinal interneuron loss and dysfunction caused by Atrx deficiency.** Pamela S Lagali^{1,2}, B. Y. Zhao¹, A. Baker^{1,2}, S. G. Coupland^{2,1}, K. Yan¹, D. J. Picketts¹, C. Tsilfidis^{1,2}. ¹Regenerative Medicine, Ottawa Hospital Research Institute, Ottawa, ON, Canada; ²University of Ottawa Eye Institute, Ottawa, ON, Canada
- 5905 — B0497 An Avian Adeno-Associated Viral Vector for Visualization of Post-Natal Chick Retinal Circuitry.** Derek Waldner^{1,2}, F. Visser^{1,2}, W. K. Stell^{3,2}. ¹Cumming School of Medicine, University of Calgary, Calgary, AB, Canada; ²Hotchkiss Brain Institute, Calgary, AB, Canada; ³Cell Biology and Anatomy, University of Calgary, Calgary, AB, Canada
- 5906 — B0498 Non-invasive, in vivo assessment of retinal cell death in light-induced retinal degeneration.** Claudia Mueller, F. Mazzoni, S. Finnemann. Department of Biological Sciences, Fordham University, Bronx, NY
- 5907 — B0499 Preservation of retinal function by paeoniflorin following retinal light injury.** Paul Park¹, C. Algenio¹, Z. TAN², J. F. McDonnell¹, L. Qiao³, J. I. Perlman^{1,4}, P. Bu^{1,5}. ¹Ophthalmology, Loyola University Medical Center, Maywood, IL; ²Institute for Memory Impairments and Neurological Disorders, University of California Irvine, Irvine, CA; ³Microbiology and Immunology, Loyola University Medical Center, Maywood, IL; ⁴Surgery Service, Edward Hines, Jr. VA Hospital, Hines, IL; ⁵Research Service, Edward Hines, Jr. VA Hospital, Hines, IL
- 5908 — B0500 Neuroprotective role of activated AMPK against light-induced photoreceptor cell death.** Hirohiko Kawashima, T. Okamoto, M. Kamoshita, N. Nagai, K. Tsubota, Y. Ozawa. ophthalmology, Keio University Hospital, Shinnjuku-ku, Japan
- 5909 — B0501 Low Dose Sodium Iodate Produces a Strain-dependent Retinal Oxidative Stress Response.** Bruce A. Berkowitz, J. Lenning, N. Khetarpal, C. Tran, J. Wu, R. Roberts. Anatomy/Cell Biol & Ophthal, Wayne State Univ Sch of Med, Detroit, MI
- 5910 — B0502 Glycyrrhizic acid attenuates retinal degeneration induced by blue light-emitting diode exposure in mice.** In-Beom Kim^{1,2}, G. Kim^{1,2}, S. Paik^{1,2}, Y. Park^{1,2}, H. Kim³. ¹Department of Anatomy, Catholic University of Korea, Seoul, Korea (the Republic of); ²Catholic Neuroscience Institute, Seoul, Korea (the Republic of); ³Gyeongju St. Mary's Eye Clinic, Gyeongju, Korea (the Republic of)
- 5911 — B0503 Effects of bFGF on rescue of hydrochloroquine-induced damage of cultured human RPE cells.** Dan-Ning Hu, X. Shen, R. B. Rosen. New York Eye and Ear Infirmary of Mount Sinai, New York, NY

5912 — B0504 Selective RPE-ablation of dehydrodolichyl diphosphate synthase (DHDDS) causes morphologic changes similar to geographic atrophy in dry AMD. Steven J. Pittler¹, S. Davis¹, S. Ramachandra Rao^{2,3}, D. A. Stacks¹, M. L. DeRamus¹, S. J. Fliesler^{4,3}.
¹Optometry and Vision Science, University of Alabama at Birmingham, Birmingham, AL; ²Biochemistry, SUNY-University at Buffalo, Buffalo, NY; ³Research Service, VA Western NY Healthcare System, Buffalo, NY; ⁴Ophthalmology, Biochemistry, & Neuroscience Program, SUNY-University at Buffalo, Buffalo, NY

5913 — B0505 Therapeutic Effects of Paeniflorin Following Retinal Ischemic-Reperfusion Injury. Crystal S. Algenio^{1,2}, M. Qiao¹, S. Chow³, J. F. McDonnell¹, J. Perlman^{5,4}, P. Bu^{1,2}.
¹Ophthalmology, Loyola University Medical Center, Maywood, IL; ²Research Services, Edward Hines, Jr. VA Hospital, Hines, IL; ³Microbiology and Immunology, Loyola University Medical Center, Maywood, IL; ⁴Surgery Service, Edward Hines, Jr. VA Hospital, Hines, IL; ⁵Ophthalmology/Pathology, Loyola University Medical Center, Maywood, IL

5914 — B0506 The effect of MIF inhibitor ISO-1 on apoptosis in chick retinal damage model. Rania Kusibati¹, B. Kim¹, T. Heisler-Taylor¹, L. Todd², A. J. Fischer², C. M. Cebulla¹.
¹Havener Eye Institute, Ophthalmology and Visual Science, The Ohio State University, Columbus, OH; ²Neuroscience, The Ohio state University, Columbus, OH

5915 — B0507 Regeneration of the retinal pigment epithelium in a novel zebrafish model of macular degeneration. Nicholas Hanovice^{1,2}, R. F. Collery³, B. A. Link³, J. M. Gross².
¹Molecular Biosciences, University of Texas at Austin, Pittsburgh, PA; ²Ophthalmology, University of Pittsburgh School of Medicine, Pittsburgh, PA; ³Cell Biology, Neurobiology & Anatomy, Medical College of Wisconsin, Milwaukee, WI

5916 — B0508 Lutein and zeaxanthin isomers protect photoreceptors against blue light-induced degeneration. Minzhong Yu^{1,2}, C. Beight^{1,3}.
¹Cole Eye Institute, Cleveland Clinic Foundation, Cleveland, OH; ²Ophthalmology, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, OH; ³Louis Stokes Cleveland Veterans Affairs Medical Center, Cleveland, OH

Exhibit/Poster Hall B0653-B0677

Thursday, May 11, 2017 11:30 AM-1:15 PM

Retina

547 Myopic CNV and CSCR

5917 — B0653 Clinical Use of Optical Density Ratio in determining the Prognosis of Central Serous Chorioretinopathy. Jae Yon Won, Y. park.
 The Catholic University of Korea, Seoul, Korea (the Republic of)

5918 — B0654 OCT Angiography versus FAG in myopic CNV. Klaus Wehrmann, K. Ruether, N. Feucht, C. Lohmann, M. M. Maier.
 Department of Ophthalmology, TU Munich, Germany, Munich, Germany

5919 — B0655 Intravitreal bevacizumab for neovascular myopic maculopathy. Julio A. Urrets-Zavalía¹, D. Martinez¹, E. Gonzalez-Castellanos¹, F. Barros-Centeno¹, L. Correa¹, C. D. Guantay¹, J. A. Dalmagro¹, F. Suarez², E. Esposito^{1,3}, H. M. Serra².
¹Ophthalmology, Catholic University of Cordoba, Cordoba, Argentina; ²CIBICI-CONICET, Faculty of Chemical Sciences, National University of Cordoba, Cordoba, Argentina; ³The Henry Witelson Ocular Pathology Laboratory, McGill University, Montreal, QC, Canada

5920 — B0656 Ranibizumab versus verteporfin photodynamic therapy for myopic choroidal neovascularization: Results from RADIANCE. Nathan Steinle¹, A. Ghanekar², C. Quezada-Ruiz².
¹California Retina Consultants, Santa Barbara, CA; ²Genentech, Inc., South San Francisco, CA *CR, X

5921 — B0657 Comparative proteomic analysis of idiopathic epiretinal membrane and internal limiting membrane. Christos Christakopoulos¹, L. J. Cehofski², S. Rugaard Christensen¹, H. Vorum², B. Honoré³.
¹Ophthalmology, Zealand University Hospital, Naestved, Denmark; ²Aalborg Hospital, Aalborg, Denmark; ³Department of Biomedicin, Aarhus, Denmark

5922 — B0658 Ocular perfusion pressure and choroidal thickness in central serous chorioretinopathy. Cheolmin Yun, J. Oh, S. Kim, J. Yoo.
 Ophthalmology, Korea University College of Medicine, Seoul, Korea (the Republic of) *CR

5923 — B0659 Systemic complement activation in central serous chorioretinopathy. Elon Van Dijk¹, N. Klar³, R. Tsonaka³, E. de Jong², C. van Kooten³, C. J. Boon¹.
¹Ophthalmology, Leiden University Medical Center, Leiden, Netherlands; ²Ophthalmology, Radboud University Medical Center, Nijmegen, Netherlands; ³Leiden University Medical Center, Leiden, Netherlands

5924 — B0660 Combined Alpha-1 and Beta Adrenergic Blockade for Recurrent or Severe Central Serous Chorioretinopathy. Cyrus Golshani¹, P. J. Pakk², S. A. Teich¹, D. S. Nagel¹, A. H. Friedman¹.
¹Ophthalmology, Icahn School of Medicine at Mount Sinai, New York, NY; ²Ophthalmology, Stony Brook University Hospital, Stony Brook, NY

5925 — B0661 Association between CFH variants and choroidal thickness in central serous chorioretinopathy. Akiko Miki¹, S. honda¹, Y. Sakurada³, K. tanaka², Y. Mitamura⁴, M. Nakamura¹.
¹Ophthalmology, Kobe University Graduate School of Medicine, Kobe, Japan; ²Ophthalmology, Department of Visual Sciences, Nihon University School of Medicine, Chiyoda-Ku, Japan; ³Ophthalmology, Yamanashi university, Chuo, Japan; ⁴Ophthalmology, Institute of Health Biosciences, The university of Tokushima Graduate School, Tokushima, Japan

5926 — B0662 Subthreshold 577 nm micropulse laser for the treatment of Chronic Central Serous Chorioretinopathy (CCSC). FERIA Estephania. retina, Asociacion para evitar la ceguera en mexico, Mexico City, Mexico

5927 — B0663 Topographic correlation of retinal pigment epithelial detachment to choroidal filling defects in central serous chorioretinopathy. Juan Lyn Ang¹, J. Rivero Alvarez¹, C. Bala², K. R. Mendis¹.
¹Canberra Hospital, Canberra, ACT, Australia; ²Royal Perth Hospital, Perth, WA, Australia

5928 — B0664 Changes in axial length and subfoveal choroidal thickness after photodynamic therapy for central serous chorioretinopathy. Nobuhiro Terao¹, T. Yamagishi¹, Y. Yamamoto¹, H. Koizumi², C. Sotozono¹.
¹Ophthalmology, Kyoto Prefectural University of Medicine, Kyoto Kamigyo-ku, Japan; ²Ophthalmology, Department of Ophthalmology Tokyo Women's Medical University, Tokyo, Japan

5929 — B0665 Peripapillary Pachychoroid Syndrome. Nopasak Phasukkijwatana^{1,2}, R. Dolz-Marco³, M. Al-Sheikh¹, L. M. Jampol⁴, P. A. Keane⁵, C. A. Egan⁶, S. Randhawa^{6,7}, J. M. Stewart⁸, Q. Liu^{8,9}, A. P. Hunyor^{10,11}, A. E. Kreiger¹, A. Nagiel¹, R. A. Lalane¹, W. Lee¹², K. Freund^{3,13}, D. Sarraf¹. ¹Stein Eye Institute, UCLA, Los Angeles, CA; ²Ophthalmology, Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand; ³Vitreous Retina Macula Consultants of NY, New York, NY; ⁴Ophthalmology, Northwestern University Feinberg School of Medicine, Chicago, IL; ⁵Moorfields Eye Hospital NHS Foundation Trust, London, United Kingdom; ⁶Associated Retinal Consultant, PC, Royal Oak, MI; ⁷Ophthalmology, Oakland University William Beaumont School of Medicine, Royal Oak, MI; ⁸UCSF, San Francisco, CA; ⁹Ophthalmology, Tongliao City Hospital, Tongliao, China; ¹⁰Retina Associates, Chatswood, NSW, Australia; ¹¹Save Sight Institute, University of Sydney, Sydney, NSW, Australia; ¹²Ophthalmology, Seoul St. Mary's Hospital, Catholic University of Korea, Seoul, Korea (the Democratic People's Republic of); ¹³Ophthalmology, New York University Langone Medical Center, New York, NY *CR

5930 — B0666 Combination Photodynamic Therapy and Anti-Vascular Endothelial Growth Factor for Recalcitrant Chronic Central Serous Chorioretinopathy. Andrew T. Chon^{1,2}, M. G. Asahi^{1,2}, R. P. Gallemore¹, J. Wallsh¹. ¹Clinical Research, Ophthalmology, Retina Macula Institute, Torrance, CA; ²Western University of the Health Sciences, Pomona, CA

5931 — B0667 Chronic central serous chorioretinopathy treated with mineralocorticoid-receptor antagonists: long-term follow up. Marta Zola, A. Darwich, A. Matet, F. F. Behar-Cohen. Jules Gonin Eye Hospital, Lausanne, Switzerland *CR

5932 — B0668 Comparison Of Eplerenone Versus Melatonin As Therapeutic Options For The Treatment Of Chronic Central Serous Chorioretinopathy. Eleonora B. Lavaque¹, L. Gramajo^{2,3}, J. Real^{3,4}, C. P. Juarez^{2,5}, R. E. Rosenstein^{6,7}, J. D. Luna Pinto^{2,5}. ¹Dpto de Retina, Hospital Oftalmológico Santa Lucía, Buenos Aires, Argentina; ²Centro Privado de Ojos Romagosa SA, Cordoba, Argentina; ³Dpto. Farmacia, Fac. Cs. Qcas, UNC, Córdoba, Argentina; ⁴UNITEFA (CONICET), Córdoba, Argentina; ⁵Fundación VER, Córdoba, Argentina; ⁶Dpto de Bioquímica Humana, Universidad de Buenos Aires, Buenos Aires, Argentina; ⁷CEFyBO, Buenos Aires, Argentina

5933 — B0669 Choriocapillaris and outer choroid blood flow in acute central serous chorioretinopathy: a swept source OCT angiography study. Paolo Lanzetta^{1,2}, V. Sarao^{1,2}, D. Veritti^{1,2}. ¹Dept of Medical and Biological Sciences - Ophthalmology, University of Udine, Udine, Italy; ²Istituto Europeo di Microchirurgia Oculare (IEMO), Udine, Italy *CR

5934 — B0670 Computer Adaptive Contrast Sensitivity Testing in Macula-involving Retinal Detachment and Central Serous Retinopathy. Merina Thomas, G. Yu, K. A. Joltikov, V. M. de Castro, D. N. Zacks. Kellogg Eye Center, University of Michigan, Ann Arbor, MI

5935 — B0671 Indocyanine green angiography-guided photodynamic therapy for chronic central serous chorioretinopathy: digital fundus camera versus scanning laser ophthalmoscope. Seung Min Lee^{1,3}, H. Kwon², S. Park², J. E. Lee^{2,4}, I. Byon^{1,3}. ¹Ophthalmology, Pusan National University Yangsan Hospital, Yangsan-si, Korea (the Republic of); ²Ophthalmology, Pusan National University Hospital, Busan, Korea (the Republic of); ³Research Institute for Convergence of Biomedical Science and Technology, Pusan National University Yangsan Hospital, Yangsan-si, Korea (the Republic of); ⁴Medical institute, School of medicine, Pusan National University, Busan, Korea (the Republic of)

5936 — B0672 Multimodal retinal imaging evaluation may predict the response to eplerenone therapy in central serous chorioretinopathy. Riccardo Sacconi^{1,2}, G. Baldin¹, A. Carnevali^{1,3}, L. Querques¹, A. Rabiolo¹, M. Cicinelli¹, G. Panozzo¹, G. Marchini², F. Bandello¹, G. Querques¹. ¹Ophthalmology, University Vita-Salute, IRCCS Ospedale San Raffaele, Milan, Italy, Milano, Italy; ²Ophthalmology, University of Verona, University hospital of Verona, Verona, Italy, Verona, Italy; ³Ophthalmology, University of "Magna Graecia", Catanzaro, Italy, Catanzaro, Italy *CR

5937 — B0673 OCT angiography characteristics in patients with chronic CSCR complicated with polypoidal choroidal vasculopathy. Rita Serra, C. IOVINO, G. Caminiti, M. Fossarello, E. Peiretti. Eye Clinic, University of Cagliari, Cagliari, Italy

5938 — B0674 Optical Coherence Tomography Angiography Imaging in Serpiginous Choroidopathy. Ria Desai, P. L. Nesper, D. A. Goldstein, A. A. Fawzi, L. M. Jampol, M. Gill. Ophthalmology, Northwestern University, Chicago, IL

