



FINAL PROGRAM



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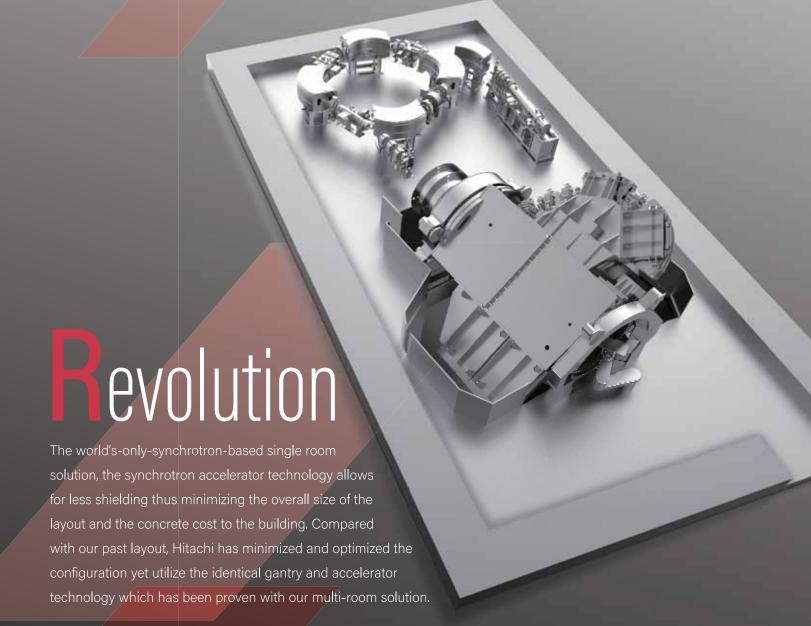


# AMERICAN RADIUM SOCIETY

OUR MISSION

and collegial study of all aspects of cancer. The Society will encourage liaison and professional development among the medical, surgical, and allied scientists concerned with cancer.





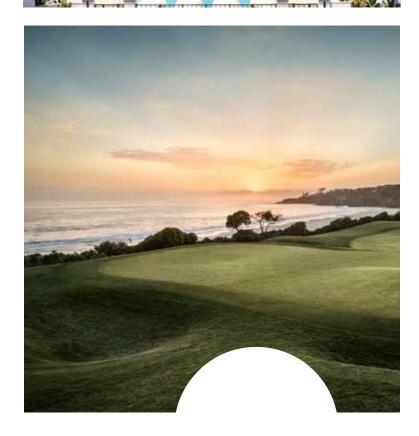
# HITACHI PROTON THERAPY SYSTEM SINGLE ROOM SOLUTION

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Dear Colleagues,

Welcome to the 101st Annual meeting of the American Radium Society! The theme of this year's meeting is "Improving Wellness for Patients... and Physicians". We will look back on a very rich history of our Society and on the many developments within the field of oncology. We will discuss exciting advances in science and care of the patients with cancer and also look ahead to what the next century may bring. But more importantly we will address a critical new area of concern in medicine, namely Physician Burnout. We hope you will take advantage of not only the exciting new scientific developments being presented but also some of the wellness classes the facility has to offer.



We have received outstanding abstracts and we look forward to the presentations in the scientific sessions. We have awarded ten travel grants and five essay awards to young oncologist recipients. We will devote ample time to the new ARS-ACR Appropriate Use Criteria within our meeting. The progress and developments within the panels will be discussed. In the Presidential course, which will focus on Patient QOL and Survivorship moderated by Dr. Charles Simone of the NY Proton Center. In addition, we will have a provocative panel addressing the newest in Adaptive Planning chaired by Dr. Matthew Abramowitz of the University of Miami.

Dr. Gary Freedman, radiation oncologist at the University of Pennsylvania Abramson's Cancer Center and Chair of the Scientific Program Committee deserves much praise for recruiting an outstanding group of lecturers and panelists. We are very honored to extend a special welcome to our distinguished speakers, Dr. Bryan Bohman, Chief Medical Officer of the University Healthcare Alliance, who will give this year's keynote lecture addressing Physician Wellness, and Dr. Michael A. Caligiuri, director of the City of Hope National Medical Center, who will give the 2019 Janeway Lecture. In addition, we will be awarding our initial Gold Medal for service to the Society to Dr. Richard Hoppe of Stanford University. At this meeting, we will have the maximum number of 10 SA-CME credits to help you to fulfill your CME-obligations.

Our deepest gratitude goes to our industry sponsors AstraZeneca, Elekta, Galera Therapeutics, Gold Anchor, Hitachi, Merck, Mevion, Qfix, RefleXion Medical, Sirtex, Varian and ViewRay for their support of our meeting. Additionally, we sincerely appreciate the support of other industry partners who are exhibiting during the meeting. Please visit their booths and participate in the Passport program. Finally, I also thank all involved with the organization of the meeting, including the Executive Committee and the ARS staff. It has been a true privilege and a joy to work with you all.

The American Radium Society is the oldest multidisciplinary cancer society in the world and has a long and rich history of scientific excellence combined with collegiality. I hope that you enjoy the academic content of the meeting, the interactions with your colleagues, and also find some time to relax and unwind.

Andre A. Konski, MD, MBA, FACR, FASTRO PRESIDENT

#### MESSAGE FROM THE PROGRAM CHAIR







Dear 2019 ARS Attendees,

I am pleased to welcome you to the 101st Annual Meeting of the American Radium Society!

We have arranged an exciting program this year encompassing new research, symposia and educational sessions from diverse areas within our field of Oncology. This serves our mission as professionals to improve the outcomes and wellness of our patients. But our theme this year in our Keynote address and other presentations also focus attention on the wellness of you the caregiver. So take some time out from email and work to experience the Monarch Beach location and its facilities – they are an idyllic setting overlooking the waters of the Pacific that will help you refresh your mind and body.



The Scientific Program Committee has continued to make education and presentation of original scientific research the core of our annual meeting. We have invited over 150 investigators to present the abstracts of their scientific research at the oral and poster sessions. We invite you to attend the Presidential course on quality of life and survivorship, the Janeway lecture, and the new educational sessions this year on adaptive radiation planning and immunotherapy. There are also opportunities to learn in a case-based tumor board format with invited multidisciplinary experts in central nervous system and genitourinary cancers.

Highlights for this meeting will be the first presentation of the James D. Cox Award of Scientific Merit for the top scientific abstract. We also introduce a session of speed mentoring that will pair our younger members just starting out in their careers with more experienced members for small group discussions on career building, mentorship, and other professional advice. The Appropriate Use Committees will have an expanded role in our meeting this year with dedicated working committee sessions and new educational sessions presented by key members of the gastrointestinal, sarcoma, thoracic and breast committees.

There are opportunities to see new developments in technology by attending the three sponsored industry symposia. We appreciate all members taking the time to meet with and engage our exhibitors in discussions about how their products could be relevant to their professional practice. They make this meeting possible with their support and also are a key to helping us move the state of the art of Oncology forward.

Congratulations to the ARS President Dr. Andre Konski for his successful leadership of the Executive Committee. I thank him for his mentorship, years of service and management of our business affairs, and vision for the society's future. I thank all of the members of this year's Scientific Program Committee for reviewing the scientific abstracts and helping to organize the meeting. I appreciate all of the work of our moderators and faculty of the scientific sessions, educational sessions, poster walk, resident jeopardy, and tumor boards. I also thank the faculty asked to submit questions to secure self-assessment credits for those attending their sessions. Last is a most special thanks to Andrea and Maripat on the ARS staff for their work year-round to make these meetings a success.

We particularly welcome new members to this year's annual meeting and invite you to get involved in the mission of the ARS - there are many opportunities for you to join committees and serve as faculty in future meetings.

#### Welcome to Dana Point, California!

Gary Freedman, MD PROGRAM CHAIR

#### **GENERAL INFORMATION**

#### **ROOM ASSIGNMENTS**

Speaker Ready Room Sorrento
Registration Pacific Rotunda

General Session Pacific Ballroom 1-2
Exhibit Hall and Posters Monarch Ballroom

Spouses Lounge Adriatic

#### **ON-SITE REGISTRATION HOURS**

#### Pacific Rotunda

 Saturday, April 6, 2019
 8:00am - 5:30pm

 Sunday, April 7, 2019
 7:00am - 1:30pm

 Monday, April 8, 2019
 7:00am - 1:30pm

 Tuesday, April 9, 2019
 7:00am - 11:30am

#### **EXHIBIT HALL/POSTER HOURS**

#### Monarch Ballroom

Saturday, April 6, 2019

Opening Reception 5:30pm - 7:00pm
Poster Walk 6:00pm - 7:00pm
Sunday, April 7, 2019 7:00am - 1:00pm
Monday, April 8, 2019 7:00am - 10:30am
Tuesday, April 9, 2019 7:00am - 10:30am

#### SPEAKER READY ROOM HOURS

#### Sorrento

 Saturday, April 6, 2019
 7:30am - 3:30pm

 Sunday, April 7, 2019
 7:00am - 3:00pm

 Monday, April 8, 2019
 7:00am - 3:00pm

 Tuesday, April 9, 2019
 7:00am - 11:00am

#### HOSPITALITY/SPOUSES SUITE

#### Adriatic

 Sunday, April 7, 2019
 7:00am - 11:30am

 Monday, April 8, 2019
 7:00am - 11:30am

 Tuesday, April 9, 2019
 7:00am - 11:30am

#### PLEASE WEAR NAME BADGE AT ALL TIMES

Please note, in order to ensure registered attendees are accessing our event, individuals without name badges will not be able to access any portion of the programming, including exhibit hall and meal functions.

#### WHO SHOULD ATTEND

The ARS meeting is open to ARS Members and Non-Members, specializing or training in the field of Oncology including, but not limited to, Medical Oncology, Surgical Oncology, Radiation Oncology, Gynecologic Oncology, Head and Neck Oncology, and all other specialties within the field of Oncology, as well as Allied Health and Industry Corporate Leaders.





#### **CME INFORMATION**

#### CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

#### Accreditation

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American College of Surgeons and American Radium Society. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

#### AMA PRA Category 1 Credits™

The American College of Surgeons designates this live activity for a maximum of  $\underline{21.75}$  AMA PRA Category 1 Credits. Physicians should claim only the credit commensurate with the extent of their participation in the activity.





AMERICAN COLLEGE OF SURGEONS
DIVISION OF EDUCATION

#### **CLAIM YOUR CMES**

To claim your CME credits, please complete the following evaluation at https://www.surveymonkey.com/r/ars19eval

All attendees who intend to claim CME credit MUST complete the evaluation by Friday, May 3, 2019. The meeting evaluation must be completed in order to receive a CME Certificate. Please allow 2-4 weeks for processing before your certificate arrives.

#### SELF-ASSESSMENT MODULES (SAM)

"Qualified by the American Board of Radiology in meeting the criteria for self-assessment toward the purpose of fulfilling requirements in the ABR Maintenance of Certification Program." ARS is proud to offer SAMs for the 2019 Meeting in a robust quantity on many topics. Self-Assessment Modules count toward the SAM requirement for the ABR and some other specialty boards.

For more information and to take the Self-Assessment Exams, please visit https://ars.wcea.education.

#### **FDUCATIONAL LEARNING OBJECTIVES**

At the end of this activity, participants will be able to:

- Describe the problem of physician burnout, how to recognize and diagnose it, and strategies to prevent and reduce it.
- Explain how patient quality of life and survivorship is a quality measure of cancer care.
- Identify the emerging role of immunotherapy in the treatment of cancers including lung, GU and melanoma, their integration with surgery and radiation, and explain the potential side effects that may develop.
- Describe the risks and benefits of advanced technologies in radiation therapy, including adaptive radiation, in the treatment of various malignancies, including CNS and H&N.
- Explain the 2019 ARS-Appropriate Use Criteria updates on best practice for treatment of breast, bone, GI, and thoracic malignancies.

#### **OUTCOMES**

This educational activity will improve competence, practice performance and patient outcomes by:

- By providing specific guidelines on appropriate care through the presentation of the ARS Appropriateness Use Criteria panels.
- By providing real-life examples of cases and educating on best practices through the tumor boards.
- By discussing the role of multidisciplinary care in the treatment of multiple malignancies, including thoracic, H&N, GI, bone and breast cancer.
- By describing the challenge presented by the increase in physician burnout that affects patient care and outcomes.
- By explaining the role of immunotherapy in the treatment of patients, including the use of concurrent therapy with radiation.
- By demonstrating the role of advanced technologies, including adaptive radiation therapy, in the multidisciplinary treatment of cancer.

#### BECOME A MEMBER

The world's first organization dedicated to the multidisciplinary treatment of cancer.

#### MISSION STATEMENT

The Mission of The Society is to promote the multi-disciplinary and collegial study of all aspects of cancer. The Society will encourage liaison and professional development among the medical, surgical, and allied scientists concerned with cancer.

#### WHO JOINS THE ARS?

The American Radium Society (ARS), a venerable institution and the oldest society devoted to the study and treatment of cancer, is a multidisciplinary organization with members from a number of specialized fields including:

- Radiation Oncology
- Surgical Oncology
- **Gynecological Oncology**
- Medical Oncology
- Allied Science
- **Medical Physics**
- Various fields of Oncology

#### **OUR MEMBER BENEFITS**

ARS membership offers a range of member benefits including:

- Our signature event, the ARS Annual Meeting that rotates among amazing locations while offering 4 days of networking, state-of-the-art surgical technology and techniques and over 18 hours of Category 1 CME.
- Discounted registration fees for attendance at the ARS Annual Meeting.
- Online Self-Assessment Modules (SAMs) are educational sessions that include self-administered examinations to improve your skills, knowledge, patient care, and practice performance. Self-assessment credits are an essential element of Maintenance of Certification. You will earn value-added CME credit for your participation in each session.
- As a member, your SAMs are FREE! You must register for the annual meeting's scientific session in order to participate in the SAMs.
- Opportunities to apply for the Young Oncologist Essay Award and Travel Grant Awards.
- A membership certificate for display in your home or office.
- Discounted rental rates for the ARS Membership Mailing List.
- And, much more.

#### APPLY FOR MEMBERSHIP

Complete an online application today at https://www.americanradiumsociety.org/page/Membership

Applications are accepted and reviewed throughout the year.

An ARS Member Services Team member is ready to assist you. If you have questions call us at 310 • 437 • 0581 M • F, 8:30 AM • 5 PM Eastern Time or email: membership@americanradiumsociety.org



#### **FLOOR PLAN**

#### PACIFIC BALLROOM & THIRD FLOOR MEETING SPACE



#### MAIN MEETING LOCATIONS

Speaker Ready Room Sorrento

Registration

Pacific Rotunda

General Session

Pacific Ballroom 1-2

Exhibit Hall and Posters Monarch Ballroom

Sunday Social Event Botanical Lawn North

#### 5TH FLOOR - LOBBY LEVEL



#### SPECIAL SERVICES

The American Radium Society wishes to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently because of the absence of auxiliary aids and services. If you require auxiliary aids or service, please indicate your needs at the ARS registration desk. Please direct all questions concerning registration to the Meeting Registrar at 310-437-0581 or registration@ americanradiumsociety.org

#### 2018-2019 **EXECUTIVE COMMITTEE**

Andre Konski, MD, MBA President

Benjamin Movsas, MD President-Elect

Beth Beadle, MD, PhD Secretary

Sue Yom, MD, PhD **Treasurer** 

Joseph Herman, MD, MSc **Industry Relations Chair** 

Matthew Abramowitz, MD Member-at-Large

Kenneth Russell, MD Member-at-Large

Gary Freedman, MD 2019 Scientific Program Chair

Ben Slotman, MD, PhD **Immediate Past President** 

Jonathan Beitler, MD, MBA **Senior Advisor** 

#### **2018-2019 SCIENTIFIC** PROGRAM COMMITTEE

Gary Freedman, MD, Scientific Program Chair

Andre Konski, MD, MBA, **ARS President** 

Matthew Abramowitz, MD Beth Beadle, MD, PHD Jonathan Beitler, MD Eric Chang, MD Joe Chang, MD Indrin Chetty, MD, PhD, MS Jay Cooper, MD Brian Davis, MD Thomas Dilling, MD Thomas Galloway, MD Eleanor Harris, MD Joseph Herman, MD, MSc Peter Johnstone, MD Sarah Milgrom, MD Benjamin Movsas, MD

Arnold Paulino, MD John "Drew" Ridge, MD, PhD Farzan Siddiqui, MD Elin Sigurdson, NMD, PhD, FACS Charles Simone, MD William Small, MD Rahul Tendulkar, MD Charles Thomas, MD Wade Thorstadt, MD Andrew Vassil, MD

Kristina Novick, MD



#### PAST PRESIDENTS

1916 W.H.B. Aikins. MD\* 1917 W.H.B. Aikins, MD\* 1918 John M. Lee, MD\* 1919 J.B. Bissell, MD\* 1920 Henry K. Pancoast, MD\* 1921 Henry Schmitz, MD\* 1922 G.E. Pfahler, MD\* 1923 Robert F. Loucks, MD\* 1924 James T. Case, MD\* 1925 William S. Newcomet, MD\* 1926 Douglas Quick, MD\* 1927 Albert Soiland, MD\* 1928 Curtis F. Burnam, MD\* 1929 Edwin C. Ernset. MD\* 1930 Harry H. Bowing, MD\* 1931 Henry J. Ullmann, MD\* 1932 Sanford Withers. MD\* 1933 Burton J. Lee. MD\* 1934 Rollin H. Stevens, MD\* 1935 William H. Cameron, MD\* 1936 George W. Grier, MD\* 1937 Zoe A. Johnston, MD\* 1938 Edward H. Skinner, MD\* 1939 William P. Healy, MD\* 1940 Lawrence A. Pomeroy, MD\* 1941 Frederick W. O'Brien, MD\* 1942 Haves E. Martin. MD\* 1946 William E. Costolow, MD\* 1947 Charles L. Martin, MD\* 1948 A.N. Arneson, MD\* 1949 Maurice Lenz, MD\* 1950 William S. MacComb, MD\* 1951 Leland R. Cowan, MD\* 1952 Hugh F. Hare, MD\* 1953 Howard B. Hunt, MD\* 1954 Edith H. Quimby, ScD\* 1955 John E. Wirth, MD\* 1956 Grant Beckstrand, MD\* 1957 Norman A. McCormick, MD\* 1958 Douglas J. Roberts, MD\* / Ralph T. Ogden, MD\* 1959 Milford D. Schulz, MD\* 1960 Theodore R. Miller, MD\* 1961 Jesshill Love, MD\* 1962 Robert L. Brown, MD\* 1963 Gilbert H. Fletcher, MD\* 1964 Charles G. Stetson, MD\* 1965 Joseph H.Farrow, MD\* 1966 Justin J. Stein, MD\*

1967 Milton Friedman, MD\*

1969 Juan A. del Regato, MD\*

1968 John L. Pool, MD\*

1970 Fernando Bloedorn, MD\* 1971 James F. Nolan, MD\* 1972 John V. Blady, MD\* 1973 Antolin Raventos, MD\* 1974 Jerome M. Vaeth, MD\* 1975 Victor A. Marcial, MD\* 1976 Felix Rutledge, MD\* 1977 Luther W. Brady, MD\* 1978 Richard H. Jesse, MD\* 1979 Frederick W. George III, MD\* 1980 Alfred S. Ketcham, MD\* 1981 Simon Kramer, MD\* 1982 George C. Lewis, Jr, MD\* 1983 Morton M. Kligerman, MD\* 1984 Seymour H. Levitt, MD\* 1985 John R. Durant, MD\* 1986 Frederick Eilber, MD 1987 Gerald E. Hanks. MD\* 1988 Morris J. Wizenberg, MD\* 1989 Carl M. Mansfield, MD\* 1990 Elliot W. Strong, MD 1991 Robert G. Parker, MD\* 1992 J. Taylor Wharton, MD 1993 Lawrence W. Davis, MD 1994 Peter H. Wiernik, MD 1995 Marvin Rotman, MD 1996 Robert M. Bvers. MD 1997 H. Rodney Withers, MB, BS\* 1998 Thomas W. Griffin.MD 1999 David H. Hussey, MD\* 2000 Eric J. Hall, DPhil, DSc 2001 David M. Gershenson, MD 2002 Jay S. Cooper, MD 2003 J. Frank Wilson, MD 2004 James D. Cox, MD\* 2005 Martin Colman, MD 2006 Randal Weber, MD 2007 Jonathan J. Beitler, MD, MBA 2008 Ritsuko U. Komaki, MD 2009 Bruce G. Haffty, MD 2010 Raymond Sawaya, MD 2011 Peter A.S. Johnstone, MD 2012 Alan Pollack, MD, PhD 2013 Thomas Buchholz, MD 2014 Elin R. Sigurdson, MD, PhD 2015 Kenneth E. Rosenzweig, MD 2016 John A. 'Drew' Ridge, MD, PhD 2017 Quynh-Thu Le, MD 2018 Ben Slotman, MD, PhD \* Deceased

Sue Yom, MD, PhD

# ANNUAL MEETING







#### APPROPRIATE USE CRITERIA STEERING COMMITTEE

Sue Yom, MD, PhD, Chair Joseph Herman, MD, MSc, Vice Chair Jonathan Beitler, MD	2018-2019 2018-2019 2018-2019
Andre Konski, MD, MBA, MA, FACR	2018-2019
Quynh-Thu Le, MD	2018-2019
Jim Metz, MD	2018-2019
Benjamin Movsas, MD	2018-2019
John "Drew" Ridge, MD, PhD	2018-2019
Ken Rosenzweig, MD	2018-2019
William Small, MD	2018-2019
Ben Slotman, MD, PhD	2018-2019

#### **CONSTITUTION & BYLAWS COMMITTEE**

Seungtaek Choi, MD, Chair	2016-2019
Lorraine Portelance, MD	2018-2021
Wade Thorstadt, MD	2018-2021
Ben Slotman, MD, PhD, Immediate Past President	2018-2019

#### **EDUCATION & WEBSITE RESOURCES COMMITTEE**

Gary Freedman, MD, Chair Ross Abrams, MD	2017-2020 2017-2020
Brian Davis, MD	2017-2020
Roy Decker, MD	2018-2021
Iris Gibbs, MD	2018-2021
Kenneth Roberts, MD	2017-2020
Seth Rosenthal, MD, FACR	2017-2020
Charles R. Thomas, MD	2016-2019
Andre Konski, MD, MBA, Ex-Officio	2018-2019

#### INDUSTRY RELATIONS/DEVELOPMENT COMMITTEE

Joseph Herman, MD, MSc, Chair	2017-2019
Cynthia Ballenger, MD	2015-2019
Jeffrey Bradley, MD	2016-2020
Indrin Chetty, MD	2018-2022
Theodore DeWeese, MD	2016-2020
Meena Moran, MD	2015-2019
Andre Konski, MD, MBA, President, Ex-Officio	2018-2019

#### JANEWAY LECTURE COMMITTEE

Eric Chang, MD, Chair	2016-2019
Quynh-Thu Le, MD	2018-2021
Elin Sigurdson, MD, PhD, FACS	2017-2020
Ben Slotman, MD. PhD. Immediate Past President	2018-2019