5939 — B0675 OCT angiography in chronic central serous chorioretinopathy. Valentina Sarao^{1,2}, D. Veritti^{1,2}, P. Lanzetta^{1,2}. ¹Dept. of Medical and Biological Sciences - Ophthalmology, University of Udine, Udine, Italy; ²Istituto Europeo di Microchirurgia Oculare, Udine, Italy *CR

5940 — B0676 Mineralocorticoid antagonist effects on choroidal thickness in central serous chorioretinopathy. Jennifer Sim¹, K. Kapoor^{1,2}. ¹Eastern Virginia Medical School, Norfolk, VA; ²Wagner Macula and Retina Center, Norfolk, VA

5941 — B0677 Irregular Pigment Epithelial Detachment in Chronic Central Serous Chorioretinopathy : SD-OCT and OCTA Findings. Seul Ki Bang, E. Kim, S. Yu. Department of Ophthalmology, KyungHee University Hospital, Seoul, Korea (the Republic of)

Exhibit/Poster Hall B0705-B0722

Thursday, May 11, 2017 11:30 AM-1:15 PM

Clinical/Epidemiologic Research

548 Ocular Trauma

Moderator: Roomasa Channa

5942 — B0705 Epidemiology Of Orbital Fractures - Analysis Of National Trauma Data Bank. Ysra Soliman⁶, D. Poulsen^{1,3}, A. Parsikia², J. Mbekeani^{4,5}. ¹Ophthalmology and Visual Sciences, Montefiore Medical Center, Bronx, NY; ²Surgery, Jacobi Medical Center, Bronx, NY; ³Ophthalmology & Visual Sciences, Albert Einstein College of Medicine, Bronx, NY; ⁴Surgery (Ophthalmology), Jacobi Medical Center, Bronx, NY; ⁵Ophthalmology and Visual Sciences, Albert Einstein College of Medicine, Bronx, NY; ⁶Albert Einstein College of Medicine, Bronx, NY

5943 — B0706 Patterns Of Visual Pathway Injuries In National Major Trauma Admissions. Ryan Gise^{1,2}, D. Poulsen^{1,2}, Y. Soliman⁴, A. Parsikia³, J. Mbekeani^{2,5}. ¹Department of Ophthalmology and Visual Sciences, Montefiore Medical Center, New York, NY; ²Department of Ophthalmology and Visual Sciences, Albert Einstein College of Medicine, Bronx, NY; ³Department of Surgery, Jacobi Medical Center, Bronx, NY; ⁴Albert Einstein College of Medicine, Bronx, NY; ⁵Department of Surgery (Ophthalmology), Jacobi Medical Center, Bronx, NY

5944 — B0707 Characteristics Of Ocular Trauma In The Elderly. Ledian Goduni², D. Poulsen^{1,3}, A. Parsikia², J. Mbekeani^{3,4}. ¹Department of Ophthalmology & Visual Sciences, Montefiore Medical Center, Bronx, NY; ²Medicine, Mount Sinai St. Luke's /Roosevelt Hospital, New York, NY; ³Department of Ophthalmology & Visual Sciences, Albert Einstein College of Medicine, Bronx, NY; ⁴Department of Surgery (Ophthalmology), Jacobi Medical Center, Bronx, NY; ⁵Jacobi Medical Center, Jacobi Medical Center, Bronx, NY

5945 — B0708 Characteristics Of Open Globe Injuries Using National Trauma Data. Alisha Prystowsky¹, D. Poulsen^{2,3}, A. Parsikia⁴, J. Mbekeani^{3,5}. ¹Student, American University of the Caribbean School of Medicine, Flemington, NJ; ²Ophthalmology and Visual Sciences, Montefiore Medical Center, Bronx, NY; ³Ophthalmology & Visual Sciences, Albert Einstein College of Medicine, Bronx, NY; ⁴Surgery, Jacobi Medical Center, Bronx, NY; ⁵Surgery (Ophthalmology), Jacobi Medical Center, Bronx, NY

5946 — B0709 Seasonality of Ocular Trauma in United States Emergency Departments. David Ramirez¹, J. D. Keenan^{2,1}. ¹University of California San Francisco, San Francisco, CA; ²FI Proctor Foundation, San Francisco, CA

5947 — B0710 Characteristics of Ocular Trauma in the United States. David Poulsen^{1,2}, L. Goduni¹, A. Parsikia³, J. Mbekeani^{1,2,5}. ¹Department of Ophthalmology and Visual Sciences, Albert Einstein College of Medicine, Bronx, NY; ²Department of Ophthalmology and Visual Sciences, Montefiore Medical Center, Bronx, NY; ³Department of Surgery, Jacobi Medical Center, Bronx, NY; ⁴Department of Medicine, Mount Sinai St. Luke's/Roosevelt Hospital, New York, NY; ⁵Department of Surgery (Ophthalmology), Jacobi Medical Center, Bronx, NY

5948 — B0711 Clinical features of infantile and childhood ocular trauma. Miner Yuan, X. Wen, X. Lin. Zhongshan Ophthalmic Center, Sun Yet-sen University, Guangzhou, China

5949 — B0712 Open globe injury associated with orbital fracture carries a poor prognosis. Natalie Wolkow, E. D. Gai, S. Tarabishy, S. R. Grob, D. Lefebvre, M. Gardiner. Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA

5950 — B0713 Bilateral Open Globe Injuries at a Tertiary Care Center. Huy V. Nguyen¹, K. E. Talcott², A. Lorch¹, Y. Chee³, C. Kloek¹, D. Elliott⁴, S. R. Grob⁵. ¹Ophthalmology, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA; ²Vitreoretinal Surgery, Wills Eye Hospital, Philadelphia, PA; ³Vitreoretinal Surgery, University of Washington, Seattle, WA; ⁴Vitreoretinal Surgery, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA; ⁵Ocular Trauma, Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA

5951 — B0714 Outcomes of Open Globe Injuries at an Urban Tertiary Care Center: The Bellevue Hospital Experience. Andrew C. Lin, E. Tsui, C. Lo, S. Rathi, P. Patel. New York University School of Medicine, New York, NY

5952 — B0715 Epidemiology of firework-related ocular injuries. Natasha V. Nayak¹, A. M. Kolomeyer². ¹New York Eye and Ear Infirmary, New York, NY; ²Scheie Eye Institute, University of Pennsylvania, Philadelphia, PA

5953 — B0716 Billiards-related ocular and facial injuries. Anton M. Kolomeyer¹, N. V. Nayak². ¹Ophthalmology, University of Pennsylvania, Philadelphia, PA; ²Ophthalmology, New York Eye and Ear Institute, New York, NY

5954 — B0717 Ophthalmic outcomes following gunshot wound to head. Nitin Chopra, K. Gervasio, A. Wu. Icahn School of Medicine at Mount Sinai, New York, NY

5955 — B0718 Causes and Outcome of Ocular Emergencies for Patients that Underwent Keratoplasty at a Tertiary Eye Care Hospital. Tariq Almuhammad. King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia

5956 — B0719 Analysis of foveal angle after successful VMT detachment. Rosina H. Zakri, H. Lee, N. Patel. Ophthalmology, East Kent NHS Trust, Folkestone, United Kingdom *CR

5957 — B0720 Patterns in Pediatric Ocular Trauma. Ethan K. Sobol¹, D. Poulsen^{2,3}, A. Parsikia⁴, J. Mbekeani^{2,5}. ¹Albert Einstein College of Medicine, Bronx, NY; ²Ophthalmology and Visual Sciences, Albert Einstein College of Medicine, Bronx, NY; ³Ophthalmology and Visual Sciences, Montefiore Medical Center, Bronx, NY; ⁴Surgery, Jacobi Medical Center, Bronx, NY; ⁵Ophthalmology, Jacobi Medical Center, Bronx, NY

5958 — B0721 Predicting severe ocular trauma in orbital wall fractures. Margaret E. Phillips^{1,2}, M. L. Pfeiffer^{1,2}, K. Richani^{1,2}, H. A. Merritt^{1,2}. ¹Ruiz Department of Ophthalmology, McGovern Medical School at The University of Texas Health Science Center at Houston, Houston, TX; ²Robert Cizik Eye Clinic, Houston, TX

5959 — B0722 Prevalence of ocular injuries in the setting of trauma: a 6-year retrospective analysis from a level-one trauma center. Nicholas Moore^{1,2}, R. Beaulieu³, P. Parikh², M. McCarthy², R. Warwar². ¹Ophthalmology, Indiana University School of Medicine, Indianapolis, IN; ²Surgery, Wright State University Boonshoft School of Medicine, Dayton, OH; ³Ophthalmology, University of Texas Southwestern Medical Center, Dallas, TX

Exhibit/Poster Hall B0760-B0779

Thursday, May 11, 2017 11:30 AM-1:15 PM

Retina

549 Retinal detachment: Basic research

Moderator: Hetian Lei

5960 — B0760 iTRAQ proteomic analysis of proliferative vitreoretinopathy vitreous. Brett L. Smith¹, M. Colyer¹, D. Chun², B. Kim³, M. Piqueras⁴, S. K. Bhattacharya⁴, C. M. Cebulla³. ¹Department of Ophthalmology, Walter Reed National Military Medical Center, Bethesda, MD; ²The Retina Group of Washington, Vienna, VA; ³Department of Ophthalmology and Visual Science, Haver Eye Institute, The Ohio State University, Columbus, OH; ⁴Department of Ophthalmology, Bascom Palmer Eye Institute, University of Miami Miller School of Medicine, Miami, FL

5961 — B0761 Perfluoro-n-octane cytotoxicity in human retinal pigment epithelial cell culture. Girish K. Srivastava^{1,2}, I. Fernandez-Bueno^{1,3}, M. L. Alonso-Alonso⁴, M. Garcia-Gutierrez⁴, M. Gayoso⁴, R. M. Cocco⁴, J. Pastor^{4,5}. ¹Instituto Universitario de Oftalmobiología Aplicada (IOBA), Universidad de Valladolid, Valladolid, Spain; ²Centro en Red de Medicina Regenerativa y Terapia Celular, Junta de Castilla y León, Spain; ³Red Temática de Investigación Cooperativa Sanitaria (RETICS), Oftared, Instituto de Salud Carlos III, Ministerio de Economía y Competitividad, Madrid, Spain; ⁴Departamento de Histología, Biología Celular y Farmacología, Universidad de Valladolid, Valladolid, Spain; ⁵Departamento de Oftalmología, Hospital Clínico Universitario, Valladolid, Spain

5962 — B0762 Detached outer retina surface tension is dictated by pericellular interphotoreceptor matrix. Federico Gonzalez-Fernandez^{1,2}, M. Garlipp⁶, P. Gonzalez-Fernandez^{1,3}, D. Sung⁴, A. Meyer⁵, R. Baier⁵. ¹Medical Research Service, G.V. (Sonny) Montgomery Veterans Affairs Med Center, Jackson, MS; ²Ophthalmology & Pathology, University of Mississippi Medical Center, Jackson, MS; ³Research, PathRD Inc., Jackson, MS; ⁴Ophthalmology & Pathology, SUNY Buffalo, Ross Eye Institute, Buffalo, NY; ⁵Center for Biosurfaces, SUNY, Buffalo, NY; ⁶Neuroscience, SUNY, Buffalo, NY *CR

5963 — B0763 Optimization of retinal detachment vitreous sample preparation methods for protein analysis. Bongsu Kim¹, B. Wen¹, R. Kusibati¹, T. N. Heisler-Taylor¹, F. Davidoff¹, M. P. Ohr¹, M. B. Wells¹, D. D. Klisovoc^{2,1}, J. B. Allen¹, S. K. Bhattacharya³, C. M. Cebulla⁴. ¹Havener Eye Institute, Ophthalmology and Visual Science, The Ohio State University, Columbus, OH; ²Midwest Retina, Dublin, OH; ³Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine, Miami, FL

5964 — B0764 The MDM2 T309G mutation in primary human retinal epithelial cells enhances experimental proliferative vitreoretinopathy. wenyi wu¹, Y. duan¹, G. ma¹, Y. Chee¹, A. Samad², J. Z. Cui², J. Matsubara², S. Mukai¹, P. A. D'Amore¹, H. Lei¹. ¹schepens eye research insititution, Boston, MA; ²Department of Ophthalmology and Visual Sciences, Vancouver, BC, Canada

5965 — B0765 Fasudil, a clinically used ROCK inhibitor, stabilizes photoreceptor synapses after retinal detachment. Ellen Townes-Anderson¹, J. Wang¹, E. Halasz¹, I. Sugino², A. Pitler³, M. A. Zarbin². ¹Pharmacology, Physiology & Neuroscience, Rutgers New Jersey Medical School, Newark, NJ; ²Institute of Ophthalmology and Visual Science, Rutgers New Jersey Medical School, Newark, NJ; ³Microbiology, Biochemistry and Medical Genetics, Rutgers New Jersey Medical School, Newark, NJ

5966 — B0766 Expression of pro-fibrotic genes in an in vitro model of Proliferative Vitreoretinopathy. Hewy-Ching H. Wang, T. A. Burke, R. Kaini, W. Greene. Ocular Trauma, US Army Institute of Surgical Research, Fort Sam Houston, TX

5967 — B0767 miR-155 regulates microglia activation in a murine model of retinal detachment. Yoko Okunuki, G. Klokman, K. M. Connor. Ophthalmology, Massachusetts Eye and Ear Infirmary, Boston, MA *CR

5968 — B0768 Vitreous and subretinal fluid ATP concentrations in rhegmatogenous retinal detachment. Takashi Tachibana, T. Hisatomi, S. Notomi, S. Nakatake, K. Fujiwara, J. Funatsu, Y. Murakami, Y. Ikeda, S. Yoshida, T. Ishibashi, K. Sonoda. Ophthalmology, Kyushu University, Fukuoka, Japan