#### MEMBERSHIP & CREDENTIALS COMMITTEE

Beth Beadle, MD, PhD, Chair	2018-2020
Cynthia Ballenger, MD	2018-2021
Daniel Chang, MD	2017-2020
Thomas Galloway, MD	2018-2021
Ehab Hanna, MD	2016-2019
Kevin McMullen, MD	2016-2019
Jim Metz, MD	2017-2020
James Yu, MD	2017-2020
Andre Konski, MD, MBA, Ex-Officio	2018-2019

#### NOMINATING COMMITTEE

Steve Hahn, MD, Chair	2016-2019
Jeff Michalski, MD	2018-2021
John "Drew" Ridge, MD, PhD	2017-2020

#### **AWARDS COMMITTEE**

Roy Decker, MD, PhD, Chair	2017-2020
Beth Beadle, MD, PhD	2017-2020
Farzan Siddiqui, MD	2018-2021
Andre Konski, MD, MBA, Ex-Officio	2018-2019

#### REPRESENTATIVE TO THE BOARD OF CHANCELLORS OF THE AMERICAN COLLEGE OF RADIOLOGY

Andre Konski, MD 2017-2020

#### THE UICC GLOBAL TASK FORCE ON RADIOTHERAPY FOR CANCER CONTROL (GTFRCC)

Ben Slotman, MD, PhD 2017-2019

#### AMERICAN COLLEGE OF RADIOLOGY COUNCILOR

Bruce Haffty, MD 2018-2021

#### AMERICAN COLLEGE OF RADIOLOGY ASSISTANT COUNCILOR

Ken Rosenzweig, MD 2018-2021

#### REPRESENTATIVE TO THE COMMISSION ON CANCER

Ramesh Rengan, MD, PhD 2017-2020

#### REPRESENTATIVE TO THE NATIONAL COUNCIL ON RADIATION PROTECTION & MEASUREMENTS

Indrin Chetty, MD, PhD, MS 2017-2020

#### TRUSTEES OF THE AMERICAN BOARD OF RADIOLOGY

Tom Buchholz, MD 2015-2019

#### FACULTY, MODERATORS AND PANELISTS -

#### Matthew C. Abramowitz, MD

Miller School of Medicine, University of Miami, Miami, FL

#### Mustafa Abugideiri, MD

Winship Cancer Institute of Emory University, Decatur, GA

#### Eric Anderson, MD

Cedars Sinai Medical Center, Phoenix, AZ

#### Alexander Augustyn, MD, PhD

MD Anderson Cancer Center, Houston, TX

#### Vladimir Avkshtol, MD

Fox Chase Cancer Center, Philadelphia, PA

#### Alexander Bagley, MD, PhD

UT MD Anderson Cancer Center, Houston, TX

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#### Matthew Biagioli, MD

AdventHealth Cancer Institute Radiation Oncology

#### Bryan Bohman, MD

University Healthcare Alliance, Palo Alto, CA

#### Michael A. Caligiuri, MD

City of Hope National Medical Center, Los Angeles, CA

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Henry Ford Health System, Radiation Oncology Department, Livonia, MI

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Henry Ford Cancer Institute, Detroit, MI

#### Jodi Goldman

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Rutgers- Robert Wood Johnson Med School, Somerset, NJ

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The Association of Mature American Citizens (AMAC), Bohemia, NY

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Associates in Radiation Medicine, Germantown, MD

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Sutter Medical Group, Sacramento, CA

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Mount Sinai School of Medicine New York, NY

#### Soumon Rudra

Washington University in St. Louis, Saint Louis, MO

#### Igor I. Rybkin, MD, PhD

Henry Ford Cancer Institute, Plymouth, MI

#### **Mutlay Sayan**

Rutgers Cancer Institute of New Jersey, Somerset, NJ

#### Navesh K. Sharma, DO, PhD

Penn State Cancer Institute, Hershey, PA

#### Feiya Shi

Baylor College of Medicine, Houston, TX

#### Timothy Showalter, MD, MPH

University of Virginia School of Medicine, Charlottesville, VA

#### Charles B. Simone II, MD

University of Maryland Medical Center, Baltimore, MD

#### Ben J. Slotman, MD, PhD

VU University Medical Center, Amsterdam, The Netherlands

#### Abhishek A. Solanki, MD

Loyola University Medical Center, Maywood, IL

#### Scott G. Soltys, MD

Stanford University, Stanford, CA

#### Daniel Sufficool, MD

Loma Linda University Medical Center, Loma Linda, CA

#### Wesley J. Talcott, MD

Yale, New Haven, Connecticut

#### Neil Taunk, MD, MS

University of Pennsylvania, Philadelphia, PA

#### Rahul D. Tendulkar, MD

Cleveland Clinic, Cleveland, OH

#### Andrew Vassil, MD

Cleveland Clinic, Cleveland, OH

#### Yuenan Wang, PhD, DABR

Chinese Academy of Medical Science (CAMS) Shenzhen Cancer Hospital, Shenzhen, CHINA

#### Andrzej Wojcieszynski, MD

University of Pennsylvania, Philadelphia, PA

#### Jessica Karen Wong, MD, MEng

Fox Chase Cancer Center, Philadelphia, PA

#### Michael Xiang, MD, PhD

Stanford University, Stanford, CA

#### Gabriel Zada, MD

Keck School of Medicine of USC, Los Angeles, CA

#### Nicholas Zaorsky, MD

Penn State Cancer Institute, Hershey, PA





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The ARS would like to thank the following companies for providing educational grants in support of the 101st Annual Meeting:

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#### **Sirtex Industry Lunch Symposium**

The Role of Radiation Oncology in the Management of Liver Malignancies

Saturday, April 6, 2019 • 12:00 pm - 1:30 pm

Pacific Ballroom 3

\*\*This activity is not part of the official ARS Scientific program\*\*

Radiation oncologists have different techniques to treat liver malignancies. In many instances, patients with metastatic colorectal cancer (mCRC) are ineligible for treatments like SBRT or ablation due to tumor size, location or number of tumors in the liver. New data is becoming available that can facilitate a multi-treatment approach like combination options between SBRT and SIRT. Please join us during this lunch presentation by experts in Radiation Oncology and Interventional Radiology in the management of liver malignancies combining different radiation techniques. In this session you will hear from experts about how both specialties work together to incorporate treatment options including SIR-Spheres resin microspheres alone or in combination with SBRT as part of their treatment considerations for mCRC patients.

#### Speakers:

Navesh K. Sharma, DO, PhD, FACRO (Penn State Hershey SOM/Cancer Institute) Joseph M. Herman, MD, MSc, MSHCM, FACR (MD Anderson Cancer Care)

#### Varian Medical Systems Industry Symposium

Varian's Vision for Adaptive Radiotherapy

Saturday, April 6, 2019 • 4:30 pm - 5:30 pm

Pacific Ballroom 3

\*\*This activity is not part of the official ARS Scientific program\*\*

Please join us at the Varian symposium to hear about Varian's vision of adaptive radiotherapy's adoption into mainstream radiotherapy treatments.

The discussion will provide background and description of Varian's proposed adaptive therapy workflow, including 4D prescriptions, on-couch treatment adaptations, and automated treatment monitoring.

This discussion will also cover the use of artificial intelligence algorithms in automated segmentation and treatment planning.

#### Speaker:

Nathan Childress, Associate Vice President Strategic Initiatives, Varian

There will be light refreshments offered.

#### ViewRay Industry Lunch Symposium

MRIdian™ MR Image-Guidance – Visibly Changing Radiation Therapy

Monday, April 8, 2019 • 12:30 pm - 2:00 pm

Pacific Ballroom 3

\*\*This activity is not part of the official ARS Scientific program\*\*

Come hear clinicians from leading institutions describe their use of MRI-guidance and on-table adaptive planning with MRIdian System, the world's first MR image-guided radiation therapy system; available for sale in the United States, Europe, Canada, Japan, Korea, Taiwan, United Arab Emirates, and Turkey. Everything from commissioning to clinical application of the MRIdian Linac will be addressed. Learn how physicians are using tools to improve tumor targeting precision, allowing for increased accuracy in radiation dosage and reduced exposure to nearby healthy tissue.

#### Presenters include:

Percy Lee, MD (UCLA - Jonsson Comprehensive Cancer Center) Indrin J. Chetty, PhD (Henry Ford Health System)





#### SATURDAY, APRIL 6, 2019

8:30 am - 9:00 am	Continental Breakfast	Pacific Ballroom Promenade
9:00 am - 11:00 am	Adaptive Planning Course*	Pacific Ballroom 1-2
11:00 am - 12:00 pm	Scientific Session #1 - Head, Neck & Breast Cancers	Pacific Ballroom 1-2
1:30 pm - 3:15 pm	Presidential Course - Patient Wellness, QOL and Survivorship*	Pacific Ballroom 1-2
3:15 pm - 3:30 pm	Networking Break	Pacific Ballroom Promenade
3:30 pm - 4:30 pm	Scientific Session #2 - Metastases / Miscellaneous	Pacific Ballroom 1-2
5:30 pm - 7:00 pm	Welcome reception / Poster Walk with the Professor	Monarch Ballroom

#### SUNDAY, APRIL 7, 2019

7:00 am - 7:30 am	Breakfast / Exhibits / Poster Viewing	Monarch Ballroom
7:30 am - 8:30 am	AUC Education Session - Gastrointestinal and Sarcoma*	Pacific Ballroom 1-2
8:30 am - 10:00 am	Scientific Session #3 - CNS / Gastrointestinal	Pacific Ballroom 1-2
10:00 am - 10:15 am	Networking Break / Exhibits / Poster Viewing	Monarch Ballroom
10:15 am - 11:00 am	Janeway Lecture	Pacific Ballroom 1-2
11:00 am - 12:30 pm	Challenging Cases in CNS*	Pacific Ballroom 1-2
12:30 pm - 1:00 pm	Lunch / Exhibits / Poster Viewing	Monarch Ballroom
1:00 pm - 2:00 pm	Speed Mentoring	Pacific Ballroom 3
2:00 pm - 5:30 pm	Free Time	
5:30 pm - 7:00 pm	Resident Jeopardy	Pacific Ballroom 1-2
7:30 pm - 9:30 pm	ARS Social Event	<b>Botanical Lawn North</b>

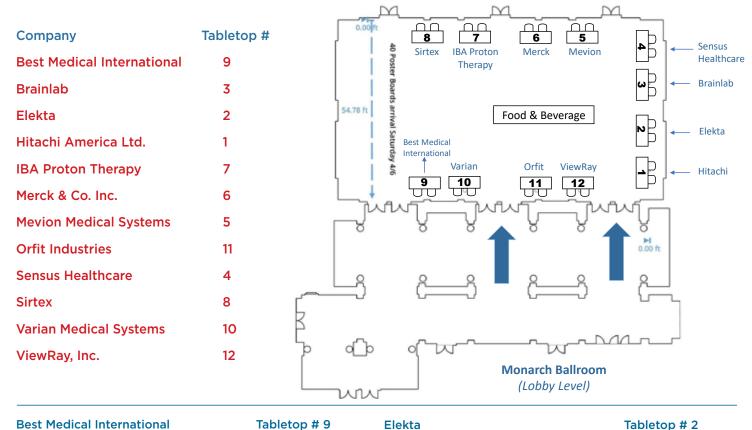
#### MONDAY, APRIL 8, 2019

7:00 am - 7:30 am	Breakfast / Exhibits / Poster Viewing	Monarch Ballroom
7:30 am - 8:30 am	AUC Education Session - Thoracic and Breast*	Pacific Ballroom 1-2
8:30 am - 9:30 am	Scientific Session #4 - GYN & GU Cancers	Pacific Ballroom 1-2
9:30 am - 10:00 am	Presidential Lecture	Pacific Ballroom 1-2
10:00 am - 10:15 am	Gold Medal Award Presentation	Pacific Ballroom 1-2
10:15 am - 10:30 am	Networking Break / Exhibits / Poster Viewing	Monarch Ballroom
10:30 am - 11:15 am	Keynote Address	Pacific Ballroom 1-2
11:15 am - 11:30 am	Report on the 2018 ACR Intersociety Conference	Pacific Ballroom 1-2
11:30 am - 12:30 pm	Scientific Session #5 - Lung & Pediatric Cancers	Pacific Ballroom 1-2

#### TUESDAY, APRIL 9, 2019

7:00 am - 7:30 am	Breakfast / Exhibits / Poster Viewing	Monarch Ballroom
7:30 am - 8:00 am	ARS Business Meeting	Pacific Ballroom 1-2
8:00 am - 8:45 am	Scientific Session #6, Young Oncologist Awards	Pacific Ballroom 1-2
8:45 am - 9:45 am	Educational Session - Immunotherapy*	Pacific Ballroom 1-2
9:45 am - 10:00 am	Networking Break / Exhibits / Poster Viewing	Monarch Ballroom
10:00 am - 11:00 am	Scientific Session #7 - QOL / Outcomes / Physics / Biology	Pacific Ballroom 1-2
11:00 am - 12:30 pm	Challenging Cases in GU*	Pacific Ballroom 1-2
12:30 pm - 1:00 pm	Box Lunch	Pacific Ballroom Promenade

#### EXHIBITOR DIRECTORY -



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7643 Fullerton Road Springfield, VA 22153

www.teambest.com

For more than 40 years, Best Medical has served the medical community with the highest quality products and unparalleled customer service. Our brachytherapy seeds, gold fiducial markers, supplies, accessories and exam equipment exemplify our commitment to uncompromised quality and safety.

Best Medical International now encompasses a family of trusted companies and organizations with a proven track record of innovation, quality and service in external beam radiation therapy, brachytherapy and vascular brachytherapy solutions. Our aim is to be the one partner that clinicians turn to for all their radiotherapy and oncology product and service requirements.

**Brainlab** Tabletop # 3

400 N. Michigan Ave. Suite 1200 Chicago, IL 60611

www.brainlab.com

Brainlab develops, manufactures and markets softwaredriven medical technology, enabling access to advanced, less invasive patient treatments.

Brainlab technology powers treatments in radiosurgery as well as numerous surgical fields including neurosurgery, orthopedic, ENT, CMF, spine and trauma. Founded in Munich in 1989, Brainlab has over 12,300 systems installed in over 100 countries.

Elekta

400 Perimeter Center Terrace Suite 50 Atlanta, GA 30346 www.Elekta.com

Tabletop # 2

For almost five decades, Elekta has been a leader in precision radiation medicine. Our nearly 4,000 employees worldwide are committed to ensuring everyone in the world with cancer has access to - and benefits from more precise, personalizedradiotherapy treatments. Our latest innovation, the Elekta Unity MR-linac, combines two technologies - a high-field1.5T Phillips MRI scanner and a best-in-class linear accelerator, combined with a breakthrough real-time dose replanning software. To learn more, visit elekta.com/Unity.

Hitachi America Ltd.

Healthcare Division 50 Prospect Avenue Tarrytown, NY 10591 www.hitachi-america.us Tabletop #1

Hitachi, a pioneer in the spot scanning technology for proton therapy, provides flexible particle therapy solutions (from single compact proton solution to multi-room carbon ion solution) that have been demonstrated by prestigious users worldwide.

#### **EXHIBITOR DIRECTORY** –





**IBA Proton Therapy** 

Tabletop # 7

2000 Edmund alley Drive, Suite 210 Reston, VA 20191

https://iba-worldwide.com/proton-therapy

IBA is the worldwide leader in proton therapy technology. The company has been leading proton therapy for the last 30 years and has built the largest user community of world's best proton therapy centers. IBA focuses on bringing integrated and innovative solutions for the diagnosis and treatment of cancer and is the worldwide technology leader in the field of proton therapy. IBA's proton therapy solutions are flexible and adaptable, allowing customers to choose from universal full-scale proton therapy centers or compact, single room solutions.

Merck & Co. Inc.

Tabletop # 6

2000 Galloping Hill Road Kenilworth, NJ 07033

www.merck.com

For more than a century, Merck has been inventing for life, bringing forward medicines and vaccines for many of the world's most challenging diseases. Today, Merck continues be at the forefront of research to deliver innovative health solutions and advance the prevention and treatment of diseases that threaten people and animals around the world.

**Mevion Medical Systems** 

Tabletop # 5

300 Foster Street Littleton, MA 01460

www.mevion.com

Mevion Medical Systems, Inc. is the leading provider of compact proton therapy systems for use in radiation treatment for cancer patients. Mevion is based in Littleton, Massachusetts, with a presence in Europe and China. For more information, please visit www.mevion.com.

**Orfit Industries** 

Tabletop # 11

350 Jericho Turnpike Jericho, NY 11753

www.orfit.com

Orfit brings high precision and comfort to the positioning and immobilization of cancer patients in Radiation Oncology.

The combination of Orfit thermoplastic masks and positioning devices provides optimal stability to a point where daily reproducibility and patient movement are limited to less than 1.5 millimeter. The Orfit solution assures patient comfort that reduces anxieties and displacement of the anatomical area of treatment.

Sensus Healthcare

Tabletop # 4

851 Broken Sound Parkway NW #215 Boca Raton, FL 33487

www.sensushealthcare.com

Sirtex

Tabletop # 8

300 Union Park Drive Woburn, MA 01801

www.sirtex.com

Sirtex Medical develops and delivers interventional oncology treatments using novel small particle technology to improve outcomes for patients with metastatic colorectal cancer (mCRC). SIR-Spheres® Y-90 resin microspheres target liver tumors with radiation via the hepatic artery during Selective Internal Radiation Therapy (SIRT). Recent SIRFLOX Study data showed a statistically significant improvement of 7.9 months in median Progression-Free Survival in the liver for patients with unresectable mCRC treated first line with SIR-Spheres Y-90 resin microspheres plus standard chemotherapy.

Varian Medical Systems

Tabletop # 10

3100 Hansen Way M/S MGM Palo Alto, CA 94304

https://www.varian.com/oncology

Imagine a world free from the fear of cancer. We do, every day. That's why at Varian, we're obsessed with creating simpler, more efficient, and more effective technologies to power new victories in cancer care. Varian is the longstanding global leader in comprehensive solutions for radiotherapy and radiosurgery, as well as software systems for planning treatments, managing cancer clinics, sharing knowledge, coordinating care, and using data to deliver evidence-based medicine.

ViewRay, Inc.

Tabletop # 12

815 E. Middlefield Rd. Mountainview, CA 94043

www.viewray.com

ViewRay®, Inc. (Nasdaq: VRAY), designs, manufactures and markets the MRIdian® radiation therapy system. MRIdian is built upon a proprietary high-definition MR imaging system designed from the ground up to address the unique challenges and clinical workflow for advanced radiation oncology. Unlike MR systems used in diagnostic radiology, MRIdian's high-definition MR was purposely built to deliver high-precision radiation without unnecessary beam distortion, and consequently, help to mitigate skin toxicity and other safety concerns that may otherwise arise when high magnetic fields interact with radiation beams. ViewRay and MRIdian are registered trademarks of ViewRay, Inc.



The American Radium Society is honored to establish The James D. Cox Award of Scientific Merit, which will be presented annually at our Annual Meeting to the top scoring abstract in celebration of Dr. Cox's outstanding legacy of scientific achievement.

For this first year, we are excited to award it to Diane C. Ling, MD, of UPMC Hillman Cancer Center at the University of Pittsburgh School of Medicine in Pittsburgh, PA for her abstract titled "Regional Recurrence Rates with or Without Complete Axillary Dissection for Breast Cancer Patients with Node-Positive Disease on Sentinel Lymph Node Biopsy After Neoadjuvant Chemotherapy" (OA38). Her research found that patients with a positive sentinel node treated with additional node dissection prior to axillary lymph node irradiation, compared to not having additional surgery, had a higher risk for lymphedema and no significant improvements in recurrence, control or survival.

Please join us on Tuesday, April 9 at 8:00 am in Pacific Ballroom 1-2.

James D. Cox, M.D., FACR, FASTRO, Professor Emeritus in Radiation Oncology at The University of Texas MD Anderson Cancer Center was a Past President and lifelong supporter of the American Radium Society. His contributions to our Society's administrative and purpose-driven evolution over the past three decades were formative. He was an unstinting advocate for our Society and our missions of multidisciplinary exchange, education and development of young oncologists, and dedication to high-quality cancer care.

Dr. Cox graduated magna cum laude from Kenyon College and completed his medical degree with honors from the University of Rochester School of Medicine and Dentistry, followed by internship at the University of Chicago Hospitals, postgraduate training at Penrose Cancer Hospital of Colorado Springs, and a one-year fellowship in the Department of Radiotherapy at the Gustave Roussy Institute in Villejuif, France. He served two years as a Major in the U.S. Army, then began his academic career as an Assistant Professor of Radiology and Director of Therapeutic Radiology at Georgetown University School of Medicine, followed by a series of leadership positions, including Founding Director of the Cancer Center at the Medical College of Wisconsin, three years as Chair of a new Department of Radiation Oncology at Columbia University College of Physicians and Surgeons, and Director of Radiation Oncology at the Presbyterian Hospital in the City of New York. He was recruited to The University of Texas MD Anderson Cancer Center in 1988 as Professor of Radiotherapy and Physician-in-Chief, a position he held until 1992. From 1995, he served as Head of the Division and Department Chair of Radiation Oncology at MD Anderson, a position he held until 2011. He retired in 2014 and was appointed Professor Emeritus in 2015.

Dr. Cox served as Chair of the Radiation Therapy Oncology Group (RTOG) and the Cancer Therapy Evaluation Program at NCI as well as Editor-in-Chief of the International Journal of Radiation Oncology, Biology and Physics, a position he held from 1997 until 2002. Dr. Cox was elected President of the American Radium Society in 2004, but before and after that he was a powerful member of the Executive and numerous other committees, an esteemed counselor to rising leaders within our Society, and a source of personal and professional guidance and support to generations of our young and old members. Dr. Cox participated in numerous meetings and retreats aimed at maintaining our Society's health, growth, and mission development.

He was a champion for diversity and gender equality in all of his leadership positions and personal interactions. In addition to his passion for teaching and mentoring, Jim traveled widely, most often to France and Japan. He treasured his liberal arts education and served as a trustee at his alma mater, Kenyon College, which in 2014 dedicated its new medical and counseling center in his honor.

The American Radium Society is honored to establish The James D. Cox Award of Scientific Merit, which will be presented annually at our Annual Meeting in celebration of Dr. Cox's outstanding legacy of scientific achievement. The Award will be presented to the top scoring abstract of the Annual Meeting.







The Gold Medal is awarded to a member as an acknowledgement of their contributions to oncology and their service to the American Radium Society (ARS). The recipient's professional contributions may be in teaching, basic research, clinical investigation or professional statesmanship, and must include outstanding efforts in service to the ARS. The recipient may be drawn from any of the disciplines reflected in the membership of the ARS.

The ARS is pleased to award the inaugural Gold Medal to Richard T. Hoppe, MD.