- 5969 — B0769 Neuroprotective and anti-gliotic effects of MIF Inhibitor ISO-1 in experimental murine retinal detachment.** *Colleen M. Cebulla¹, B. Kim¹, R. Kusibati¹, T. Heisler-Taylor¹, D. Mantopoulos¹, J. Ding¹, A. Satoskar², J. P. Godbout³, S. K. Bhattacharya⁴, M. H. Abdel-Rahman^{1,5}.* ¹Havener Eye Institute, Ophthalmology and Visual Science, The Ohio State University, Columbus, OH; ²Division of Experimental Pathology, The Ohio State University, Columbus, OH; ³Department of Neuroscience, The Ohio State University, Columbus, OH; ⁴Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami Miller School of Medicine, Miami, FL; ⁵Division Human Genetics, The Ohio State University, Columbus, OH
- 5970 — B0770 Expression of pro-fibrotic miRNAs in an *in vitro* model of Proliferative Vitreoretinopathy.** *Whitney Greene, T. A. Burke, R. Kaini, H. H. Wang.* Ocular Trauma, United States Army Inst of Surgical Rsrch, San Antonio, TX
- 5971 — B0771 Protein Kinase A inhibitor H89 attenuated experimental proliferative vitreoretinopathy.** *Yali Lyu^{1,2}, J. Fan^{1,2}, L. Cui^{1,2}, Z. Deng^{1,2}, C. Wang^{1,2}, M. Li^{1,2}, N. Yang^{1,2}, J. Zhang^{1,2}, J. Wang^{1,2}, Q. Ou^{1,2}, L. Lyu^{1,2}, G. Xu^{1,2}.* ¹Department of Ophthalmology of Shanghai Tenth People's Hospital, Tongji Eye Institute, Tongji University School of Medicine (TUSM), Shanghai, China; ²Department of Regenerative Medicine and Stem Cell Research Center, Tongji University School of Medicine (TUSM), Shanghai, China
- 5972 — B0772 Development of an experimental cell preparation and delivery protocol to the murine subretinal space using 27-gauge vitreoretinal surgery instruments.** *Karl A. Hudspeth¹, Y. Liu¹, S. Sodhi¹, D. Ottulich¹, T. Hilton^{1,2}, M. S. Singh¹.* ¹Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD; ²University of Cambridge, Cambridge, United Kingdom
- 5973 — B0773 Optical density of subretinal fluid in patients with chronic central serous chorioretinopathy treated with eplerenone: a potential imaging biomarker.** *Nisarg Joshi¹, M. K. Adam¹, W. Samara¹, A. Shahlaee¹, E. Rahimy², J. Hsu¹, M. S. Fineman¹, S. Garg¹.* ¹Retina, Wills Eye Hospital, Philadelphia, PA; ²Palo Alto Medical Foundation, Palo Alto, CA *CR
- 5974 — B0774 Change in choroidal blood flow and morphology after segmental scleral buckling for rhegmatogenous retinal detachment?** *Takeshi Iwase, M. Kobayashi, K. Yamamoto, H. Terasaki.* Ophthalmology, Nagoya University Hospital, Nagoya, Japan
- 5975 — B0775 The effect of Dasatinib in PVR model.** *Kazuhiko Umazume^{1,2}, R. Matsushima¹, R. Tsukahara^{1,2}, N. Yamakawa¹, S. Tamiya², H. Goto¹.* ¹Ophthalmology & Visual Sciences, Tokyo Medical University, Tokyo, Japan; ²Ophthalmology & Visual Sciences, University of Louisville, Louisville, KY
- 5976 — B0776 Fucoidan Inhibits Epithelial-Mesenchymal Transition of Retinal Pigment Epithelium in Proliferative Vitreoretinopathy.** *Yao Zhang, H. Li, S. Yang, H. Yao, J. Zhang, G. Xu, F. Wang.* Department of ophthalmology, Shanghai Tenth People's Hospital, Tongji Eye Institute, Tongji University School of Medicine, Shanghai, China
- 5977 — B0777 The effects of Pigment Epithelium-Derived Factor on Epithelial-to-mesenchymal transition of the retinal pigment epithelium induced by TGF- β .** *Sha Ouyang^{1,2}, S. He¹, C. Spee¹, D. R. Hinton^{1,2}.* ¹University of South California Keck Medicine, Los Angeles, CA; ²Ophthalmology, Central South University, Changsha, China
- 5978 — B0778 Murine Vitreous Tap (MurViTap): a novel technique to extract uncontaminated mouse vitreous humor, quantify retinal vascular permeability, and compare proteins secreted by diseased and normal retina.** *Seth D. Fortmann^{1,2}, V. E. Lorenz^{1,2}, S. Hackett^{1,2}, P. A. Campochiaro^{1,2}.* ¹Ophthalmology, Johns Hopkins Medical Institute, Baltimore, MD; ²Neuroscience, Johns Hopkins Medical Institute, Baltimore, MD
- 5979 — B0779 Transforming growth factor beta 2 as a biomarker for detection of disease progression of proliferative vitreoretinopathy.** *Ghazala Begum¹, J. O'Neill¹, K. Blachford², S. Rauz³, R. Scott⁴, A. Logan¹, R. J. Blanch¹.* ¹Immunology & Immunotherapy, Inflammation & Ageing, Microbiology & Infection, University of Birmingham, Birmingham, United Kingdom; ²Academic Unit of Ophthalmology - Sandwell and West Birmingham Hospitals NHS Trust/ Birmingham and Midland Eye Centre/City Hospital Birmingham), Birmingham, United Kingdom; ³Birmingham Midland Eye Centre, Birmingham, United Kingdom; ⁴Moorfields, Dubai, United Kingdom
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- Exhibit/Poster Hall B0780-B0809
Thursday, May 11, 2017 11:30 AM-1:15 PM
- Retina**
- 550 Clinical retinal imaging 2 and lasers**
-
- 5980 — B0780 Functional and Structural Effects of Nd:YAG laser for Vitreous Floaters.** *Kenneth M. Yee¹, J. Mamou², J. Nguyen¹, J. Ketterling², R. H. Silverman³, J. Sebag¹.* ¹VMR Institute for Vitreous Macula Retina, Huntington Beach, CA; ²Lizzi Center for Biomedical Engineering, Riverside Research, New York, NY; ³Harkness Eye Institute, Columbia University Medical Center, New York, NY
- 5981 — B0781 Optimizing Non-Damaging Retinal Laser Therapy: Tissue Response to Micropulse Modulation.** *Jenny Wang, Y. Quan, R. Dalal, D. V. Palanker.* Stanford University, Stanford, CA *CR
- 5982 — B0782 3-Year-Data of Combined Navigated Laser Photocoagulation (Navilas) and Intravitreal Ranibizumab compared to Ranibizumab Monotherapy in DME patients.** *Julian Langer¹, E. Vounotrypidis¹, M. Kern², S. Priglinger¹, T. Herold¹.* ¹Ophthalmology, Ludwig-Maximilians-University, Munich, Germany; ²Augenarztpraxis Prof. Dr.Kern, Munich, Germany
- 5983 — B0783 Photo-mediated ultrasound therapy as a novel method to selectively treat eye vasculature.** *Yannis M. Paulus^{1,3}, H. Zhang^{1,2}, J. Li^{1,3}, Z. Hu¹, A. Mordovanakis¹, X. Wang³, X. Yang⁴.* ¹Ophthalmology, University of Michigan, Kellogg Eye Center, Ann Arbor, MI; ²Institute of Acoustics, Tongji University, Shanghai, China; ³Biomedical Engineering, University of Michigan, Ann Arbor, MI; ⁴Mechanical Engineering, University of Kansas, Lawrence, KS *CR
- 5984 — B0784 Resident Performed Pan-Retinal Photocoagulation.** *Varesh Patel, E. S. Crane, M. A. Zarbin, N. Bhagat.* Department of Ophthalmology & Visual Science, Rutgers New Jersey Medical School, Newark, NJ *CR
- 5985 — B0785 Customizable, programmable, multimodal ophthalmic laser platform: towards improved therapy.** *Suzie Dufour¹, R. B. Brown¹, S. J. Méthot^{2,3}, P. Gallant¹, P. J. Rochette^{2,3}, O. Mermut¹.* ¹Biophotonics, National Institute of Optics, Quebec, QC, Canada; ²Département d'Ophthalmologie et ORL, Université Laval, Quebec, QC, Canada; ³Hôpital du Saint-Sacrement, Centre de Recherche du CHU de Québec, Quebec, QC, Canada
- 5986 — B0786 Resident v. Attending Surgical Outcomes: Demarcation Laser Photocoagulation.** *Gopal Desai, E. S. Crane, M. A. Zarbin, N. Bhagat.* The Institute of Ophthalmology and Visual Science,, New Jersey Medical School, Newark, NJ *CR
- 5987 — B0787 Depth-resolved measurement of lesion formation process during retinal laser photocoagulation by using phase sensitive optical coherence tomography.** *Shuichi Makita, Y. Yasuno.* Computational Optics Group, University of Tsukuba, Tsukuba, Japan *CR
- 5988 — B0788 Quantitative assessment of laser beam displacement during photocoagulation on patient retina using high-speed optical coherence tomography (OCT).** *Stefan O. Koinzer¹, M. C. Moltmann², H. Spahr³, C. von der Burchard¹, A. Jaich¹, K. Purtskhvanidze¹, D. Theisen-Kunde², J. Roider¹, R. Brinkmann², G. Hüttmann³.* ¹Ophthalmology, Kiel University, Kiel, Germany; ²Medical Laser Center Lübeck, Lübeck, Germany; ³Institute of Biomedical Optics, University of Luebeck, Lübeck, Germany *X
- 5989 — B0789 The <Halo> and <Inverted Fovea>; Novel Three-Dimensional Signs Of Vitreomacular Traction On Optical Coherence Topography.** *Chloe Robson, N. Patel.* Kent and Canterbury Hospital, Canterbury, United Kingdom *CR

5990 — B0790 Longitudinal Ellipsoid Zone Mapping following Intravitreal Ocricplasmin in the ORBIT Trial. *Jeremy Lavine, N. Dukles, J. Reese, J. Ehlers.* Cole Eye Institute, Cleveland Clinic, Cleveland Heights, OH *CR, ✗

5991 — B0791 Correlation between macular features on spectral-domain optical coherence tomography images and visual outcome after vitreomacular traction surgery. *PENG SUN^{2,1}, R. M. Tandias², G. Yu², J. G. Arroyo².* ¹Ophthalmology, First hospital of China Medical University, Shenyang, China; ²Ophthalmology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA

5992 — B0792 Association Between Glaucoma and Microcystic Macular Edema in Patients with Epiretinal Membranes. *Daniel Su, A. Govetto, M. Farajzadeh, A. Megerdichian, E. Platner, J. Hubschman.* Stein Eye Institute, UCLA, Los Angeles, CA

5993 — B0793 Acute Symptomatic Floater. *Moon Jung Choi, S. You.* Retina, Kim's Eye Hospital, Seoul, Korea (the Republic of)

5994 — B0794 OCT Angiography quantifying parafoveal retinal capillary network in idiopathic macular hole. *Yufei Teng¹, M. Yu², W. Liu¹.* ¹Beijing Tongren hospital, Beijing, China; ²Department of Mathematics and Statistics, Hang Seng Management College, Hong Kong, Hong Kong

5995 — B0795 New staging of Acute Posterior Multifocal Placoid Pigment Epitheliopathy by using multimodal imaging. *Ester Carreno¹, T. Burke¹, C. Chu^{2,1}, S. Salvatore¹, R. W. Lee^{2,1}, C. Bailey¹, A. D. Dick^{1,2}, A. H. Ross¹.* ¹Bristol Eye Hospital, Bristol, United Kingdom; ²School of Clinical Sciences, Faculty of Medicine and Dentistry, University of Bristol, Bristol, United Kingdom

5996 — B0796 Assessing the Henle Fiber Layer in Albinism Using Directional OCT. *Daniel J. Lee¹, M. A. Wilk^{2,3}, B. J. Lujan⁴, B. J. Antony⁵, J. Carroll^{1,2}.* ¹Ophthalmology & Vision Sciences, Medical College of Wisconsin, Milwaukee, WI; ²Cell Biology, Neurobiology and Anatomy, Medical College of Wisconsin, Milwaukee, WI; ³Hudson Alpha Institute For Biotechnology, Huntsville, AL; ⁴Casey Eye Institute, Oregon Health & Science University, Portland, OR; ⁵Electrical and Computer Engineering, John Hopkins University, Baltimore, MD *CR

5997 — B0797 OCT Anigography Perifoveal Retinal Capillary Perfusion Density Analysis in Proliferative Diabetic Retinopathy Pre- and Post- Panretinal Photocoagulation. *Nicole K. Scripsema, R. B. Rosen, P. M. Garcia.* Ophthalmology, New York Eye and Ear Infirmary of Mount Sinai, New York, NY *CR

5998 — B0798 Improved Visualization and Quantification of OCT Angiography Data using a Novel 3D Projection Artifacts Removal Algorithm. *Yi-Sing Hsiao, Y. Wolfson, J. Tian, X. Wang, S. Luh, B. K. Jang, Q. Zhou.* Optovue, Inc., Fremont, CA *CR

5999 — B0799 Use of smartphone fundus camera photographs for screening of retinal pathologies in premature and newborn patients. *David Magana^{1,2}, W. Quiñónez^{1,2}, E. Romo-García^{1,2}, G. Gutierrez Ruiz², A. Meza², S. Paz-Camacho¹.* ¹Oftalmología, Centro de Investigación de Ciencias de la Salud - Universidad Autónoma de Sinaloa, Culiacan, Mexico; ²Retina, Fundación Buena Vista IAP, Culiacan, Mexico

6000 — B0800 Choroidal and sub-retinal pigment epithelium caverns: multimodal imaging characteristics and relation to Friedman lipid globules. *Christine Curcio¹, R. Dolz-Marco^{2,3}, M. Cozzi³, O. Gal-Or^{2,3}, M. Pellegrini⁴, K. Freund^{2,3}, G. Staurenghi⁴.* ¹Univ of Alabama at Birmingham, Birmingham, AL; ²Vitreous Retina Macula Consultants of NY, New York, NY; ³LuEsther T. Mertz Retinal Research Center, Manhattan Eye, Ear and Throat Hospital, New York, NY; ⁴Eye Clinic, Department of Biomedical and Clinical Science “Luigi Sacco”, University of Milan, Milan, Italy *CR

6001 — B0801 Optical Coherence Tomography Angiography Quantitative Analysis and Correlation with Visual Acuity in Branch Retinal Artery Occlusion. *Waseem Ansari¹, A. V. Rachitskaya¹, Y. Modi².* ¹Ophthalmology, Cleveland Clinic, Cleveland, OH; ²Department of Ophthalmology, New York University, New York, NY

6002 — B0802 Insights into epiretinal membranes evolution: presence of continuous ectopic inner foveal layers and a new optical coherence tomography staging scheme. *Andrea Govetto¹, R. A. Lalane¹, D. Sarraf¹, M. S. Figueroa², J. Hubschman¹.* ¹Ophthalmology, Stein Eye Institute, UCLA, Los Angeles, CA; ²Ramon y Cajal Hospital, Madrid, Spain

6003 — B0803 Swept-source optical coherence tomography identifies choroidal vascular and pigmentary changes resembling pachychoroid spectrum disorders around choroidal nevi. *Orly Gal-Or^{1,2}, K. K. Dansingani^{1,3}, F. Gilani^{1,2}, K. Freund^{1,2}.* ¹Vitreous Retina Macula Consultants of New York, New York, NY; ²LuEsther T. Mertz Retinal Research Center, Manhattan Eye, Ear and Throat Hospital, New York, NY; ³Truhlsen Eye Institute, University Of Nebraska medical center, Omaha, NE *CR

6004 — B0804 Retinal microvascular impairment prior to ganglion cell loss in mild cognitive impairment and Alzheimer's disease. *Hong Jiang^{1,2}, Y. Wei^{1,3}, Y. Shi¹, X. Sun², G. Gregori¹, F. Zheng¹, B. L. Lam¹, T. Rundek², J. Wang¹.* ¹Bascom Palmer Eye Institute, University of Miami, Miami, FL; ²Neurology, University of Miami, Miami, FL; ³Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China *CR

6005 — B0805 Interocular symmetry and repeatability of foveal outer nuclear layer thickness in congenital achromatopsia. *Rebecca Mastey¹, K. M. Litts¹, M. R. Strampe^{1,4}, C. S. Langlo³, E. J. Patterson¹, M. A. Wilk^{3,2}, J. Carroll^{1,3}.* ¹Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI; ²HudsonAlpha Institute for Biotechnology, Huntsville, AL; ³Cell Biology, Neurobiology, & Anatomy, Medical College of Wisconsin, Milwaukee, WI; ⁴University of Minnesota Medical School, Minneapolis, MN *CR, ✗

6006 — B0806 Optic Coherence Tomography Features Of Subretinal Vitreous Substitutes. *Leandro C. Zacharias¹, J. L. Carvalho¹, E. D. da Silva¹, T. Tanaka¹, R. C. Preti¹, W. Takahashi¹, L. P. Cunha^{1,2}, M. R. Monteiro¹.* ¹Ophthalmology, University of Sao Paulo, Sao Paulo, Brazil; ²Ophthalmology, Universidade Feral de Juiz de Fora, Juiz de Fora, Brazil

6007 — B0807 Imaging of remnant cone structure in outer retinal lesions in macular telangiectasia (MacTel) type 2. *Katie M. Litts¹, M. Okada², A. Kalitzeos³, M. Kasilian³, R. Mastey¹, M. Michaelides^{2,3}, J. Carroll^{1,4}, C. A. Egan².* ¹Ophthalmology & Visual Sciences, Medical College of Wisconsin, Milwaukee, WI; ²Moorfields Eye Hospital, London, United Kingdom; ³University College London, London, United Kingdom; ⁴Cell Biology, Neurobiology and Anatomy, Medical College of Wisconsin, Milwaukee, WI *CR

6008 — B0808 Directional variability of photoreceptor reflectance: evidence that photoreceptor disarray is a common feature in retinal diseases. *Michel Paques¹, C. Bottin¹, J. A. Sahel¹, K. Grieve¹, S. meimon², F. Rossant³, S. Mrejen¹.* ¹Clinical Investigation Center 1423, Quinze-Vingts Hospital, INSERM, Paris, France; ²DOTA, ONERA, Chatillon, France; ³Lisit, ISEP, Paris, France *CR, ✗

6009 — B0809 Age-related alterations of retinal microcirculation, microvasculature and microstructure. *Jianhua Wang¹, Y. Wei^{2,1}, H. Jiang^{1,3}, Y. Shi¹, D. Qu¹, G. Gregori¹, F. Zheng¹.* ¹Ophthalmology, Bascom Palmer Eye Inst Lib, Miami, FL; ²Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou, China; ³Department of Neurology, University of Miami, Miami, FL *CR

Hall G

Thursday, May 11, 2017 1:30 PM-3:15 PM

551 ARVO/Alcon Keynote Closing

Session: What's next in the investigation of genetics of age-related macular degeneration?

The session features a panel of experts who will focus on the next set of potential investigations to further our understanding of the pathogenesis of age-related macular degeneration (AMD) based upon current knowledge of the genetics of AMD. Presenters will explore lessons from other diseases that have taken that translational step in moving from gene discovery to better understanding of functional aspects; approaches to functionalizing rare variants; and the use of biobanks to iterate from discovery to disease mechanism. The panel will discuss how these approaches may help us move forward from our current knowledge of the genetics of AMD to actionable steps to reduce the burden of blindness from AMD.

Moderator: Donald J. Zack

— 1:30 **Lessons learned from other diseases.**
Pamela Sklar, Icahn School of Medicine at Mount Sinai

— 2:05 **Approaches to Functionalizing Rare Genetic Variants.** Terri Manolio, National Human Genome Research Institute/National Institutes of Health

— 2:40 **Using Biobanks to Iterate from Discovery to Disease Mechanism.** Nancy J. Cox, Vanderbilt University

Indices

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Author Index 411

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- ARVO Commercial Relationships Policy
- Statement of Registering Clinical Trials
- Clinical Trials Index

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2017

Global Connections
in Vision Research

MAY 7 – 11 | BALTIMORE

Moderator Index

This is an alphabetic listing of moderators for paper and poster sessions, symposia, workshops, and SIGs. Included are the Moderator's name, Commercial Relationships disclosure, day, date, time, session location, session number and title.

- Abramoff, Michael D.**, IDx LLC (F); IDx LLC (I); IDx LLC (C); IDx LLC (R); IDx LLC (S); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Ballroom 3
326 Diabetic retinopathy clinical
- Abramoff, Michael D.**, IDx LLC (F); IDx LLC (I); IDx LLC (C); IDx LLC, University of Iowa, USPTO 9,155,465, 9,155,465, 7,474,775, 8,358,819 (P); IDx LLC (R); IDx LLC (S); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Hall G
406 Diabetic retinal imaging
- Abramoff, Michael D.**, Alimera (F); IDx LLC (I); IDx LLC (C); University of Iowa (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 1:00 PM Ballroom 1
460 Update on Automated Screening for Diabetic Retinopathy: Validation and Implementation - SIG
- Agudo-Barrisio, Marta**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
312 Neurodegeneration and Neuroprotection
- Ahmad, Iqbal**, Envisia Therapeutics (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 1:00 PM Room 321
464 Highlighting Successful Technologies in Sustained Drug Delivery in Ophthalmology: New Polymer Science and Particle Engineering Platforms that Drive Future Promising Extended Release Therapies - SIG
- Al-Shabrawey, Mohamed A.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
423 Angiogenesis: Basic Mechanisms
- Allen, Rachael S.**, None
Wednesday, May 10, 1:00 PM Room 310
457 Grant writing tips for pre- and post-doctoral fellows: The nuts and bolts
- Allikmets, Rando**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
451 Macular diseases (inherited)
- Anderson, Heather A.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
428 Spatial and temporal vision
- Asbell, Penny A.**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
379 Clinical virology
- Asero, Antonino**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
424 Drug and gene therapy and delivery
- Ashby, Regan**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
518 Factors mediating myopia
- Asnagli, Laura**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
242 Retinoblastoma: Basic/Translational
- Avitabile, Teresio**, None
Wednesday, May 10, 8:30 AM Room 301
407 Inflammation and eye - Minisymposium
- Ayton, Lauren N.**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
321 Diabetic Eye Disease
- Ayyagari, Radha**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
446 Genetics of retinal dystrophies and Functional Analysis
- Badea, Tudor C.**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
313 Ganglion Cells and Beyond
- Bachr, Wolfgang**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
245 Genetics of macular degeneration
- Bachr, Wolfgang**, None
Monday, May 8, 3:45 PM Room 314
271 Molecular and biochemical mechanisms in retinal disorders
- Bak-Nielsen, Sashia**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
440 Corneal Biomechanics
- Baranov, Petr**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
220 Corneal Biology and Regenerative Medicine
- Baumann, Bernhard**, None
Monday, May 8, 3:45 PM Ballroom 1
264 Biomarkers based on vasculature Imaging
- Bazan, Nicolas G.**, None
Thursday, May 11, 11:30 AM Room 301
528 Molecular pharmacology and ocular toxicology
- Bazan, Nicolas G.**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
542 Diabetic retinopathy
- Benavente-Perez, Alexandra**, Johnson and Johnson Vision Care Inc. (F); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 11:30 AM Room 321
535 Novel findings and approaches in myopia research
- Berger, Elizabeth A.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
417 Clinical microbiology
- Bernstein, Audrey M.**, None
Tuesday, May 9, 11:00 AM Ballroom 2
324 Corneal dystrophies: Where do we stand? - Minisymposium
- Berry, Jesse L.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
346 Retinoblastoma: Clinical
- Bharadwaj, Shrikant R.**, None
Tuesday, May 9, 8:30 AM Room 316
309 Surprising human visual processes revealed with advanced techniques
- Bharti, Kapil**, None
Tuesday, May 9, 1:00 PM Room 307
355 New in vitro Models to Study AMD Pathogenesis: Step Aside ARPE19 - SIG
- Birch, Eileen E.**, None
Wednesday, May 10, 8:30 AM Room 324
414 Ambyopia II
- Blanch, Richard J.**, None
Tuesday, May 9, 1:00 PM Room 316
351 Clinician-scientist forum: How to become a successful clinician-scientist
- Boesze-Battaglia, Kathleen**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
335 Cellular Metabolism of the Retina and RPE
- Bohsack, Brenda L.**, Alcon Research Institute (R); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Room 321
334 Factors affecting ocular development
- Bonilha, Vera L.**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
514 Non-neural cells of the retina: Glia and Microglia
- Borras, Terete**, None
Monday, May 8, 1:00 PM Ballroom 1
256 Nanotechnology for Imaging the Eye - SIG
- Borras, Terete**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
374 Trabecular Meshwork and Ciliary Body
- Bourne, Rupert R.**, None
Sunday, May 7, 3:15 PM Room 309
148 Frequency of Visual Impairment and Eye Disease and Their Risk Factors
- Bourne, Rupert R.**, None
Tuesday, May 9, 1:00 PM Ballroom 1
352 Global Prevalence of Blindness and Vision Impairment: Magnitude, Temporal Trends, and Projections: are we on track to meet VISION 2020 and WHO Global Action Plan goals and beyond? - SIG
- Bowes Rickman, Catherine**, None
Sunday, May 7, 8:30 AM Ballroom 4
102 Homologies between the brain and the eye: Can ocular researchers lead the way or are we following our <brainy> colleagues?
- Boye, Shannon E.**, None
Monday, May 8, 11:00 AM Ballroom 1
226 Gene therapies
- Brady, Christopher J.**, None
Wednesday, May 10, 11:00 AM Room 309
436 Improving Care for Diabetic Retinopathy
- Brainard, David H.**, None
Tuesday, May 9, 1:00 PM Room 309
348 VSS at ARVO - Functional Brain Imaging in Development and Disorder
- Brandt, Curtis R.**, None
Thursday, May 11, 11:30 AM Room 310
532 Genomics and proteomics to dissect normal and diseased ocular sites: an immunology and microbiology perspective
- Brennan, Lisa A.**, None
Wednesday, May 10, 8:30 AM Room 307
408 Lens Epithelial Cells and PCO
- Bressler, Neil**, Bayer, Novartis, Roche (Genentech), Samsung (F); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Ballroom 3
326 Diabetic retinopathy clinical
- Brilliant, Murray**, None
Monday, May 8, 1:00 PM Room 324
260 Controversies in Albinism: Why is Their Vision Poor and How Do We Fix It? - SIG
- Brothers, Kimberly**, None
Wednesday, May 10, 11:00 AM Room 310
437 Basic investigations in the treatment of ocular infections
- Brown, David M.**, Alcon/Novartis, Allegro, Allergan, Apellis, Astellas, Avalanche/Adverum, Clearside, Genentech/Hoffman-La Roche, Iconic, NEI/NIH, Ohr, Ophthotech, PRN, Regeneron/Bayer, Regenix Bio, Santen, SciFlour Life Sciences, Second Sight, Thrombogenics, Tyrogenics (F); Adverum, Alcon/Novartis, Allegro, Allergan, Carl Zeiss Meditec, Coda Therapeutics, Clearside Biomedical, Envisia, Janssen, Johnson & Johnson, Genentech/Roche, Heidelberg Engineering, Notal Vision, Ohr, Ophthotech, OPTOS/Nikon, Optovue, Pfizer, Regeneron/Bayer, Regenix Bio, Santen, Stealth Biotherapeutics, Thrombogenics, Tyrogenix (C); Moderator: Commercial Relationships Disclosure
Monday, May 8, 11:00 AM Exhibit/Poster Hall
247 Diabetic macular edema and anti-VEGF therapy
- Brunken, William J.**, None
Thursday, May 11, 11:30 AM Ballroom 1
525 Cellular and molecular bases of retinal development
- Bucolo, Claudio**, None
Wednesday, May 10, 3:45 PM Room 301
473 Drug delivery II
- Bucolo, Claudio**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
505 Toxicology; hypoxia; ischemia; oxidative stress; corneal disease
- Bunya, Vatinice Y.**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
133 Dry eye, non-clinical
- Burgoyne, Claude F.**, None
Tuesday, May 9, 1:00 PM Room 308
356 New advancements in SD-OCT assessment of neuroretinal rim and fiber layer tissue for glaucoma detection and follow-up - SIG
- Busik, Julia V.**, None
Wednesday, May 10, 11:00 AM Ballroom 1
430 Diabetic Retinopathy
- Caldwell, Ruth B.**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
219 Stem cells for ganglion cell regeneration and repair
- Callegan, Michelle C.**, None
Thursday, May 11, 8:30 AM Ballroom 4
502 The global problem of antibiotic resistance: Impact on ocular health worldwide and researching alternatives
- Campbell, Matthew**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
282 RPE dysfunction in macular diseases
- Campochiaro, Peter A.**, Graybug (I); Genentech, Regeneron, Alimera Sciences (C); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Ballroom 1
123 Managing Patients with Diabetic Macular Edema, Neovascular AMD, and Retinal Vein Occlusion: How to Best Utilize Data from Clinical Trials - SIG

Campos – Dougherty

- Campos, Maria M.**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
243 Tumors - Inside and around the eye, I
- Canto Soler, Valeria**, Provisional Application No. 61/928,116.
PCT/US2015/011701. WO 2015109148A1 (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
448 Stem cells and tissue engineering for retinal repair
- Carr, Daniel J.**, None
Wednesday, May 10, 1:00 PM Room 310
457 Grant writing tips for pre- and post-doctoral fellows:
The nuts and bolts
- Carroll, Joseph**, Optovue (F); Meira GTx (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Room 316
438 Color vision, low vision
- Caspi, Rachel R.**, None
Sunday, May 7, 3:15 PM Room 310
149 Systemic influences on ocular disease
- Caspi, Rachel R.**, None
Wednesday, May 10, 3:45 PM Room 310
475 The bench and the bedside: Who is the instructor? - Minisymposium
- Chaitin, Michael H.**, None
Sunday, May 7, 1:30 PM Room 309
118 NIH-CSR workshop on the peer review of grant applications
- Chakrabarti, Subhabrata**, None
Wednesday, May 10, 8:30 AM Room 321
413 New Genes and Loci
- Chakravarthy, Usha**, Roche (F); None (I); None (E); None (C); None (P); Roche (R); None (S); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Room 309
331 Understanding the Course and Risk Factors for Age-Related Macular Degeneration
- Chakravarti, Shukti**, None
Monday, May 8, 8:30 AM Ballroom 2
203 Corneal Wound Healing
- Chakravarti, Shukti**, None
Monday, May 8, 1:00 PM Room 307
259 TGF beta signal transductions in ocular health and disease - SIG
- Chan, RV Paul**, None
Wednesday, May 10, 3:45 PM Ballroom 3
470 Retinopathy of Prematurity
- Channa, Roomasa**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
548 Ocular Trauma
- Chao, Jennifer R.**, None
Tuesday, May 9, 1:00 PM Room 316
351 Clinician-scientist forum: How to become a successful clinician-scientist
- Chaouq, Brahim**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
514 Non-neural cells of the retina: Glia and Microglia
- Chaudhuri, Zia**, None
Tuesday, May 9, 3:45 PM Room 324
372 Strabismus: Basic and Clinical
- Chauhan, Sunil**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
156 Corneal neovascularization, immunology and neuropathy
- Chen, Chieh-Li**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
138 Image Processing and Interpretation
- Chen, Mei**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
506 Diabetic Retinopathy: Neurodegeneration and pathology associated with the neurovascular unit.
- Chew, Emily**, None
Tuesday, May 9, 11:00 AM Room 309
331 Understanding the Course and Risk Factors for Age-Related Macular Degeneration
- Choh, Vivian**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
240 Optic and extraocular anatomy and function
- Choh, Vivian**, None
Wednesday, May 10, 3:45 PM Room 321
478 Visual functions and processes conserved across species - Minisymposium
- Choh, Vivian**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
512 Retinal Function: ERG studies
- Choi, Stacey S.**, None
Tuesday, May 9, 8:30 AM Room 316
309 Surprising human visual processes revealed with advanced techniques
- Choi, Stacey S.**, None
Wednesday, May 10, 8:30 AM Room 314
412 Novel ophthalmic instrumentation and imaging
- Chowers, Itay**, Novartis, Bayer, Biokine, Lycored (F); Novartis, Bayer (C); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Exhibit/Poster Hall
284 AMD Clinical Research I
- Chowers, Itay**, Novartis, Bayer, Biokine, Lycored (F); Novartis, Bayer (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
342 AMD Clinical Research 2
- Chowers, Itay**, Novartis, Bayer, Biokine (F); Novartis, Bayer (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Ballroom 3
404 AMD clinical research
- Chui, Toco Y.**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
112 Adaptive optics ophthalmology: technology and application
- Chui, Toco Y.**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
237 Clinical applications of OCT angiography
- Clegg, Dennis O.**, None
Wednesday, May 10, 8:30 AM Ballroom 1
403 Stem Cells: new approaches and disease modeling
- Coats, Brittany**, None
Wednesday, May 10, 3:45 PM Room 301
473 Drug delivery II
- Coleman, Anne**, Alcon (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
485 Laser Therapy and MIGS
- Coletta, Nancy J.**, None
Tuesday, May 9, 3:45 PM Room 316
371 Improving Retinal Imaging and Image Understanding-AO
- Collin, Rob W.**, None
Monday, May 8, 3:45 PM Room 314
271 Molecular and biochemical mechanisms in retinal disorders
- Connaughton, Victoria P.**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
279 Inner Retinal circuits
- Connon, Che J.**, None
Wednesday, May 10, 11:00 AM Ballroom 2
429 Corneal Epithelium in Health and Disease
- Connor, Kip M.**, OMEICOS Therapeutics GmbH (C); CYP450 Lipid Metabolites Reduce Inflammation and Angiogenesis/ MEEI (P); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
373 ROP: Basic mechanisms
- Correa, Zelia M.**, castle biosciences, llc (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
420 Molecular mechanisms in uveal melanoma
- Corson, Timothy W.**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
442 Uveal melanoma clinical studies
- Costela, Francisco**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
452 Low Vision Populations, Services and Treatments
- Crabb, John W.**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
109 Cytokines; growth factors; Antiangiogenic drugs
- Craig, Jennifer P.**, None
Sunday, May 7, 1:30 PM Ballroom 4
125 Conclusions and recommendations from the TFOS Dry Eye Workshop II - SIG
- Cremers, Frans P.**, None
Monday, May 8, 8:30 AM Room 314
213 Genotype-phenotype correlations, prevalence studies and novel gene defects
- Cremers, Frans P.**, None
Thursday, May 11, 11:30 AM Ballroom 4
527 Novel methods and Mechanisms of Disease
- D'Amore, Patricia A.**, None
Tuesday, May 9, 3:45 PM Ballroom 1
363 Macular degeneration-cell biology
- Dagnelie, Gislin**, Second Sight Medical Products (F); eSight Corp (I); eSight Corp (C); Second Sight Medical Products (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 3:45 PM Room 308
474 Low Vision Devices and Rehabilitation
- Daiger, Stephen P.**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
318 Whole Genome Analysis, Genetic Screening in Retinal Dystrophies and Others
- Dana, Reza**, Dompe, Shire, Capricor (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 1:00 PM Room 324
357 Mechanisms of ocular surface immunity in graft vs host disease and sjogren syndrome - SIG
- Dartt, Darlene A.**, None
Monday, May 8, 3:45 PM Ballroom 2
263 Corneal Development and Repair
- Das, Vallabh E.**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
322 Strabismus
- David, Larry L.**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
510 Crystallins
- De Paiva, Cintia S.**, Parion, Shire (C); TFOS (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Ballroom 2
142 Dry Eye I
- De Paiva, Cintia S.**, Parion, Shire (C); TFOS (R); Moderator: Commercial Relationships Disclosure
Monday, May 8, 8:30 AM Exhibit/Poster Hall
220 Corneal Biology and Regenerative Medicine
- De Paiva, Cintia S.**, Parion, Shire (C); TFOS (R); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
419 Ocular Surface Health and Disease
- DeAngelis, Margaret M.**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
136 Structural/functional genomics and gene variants
- DeMarco, Paul**, None
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
482 Clinical electrophysiology
- Den Hollander, Anneke I.**, None
Sunday, May 7, 3:15 PM Ballroom 4
144 Biochemistry and Molecular Biology of AMD I
- Den Hollander, Anneke I.**, None
Wednesday, May 10, 1:00 PM Ballroom 4
462 Predictive testing for age-related macular degeneration (AMD): Are we there yet? - SIG
- Di Polo, Adriana**, None
Monday, May 8, 8:30 AM Ballroom 4
206 Optic nerve regeneration: Barriers past and future - Minisymposium
- Dimaras, Helen**, None
Sunday, May 7, 3:15 PM Room 321
151 Retinoblastoma: From Genetics and Pathology to Therapy
- Dinculescu, Astra**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
378 Cellular mechanisms of retinal diseases and ocular therapeutics
- Dix, Richard D.**, None
Tuesday, May 9, 11:00 AM Room 310
332 Going viral!
- Djalilian, Ali R.**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
314 Corneal Epithelium
- Dmitriev, Andrey V.**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
447 Photoreceptor degeneration and retinal rescue strategies
- Do, Diana V.**, Genentech, Regeneron, Allergan (C); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Ballroom 1
123 Managing Patients with Diabetic Macular Edema, Neovascular AMD, and Retinal Vein Occlusion: How to Best Utilize Data from Clinical Trials - SIG
- Dougherty, Bradley E.**, None
Tuesday, May 9, 8:30 AM Room 308
307 The Impact of Low Vision on Function and Everyday Activities