Richard T. Hoppe, MD is the Henry S. Kaplan-Harry Lebeson Professor of Cancer Biology in he Department of Radiation Oncology at Stanford University. He is a graduate of Cornell University and was awarded an MD from Cornell University Medical College. He served as Chair of the Department of Radiation Oncology at Stanford for 19 years. His research interests include Hodgkin's disease, the lymphomas, radiation immunosuppression, and radiation late effects. He has co-authored more than 300 research articles and 100 book chapters on these subjects. He is primary Editor of the text Hodgkin Lymphoma, published in 2007 and Co-Editor of Leibel and Phillips Textbook of Radiation Oncology, published in 2010.

Dr. Hoppe is a member of the Hodgkin Lymphoma (as Chair), the T-Cell Lymphoma, and the Cutaneous Lymphoma Guidelines Committees for the National Cancer Center Network (NCCN). He is a member of the Steering Committee of the International Lymphoma Radiation Oncology Group (ILROG) and a member of the Board of the International Society for Cutaneous Lymphoma (ISCL). He served in the past as President and Chairman of the Board of the American Society for Therapeutic Radiology and Oncology (ASTRO), a Trustee of the American Board of Radiology (ABR), a Chancellor in the American College of Radiology (ACR), a member of the NIH/NCI Board of Scientific Counselors and a member of the Board of Stanford Hospital and Clinics.

Dr. Hoppe was awarded the Gold Medal of ASTRO, was a Janeway Lecturer for the American Radium Society (ARS), is an awardee of the Gold Medal of the ACR, and a recipient of the Karl Musshoff Prize for Clinical Research from the German Hodgkin Lymphoma Study Group. He has delivered the E. Richard King Memorial Lecture, the Philip Rubin Lecture at the International Congress of Radiation Oncology in Beijing, the Richard G. Evans Memorial Lecture, the Jerry Vaeth Lecture, the Radiation Oncology Oration at the Radiological Society of North America, the Vera Peters Lecture, the Martin Schneider Memorial Lecture, the John Ultmann Lecture at the International Symposium on Hodgkin lymphoma, the Franz Buschke Lecture, and the Ho Hung-Chiu Medical Foundation Lecture in Hong Kong. He is a recipient of the Henry S. Kaplan Memorial Prize for Teaching and the ARRO (Association of Residents in Radiation Oncology) Educator of the Year Award. He is an Honorary Professor at the Shantou University Medical College.



Bryan Bohman is Chief Medical Officer and Associate Dean for University Healthcare Alliance, Stanford's community-based medical foundation. He also serves as Associate Chief Medical Officer at Stanford Health Care (SHC). At the School of Medicine. his roles include Clinical Professor of Anesthesiology, Co-Director of the Clinical Effectiveness Leadership Training program and Senior Advisor to the WellMD Center.

As Chief of Staff, Dr. Bohman founded Stanford's wellness committee and subsequently shepherded the founding of its WellMD Center in 2015, serving as the Center's Director until 2017. The Center's aim is to advance faculty, trainee and care team wellbeing across Stanford Medicine while also serving as an international leader of scholarship, in a field that is increasingly vital to the future of medicine.

Dr. Bohman's primary areas of interest include population health management and the relationships between clinician wellness, quality improvement and healthcare system performance.





THE JANEWAY MEDAL

The heraldry of the Janeway Medal is drawn from Norse Mythology: Odin, the Allfather with power over the precious minerals of the earth, sought enlightenment for the sons of men. He traveled to Mimir's Well where Wisdom and Wit lodged hidden. The face of the Janeway Medal shows Odin standing before the giant Mimir, warden of the well, yielding one of his eyes for a draught of the precious water. The reverse side of the medal shows Odin's two ravens, who spent the day flying throughout the expanse of the universe: Hugin (Thought-Reflection) and Munin (Memory Remembrance). The ravens returned each evening to perch on Odin's shoulders and whisper in his ears the events and progress observed. Odin's physical privation, as a price for wisdom, is symbolic of the self sacrifice of the heroic pioneers of radium therapy for cancer.

Odin's ravens, as shown on the Janeway Medal, have become the symbols of the American Radium Society. Since 1933, the American Radium Society has sponsored an annual lecture in memory of Doctor Henry H. Janeway (1873-1921), a great American pioneer in the therapeutic use of radium. Originally a large bronze medal, the Janeway Medal was changed to a gold medal in 1971. A special committee of the Society chooses the lecturers on the basis of their outstanding scientific contributions. Each lecturer is presented with the handsome Janeway Medal.

The ARS is pleased to award the Janeway Medal to Michael A. Caligiuri, MD.



Michael A. Caligiuri, M.D., the Deana and Steve Campbell Physician-in-Chief Distinguished Chair of City of Hope, is a world-renowned physician, scientist, builder, innovator, leader and visionary. He is dedicated to developing the next generation of leading-edge cancer therapies, rapidly delivering them to patients and ultimately curing the disease. For the past 20 years, Dr. Caligiuri has worked as a physician, scientist and leader in the cancer program at The Ohio State University. He spent the past decade as CEO of The James Cancer Hospital and Solove Research Institute and directed The Ohio State University Comprehensive Cancer Center for 14 years, recruiting over 300 cancer physicians and scientists. Dr. Caligiuri was elected to the National Academy of Medicine's Class of 2018 for his breakthrough discoveries in NK leukemia and cutaneous T cell lymphoma. He is also the immediate past president of the American Association for Cancer Research, the world's largest cancer research organization with 40,000 members in 120 countries.

In addition to serving as president of the AACR, he was also recently named a fellow of that organization. A leading researcher in the field of immunology, lymphoma and leukemia, more than 1,500 cancer patients have been treated on clinical trials developed or co-developed by Dr. Caligiuri. He also has trained over 120 undergraduate, graduate or postgraduate students in his laboratory who have received over 230 university, state, national or international awards. At City of Hope, Dr. Caligiuri's goals are "to speed up the delivery of our discoveries in the laboratory to our patients," to use his inclusive leadership style to foster greater collaboration across the institution and with other institutions, and to "optimize the patient care system to ensure the highest quality and safest patient experience."

#### YOUNG ONCOLOGIST ESSAY AWARDS

Program Number: OA38 Presenter: Diane C. Ling, MD

Abstract Title: REGIONAL RECURRENCE RATES WITH OR WITHOUT COMPLETE AXILLARY DISSECTION FOR BREAST CANCER PATIENTS WITH NODE-POSITIVE DISEASE ON SENTINEL LYMPH NODE BIOPSY AFTER **NEOADJUVANT CHEMOTHERAPY** 

Program Number: **OA39** Presenter: Naomi Jiang, MD

Abstract Title: EVALUATING PROSTATE-SPECIFIC ANTIGEN (PSA) NADIR AND BOUNCE AFTER STEREOTACTIC BODY RADIOTHERAPY (SBRT) IN A

MULTI-INSTITUTIONAL COHORT

Program Number: **OA40** Presenter: Ankit Modh. MD

Abstract Title: RANDOMIZED PROSPECTIVE TRIAL OF STEREOTACTIC RADIOSURGERY VERSUS

CHEMOTHERAPY FOR RECURRENT MALIGNANT GLIOMA

AFTER SECOND-LINE CHEMOTHERAPY



Program Number: **OA41** Presenter: Ethan B. Ludmir, MD

Abstract Title: HIGHER RATES OF PSEUDOPROGRESSION AMONG PEDIATRIC LOW-GRADE GLIOMA PATIENTS

TREATED WITH PROTON VERSUS PHOTON

RADIOTHERAPY

Program Number: **OA42** 

Presenter: Alexander Lin, MD/PhD

Abstract Title: CONCURRENT CHEMORADIATION FOR CERVICAL CANCER: COMPARISON OF LDR AND HDR

**BRACHYTHERAPY** 

#### TRAVEL GRANTS

Program Number: **OA01** 

Presenter: Joseph A. Miccio, MD

Abstract Title: IMPACT OF CONTRALATERAL LYMPH NODE INVOLVEMENT ON SURVIVAL OF SURGICALLY-MANAGED HPV-POSITIVE OROPHARYNGEAL CANCER

STAGED WITH THE AJCC EIGHTH EDITION

Program Number: **OA02** Presenter: Prashant Gabani, MD

Abstract Title: DOSE DE-ESCALATED RADIATION THERAPY VERSUS STANDARD DOSE RADIATION THERAPY IN DEFINITIVE TREATMENT OF HPV-POSITIVE OROPHARYNGEAL SQUAMOUS CELL CARCINOMA

Program Number: **OA05** Presenter: Mutlay Sayan

Abstract Title: ACUTE CARDIOTOXICITY WITH CONCURRENT TRASTUZUMAB AND

HYPOFRACTIONATED RADIATION THERAPY IN BREAST

**CANCER PATIENTS** 

Program Number: OA08 Presenter: Daniel Sufficool, MD

Abstract Title: INTERIM RESULTS OF A PHASE I/II TRIAL OF PROTON STEREOTACTIC BODY RADIATION THERAPY

(SBRT) FOR LIVER METASTASES

Program Number: OA09 Presenter: Dario Pasalic, MD

Abstract Title: STEREOTACTIC ABLATIVE BODY RADIATION FOR PULMONARY METASTASES: PATTERNS OF FAILURE AND OUTCOMES BY RISK GROUPING

Program Number: OA13

Presenter: Mustafa Abugideiri, MD

Abstract Title: A PROSPECTIVE INTERNATIONAL PILOT STUDY EVALUATING THE EFFICACY OF A SELF-GUIDED CONTOURING TEACHING MODULE WITH INTEGRATED FEEDBACK FOR TRANSITIONING FROM 2-D TO 3-D

TREATMENT PLANNING

Program Number: OA14

Presenter: Shane Mesko, MD, MBA

Abstract Title: RESULTS OF A LARGE, MULTI-YEAR ANALYSIS ON PROSPECTIVELY-COLLECTED CLINICAL TRIAL ENROLLMENT DATA IN THE MD ANDERSON THORACIC RADIATION ONCOLOGY DEPARTMENT

Program Number: **OA25** 

Presenter: Michael Xiang, MD, PhD

Abstract Title: DEFINITIVE RADIOTHERAPY WITH OR WITHOUT CISPLATIN FOR CERVICAL CANCER IN OLDER

WOMEN

Program Number: **OA43** 

Presenter: Bhavana V. Chapman, MD

Abstract Title: QUANTITATIVE 3D ASSESSMENT OF BREAST COSMESIS AFTER CONVENTIONAL (CF-WBI) VERSUS HYPOFRACTIONATED WHOLE BREAST RADIATION (HF-WBI): RESULTS OF A RANDOMIZED

**CLINICAL TRIAL** 

Program Number: **OA47** 

Presenter: Aharon M. Feldman, MD

Abstract Title: LIVER STEREOTACTIC BODY RADIATION THERAPY USING REAL TIME MAGNETIC RESONANCE

**GUIDANCE** 





In compliance with the ACCME Accreditation Criteria, the American College of Surgeons must ensure that anyone in a position to control the content of the educational activity has disclosed all relevant financial relationships with any commercial interest. All reported conflicts are managed by a designated official to ensure a bias-free presentation. Please see the insert to this program for the complete disclosure list.