- Dowling, John E.**, None
Sunday, May 7, 1:30 PM Ballroom 3
124 Lasker/IRRF Initiative on Amblyopia - SIG
- Downs, J Crawford C.**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
511 IOP Measurement and Characterization II
- Doyle, Sarah**, Use of IL-18 for treatment of neovascular AMD (P); Moderator: Commercial Relationships Disclosure
Monday, May 8, 11:00 AM Exhibit/Poster Hall
250 AMD-Novel therapies
- Drago, Filippo**, None
Tuesday, May 9, 11:00 AM Room 301
329 Retina/RPE 2
- Drago, Filippo**, None
Wednesday, May 10, 8:30 AM Room 301
407 Inflammaging and eye - Minisymposium
- Drago, Filippo**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
505 Toxicology; hypoxia; ischemia; oxidative stress; corneal disease
- Dubovy, Sander R.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
347 Tumors: Inside and around the eye, II
- Dubra, Alfredo**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
237 Clinical applications of OCT angiography
- Duda, Teresa**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
157 Outer Retina Function
- Duh, Elia J.**, None
Tuesday, May 9, 8:30 AM Ballroom 1
302 Angiogenesis
- Duncan, Jacque L.**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
283 AMD translational studies and choroidal neovascularization
- Dutta, Debarun**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
337 Contact Lenses
- Edward, Deepak P.**, None
Monday, May 8, 8:30 AM Room 321
215 Novel Imaging and Biomarkers for Ocular Tumors and Disease
- Eells, Janis T.**, LumiThera, MultiRadiance Medical (C); LumiThera, MultiRadiance Medical (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 8:30 AM Ballroom 3
101 Light-based treatment strategies for blinding eye disease
- Eells, Janis T.**, LumiThera, MultiRadiance Medical (C); LumiThera, MultiRadiance Medical (R); Moderator: Commercial Relationships Disclosure
Monday, May 8, 1:00 PM Room 301
258 Targeting Mitochondrial Dysfunction in Retinal and Optic Nerve Disease - SIG
- El-Dairi, Mays**, Knights Templar (F); Prana Pharmaceuticals (C); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 11:30 AM Room 324
536 Retinal Abnormalities and Neuropathology
- El-Hodiri, Heithem M.**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
376 Ocular gene expression, proteomics and lipidomics
- Elliott, Michael H.**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
137 Biochemistry and molecular biology of the retina
- Elsner, Ann E.**, Aeon Imaging (F); Aeon Imaging (I); Moderator: Commercial Relationships Disclosure
Monday, May 8, 11:00 AM Room 316
235 Applications of adaptive optics for retinal imaging and visual function testing - Minisymposium
- Engelhardt, Britta**, None
Sunday, May 7, 8:30 AM Ballroom 4
102 Homologies between the brain and the eye: Can ocular researchers lead the way or are we following our 'brainy' colleagues?
- Fadool, James M.**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
445 Gene editing and gene therapies
- Fahrenfort, Iris**, None
Thursday, May 11, 11:30 AM Room 308
530 Photoreceptors
- Fan, Xingjun**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
341 Cataractogenesis II
- Farkas, Michael H.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
335 Cellular Metabolism of the Retina and RPE
- Farkas, Michael H.**, None
Tuesday, May 9, 3:45 PM Ballroom 1
363 Macular degeneration-cell biology
- Farsiu, Sina**, None
Sunday, May 7, 3:15 PM Room 301
146 Deep learning for image segmentation and classification
- Fawzi, Amani A.**, None
Sunday, May 7, 3:15 PM Hall G
145 OCT Angiography in AMD
- Fawzi, Amani A.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
339 Innovations in imaging
- Fazio, Massimo A.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
340 Biomechanics II
- Fechtner, Robert D.**, Alcon, Santen, Bausch & Lomb, Envisia, Aerie, Glaukos (C); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Exhibit/Poster Hall
275 Clinical Trials and Drug Studies I
- Fedorchak, Morgan V.**, PCT/US2014/020355 (P); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
160 Anti-inflammatory; antibiotics; antivirals
- Fedorchak, Morgan V.**, PCT/US2014/020355 (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 3:45 PM Room 301
473 Drug delivery II
- Ferguson, Thomas A.**, None
Sunday, May 7, 5:15 PM Hall G
164 Improving global eye health: Beating the odds for neglected and emerging diseases around the world
- Ferrington, Deborah A.**, None
Tuesday, May 9, 1:00 PM Room 307
355 New in vitro Models to Study AMD Pathogenesis: Step Aside ARPE19 - SIG
- Ferrington, Deborah A.**, Stealth Biotherapeutics, Inc (F); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
378 Cellular mechanisms of retinal diseases and ocular therapeutics
- Fingert, John**, None
Thursday, May 11, 11:30 AM Ballroom 4
527 Novel methods and Mechanisms of Disease
- Fink, Michael K.**, None
Tuesday, May 9, 8:30 AM Ballroom 2
301 Corneal Imaging and Biomechanics
- Finnemann, Silvia**, None
Wednesday, May 10, 11:00 AM Room 307
434 Membrane domains: Polarity, trafficking and assembly in the eye - Minisymposium
- Flanagan, John G.**, Carl Zeiss Meditec (F); Carl Zeiss Meditec (C); Eyecarrot Inc. (S); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 3:45 PM Ballroom 4
471 Visual Fields, Vision Function, Psychophysics II
- Fletcher, Erica L.**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
513 Oxidative damage, ER stress and autophagy
- Fliesler, Steven J.**, None
Tuesday, May 9, 8:30 AM Room 314
308 Photoreceptors: Cell Biology, Disease and Rescue
- Folk, James C.**, None
Tuesday, May 9, 3:45 PM Hall G
366 AMD imaging II and visual function
- Fort, Patrice E.**, None
Wednesday, May 10, 11:00 AM Ballroom 1
430 Diabetic Retinopathy
- Fowler, Velia M.**, None
Wednesday, May 10, 11:00 AM Room 307
434 Membrane domains: Polarity, trafficking and assembly in the eye - Minisymposium
- Francis, Jasmine H.**, None
Tuesday, May 9, 8:30 AM Room 321
310 Uveal melanoma: From Clinical Trials to Molecular Mechanisms
- Frausto, Ricardo F.**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
221 Corneal Endothelium
- Freeman, Ellen E.**, None
Wednesday, May 10, 8:30 AM Room 309
410 Vision and driving: Lessons learned and future directions - Minisymposium
- Freeman, William R.**, Allergan Inc (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
383 Macular diseases (non-inherited)
- Freund, Bailey K.**, Genentech (F); Genentech, Optos, Optovue, Heidelberg Engineering, and Graybug Vision (C); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
131 AMD Imaging 2
- Fuchsluger, Thomas A.**, None
Monday, May 8, 1:00 PM Ballroom 1
256 Nanotechnology for Imaging the Eye - SIG
- Fujikado, Takashi**, NIDEK Company (F); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
427 Retinal prostheses
- Fulton, Anne B.**, None
Wednesday, May 10, 11:00 AM Room 308
435 ERG:Advances, Disease and Injury
- Funderburgh, James L.**, None
Tuesday, May 9, 3:45 PM Ballroom 2
362 Corneal Tissue Engineering and Molecular Biology
- Gagliano, Caterina**, None
Monday, May 8, 3:45 PM Room 301
268 Retina
- Gagliano, Caterina**, None
Tuesday, May 9, 3:45 PM Room 301
367 Intraocular pressure
- Gallar, Juana**, None
Monday, May 8, 3:45 PM Room 321
273 Corneal immunology and neuropathy
- Galor, Anat**, Allergan, Shire (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Ballroom 2
402 Dry Eye II
- Gamlin, Paul D.**, None
Tuesday, May 9, 3:45 PM Room 324
372 Strabismus: Basic and Clinical
- Gandolfi, Stefano**, None
Monday, May 8, 3:45 PM Room 301
268 Retina
- Gao, X. Raymond**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
384 Glaucoma
- Gardner, Thomas W.**, Kalvista, Novo Nordisk (R); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Hall G
406 Diabetic retinal imaging
- Garg, Prashant**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
541 Infection and immunology
- Garvin, Mona K.**, US 8,358,819 B2 (P); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Ballroom 1
264 Biomarkers based on vasculature Imaging
- Ghate, Deepta A.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
345 Papilledema, IIH and Optic Nerve
- Ghinia, Miruna**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
130 Determinants of PR development and repair
- Ghosh, Atanu**, None
Monday, May 8, 3:45 PM Room 316
272 Mechanisms of accommodation
- Ghosh, Kaustabh**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
250 AMD-Novel therapies
- Gibson, Daniel J.**, MMP Detection Patent might be relevant. (P); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 11:30 AM Ballroom 2
524 Keratoconus: Basic Science and Clinical Applications
- Gipson, Ilene K.**, None
Monday, May 8, 11:00 AM Ballroom 2
225 Barrier function of the ocular surface - Minisymposium
- Giuliano, Francesco**, S.I.F.I. (Società Industria Farmaceutica Italiana) S.p.A. (E); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
110 Retina/RPE; Mechanisms

Glickman – Jin

- Glickman, Randolph**, EchoLase, Inc. (equity interest) (I); USPTO Appl. No. 13/514,160 "Optoacoustic/Photoacoustic Imaging System Using Probe Beam Deflection" (licensed to EchoLase, Inc.) (P); Moderator: Commercial Relationships Disclosure
Monday, May 8, 8:30 AM Room 321
215 Novel Imaging and Biomarkers for Ocular Tumors and Disease
- Goldberg, Andrew F.**, None
Thursday, May 11, 11:30 AM Room 301
528 Molecular pharmacology and ocular toxicology
- Goldsmith, Zachary K.**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
442 Uveal melanoma clinical studies
- Golestaneh, Nady**, None
Wednesday, May 10, 8:30 AM Ballroom 1
403 Stem Cells: new approaches and disease modeling
- Gong, Xiaohua**, None
Thursday, May 11, 11:30 AM Room 307
529 Lens Biochemistry
- Gorbatyuk, Marina**, None
Tuesday, May 9, 11:00 AM Ballroom 1
325 ER stress and the unfolded protein response in ocular health and disease - Minisymposium
- Gorbatyuk, Marina**, None
Wednesday, May 10, 3:45 PM Room 314
476 Ocular Transcriptomics and proteomics
- Gordon, Mae O.**, None
Tuesday, May 9, 8:30 AM Ballroom 4
304 Clinical Trials and Drug Studies II
- Gordon, Marion K.**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
107 Cornea Wound Healing and Repair
- Gottlob, Irene**, None
Monday, May 8, 11:00 AM Room 324
236 Optical coherence tomography in pediatric neuro-ophthalmology - Minisymposium
- Gower, Emily W.**, None
Monday, May 8, 11:00 AM Room 309
233 Improving Eye Care Delivery
- Gower, Emily W.**, None
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
488 Eye Care Delivery and Economic Research
- Gregory-Ksander, Meredith S.**, None
Sunday, May 7, 1:30 PM Room 308
128 Inflammation activation in the pathogenesis of glaucoma - SIG
- Gronert, Karsten**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
135 Autoimmune Ocular disease: selfies gone wrong
- Gross, Jeffrey M.**, None
Sunday, May 7, 3:15 PM Room 307
147 Genetics and modeling of lens and anterior segment anomalies - Minisymposium
- Grosskreutz, Cynthia L.**, Novartis (E); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Ballroom 4
327 Neuroprotection
- Grossniklaus, Hans E.**, NIH R01CA176001 (F); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Room 321
151 Retinoblastoma: From Genetics and Pathology to Therapy
- Grunert, Ulrike**, None
Tuesday, May 9, 3:45 PM Room 308
368 Beyond the retina: Central visual circuits - Minisymposium
- Grytz, Rafael**, None
Tuesday, May 9, 8:30 AM Ballroom 3
303 Biomechanics I
- Guido, William**, None
Tuesday, May 9, 3:45 PM Room 308
368 Beyond the retina: Central visual circuits - Minisymposium
- Gulati, Vikas**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
345 Papilledema, IHH and Optic Nerve
- Haller, Julia A.**, ThromboGenics (F); Merck, Janssen, Novartis, KalVista (C); Celgene (R); Celgene (S); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
426 Retinal detachment (clinical)
- hammer, Daniel H.**, Physical Science Inc. (Legacy employee stock ownership program; due to expire in 2020). (I); Physical Sciences Inc. (U.S. Patents 7648242, 7758189, 7866821, 7896496, 8201943, and others pending) (P); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
516 Advancements in OCT
- Hamrah, Pedram**, Shire, GlaxoSmithKline, Dompe, Allergan, CooperVision, TissueTech (F); Shire, Allergan, Santen, Tissue Tech, Eyegate, Jade, Dompe, Bausch and Lomb (C); Adoptive transfer of plasmacytoid dendritic cells to prevent and treat ocular diseases or conditions (P); UpToDate (R); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Room 321
273 Corneal immunology and neuropathy
- Hartnett, M Elizabeth**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
158 New insights in RPE anatomy and physiology
- Hartnett, M Elizabeth**, SanBio (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 8:30 AM Hall G
305 Novel therapies and imaging techniques for retinal disorders - Minisymposium
- Hartnett, M Elizabeth**, San Bio (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
373 ROP: Basic mechanisms
- Hayes, Abigail**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
111 Retinal degeneration. Models and mechanisms
- Heindl, Ludwig M.**, None
Tuesday, May 9, 1:00 PM Room 308
356 New advancements in SD-OCT assessment of neuroretinal rim and fiber layer tissue for glaucoma detection and follow-up - SIG
- Hetting, John R.**, 20160081544 A1 (P); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
545 Visual Disease Models and Restoration
- Hinton, David R.**, None
Monday, May 8, 1:00 PM Room 328
255 China-ARVO networking forum
- Hitchcock, Peter F.**, None
Wednesday, May 10, 1:00 PM Room 309
456 Idea to patents: Project to company
- Hommer, Anton B.**, None
Tuesday, May 9, 1:00 PM Room 308
356 New advancements in SD-OCT assessment of neuroretinal rim and fiber layer tissue for glaucoma detection and follow-up - SIG
- Hood, Donald**, Topcon Inc., Heidelberg Engineering Inc. (F); Topcon Inc., Heidelberg Engineering Inc. (R); Moderator: Commercial Relationships Disclosure
Monday, May 8, 8:30 AM Exhibit/Poster Hall
217 OCT applications
- Hood, Donald**, Topcon Inc., Heidelberg Engineering Inc. (F); Topcon Inc., Heidelberg Engineering Inc. (R); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Ballroom 4
432 Structure-Function Relationships I
- Hori, Yuichi**, Santen Pharmaceutical Co., Ltd., Otsuka Pharmaceutical Co., Ltd., Alcon Japan Ltd. Senju Pharmaceutical Co., Ltd. (F); Santen Pharmaceutical Co., Ltd., Otsuka Pharmaceutical Co., Ltd. (C); Santen Pharmaceutical Co., Ltd., Otsuka Pharmaceutical Co., Ltd., Alcon Japan Ltd. Senju Pharmaceutical Co., Ltd. (R); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Ballroom 2
402 Dry Eye II
- Huang, Xiang-Run**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
421 Imaging: Optic Nerve Head and Nerve Fiber Layer
- Huckfeldt, Rachel M.**, Spark Therapeutics, AGTC (C); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Ballroom 3
265 Inherited retinal diseases and macula
- Huisingsh, Carrie E.**, None
Monday, May 8, 3:45 PM Room 308
270 The Impact of Low Vision on Mobility
- Hung, Li-Fang**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
161 Posterior segment mechanisms and functions in eye development and myopia
- Hunter, David G.**, REBIScan, Inc. (I); REBIScan, Inc., Johns Hopkins University, Boston Children's Hospital (P); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Exhibit/Poster Hall
285 Amblyopia I
- Hunter, David G.**, REBIScan, Inc. (I); REBIScan, Inc., Johns Hopkins University, Boston Children's Hospital (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Room 324
414 Amblyopia II
- Huxlin, Krystal R.**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
107 Cornea Wound Healing and Repair
- Hykin, Phil**, Novartis, Bayer, Allergan (F); Nil (I); Nil (E); Nil (C); Nil (P); Bayer, Novartis, Allergan (R); Nil (S); Moderator: Commercial Relationships Disclosure
Monday, May 8, 8:30 AM Hall G
207 AMD and anti-VEGF therapy
- Hysi, Pirro G.**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
276 Genetics of glaucoma
- Hysi, Pirro G.**, None
Thursday, May 11, 11:30 AM Room 309
531 Glaucoma: Frequency, Risk Factors, and Care
- Ichinose, Tomomi**, None
Tuesday, May 9, 11:00 AM Room 308
330 Bipolar, Horizontal and Amacrine cells
- Ikeda, Yasuhiro**, Nidek Co. Ltd, HOYA CORPORATION (F); ID Pharma Co. Ltd (P); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
343 Retinitis pigmentosa (clinical)
- Inoue, Makoto**, None
Tuesday, May 9, 8:30 AM Hall G
305 Novel therapies and imaging techniques for retinal disorders - Minisymposium
- Iwase, Takeshi**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
246 Clinical retinal imaging I
- Izatt, Joseph A.**, Leica (I); Leica (P); Leica (S); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 1:00 PM Ballroom 3
353 Optical Coherence Tomography Guided Ophthalmic Surgery: Next-Generation Advances - SIG
- Jabs, Douglas A.**, None
Monday, May 8, 11:00 AM Room 310
234 Immunological influences on AMD
- Jakobs, Tatjana C.**, Merck, Biogen, Qiagen (I); Santen Inc (R); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Ballroom 4
266 Neurodegeneration
- Jayagopal, Ashwath**, F. Hoffmann-La Roche Ltd (E); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 1:00 PM Room 301
463 Emerging Therapeutic Modalities in Retinal Diseases - SIG
- Jhanji, Vishal**, None
Sunday, May 7, 1:30 PM Room 314
120 How to write and publish a high impact vision research article: The dos and don'ts
- Jia, Yali**, Optovue, Inc. (F); Optovue, Inc. (P); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
138 Image Processing and Interpretation
- Jia, Yali**, Optovue, Inc. (F); Optovue, Inc. (P); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 3:45 PM Ballroom 4
365 Capillaries, Blood Flow, OCT Angiography
- Jiang, Liqin**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
519 High myopia, associated complications and potential treatments
- Jiang, Xuejuan**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
287 Pediatric Eye Disease
- Jin, Yaping**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
218 Living With Vision Loss
- Jin, Zi-Bing**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
318 Whole Genome Analysis, Genetic Screening in Retinal Dystrophies and Others

- Johnson, Mary A.**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
544 Electrophysiology
- Joo, Choun-Ki**, None
Sunday, May 7, 3:15 PM Room 310
149 Systemic influences on ocular disease
- Joyal, Jean-Sebastien**, None
Thursday, May 11, 11:30 AM Room 314
533 Biochemistry and Molecular Biology implicated in diabetic retinopathy and glaucoma
- Kaarniranta, Kai**, None
Monday, May 8, 11:00 AM Room 307
231 RPE metabolism, autophagy and cell death
- Kaiser, Peter K.**, Allergan, Aerieo, Allergo, Alcon, Bayer, Regeneron, Clearside, Novartis, Kanghong, Ohr (C); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
154 Diabetic macular edema clinical research
- Kaleem, Mona A.**, None
Thursday, May 11, 11:30 AM Ballroom 3
526 Surgery, Laser Therapy, Wound Healing
- Kamerms, Maarten**, None
Tuesday, May 9, 11:00 AM Room 308
330 Bipolar, Horizontal and Amacrine cells
- Kang-Mieler, Jennifer J.**, None
Wednesday, May 10, 3:45 PM Hall G
472 Clinical posterior segment imaging
- Karamichos, Dimitrios**, None
Monday, May 8, 8:30 AM Ballroom 2
203 Corneal Wound Healing
- Karamichos, Dimitrios**, None
Tuesday, May 9, 11:00 AM Ballroom 2
324 Corneal dystrophies: Where do we stand? - Minisymposium
- Kardon, Randy**, Co-Founder of FaceX LLC, MedFace LLC (extraction of facial features for diagnosis and monitoring of eye and neurologic function) (I); University of Iowa Research Foundation; patent pending "Systems and Methods for Recording, Tracking and Interpreting Facial Features", UT Dallas and University of Iowa Research Foundation; patent pending, "System for Traumatic Brain Injury Detection Using Oculomotor Tests" (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
489 Pupil
- Kasragod, Deepa**, TopCon, Nidek, Tomey Corp. (F); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Exhibit/Poster Hall
274 Imaging: Anterior Segment
- Kawasaki, Aki**, None
Sunday, May 7, 1:30 PM Room 316
121 EVER/ARVO workshop: Update on mitochondrial optic neuropathies
- Keay, Lisa J.**, None
Monday, May 8, 11:00 AM Room 309
233 Improving Eye Care Delivery
- Keay, Lisa J.**, None
Wednesday, May 10, 8:30 AM Room 309
410 Vision and driving: Lessons learned and future directions - Minisymposium
- Keel, Stuart**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
222 Retinal Diseases
- Keenan, Tiarnan D.**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
223 AMD
- Kefalov, Vladimir J.**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
377 Visual cycle and phototransduction
- Keller, Kate E.**, None
Wednesday, May 10, 8:30 AM Ballroom 4
405 Trabecular Meshwork, Ciliary Body and Anterior Segment Imaging
- Kern, Timothy S.**, None
Sunday, May 7, 8:30 AM Ballroom 3
101 Light-based treatment strategies for blinding eye disease
- Khanna, Rohit C.**, None
Sunday, May 7, 3:15 PM Room 309
148 Frequency of Visual Impairment and Eye Disease and Their Risk Factors
- Kiilgaard, Jens F.**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
319 Vitreoretinal surgery
- Kiilgaard, Jens F.**, Ellex (teaching on ultrasound course) (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Ballroom 3
431 Vitreoretinal surgery II and endophthalmitis
- Kim, Judy E.**, Carl Zeiss, Notal Bision, Optos (F); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Hall G
328 Retinal Vascular Diseases and CSCR
- Kim, Stephen**, None
Monday, May 8, 8:30 AM Hall G
207 AMD and anti-VEGF therapy
- Kiorges, Lynne**, None
Tuesday, May 9, 1:00 PM Room 309
348 VSS at ARVO - Functional Brain Imaging in Development and Disorder
- Klaver, Caroline**, None
Wednesday, May 10, 1:00 PM Ballroom 4
462 Predictive testing for age-related macular degeneration (AMD): Are we there yet? - SIG
- Knapp, Christopher M.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
415 Oculoplastics
- Knox, Paul C.**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
140 Eye movements
- Koizumi, Noriko**, Senju Pharmaceutical Co., Kowa Company, (F); Senju Pharmaceutical Co., M's Science Corporation (C); Senju Pharmaceutical Co., JCR Pharmaceuticals Co., Doshisha University (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Room 308
409 Corneal Endothelium and Fuchs Corneal Dystrophy
- Kompella, Uday B.**, None
Monday, May 8, 1:00 PM Ballroom 1
256 Nanotechnology for Imaging the Eye - SIG
- Koudouna, Elena**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
441 Conjunctival cell Biol and Meibomian glands
- Kowluru, Renu A.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
422 Diabetic Retinopathy: New Targets and Emerging Therapies
- Kremers, Jan J.**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
512 Retinal Function: ERG studies
- Krishnamoorthy, Raghu R.**, None
Tuesday, May 9, 3:45 PM Room 301
367 Intraocular pressure
- Kruger, Philip B.**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
113 Accommodation and presbyopia correction
- Kubo, Eri**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
244 Cataract Surgery Procedures
- Kuehn, Markus H.**, None
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
483 Glaucoma: Biochemical and molecular disease mechanisms
- Kumar, Ashok**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
380 Mechanisms of viral infections
- Kumar, Ashok**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
540 Immune mechanisms in Eye disease: perception and reality
- Kupersmith, Mark J.**, Quark Pharmaceutical. NAION research clinical trial (F); none (I); none (E); none (C); none (P); none (R); none (S); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 11:30 AM Room 324
536 Retinal Abnormalities and Neuropathology
- Lachke, Salil**, None
Monday, May 8, 8:30 AM Room 307
209 Lens Development and Cell Biology
- Lagali, Pamela S.**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
447 Photoreceptor degeneration and retinal rescue strategies
- Lai, Timothy Y.**, Bayer, Novartis (F); Allergan, Bayer, Novartis (C); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
153 AMD and anti-VEGF therapy 2
- Lakkaraju, Aparna**, None
Monday, May 8, 1:00 PM Ballroom 3
257 The RPE-Photoreceptor Nexus: the Good, the Bad and the Ugly - SIG
- Lamoureux, Eeose L.**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
539 Cataract/Reporting of Research
- Landreville, Solange**, None
Monday, May 8, 8:30 AM Room 321
215 Novel Imaging and Biomarkers for Ocular Tumors and Disease
- Lapenna, Lucia**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
159 Intraocular pressure; aqueous humor dynamics
- LaRocca, Francesco**, None
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
480 Imaging technology and applications
- Lee, Cecilia**, None
Wednesday, May 10, 11:00 AM Room 309
436 Improving Care for Diabetic Retinopathy
- Lee, Richard W.**, None
Wednesday, May 10, 3:45 PM Room 310
475 The bench and the bedside: Who is the instructor? - Minisymposium
- Lei, Hetian**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
549 Retinal detachment: Basic research
- Li Calzi, Sergio**, None
Tuesday, May 9, 8:30 AM Ballroom 1
302 Angiogenesis
- Lim, Jennifer L.**, Genentech, Regeneron, Alimera, Alcon, Clearside (F); Santen, Quark (C); Genentech (R); Moderator: Commercial Relationships Disclosure
Monday, May 8, 11:00 AM Hall G
229 Vitreoretinal interface and retinal detachment
- Lim, K Sheng**, Thea, NewWorldMedical, Ivantis (F); Nil (I); A (E); Alcon, Allergan, Santen, iStar (C); Nil (P); Alcon (R); iStar (S); Moderator: Commercial Relationships Disclosure
Monday, May 8, 1:00 PM Room 328
255 China-ARVO networking forum
- Limb, G. Astrid**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
445 Gene editing and gene therapies
- Liu, Chia-Yang**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
155 Cornea Development
- Liu, Yutao**, None
Wednesday, May 10, 1:00 PM Room 314
458 Vulnerable populations in medical research: Ethical dilemmas and practical approaches
- Lobanova, Ekaterina**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
137 Biochemistry and molecular biology of the retina
- Loewenstein, Anat**, Notal Vision, ForSight Lab (I); Alcon, Allergan, Novartis, ForSight, Notal Vision, Bayer (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Hall G
328 Retinal Vascular Diseases and CSCR
- Longo, Antonio**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
249 AMD: New drugs, delivery systems
- Longo, Antonio**, None
Monday, May 8, 3:45 PM Room 301
268 Retina
- Lopez-Gil, Norberto**, None
Monday, May 8, 3:45 PM Room 316
272 Mechanisms of accommodation
- Lovicu, Frank J.**, None
Wednesday, May 10, 8:30 AM Room 307
408 Lens Epithelial Cells and PCO
- MacGregor, Stuart**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
108 Genetic Epidemiology
- MacLaren, Robert E.**, None
Monday, May 8, 11:00 AM Ballroom 1
226 Gene therapies
- Maddess, Ted**, nuCoria Pty Ltd (F); nuCoria Pty Ltd (I); nuCoria Pty Ltd (P); Carl Zeiss Meditec Inc (R); nuCoria Pty Ltd, EyeCo Pty Ltd (S); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 3:45 PM Ballroom 4
471 Visual Fields, Vision Function, Psychophysics II