# 101<sup>st</sup> ANNUAL MEETING

ROVING WELLNESS FOR PATIENTS...AND PHYSICIANS

# Scientific Program

#### SATURDAY, APRIL 6, 2019

8:30 am - 9:00 am

**Continental Breakfast** 

Pacific Ballroom Promenade

9:00 am - 11:00 am

#### Adaptive Planning Course (SA-CME)

Pacific Ballroom 1-2

Moderator: Matthew C. Abramowitz, MD, Miller School of Medicine, University of Miami

9:00 am	Introduction
9:05 am	Lorraine Portelance, MD, Miller School of Medicine, University of Miami
9:20 am	Anuja Jhingran, MD, <i>MD Anderson Cancer Center</i>
9:35 am	Ben J. Slotman, MD, PhD, VU University Medical Center
9:50 am	Carri Glide-Hurst, PhD, DABR, Henry Ford Cancer Institute
10:05 am	James E. Hugh III, MHA, ROCC®, CHBME, The Association of Mature
	American Citizens (AMAC)
10:20 am	Join Y. Luh, MD, FACP, Providence St. Joseph Health
10:35 am	Q&A

11:00 am - 12:00 pm

#### Scientific Session #1 - Head, Neck & Breast Cancers

Pacific Ballroom 1-2

Moderators: Amar Rewari, MD, MBA, Associates in Radiation Medicine Thomas Galloway, MD, Fox Chase Cancer Center

#### OA01: IMPACT OF CONTRALATERAL LYMPH NODE INVOLVEMENT ON SURVIVAL OF SURGICALLY-MANAGED HPV-POSITIVE OROPHARYNGEAL CANCER STAGED WITH THE AJCC **EIGHTH EDITION**

Joseph A. Miccio, MD<sup>1</sup>, Jacqueline Kelly, MD<sup>1</sup>, Benjamin H. Kann, MD<sup>1</sup>, Yi An, MD<sup>1</sup>, Henry S. Park, MD, MPH<sup>1</sup>, Vivek Verma, MD<sup>2</sup>, Saral Mehra, MD, MBA<sup>1</sup>, Benjamin Judson, MD<sup>1</sup>, Barbara Burtness, MD1, Zain Husain, MD1; 1Yale School of Medicine, 2Allegheny General Hospital

#### OA02: DOSE DE-ESCALATED RADIATION THERAPY VERSUS STANDARD DOSE RADIATION THERAPY IN DEFI NITIVE TREATMENT OF HPV-POSITIVE OROPHARYNGEAL SQUAMOUS **CELL CARCINOMA**

Prashant Gabani, MD<sup>1</sup>, Alexander J. Lin, MD, PhD<sup>1</sup>, Justin Barnes, MS<sup>2</sup>, Mackenzie Daly, MD<sup>1</sup>, Hiram Gay, MD1, Wade Thorstad, MD1; 1Washington University in Saint Louis School of Medicine, 2Saint Louis University School of Medicine

#### OA03: IS SMOKING RELATED TO A MORE AGGRESSIVE ORAL CAVITY SQUAMOUS CELL CARCINOMA WITH POOR SURVIVAL? A MULTI-INSTITUTIONAL COLLABORATIVE STUDY

Ahmed I. Ghanem, MD1, Matthew A. Schymick2, Jilian Tsai, MD, PhD3, Nancy Lee, MD3, Howard Liu, MD<sup>4</sup>, Neil Woody, MD<sup>5</sup>, Jimmy Caudell, MD, PhD<sup>6</sup>, Chandana A. Reddy, MS<sup>5</sup>, Nikhil Joshi, MD<sup>5</sup>, Eric Lamarre, MD<sup>5</sup>, Neal Dunlap, MD<sup>7</sup>, Brian Burkey, MD<sup>5</sup>, David Adelstein, MD<sup>5</sup>, Shlomo Koyfman, MD5, Farzan Siddiqui, MD, PhD8; 1Radiation Oncology Department, Henry Ford Health System / Alexandria Clinical Oncology Department; Alexandria University, <sup>2</sup>Henry Ford Hospital, <sup>3</sup>Memorial Sloan Kettering Cancer Center, <sup>4</sup>Princess Alexandra Hospital, <sup>5</sup>Cleveland Clinic, <sup>6</sup>Moffitt Cancer Center, <sup>7</sup>University of Louisville, 8Henry Ford Health System



#### SATURDAY, APRIL 6, 2019

### OA04: INCIDENCE AND PREDICTORS OF PERSISTENT OPIOID USE IN LONG-TERM SURVIVORS OF HEAD AND NECK CANCER TREATED WITH RADIATION

Rohit Ganju, MD¹, Rishi Neeranjun, BS¹, Ryan Morse, BS¹, Christopher Lominska, MD¹, Mindi TenNapel, MBA, PhD¹, Allen Chen, MD²; ¹University of Kansas Medical Center, ²University of California-Irvine

## OAO5: ACUTE CARDIOTOXICITY WITH CONCURRENT TRASTUZUMAB AND HYPOFRACTIONATED RADIATION THERAPY IN BREAST CANCER PATIENTS

Mutlay Sayan, MD, Zeinab Abou Yehia, MD, Deborah Toppmeyer, Nisha Ohri, MD, Bruce Haffty, MD; Rutgers Cancer Institute of New Jersey

# OA06: COMPLICATION RATES AND LONG-TERM OUTCOMES OF POST-MASTECTOMY RADIATION TO PERMANENT IMPLANTS OR TEMPORARY EXPANDERS IN TWO-STAGE IMMEDIATE IMPLANT RECONSTRUCTION

<u>Jessica Karen Wong, MD, MEng</u>, Karen Ruth, MS, Yanqun Dong, MD, PhD, Eddie Zhang, MD, Sameer Patel, MD, Richard Bleicher, MD, Elin Sigurdson, MD, PhD, Neal Topham, MD, Shelly Hayes, MD, Penny Anderson, MD; *Fox Chase Cancer Center* 

## OAO7: MANAGEMENT OF LOCALIZED BREAST ANGIOSARCOMA BY NORTH AMERICAN RADIATION ONCOLOGISTS AND MEDICAL ONCOLOGISTS

<u>Jess Hatfield, BSc¹</u>, Shearwood McClelland III, MD², Jia Luo, MD³, Catherine Degnin, PhD, MS4, Yiyi Chen, PhD⁴, Ronald J. Maggiore, MD⁵, Timur Mitin, MD, PhD¹; *1Department of Radiation Medicine*, Oregon Health and Science University, 2Department of Radiation Oncology, Indiana University School of Medicine, 3Department of Medicine, Oregon Health and Science University, 4Biostatistics Shared Resource, Oregon Health and Science University, 5Department of Medicine, University of Rochester Medical Center

1:30 pm - 3:15 pm

#### Presidential Course -

Pacific Ballroom 1-2

#### Patient Wellness, QOL and Survivorship (SA-CME)

Moderator: Charles B. Simone II, University of Maryland Medical Center

1:30 pm	Introduction
1:35 pm	Patricia Ganz, MD, <i>University of California Los Angeles</i>
1:55 pm	Joshua Jones, MD, MA, <i>University of Pennsylvania Health System</i>
2:15 pm	Ronald C. Chen, MD, MPH, , University of North Carolina at Chapel Hill
2:35 pm	Panel Discussion

3:15 pm - 3:30 pm

#### **Networking Break**

Pacific Ballroom Promenade

3:30 pm - 4:30 pm

#### Scientific Session #2 - Metastases / Miscellaneous

RADIATION THERAPY (SBRT) FOR LIVER METASTASES

Moderator: Andrzej Wojcieszynski, MD, *University of Pennsylvania* 

Pacific Ballroom 1-2

OA08: INTERIM RESULTS OF A PHASE I/II TRIAL OF PROTON STEREOTACTIC BODY

<u>Daniel C. Sufficool, MD</u>, Joseph I. Kang, MD, PhD, Chung-Tsen Hsueh, MD, PhD, Andrew J. Wroe, PhD, Baldev Patyal, PhD, Mark E. Reeves, MD, PhD, Jerry D. Slater, MD, Gary Y. Yang, MD; *Loma Linda University Medical Center* 

## OA09: STEREOTACTIC ABLATIVE BODY RADIATION FOR PULMONARY METASTASES: PATTERNS OF FAILURE AND OUTCOMES BY RISK GROUPING

<u>Dario Pasalic, MD</u><sup>1</sup>, Sonia Betancourt, MD<sup>1</sup>, Yi Lu, MD<sup>2</sup>, Peter Balter, MS, PhD<sup>1</sup>, Pamela Allen, MPH, PhD<sup>1</sup>, Mara Antonoff, MD<sup>1</sup>, Jeremy Erasmus, MD<sup>1</sup>, Quynh-Nhu Nguyen, MD<sup>3</sup>; <sup>1</sup>MD Anderson Cancer Center, <sup>2</sup>Ningbo Medical Center, Lihuili Eastern Hospital, <sup>3</sup>Division of Radiation Oncology, University of Texas MD Anderson Cancer Center

## OA10: EARLY RESULTS FROM A PROSPECTIVE PHASE II DOSE ESCALATION STUDY FOR NEOADJUVANT RADIOSURGERY FOR BRAIN METASTASES

<u>Erin S. Murphy, MD</u>, Kailin Yang, MD, John Suh, MD, Jennifer Yu, MD, PhD, Cathy Schilero, RN, Alireza Mohammadi, MD, Glen Stevens, DO, PhD, Lilyana Angelov, MD, Gene Barnett, MD, Michael Vogelbaum, MD, PhD, Gennady Neyman, PhD, Samuel Chao, MD; *Cleveland Clinic* 

#### SATURDAY, APRIL 6, 2019

## OA11: OLIGOMETASTATIC BREAST CANCER TREATED WITH HYPOFRACTIONATED STEREOTACTIC RADIOTHERAPY: LONG-TERM RESULTS FROM A PROSPECTIVE STUDY

Michael Milano, MD, PhD¹, Alan Katz, MD¹, Hong Zhang, MD, PhD¹, Christine F. Huggins, PhD¹, Paul Okunieff, MD²; ¹University of Rochester, ²University of Florida

## OA12: ABLATIVE STEREOTACTIC RADIATION THERAPY FOR OLIGO-METASTATIC CANCER (ARCHON): AN INTERNATIONAL META-ANALYSIS OF 19 PROSPECTIVE TRIALS

Eric J. Lehrer, MD¹, Raj Singh, MD², Daniel M. Trifiletti, MD³, Piet Ost, MD, PhD⁴, Shankar Siva, PhD, MBBS, FRANZCR⁵, Meng Mao-Bin, MD, PhD⁶, Leila Tchelebi, MD⁻, Nicholas G. Zaorsky, MD˚; ¹Icahn School of Medicine at Mount Sinai, ²Virginia Commonwealth University, ³Mayo Clinic, ⁴Department of Radiotherapy and Experimental Cancer Research, Ghent University, ⁵Sir Peter McCallum Department of Oncology, The University of Melbourne, ⁶Department of Radiation Oncology, CyberKnife Center, and Key Laboratory of Cancer Prevention and Therapy, Tianjin Medical University Cancer Institute & Hospital, ¬PennState Health. ⁶Penn State Cancer Institute

# OA13: A PROSPECTIVE INTERNATIONAL PILOT STUDY EVALUATING THE EFFICACY OF A SELF-GUIDED CONTOURING TEACHING MODULE WITH INTEGRATED FEEDBACK FOR TRANSITIONING FROM 2D TO 3D TREATMENT PLANNING

<u>Mustafa Abugideiri, MD¹</u>, Eduard Schreibmann, PhD¹, Jeffrey Switchenko, PhD¹, Mark W. McDonald, MD¹, Jonathan J. Beitler, MBA,MD¹, Walter J. Curran, MD¹, Deborah Bruner, PhD¹, Pretesh Patel, MD¹, Wondemagegnhu Tigeneh, MD², Miressa Mijena, MD², Sibo Tian, MD¹, Anees Dhabaan, PhD¹, Natia Esiashvili, MD¹, Tian Liu, PhD¹, Arif N. Ali, MS, MD¹; ¹Winship Cancer Institute of Emory University, ²Black Lion Hospital/Addis Ababa University

# OA14: RESULTS OF A LARGE, MULTI-YEAR ANALYSIS ON PROSPECTIVELY-COLLECTED CLINICAL TRIAL ENROLLMENT DATA IN THE MD ANDERSON THORACIC RADIATION ONCOLOGY DEPARTMENT

<u>Shane Mesko, MD MBA¹</u>, Joe Y. Chang, MD, PhD², Melenda Jeter, MD, MPH², Saumil Gandhi, MD, PhD¹, Zhongxing Liao, MD¹; *Daniel R. Gomez, MD1*; ¹Division of Radiation Oncology, MD Anderson Cancer Center, ²MD Anderson Cancer Center

5:30 pm - 7:00 pm

# Welcome Reception / Poster Walk with the Professor Please note: You will need your name badge to attend event

**Breast** 

Moderator: Gary Freedman, MD, University of Pennsylvania Health System

Monarch Ballroom

CNS Laurie E.Gaspar, MD, MBA, *UC Denver*Head & Neck Jonathan J. Beitler, MD, MBA, FACR, *The Emory Clinic*Thoracic Kenneth Rosenzweig, MD, *Mount Sinai School of Medicine*Genitourinary Paul L. Nguyen, MD, *Dana-Farber / Brigham and Women's* 

Cynthia A. Ballenger, MD, 21st Century Oncology, Inc.