Makarenkova – Petroll

- Makarenkova, Helen P.**, None
Wednesday, May 10, 3:45 PM Ballroom 2
468 Conjunctiva, Lacrimal and Meibomian glands and contact lenses
- Makino, Clint L.**, None
Thursday, May 11, 11:30 AM Room 308
530 Photoreceptors
- Malaguarnera, Giulia**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
424 Drug and gene therapy and delivery
- Malek, Goldis**, None
Monday, May 8, 8:30 AM Ballroom 1
204 Common pathogenic role of inflammation in retinal diseases - Minisymposium
- Malek, Goldis**, None
Monday, May 8, 11:00 AM Room 307
231 RPE metabolism, autophagy and cell death
- Malek, Goldis**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
508 Biochemistry and Molecular Biology of AMD II
- Malkin, Alexis G.**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
278 Visual Impairment
- Mandel, Yossi**, None
Wednesday, May 10, 1:00 PM Room 314
458 Vulnerable populations in medical research: Ethical dilemmas and practical approaches
- Manns, Fabrice**, None
Monday, May 8, 8:30 AM Room 316
214 IOL and presbyopia correction
- Mardin, Christian Y.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
421 Imaging: Optic Nerve Head and Nerve Fiber Layer
- Marquart, Mary E.**, None
Wednesday, May 10, 11:00 AM Room 310
437 Basic investigations in the treatment of ocular infections
- Marsack, Jason D.**, university of houston (P); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
162 Aberrations, optical models
- Marsack, Jason D.**, univeraity of houston (P); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 11:30 AM Room 316
534 Visual perception with defocus, distortions, and training
- Marsh-Armstrong, Nicholas**, None
Monday, May 8, 8:30 AM Ballroom 4
206 Optic nerve regeneration: Barriers past and future - Minisymposium
- Martin, Pamela M.**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
507 Molecular mechanisms of diabetic retinopathy
- Martin, Paul R.**, None
Monday, May 8, 11:00 AM Room 308
232 Ganglion cells
- Mastromonaco, Christina**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
163 Cataract Surgery - IOLs
- McCall, Maureen A.**, None
Monday, May 8, 11:00 AM Room 308
232 Ganglion cells
- McKendrick, Allison M.**, Heidelberg Engineering GmbH; Haag-Streit AG; CenterVue S.p.A (F); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
543 Structure-Function Relationships II
- McLoon, Linda K.**, None
Tuesday, May 9, 3:45 PM Room 324
372 Strabismus: Basic and Clinical
- McMenamin, Paul**, None
Sunday, May 7, 8:30 AM Ballroom 4
102 Homologies between the brain and the eye: Can ocular researchers lead the way or are we following our 'brainy' colleagues?
- McMenamin, Paul**, None
Wednesday, May 10, 8:30 AM Room 310
411 All of the eye is a stage and immune cells are merely players - Minisymposium
- Menko, A Sue**, None
Tuesday, May 9, 8:30 AM Room 307
306 Lens Physiology and Biomechanics I
- Mesquida, Marina**, None
Monday, May 8, 1:00 PM Room 310
252 Novel models and trends for accelerating applied ophthalmic product discovery and development
- Mieler, William F.**, None
Monday, May 8, 8:30 AM Ballroom 3
205 Vitreoretinal surgery I
- Mitchell, Claire H.**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
449 Pharmacological Intervention and Cellular Mechanisms
- Mohan, Rajiv**, None
Tuesday, May 9, 11:00 AM Ballroom 2
324 Corneal dystrophies: Where do we stand? - Minisymposium
- Mohan, Rajiv**, None
Thursday, May 11, 11:30 AM Ballroom 2
524 Keratoconus: Basic Science and Clinical Applications
- Mohan, Royce**, Withanolides, probes and binding targets and methods of use thereof (US Patent # 8,735,178); Methods of Use For Intermediate Filament Protein Probes (US Patent Application # 62/374,376) (P); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
508 Biochemistry and Molecular Biology of AMD II
- Mohr, Susanne**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
506 Diabetic Retinopathy: Neurodegeneration and pathology associated with the neurovascular unit.
- Moncaster, Juliet A.**, None
Tuesday, May 9, 1:00 PM Room 314
350 How to discuss your animal research work with non-scientists
- Monnier, Vincent M.**, Janssen Research and Development, LLC (C); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Room 307
269 Cataractogenesis I
- Morales, Vanessa M.**, None
Sunday, May 7, 3:15 PM Room 321
151 Retinoblastoma: From Genetics and Pathology to Therapy
- Mudie, Lucy**, None
Tuesday, May 9, 3:45 PM Room 309
369 Refractive Error: Risk Factors to Intervention Studies
- Murata, Toshinori**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
224 Retinal vascular diseases I (excluding diabetes)
- Murinello, Salome**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
281 Bruch's membrane and choroid in macular disease
- Murray, Timothy G.**, None
Monday, May 8, 8:30 AM Ballroom 3
205 Vitreoretinal surgery I
- Mwanza, Jean-Claude**, None
Monday, May 8, 11:00 AM Ballroom 4
228 Imaging Posterior Segment and Progression
- Nagaraj, Ram H.**, None
Thursday, May 11, 11:30 AM Room 307
529 Lens Biochemistry
- Nagra, Manbir**, None
Monday, May 8, 1:00 PM Room 314
253 A global perspective on diversity: Challenges and opportunity
- Nelson, J Daniel**, Santen (F); TearSolutions (I); Santen, TearSolutions (C); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Ballroom 4
125 Conclusions and recommendations from the TFOS Dry Eye Workshop II - SIG
- Nguyen, Thao D.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
340 Biomechanics II
- Nouri-Mahdavi, Kouroos**, Heidelberg Engineering: Technical and software support (S); Moderator: Commercial Relationships Disclosure
Monday, May 8, 11:00 AM Ballroom 4
228 Imaging Posterior Segment and Progression
- Oellerich, Silke**, None
Wednesday, May 10, 3:45 PM Room 316
477 Corneal Surgery: Techniques and outcomes
- Ogilvie, Judy M.**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
106 Development of the Retina
- Ohia, Sunny E.**, None
Tuesday, May 9, 11:00 AM Room 301
329 Retina/RPE 2
- Olivier, Mildred M.**, None
Sunday, May 7, 1:30 PM Room 321
129 National Academies of Sciences of Medicine and Engineering, Making Eye Health A Population Health Imperative Report: Closing the gaps in eye care. - SIG
- Orr, Susan**, Notal Vision (E); Moderator: Commercial Relationships Disclosure
Monday, May 8, 1:00 PM Room 310
252 Novel models and trends for accelerating applied ophthalmic product discovery and development
- Ostrin, Lisa A.**, None
Tuesday, May 9, 11:00 AM Room 316
333 Age-related changes in optics of the eye and vision - Minisymposium
- Ostrin, Lisa A.**, None
Thursday, May 11, 11:30 AM Room 321
535 Novel findings and approaches in myopia research
- Ou, Yvonne**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
312 Neurodegeneration and Neuroprotection
- Overby, Darryl R.**, None
Wednesday, May 10, 8:30 AM Ballroom 4
405 Trabecular Meshwork, Ciliary Body and Anterior Segment Imaging
- Paraean, Luminita I.**, None
Sunday, May 7, 3:15 PM Ballroom 4
144 Biochemistry and Molecular Biology of AMD I
- Paraean, Luminita I.**, None
Tuesday, May 9, 11:00 AM Ballroom 1
325 ER stress and the unfolded protein response in ocular health and disease - Minisymposium
- Pardue, Michelle T.**, Co-inventor on US Provisional Patent application, 61/917,600; Dopamine related pharmacological treatment for diabetic retinopathy. Filed by Emory University and the Department of Veterans Affairs on 12/18/2013 (P); Moderator: Commercial Relationships Disclosure
Monday, May 8, 8:30 AM Room 308
210 Diseases and Protection
- Pardue, Michelle T.**, Co-inventor on US Provisional Patent application, 61/917,600; Dopamine related pharmacological treatment for diabetic retinopathy. Filed by Emory University and the Department of Veterans Affairs on 12/18/2013 (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
443 Physiological and myopic ocular biometry
- Park, Jason C.**, None
Wednesday, May 10, 11:00 AM Room 308
435 ERG:Advances, Disease and Injury
- Park, Susanna S.**, None
Wednesday, May 10, 11:00 AM Ballroom 1
430 Diabetic Retinopathy
- Pasquale, Louis R.**, Bausch and Lomb (C); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
139 Imaging: Macula Retina, Blood Flow, OCT Angiography
- Patel, Krishna**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
336 Blood flow
- Patel, Sanjay V.**, None
Wednesday, May 10, 8:30 AM Room 308
409 Corneal Endothelium and Fuchs Corneal Dystrophy
- Pe'er, Jacob**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
243 Tumors - Inside and around the eye, I
- Pennesi, Mark E.**, None
Monday, May 8, 3:45 PM Ballroom 3
265 Inherited retinal diseases and mactel
- Pepple, Kathryn L.**, None
Monday, May 8, 8:30 AM Room 310
212 Emerging treatments for uveitis
- Perez, Victor L.**, Allergan, Alcon, Capricor, EyeGate, Shire (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 1:00 PM Room 324
357 Mechanisms of ocular surface immunity in graft vs host disease and sjogren syndrome - SIG
- Petroll, Matthew**, None
Tuesday, May 9, 8:30 AM Ballroom 2
301 Corneal Imaging and Biomechanics

- Pflugfelder, Stephen C.**, None
Monday, May 8, 11:00 AM Ballroom 2
225 Barrier function of the ocular surface - Minisymposium
- Pieramici, Dante J.**, Genentech, Regeneron, Allergan, (F);
Genentech, Regeneron (C); Genentech (R); Moderator:
Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Hall G
267 Diabetic macular edema clinical and anti-VEGF research
- Pilat, Anastasia**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
416 Optic Neuropathy
- Pilat, Anastasia**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
504 Orbital and Thyroid Eye Disease
- Prakash, Gyan**, None
Sunday, May 7, 1:30 PM Room 310
119 Addressing global blindness and eye diseases through research
- Proudlock, Frank A.**, None
Sunday, May 7, 3:15 PM Room 324
152 Nystagmus and Gaze Holding
- Proudlock, Frank A.**, None
Monday, May 8, 11:00 AM Room 324
236 Optical coherence tomography in pediatric neuro-ophthalmology - Minisymposium
- Proudlock, Frank A.**, None
Monday, May 8, 1:00 PM Room 324
260 Controversies in Albinism: Why is Their Vision Poor and How Do We Fix It? - SIG
- Pundlik, Shrinivas**, None
Wednesday, May 10, 3:45 PM Room 308
474 Low Vision Devices and Rehabilitation
- Raasch, Thomas W.**, None
Monday, May 8, 11:00 AM Room 316
235 Applications of adaptive optics for retinal imaging and visual function testing - Minisymposium
- Radu, Roxana A.**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
377 Visual cycle and phototransduction
- Raghubram, Aparna**, None
Wednesday, May 10, 11:00 AM Room 316
438 Color vision, low vision
- Rathbun, Daniel L.**, None
Wednesday, May 10, 1:00 PM Room 316
459 But I'm not from the US or EU! - international funding opportunities
- Ravikumar, Ayeswarya**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
515 Color vision, binocular and stereoscopic vision
- Ravikumar, Sowmya**, None
Monday, May 8, 8:30 AM Room 316
214 IOL and presbyopia correction
- Realini, Tony**, Alcon, Aerie, Topcon, Optovue (F); Alcon, Inotek, B&L, (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 8:30 AM Ballroom 4
304 Clinical Trials and Drug Studies II
- Reese, Benjamin E.**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
279 Inner Retinal circuits
- Reilly, Matthew A.**, None
Sunday, May 7, 1:30 PM Room 314
120 How to write and publish a high impact vision research article: The dos and don'ts
- Repka, Michael X.**, None
Wednesday, May 10, 11:00 AM Room 324
439 Intracranial Hypertension and Optic Nerve Changes
- Rex, Tonia S.**, None
Sunday, May 7, 3:15 PM Room 316
150 Pharmacology and Cellular Mechanisms
- Ritch, Robert**, None
Wednesday, May 10, 1:00 PM Ballroom 3
461 New knowledge of genetics and cell biology of exfoliation syndrome, a disorder of elastic tissue and ECM associated with ocular and systemic disease, offers novel means to treatment and prevention. - SIG
- Robinson, Michael L.**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
238 Lens Development and Molecular Cell Biology
- Rodriguez-Boulan, Enrique J.**, None
Wednesday, May 10, 3:45 PM Ballroom 1
469 An eye on the eye microvasculature - Minisymposium
- Rosen, Richard B.**, None
Monday, May 8, 3:45 PM Ballroom 1
264 Biomarkers based on vasculature Imaging
- Rosenblatt, Mark**, None
Wednesday, May 10, 3:45 PM Ballroom 2
468 Conjunctiva, Lacrimal and Meibomian glands and contact lenses
- Rosenfeld, Philip J.**, Carl Zeiss Meditec (F); Carl Zeiss Meditec (C); Carl Zeiss Meditec (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
104 AMD Imaging I
- Rossi, Ethan A.**, Canon, Inc. (F); University of Rochester (P); Moderator: Commercial Relationships Disclosure
Monday, May 8, 8:30 AM Exhibit/Poster Hall
216 AO, OCT, and advanced optical methods
- Roy, Neeta**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
509 Corneal Refractive Surgery
- Roy, Sayon**, None
Sunday, May 7, 1:30 PM Room 301
126 Role of mitochondria in retinal health and diseases - SIG
- Russell, Stephen R.**, Spark Therapeutics (F); IDX, LLC (I); IDX LLC (P); Spark Therapeutics (R); Moderator: Commercial Relationships Disclosure
Monday, May 8, 11:00 AM Ballroom 3
227 AMD imaging I
- Russell, Stephen R.**, Spark Therapeutics (F); IDX, LLC (I); IDX LLC (P); Spark Therapeutics (R); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 3:45 PM Hall G
472 Clinical posterior segment imaging
- Saban, Daniel**, None
Wednesday, May 10, 8:30 AM Room 310
411 All of the eye is a stage and immune cells are merely players - Minisymposium
- Sabesan, Ramkumar**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
316 Anterior segment imaging and optics
- Sadda, Srinivas R.**, Allergan, Genentech, Optos, Carl Zeiss Meditec (F); Centervue, Optos, Carl Zeiss Meditec, Allergan, Genentech, Novartis, Roche, Iconic, Thrombogenics (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Ballroom 3
404 AMD clinical research
- Saeedi, Osamah**, Heidelberg Engineering - research equipment (R); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 11:30 AM Ballroom 3
526 Surgery, Laser Therapy, Wound Healing
- Sahel, Jose A.**, LabEx LIFESENSES (ANR-10-LABX-65), ERC Synergy "HELMHOLTZ", Banque publique d'Investissement, Foundation Fighting Blindness (F); Pixium Vision, GenSight Biologics, Chronocam, Chronolife (I); Pixium Vision, GenSight Biologics, Genesignal (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 3:45 PM Ballroom 3
364 Retinal gene therapy and stem cell transplantation
- Sankaridurg, Padmaja**, My employer Brien Holden Vision Institute has interest in myopia control. (E); US 7997727, US 8240847, US 8057034, US20110051079, WO/2012/012826A1, WO/2011/106838A1, US20150331255, US20150234203, US20150316788 (P); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Exhibit/Poster Hall
286 Refractive Error
- Sapoznik, Kaitlyn**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
216 AO, OCT, and advanced optical methods
- Sappington, Rebecca M.**, None
Monday, May 8, 3:45 PM Ballroom 4
266 Neurodegeneration
- Sasaki, Hiroshi**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
141 Cataract Surgery Outcomes and Epidemiology
- Sawides, Lucie**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
162 Aberrations, optical models
- Scarcelli, Giuliano**, Intelon Optics (I); Intelon Optics (C); Mass General Hospital, University of Maryland (P); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 8:30 AM Room 307
306 Lens Physiology and Biomechanics I
- Schaiquevich, Paula**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
242 Retinoblastoma: Basic/Translational
- Schey, Kevin L.**, Janssen Research and Development (C); Moderator: Commercial Relationships Disclosure
Monday, May 8, 3:45 PM Room 307
269 Cataractogenesis I
- Schlotzer-Schrehardt, Ursula**, None
Monday, May 8, 3:45 PM Ballroom 2
263 Corneal Development and Repair
- Schmetterer, Leopold**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
444 Drug delivery I
- Schmidt, Tiffany M.**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
241 Ganglion Cells: Development, axotomy, trauma
- Schneeweis, David M.**, None
Wednesday, May 10, 1:00 PM Room 308
455 Leveling the Playing Field: Are we decreasing the disparities between minority and non minority individuals?
- Schroedl, Falk**, None
Tuesday, May 9, 11:00 AM Room 321
334 Factors affecting ocular development
- Semina, Elena**, None
Sunday, May 7, 3:15 PM Room 307
147 Genetics and modeling of lens and anterior segment anomalies - Minisymposium
- Sen, H Nida**, None
Wednesday, May 10, 3:45 PM Room 310
475 The bench and the bedside: Who is the instructor? - Minisymposium
- Sennlaub, Florian**, None
Wednesday, May 10, 8:30 AM Room 310
411 All of the eye is a stage and immune cells are merely players - Minisymposium
- Shahidi, Mahnaz**, US832007 (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Room 314
412 Novel ophthalmic instrumentation and imaging
- Sharif, Naj**, None
Monday, May 8, 8:30 AM Room 301
208 Retina/RPE I
- Sharif, Naj**, None
Monday, May 8, 1:00 PM Room 310
252 Novel models and trends for accelerating applied ophthalmic product discovery and development
- Sharif, Rabab**, None
Tuesday, May 9, 3:45 PM Ballroom 2
362 Corneal Tissue Engineering and Molecular Biology
- Shedden, Arthur H.**, Johnson & Johnson (I); Johnson & Johnson (E); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 1:00 PM Room 309
456 Idea to patents: Project to company
- Shen, Lucy Q.**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
139 Imaging: Macula Retina, Blood Flow, OCT Angiography
- Shields, Jerry A.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
420 Molecular mechanisms in uveal melanoma
- Shimazaki, Jun**, None
Wednesday, May 10, 3:45 PM Room 316
477 Corneal Surgery: Techniques and outcomes
- Shimazaki, Jun**, None
Thursday, May 11, 8:30 AM Ballroom 4
502 The global problem of antibiotic resistance: Impact on ocular health worldwide and researching alternatives
- Shojaati, Golnar**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
538 Corneal Non-refractive Surgery
- Sieving, Paul A.**, None
Sunday, May 7, 1:30 PM Room 321
129 National Academies of Sciences of Medicine and Engineering, Making Eye Health A Population Health Imperative Report: Closing the gaps in eye care. - SIG
- Silverman, Sean**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
546 Paradigms of retinal degeneration and rescue