Cancer Center

Gynecology Matthew Biagioli, MD, AdventHealth Cancer Institute

Radiation Oncology

CNS Sam Chao, MD, Cleveland Clinic

Gastrointestinal Kim Johung, MD, PhD, *Yale School of Medicine* Physics / Imaging Indrin J. Chetty, PhD, *Henry Ford Health System* 





#### SUNDAY, APRIL 7, 2019

7:00 am - 7:30 am Breakfast / Exhibits / Poster Viewing

Monarch Ballroom

7:30 am - 8:30 am

**AUC Education Session - Gastrointestinal and Sarcoma (SA-CME)** 

Pacific Ballroom 1-2

Gastrointestinal - Salma Jabbour, MD, Rutgers Cancer Institute of New Jersey

Sarcoma - Simon S. Lo, MD, University of Washington School of Medicine

8:30 am - 10:00 am

Scientific Session #3 - CNS / Gastrointestinal

Pacific Ballroom 1-2

Moderators: Laurie E.Gaspar, MD, MBA, UC Denver

Navesh K. Sharma, DO, PhD, Penn State Cancer Institute

# OA15: CLINICAL OUTCOMES OF BREAST LEPTOMENINGEAL DISEASE TREATED WITH INTRATHECAL TRASTUZUMAB, INTRATHECAL CHEMOTHERAPY, OR WHOLE BRAIN RADIATION THERAPY

Nicholas B. Figura, MD, Homan Mohammadi, MD, Victoria T. Rizk, MD, Brittany Evernden, PAC, Sepideh Mokhtari, MD, H. Michael Yu, MD, Timothy J. Robinson, MD, PhD, Arnold B. Etame, MD, PhD, Nam D. Tran, MD, PhD, Roberto Diaz, MD, PhD, Hatem Soliman, MD, Heather Han, MD, Solmaz Sahebjam, MD, Peter A. Forsyth, MD, Kamran A. Ahmed, MD; Moffitt Cancer Center

## OA16: COMPARISON OF OUTCOMES AND OPTIMAL TREATMENTS BETWEEN UNIFOCAL AND MULTIFOCAL GLIOBLASTOMA USING THE NATIONAL CANCER DATABASE

<u>Jodi Goldman</u>, Samantha Buszek, MD, Bryce Starr, Karine Al Feghali, MD, Neil Chevli, MD, Pamela Allen, MPH, PhD, Caroline Chung, MD; *MD Anderson Cancer Center* 

# OA17: PROGNOSTIC IMPACT OF TELOMERASE REVERSE TRANSCRIPTASE MUTATION AND O6-METHYLGUANINE-DNA METHYLTRANSFERASE METHYLATION IN ISOCITRATE DEHYDROGENASE WILD-TYPE GLIOBLASTOMA

Soumon Rudra, Sirui Ma, Jiayi Huang, MD; Washington University in St. Louis

# OA18: PROTON AND CARBON-ION RADIOTHERAPY FOR HIGH GRADE GLIOMA: EARLY RESULTS OF THE SHANGHAI PROTON AND HEAVY ION CENTER (SPHIC)

<u>Lin Kong</u>, Jing Gao, Xianxin Qiu, Jiyi Hu, Xiyin Guan, Weixu Hu, Jing Yang, Jiade Lu; *Shanghai Proton and Heavy Ion Center, Shanghai, China* 

## OA19: STEREOTACTIC RADIOSURGERY RE-IRRADIATION FOR RECURRENT GLIOBLASTOMA: A SINGLE INSTITUTION EXPERIENCE

Sai Duriseti, MD, PhD; Washington University in St. Louis

# OA20: OUTCOMES OF PENCIL BEAM SCANNING PROTON THERAPY FOR ANAL CANCER: A SINGLE INSTITUTION STUDY

<u>Nikhil Grandhi, BS¹</u>, Jahan Mohiuddin, MD², John Plastaras, MD, PhD², James M. Metz, MD², John Lukens, MD², Thomas Karasic, MD², Kim Reiss-Binder, MD², Edgar Ben-Josef, MD², Andrzej Wojcieszynski, MD²; ¹*Drexel School of Medicine*, ²*University of Pennsylvania* 

## OA21: PROSPECTIVE STUDY EVALUATING LIVER RADIOEMBOLIZATION DOSE WITH POSITRON EMISSION TOMOGRAPHY AND DISEASE RESPONSE

<u>Vladimir Avkshtol, MD¹</u>, lavor Veltchev, PhD¹, Jordan Anaokar, MD¹, Jonathan J. Paly, DO¹, Jian Q. Yu, MD¹, Mohan Doss, PhD¹, Gary S. Cohen, MD¹, Joseph N. Panaro, MD¹, Crystal S. Denlinger, MD¹, Elizabeth A. Handorf, PhD¹, Adam Anderson, BS¹, Graeme R. Williams, MD², Eugene Fourkal, PhD³, Joshua E. Meyer, MD¹; ¹Fox Chase Cancer Center, ²Hospital of the University of Pennsylvania, ³Pinnacle Health

## OA22: HIGH BODY MASS INDEX DECREASES TUMOR CONTROL IN LOCALLY ADVANCED PANCREATIC CANCER PATIENTS TREATED WITH SBRT AND SURGERY

Nick larrobino, BS¹, Joel Thomas, BS¹, Sushil Beriwal, MD², Mark Bernard, MD³, Colin Champ, MD⁴; ¹University of Pittsburgh School of Medicine, ²Department of Radiation Oncology, UPMC Hillman Cancer Center, Pittsburgh, PA, USA, ³University of Kentucky, Department of Radiation Medicine, ⁴Department of Radiation Oncology, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

#### SUNDAY, APRIL 7, 2019

OA23: OUTCOMES FOR PATIENTS WITH BORDERLINE AND LOCALLY ADVANCED PANCREATIC CANCER: INDUCTION CHEMOTHERAPY 3 RADIATION FOLLOWED BY SURGERY COMPARED TO INDUCTION CHEMOTHERAPY AND CONSOLIDATIVE RADIATION

Joseph A. Miccio, MD, Michael Cecchini, MD, Jay Pahade, MD, Jill Lacy, MD, Ronald R. Salem, MD, Skyler B. Johnson, MD, Adriana Blakaj, MD, PhD, Stacey Stein, MD, Jeremy S. Kortmansky, MD, Kimberly Johung, MD, PhD: Yale School of Medicine

#### OA24: CAN IMRT REDUCE LYMPHOPENIA IN PATIENTS TREATED WITH PREOPERATIVE CHEMORADIATION FOR GASTRIC CANCER?

Shalini Moningi, MD1, Jaffer Ajani, MD1, Brian Badgwell, MD1, Mariela Murphy, MD1, Naruhiko Ikoma, MD<sup>1</sup>, Jennifer Ho, MD<sup>2</sup>, Emma Holliday, MD<sup>1</sup>, Joseph Herman, MD<sup>1</sup>, Bruce Minsky, MD<sup>1</sup>, Eugene Koay, MD, PhD<sup>3</sup>, Albert Koong, MD, PhD<sup>1</sup>, Sunil Krishnan, MD<sup>1</sup>, Grace Smith, MD<sup>1</sup>, Cullen Taniguchi, MD, PhD¹, Prajnan Das, MD¹; ¹MD Anderson Cancer Center, ²University of Southern California, ³Radiation Oncology Department, The University of Texas, MD Anderson Cancer Center

Networking Break / Exhibits / Poster Viewing 10:00 am - 10:15 am

Monarch Ballroom

10:15 am - 11:00 am Janeway Lecture

Michael A. Caligiuri, MD, City of Hope National Medical Center

Pacific Ballroom 1-2

11:00 am - 12:30 pm

Challenging Cases in CNS (SA-CME)

Pacific Ballroom 1-2

Moderator: Scott G. Soltys, MD, Stanford University

Radiation Oncology Sam Chao, MD, Cleveland Clinic

Neuro-Oncology Seema Nagpal, MD, Stanford University

Neurosurgery Gabriel Zada, MD, Keck School of Medicine of USC

**Lunch / Exhibits / Poster Viewing** 12:30 pm - 1:00 pm

Panelists:

Monarch Ballroom

1:00 pm - 2:00 pm

Speed Mentoring (Pre-registration is required)

Pacific Ballroom 3

Mentor: Andre A. Konski, MD, MBA, MA, FACR, FASTRO, University of Pennsylvania

Academics in a Community Setting Andre A. Konski, MD, MBA, MA, FACR, FASTRO,

University of Pennsylvania

**Contract Negotiations** Cynthia A. Ballenger, MD, 21st Century Oncology, Inc.

Mentoring Bruce Haffty, MD, Rutgers- Robert Wood Johnson Med School

Joe Herman, MD, MD Anderson Interview Advice

Private Practice Gems Join Y. Luh, MD, FACP, Providence St. Joseph Health Promotion in Academia Benjamin Movsas, MD, Henry Ford Health System

**Free Time** 2:00 pm - 5:30 pm

5:30 pm - 7:00 pm Resident Jeopardy Pacific Ballroom 1-2

This session is supported by Varian Medical Systems

Moderator: Join Y. Luh, MD, FACP, Providence St. Joseph Health

**ARS Social Event** 7:30 pm - 9:30 pm

**Botanical Lawn North** 

Please note: You will need the ticket you received at registration,

plus your name badge, to participate in this event.