Simonelli – Weiss

- Simonelli, Francesca**, Consultant for Spark Therapeutics and Sanofi (C); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
451 Macular diseases (inherited)
- Simpson, Michael**, None
Tuesday, May 9, 1:00 PM Ballroom 4
354 Far peripheral vision: Review vision beyond 800, where many people don't notice if there is a loss, but some intraocular lens patients report dark shadows - SIG
- Sit, Arthur J.**, Aerie Pharmaceuticals Inc; Glaukos Corp.; Sensimed AG (F); InjectSense Inc. (I); Allergan Inc.; InjectSense Inc. (C); Moderator: Commercial Relationships Disclosure
Monday, May 8, 11:00 AM Room 301
230 IOP Measurement and Characterization I
- Sivak, Jacob**, None
Wednesday, May 10, 3:45 PM Room 321
478 Visual functions and processes conserved across species - Minisymposium
- Sivak, Jeremy M.**, Genentech Inc. (F); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Room 316
150 Pharmacology and Cellular Mechanisms
- Sivaprasad, Sobha**, Allergan, Bayer, Novartis, Roche (F); Allergan, Bayer, Novartis, Roche (C); Allergan, Bayer, Novartis, Roche (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
132 AMD and anti-VEGF therapy 1
- SLAVI, NEFELI**, None
Sunday, May 7, 3:15 PM Ballroom 1
143 Retinal glia
- Sodhi, Akrit**, None
Thursday, May 11, 11:30 AM Room 314
533 Biochemistry and Molecular Biology implicated in diabetic retinopathy and glaucoma
- Souied, Eric**, Novartis, Bayer, Allergan, Thea (F); Novartis, Bayer, Allergan, Thea (C); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Hall G
145 OCT Angiography in AMD
- Stamer, W Daniel**, Allergan, Aerie, Inotek (F); Bausch and Lomb, Nicox, Aerie (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 3:45 PM Room 301
367 Intraocular pressure
- Stamer, W Daniel**, None
Wednesday, May 10, 8:30 AM Room 301
407 Inflammation and eye - Minisymposium
- Stanga, Paulo E.**, Allergan Plc., Bausch & Lomb Inc., Bayer AG, Novartis AG, Optos Plc., Second Sight Medical Products, Inc., Thrombogenics Inc., Topcon Corp. (F); Allergan Plc., Bausch & Lomb Inc., Bayer AG, Novartis AG, Optos Plc., Second Sight Medical Products, Inc., Thrombogenics Inc., Topcon Corp. (C); Topcon Corp. (P); Allergan Plc., Bausch & Lomb Inc., Bayer AG, Novartis AG, Optos Plc., Second Sight Medical Products, Inc., Thrombogenics Inc., Topcon Corp. (R); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Hall G
433 Retinal prostheses
- Stapleton, Fiona**, None
Tuesday, May 9, 3:45 PM Room 309
369 Refractive Error: Risk Factors to Intervention Studies
- Steinle, Jena J.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
422 Diabetic Retinopathy: New Targets and Emerging Therapies
- Steinmetz, Michael A.**, None
Monday, May 8, 1:00 PM Room 316
254 NEI extramural roundtable: Meet NEI extramural staff and learn about the latest updates on the extramural grant programs, policies, and initiatives
- Stitt, Alan W.**, None
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
311 Diabetic Retinopathy: Basic Mechanisms
- Strettoi, Enrica**, None
Monday, May 8, 8:30 AM Ballroom 1
204 Common pathogenic role of inflammation in retinal diseases - Minisymposium
- Suh, Donny W.**, NIH (F); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Room 324
439 Intracranial Hypertension and Optic Nerve Changes
- Sullivan, David A.**, Allergan (I); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Ballroom 4
125 Conclusions and recommendations from the TFOS Dry Eye Workshop II - SIG
- Sullivan-Mee, Michael**, None
Monday, May 8, 11:00 AM Room 301
230 IOP Measurement and Characterization I
- Suzuki, Tomo**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
280 Lacrimal glands and Meibomian glands
- Swaroop, Anand**, None
Wednesday, May 10, 3:45 PM Room 314
476 Ocular Transcriptomics and proteomics
- Taylor, Hugh**, None
Sunday, May 7, 1:30 PM Room 310
119 Addressing global blindness and eye diseases through research
- Terasaki, Hiroko**, Alcon, Bayer, Canon, HOYA, Kowa, Nidek, Novartis, Otsuka, Pfizer, Santen, Senju, Wakamoto, Zeiss (F); Nidek (P); Alcon, Bayer, Canon, HOYA, Kowa, Nidek, Nitten, Novartis, Otsuka, Pfizer, Rhoto, Santen, Senju, Wakamoto, Zeiss (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
105 Diabetic retinopathy: medical (non-surgical)
- Tezel, Gulgun**, None
Tuesday, May 9, 11:00 AM Ballroom 4
327 Neuroprotection
- Thomasy, Sara M.**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
375 Corneal Imaging, Topography, and Keratoconus
- Tong, Louis**, Alcon-Novartis, Allergan, Santen, Bausch and Lomb (F); Alcon-Novartis, Allergan, Santen, Bausch and Lomb (R); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
419 Ocular Surface Health and Disease
- Toris, Carol B.**, Ivantis (F); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
485 Laser Therapy and MIGS
- Tosini, Gianluca**, None
Monday, May 8, 1:00 PM Room 314
253 A global perspective on diversity: Challenges and opportunity
- Toth, Cynthia A.**, Genetech, Leica (F); Alcon (P); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 1:00 PM Ballroom 3
353 Optical Coherence Tomography Guided Ophthalmic Surgery: Next-Generation Advances - SIG
- Trese, Michael T.**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
521 Retinopathy of Prematurity
- Trinkaus-Randall, Vickery E.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
418 Corneal Stroma and Keratocytes
- Troilo, David**, Johnson and Johnson Vision Care, Inc. (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 8:30 AM Exhibit/Poster Hall
317 Visual functions, optical cues effecting and affected by myopia
- Tsang, Stephen H.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
343 Retinitis pigmentosa (clinical)
- Tucker, Budd**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
448 Stem cells and tissue engineering for retinal repair
- Tuten, William S.**, None
Thursday, May 11, 11:30 AM Room 316
534 Visual perception with defocus, distortions, and training
- Utheim, Tor P.**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
440 Corneal Biomechanics
- Utheim, Tor P.**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
441 Conjunctival cell Biol and Meibomian glands
- Vajzovic, Lejla**, None
Wednesday, May 10, 3:45 PM Ballroom 3
470 Retinopathy of Prematurity
- Vajzovic, Lejla**, None
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
521 Retinopathy of Prematurity
- Vande Geest, Jonathan P.**, None
Tuesday, May 9, 8:30 AM Ballroom 3
303 Biomechanics I
- Varadaraj, Kulandaappan**, None
Tuesday, May 9, 3:45 PM Exhibit/Poster Hall
381 Lens Physiology and Biomechanics II
- Vemuganti, Geeta K.**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
347 Tumors: Inside and around the eye, II
- Vemuganti, Geeta K.**, None
Wednesday, May 10, 1:00 PM Room 316
459 But I'm not from the US or EU! - international funding opportunities
- Vermeer, Koernraad A.**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
543 Structure-Function Relationships II
- Versura, Piera**, None
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
133 Dry eye, non-clinical
- Viswanathan, Suresh**, None
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
482 Clinical electrophysiology
- Viswanathan, Suresh**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
544 Electrophysiology
- Vitale, Susan**, None
Wednesday, May 10, 1:00 PM Room 314
458 Vulnerable populations in medical research: Ethical dilemmas and practical approaches
- Votrubla, Marcela**, None
Sunday, May 7, 1:30 PM Room 316
121 EVER/ARVO workshop: Update on mitochondrial optic neuropathies
- Waheed, Nadia**, Optovue, Zeiss, Nidek, Topcon (F); Janssen, Regeneron, Genentech (C); Optivue, Zeiss, Topcon, Nidek (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Hall G
145 OCT Angiography in AMD
- Walker, Janice L.**, None
Monday, May 8, 8:30 AM Room 307
209 Lens Development and Cell Biology
- Wallace, Graham R.**, None
Thursday, May 11, 11:30 AM Room 310
532 Genomics and proteomics to dissect normal and diseased ocular sites: an immunology and microbiology perspective
- Walter, Michael A.**, None
Tuesday, May 9, 3:45 PM Room 314
370 New Insights and Animal models
- Wang, Ningli**, None
Monday, May 8, 1:00 PM Room 328
255 China-ARVO networking forum
- Wang, Ruikang K.**, Carl Zeiss Meditec Inc. Tasso Inc. (F); Carl Zeiss Meditec Inc. (C); Carl Zeiss Meditec Inc (P); Carl Zeiss Meditec Inc. (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
131 AMD Imaging 2
- Wang, Ruikang K.**, Carl Zeiss Meditec Inc. Tasso Inc. (F); Carl Zeiss Meditec Inc. (C); Carl Zeiss Meditec Inc (P); Carl Zeiss Meditec Inc. (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Room 301
146 Deep learning for image segmentation and classification
- Wang, Ruikang K.**, Carl Zeiss Meditec Inc. Tasso Inc. (F); Carl Zeiss Meditec Inc. (C); Carl Zeiss Meditec Inc (P); Carl Zeiss Meditec Inc. (R); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 3:45 PM Ballroom 4
365 Capillaries, Blood Flow, OCT Angiography
- Watson, Stephanie L.**, None
Wednesday, May 10, 11:00 AM Ballroom 2
429 Corneal Epithelium in Health and Disease
- Wei, Yi**, MC2 Therapeutics (F); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 8:30 AM Exhibit/Poster Hall
509 Corneal Refractive Surgery
- Weiss, Avery H.**, None
Sunday, May 7, 3:15 PM Room 324
152 Nystagmus and Gaze Holding

- Weissbart, Sarah**, None
Thursday, May 11, 11:30 AM Exhibit/Poster Hall
538 Corneal Non-refractive Surgery
- Werkmeister, Rene M.**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
274 Imaging: Anterior Segment
- West, Sheila**, None
Sunday, May 7, 5:15 PM Hall G
164 Improving global eye health: Beating the odds for neglected and emerging diseases around the world
- West-Mays, Judith A.**, None
Wednesday, May 10, 3:45 PM Room 321
478 Visual functions and processes conserved across species - Minisymposium
- Wiggs, Janey L.**, None
Wednesday, May 10, 8:30 AM Room 321
413 New Genes and Loci
- Wiggs, Janey L.**, National Eye Institute (F); Moderator: Commercial Relationships Disclosure
Thursday, May 11, 8:30 AM Ballroom 3
501 Genes and disease: How knowledge of genetics can guide treatment, now and in the future
- Wildner, Gerhild**, Panoptes Pharma GmbH (F); Santen (C); AbbVie, Allergan (R); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 1:30 PM Exhibit/Poster Hall
135 Autoimmune Ocular disease: selfies gone wrong
- Wiley, Luke A.**, None
Sunday, May 7, 8:30 AM Exhibit/Poster Hall
106 Development of the Retina
- Wilkinson-Berka, Jennifer L.**, None
Tuesday, May 9, 8:30 AM Ballroom 1
302 Angiogenesis
- Willcox, Mark**, Alcon, Johnson and Johnson Vision Care, CooperVision, Allergan (F); Ophthecs (C); Johnson and Johnson Vision Care (R); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
337 Contact Lenses
- Williams, David R.**, None
Sunday, May 7, 8:30 AM Ballroom 3
101 Light-based treatment strategies for blinding eye disease
- Wilson, Matthew W.**, Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 8:30 AM Room 321
310 Uveal melanoma: From Clinical Trials to Molecular Mechanisms
- Wirostko, Barbara M.**, Jade Therapeutics, Inc; EyeGate Pharmaceuticals, Inc; (F); Jade Therapeutics Inc; EyeGate Pharmaceuticals Inc; Glauconix (I); EyeGate; University of Utah (E); Envisia; Glauconix (C); Jade Therapeutics Inc; (P); EyeGate Therapeutics; Glauconix (S); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 1:00 PM Room 309
456 Idea to patents: Project to company
- Wittich, Walter**, None
Tuesday, May 9, 8:30 AM Room 308
307 The Impact of Low Vision on Function and Everyday Activities
- Wittich, Walter**, None
Wednesday, May 10, 11:00 AM Exhibit/Poster Hall
453 VI Poster 7: Vision in aging and disease
- Wohl, Stefanie G.**, None
Sunday, May 7, 3:15 PM Ballroom 1
143 Retinal glia
- Wolle, Meraf A.**, None
Wednesday, May 10, 3:45 PM Exhibit/Poster Hall
479 Cornea and Anterior Chamber
- Wong, Lily L.**, US Patents: 7347987, 7727559, 8703200 (P); Moderator: Commercial Relationships Disclosure
Monday, May 8, 8:30 AM Room 301
208 Retina/RPE 1
- Wong, Tien Y.**, None
Monday, May 8, 8:30 AM Room 309
211 Genetic Epidemiology
- Wood, Joanne**, None
Monday, May 8, 3:45 PM Room 308
270 The Impact of Low Vision on Mobility
- Wood, Joanne**, None
Tuesday, May 9, 11:00 AM Exhibit/Poster Hall
344 Functioning with Low Vision
- Worthington, Kristan S.**, None
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282 RPE dysfunction in macular diseases
- Wykoff, Charles C.**, Alcon Laboratories, Inc.; Allegro Ophthalmics; Allergan, Inc.; Apellis Pharmaceuticals; Cleaside Biomedical, Inc.; Diabetic Retinopathy Clinical Research Network; Genentech, Inc.; Iconic Therapeutics; Novartis; Ophthotech Corporation; pSivida Corp; Regeneron Pharmaceuticals; Santen; ThromboGenics, Inc.; TyrogeneX (F); ONL Therapeutics (I); n/a (E); Alcon Laboratories, Inc.; Allergan, Inc.; Alimera Sciences; Alnylam Pharmaceuticals; Bayer; Cleaside Biomedical, Inc.; Dutch Ophthalmic Research Center International; Genentech, Inc.; ONL Therapeutics; Regeneron Pharmaceuticals; ThromboGenics, Inc.; Valeant (C); n/a (P); Allergan, Inc.; Regeneron Pharmaceuticals (R); n/a (S); Moderator: Commercial Relationships Disclosure
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267 Diabetic macular edema clinical and anti-VEGF research
- Yamaguchi, Takefumi**, None
Sunday, May 7, 3:15 PM Exhibit/Poster Hall
156 Corneal neovascularization, immunology and neuropathy
- Yamaguchi, Takefumi**, None
Monday, May 8, 8:30 AM Exhibit/Poster Hall
221 Corneal Endothelium
- Yang, Peizeng**, None
Monday, May 8, 3:45 PM Exhibit/Poster Hall
277 Uveitis: Diagnosis, Epidemiology, Quality of Life
- Yang, Xian-Jie**, None
Thursday, May 11, 11:30 AM Ballroom 1
525 Cellular and molecular bases of retinal development
- Yasuno, Yoshiaki**, Topcon, Tomey Corp, Nidek, Kao (F); Tomey Corp. (P); Moderator: Commercial Relationships Disclosure
Sunday, May 7, 3:15 PM Room 301
146 Deep learning for image segmentation and classification
- Yoon, Geunyoung**, Johnson&Johnson, Coopervision, TearLab, Ovitex (F); Ovitex (I); Allotex (C); Moderator: Commercial Relationships Disclosure
Tuesday, May 9, 11:00 AM Room 316
333 Age-related changes in optics of the eye and vision - Minisymposium
- Young, Terri L.**, None
Sunday, May 7, 1:30 PM Room 307
127 Beyond Axial Length: Modern Imaging Biomarkers for Better Understanding Myopia Development and Progression - SIG
- Yucel, Yeni H.**, None
Sunday, May 7, 8:30 AM Ballroom 3
101 Light-based treatment strategies for blinding eye disease
- Yucel, Yeni H.**, None
Sunday, May 7, 5:15 PM Hall G
164 Improving global eye health: Beating the odds for neglected and emerging diseases around the world
- Zarbin, Marco A.**, None
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520 Endophthalmitis and trauma
- Zeit, Christina**, None
Monday, May 8, 8:30 AM Room 314
213 Genotype-phenotype correlations, prevalence studies and novel gene defects
- Zeit, Christina**, None
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325 ER stress and the unfolded protein response in ocular health and disease - Minisymposium
- Zelinger, Lima**, None
Tuesday, May 9, 8:30 AM Room 314
308 Photoreceptors: Cell Biology, Disease and Rescue
- Zhang, Hao F.**, Opticent Inc. (I); Multiple patents with Northwestern University on OCT. (P); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 8:30 AM Room 314
412 Novel ophthalmic instrumentation and imaging
- Zhang, Sarah X.**, None
Wednesday, May 10, 8:30 AM Exhibit/Poster Hall
423 Angiogenesis: Basic Mechanisms
- Zhang, Sarah X.**, None
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545 Visual Disease Models and Restoration
- Zhang, Wenbo**, None
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241 Ganglion Cells: Development, axotomy, trauma
- Zhang, Wenbo**, None
Tuesday, May 9, 1:00 PM Room 314
350 How to discuss your animal research work with non-scientists
- Zhang, Yuhua**, None
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517 Wide field retinal imaging
- Zhu, Xiaoying**, None
Monday, May 8, 11:00 AM Exhibit/Poster Hall
239 Embryology and morphogenesis of ocular structures
- Zivotofsky, Ari Z.**, None
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503 Neurodegenerative Diseases and Brain Trauma
- Zrenner, Eberhart**, Retina Implant AG, Germany (F); Retina Implant AG, Germany (I); Retina Implant AG, Germany (C); Retina Implant AG, Germany (P); Retina Implant AG, Germany (R); Retina Implant AG, Germany (S); Moderator: Commercial Relationships Disclosure
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427 Retinal prostheses
- Zrenner, Eberhart**, Retina Implant AG, Germany (F); Retina Implant AG, Germany (I); Retina Implant AG, Germany (C); Retina Implant AG, Germany (P); Retina Implant AG, Germany (R); Retina Implant AG, Germany (S); Moderator: Commercial Relationships Disclosure
Wednesday, May 10, 11:00 AM Hall G
433 Retinal prostheses
- Zweifel, Sandrine A.**, Bayer, Novartis, Allergan (C); Bayer (R); Moderator: Commercial Relationships Disclosure
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The Association for Research in Vision and Ophthalmology and the ARVO Foundation for Eye Research gratefully acknowledge the generous support for the 2017 Annual Meeting and its programs.

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ARVO and the ARVO Foundation are grateful to the supporters of the following named travel grants:

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^{*} Funding of grants for attendance at this conference was made possible in part by grant 2U13EY002143-40 from NEI. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the DHHS; nor does mention by trade names, commercial practices or organization imply endorsement by the U.S. Government.

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