#### MONDAY, APRIL 8, 2019

7:00 am - 7:30 am Breakfast / Exhibits / Poster Viewing

Monarch Ballroom

7:30 am - 8:30 am

**AUC Education Session - Thoracic and Breast (SA-CME)** 

Pacific Ballroom 1-2

Thoracic - Stephen G. Chun, MD, *University of Texas MD Anderson Cancer Center*Breast - Elizabeth Harris, MD, *Case Western Reserve University School of Medicine* 

8:30 am - 9:30 am

Scientific Session #4 - GYN & GU Cancers

Pacific Ballroom 1-2

Moderators: Neil Taunk, MD, MS, *University of Pennsylvania* 

Brian C. Baumann, MD, Washington University in St. Louis

OA25: DEFINITIVE RADIOTHERAPY WITH OR WITHOUT CISPLATIN FOR CERVICAL CANCER IN OLDER WOMEN

Michael Xiang, MD, PhD, Elizabeth Kidd, MD; Stanford University

OA26: LYMPHOVASCULAR SPACE INVASION AS A SIGNIFI CAN'T RISK FACTOR OF LYMPH NODE INVOLVEMENT IN PATIENTS WITH IB ENDOMETRIAL ADENOCARCINOMA Eric Anderson, MD, Mark Sittig, MD, Mitchell Kamrava, MD; Cedars Sinai Medical Center

OA27: THE IMPORTANCE OF BRACHYTHERAPY IN TREATING STAGE III ENDOMETRIAL CANCER

<u>Feiya Shi</u>, Alison Yoder, BS, Ramya Masand, MD, Tracilyn Hall, MD, Matthew Anderson, MD, Michelle Ludwig, MD, PhD, MPH; <u>Baylor College of Medicine</u>

OA28: COMBINED MODALITY TREATMENT FAVORABLY IMPACTS SURVIVAL IN WOMEN WITH STAGE I UTERINE SEROUS CARCINOMA: A NATIONAL CANCER DATABASE ANALYSIS

Ahmed I. Ghanem, MD¹, Ankit Modh, MD², Remonda Khalil³, Joon K. Lee, MD³, Mohamed A. Elshaikh, MD³; ¹Radiation Oncology Department, Henry Ford Health System/Alexandria Clinical Oncology Department; Alexandria University, ²Department of Radiation Oncology, Henry Ford Health System, ³Radiation Oncology Department, Henry Ford Health System

OA29: SINGLE INSTITUTION RETROSPECTIVE REVIEW OF A SHORT BRACHYTHERAPY TREATMENT REGIME IN POSTOPERATIVE ENDOMETRIAL CARCINOMA PATIENTS

<u>Douglas Y. Lee, DO</u>, Jiangtao Gou, PhD, Jessica Karen Wong, MD, Meng, lavor Veltchev, PhD, Krisha Howell, MD, Penny Anderson, MD; *Fox Chase Cancer Center* 

OA30: FACTORS AFFECTING RECEIPT OF NON-DEFI NITIVE THERAPY FOR HIGH-RISK PROSTATE CANCER: A NATIONAL CANCER DATABASE ANALYSIS

Alexander Bagley, MD, PhD¹, Mitchell Anscher, MD¹, Seungtaek Choi, MD¹, Steven J. Frank, MD¹, Karen Hoff man, MD¹, Deborah Kuban, MD¹, Sean McGuire, MD, PhD¹, Quynh-Nhu Nguyen, MD¹, Benjamin Smith, MD¹, Grace Smith, MD², Todd A. Pezzi, MD, MBA¹, Brian Chapin, MD³, Ana Aparicio, MD⁴, Kenneth Hess, PhD⁵, Chad Tang, MD¹; ¹Division of Radiation Oncology, University of Texas MD Anderson Cancer Center, ²MD Anderson Cancer Center, ³Department of Urology, Division of Surgery, University of Texas MD Anderson Cancer Center, ⁵Department of Biostatistics, Division of Basic Science, University of Texas MD Anderson Cancer Center

OA31: RADIOTHERAPY GUIDED BY ULTRASMALL SUPERPARAMAGNETIC IRON OXIDE CONTRAST MRI STAGING FOR PATIENTS WITH HIGH RISK, CLINICALLY NODE POSITIVE OR RECURRENT PROSTATE CANCER

Yun Rose. Li, MD PhD, Mack Roach, III, MD; University of California, San Francisco

9:30 am - 10:00 am

**Presidential Lecture** 

Pacific Ballroom 1-2

Andre A. Konski, MD, MBA, MA, FACR, FASTRO, University of Pennsylvania

#### MONDAY, APRIL 8, 2019

10:00 am - 10:15 am **Gold Medal Award Presentation** Pacific Ballroom 1-2

Introduction: Andre A. Konski, MD, MBA, MA, FACR, FASTRO, University of Pennsylvania

10:15 am - 10:30 am Networking Break / Exhibits / Poster Viewing Monarch Ballroom

**Keynote Address** 10:30 am - 11:15 am Pacific Ballroom 1-2

Physician Wellness: The Case for Optimism

Bryan Bohman, MD, Chief Medical Officer, University Healthcare Alliance

11:15 am - 11:30 am Report on the 2018 ACR Intersociety Conference Pacific Ballroom 1-2

Physical Wellness: A Cause for Concern

Seth A. Rosenthal, MD, FACR, FASTRO, Sutter Medical Group

Scientific Session #5 - Lung & Pediatric Cancers Pacific Ballroom 1-2 11:30 am - 12:30 pm

> Moderators: Henry S. Park, MD, MPH, Yale School of Medicine

> > Susan Hiniker, MD, Stanford University

(OA32) Evaluating Single-Institution Costs of Consolidative Radiotherapy for Oligometastatic Non-Small Cell Lung Cancer Using Time-Driven Activity-Based Costing

Todd A. Pezzi, MD MBA<sup>1</sup>, Matthew S. Ning, MD<sup>1</sup>, Nikhil G. Thaker, MD<sup>2</sup>, David Boyce-Fappiano, MD<sup>1</sup>, Nicholas D. Olivieri, MS<sup>3</sup>, Alexis B. Guzman, MBA<sup>4</sup>, James R. Incalcaterra, PhD MS<sup>5</sup>, Shane Mesko, MD MBA<sup>1</sup>, Simona F. Shaitelman, MD<sup>1</sup>, Stephen G. Chun, MD<sup>1</sup>, Chad Tang, MD<sup>1</sup>, Steven J. Frank, MD1, Quynh-Nhu Nguyen, MD1, Daniel R. Gomez, MD1; 1Division of Radiation Oncology, University of Texas MD Anderson Cancer Center, <sup>2</sup>Department of Radiation Oncology, Arizona Oncology, <sup>3</sup>Sr. Healthcare Systems Engineer, Quality Measurement and Eng. University of Texas MD Anderson Cancer Center, 4Clinical Rev & Reimb Proj Mgr, Clinical Revenue/Reimbursement, University of Texas MD Anderson Cancer Center, <sup>5</sup>Exec Dir, Fin Planning & Analysis, Financial Planning & Analysis, University of Texas MD Anderson Cancer Center

OA33: Patterns of Adoption and Potential for Health Disparities in the Use of SBRT for Early-stage NSCLC in the United States from 2004-2014

Croix Fossum, MD, Scott Atay, MD, Li Ding, MD, Anthony Kim, MD, Jason Ye, MD; University of Southern California Keck School of Medicine

OA34: STEREOTACTIC BODY RADIOTHERAPY FOR APICAL LUNG TUMORS: DOSIMETRIC ANALYSIS OF THE BRACHIAL PLEXUS AND PRELIMINARY CLINICAL OUTCOMES

Kaleigh Doke, MD<sup>1</sup>, Rvan Morse, BS<sup>2</sup>, Rohit Ganiu, MD<sup>2</sup>, Sumit Sood, MD<sup>3</sup>, Allen M, Chen, MD<sup>4</sup>; <sup>1</sup>University of Kansas. <sup>2</sup>University of Kansas Medical Center. <sup>3</sup>University of Minnesota, <sup>4</sup>University of California Irvine

OA35: RATES OF INVASIVE CARCINOMA FOLLOWING RESECTION IN PATIENTS WITH CARCINOMA-IN-SITU ON BIOPSY

Wesley J. Talcott, MD, Benjamin H. Kann, MD, Roy H. Decker, MD, PhD; Yale School of Medicine

OA36: CLINICAL PRACTICE AND OUTCOMES OF PALLIATIVE RADIATION THERAPY IN PEDIATRIC ONCOLOGY PATIENTS: AN INTERNATIONAL COMPARISON OF EXPERIENCES FROM TWO DISTINCT COUNTRIES AND HEALTH CARE SYSTEMS

Avani D. Rao, MD<sup>1</sup>, Maria Luisa Figueiredo, MD<sup>2</sup>, Nikhil Yegya-Raman, MD<sup>3</sup>, Shuchi Sehgal<sup>1</sup>, Qinyu Chen, MHS<sup>1</sup>, Sara Alcorn, MD, MPH<sup>1</sup>, Michael Chen, MD<sup>2</sup>, Matthew Ladra, MD<sup>1</sup>, Rosangela Villar, MD<sup>2</sup>, Stephanie Terezakis, MD<sup>1</sup>; <sup>1</sup>Department of Radiation Oncology, Johns Hopkins School of Medicine, <sup>2</sup>Grupo de Apoio ao Adolescente e à Criança com Câncer, <sup>3</sup>Rutgers-Robert Wood Johnson Medical School

OA37: LONG-TERM CAUSES OF DEATH AMONG PEDIATRIC CANCER PATIENTS

Samantha R. Horn, BA1, Heath Mackley, MD1, Teah Snyder, BS1, Eric J. Lehrer, MD2, Daniel M. Trifiletti, MD3, Nicholas G. Zaorsky, MD1; Penn State Cancer Institute, Icahn School of Medicine at Mount Sinai, 3Mayo Clinic





#### TUESDAY, APRIL 9, 2019

7:00 am - 7:30 am Breakfast / Exhibits / Poster Viewing Monarch Ballroom

7:30 am - 8:00 am **Business Meeting**  Pacific Ballroom 1-2

Moderator: Andre A. Konski, MD, MBA, MA, FACR, FASTRO, University of Pennsylvania

8:00 am - 8:45 am

Scientific Session #6, Young Oncologist Awards and Presentation of The James D. Cox Award of Scientific Merit

Pacific Ballroom 1-2

Moderator: Gary Freedman, MD, University of Pennsylvania Health System

Andre A. Konski, MD, MBA, MA, FACR, FASTRO, University of Pennsylvania

OA38: REGIONAL RECURRENCE RATES WITH OR WITHOUT COMPLETE AXILLARY DISSECTION FOR BREAST CANCER PATIENTS WITH NODE-POSITIVE DISEASE ON SENTINEL LYMPH NODE BIOPSY AFTER NEOADJUVANT CHEMOTHERAPY

Diane C. Ling, MD1, Nick A. Iarrobino, BS1, Colin E. Champ, MD1, Atilla Soran, MD, MPH2, Sushil Beriwal, MD1; Department of Radiation Oncology, UPMC Hillman Cancer Center, University of Pittsburgh School of Medicine, Pittsburgh, PA, 2Breast Surgery Unit, Department of Surgical Oncology, University of Pittsburgh Medical Center Magee-Women's Hospital, Pittsburgh, USA

OA39: EVALUATING PROSTATE-SPECIFIC ANTIGEN (PSA) NADIR AND BOUNCE AFTER STEREOTACTIC BODY RADIOTHERAPY (SBRT) IN A MULTI-INSTITUTIONAL COHORT

Naomi Jiang, MD<sup>1</sup>, Audrey Dang, MD<sup>1</sup>, Ye Yuan, MD, PhD<sup>1</sup>, Fang-I Chu, PhD<sup>1</sup>, Christopher King, MD. PhD1, Sean Collins, MD, PhD2, Nima Aghdam, MD2, Simeng Suy, PhD2, Leszek Miszczyk, MD, PhD3, Constantine Mantz, MD<sup>4</sup>, Hilary Bagshaw, MD<sup>5</sup>, Mark Buyyounouski, MD, MS<sup>5</sup>, Michael Steinberg, MD, FASTRO, FACR, FACRO<sup>1</sup>, Patrick Kupelian, MD<sup>1</sup>, Amar Kishan, MD<sup>1</sup>; <sup>1</sup>Department of Radiation Oncology, University of California, Los Angeles (UCLA), <sup>2</sup>Department of Radiation Medicine, Georgetown University Hospital, <sup>3</sup>Radiotherapy Department, Maria Sklodowska-Curie Memorial Cancer Center and Institute of Oncology Gliwice Branch, 421st Century Oncology, Inc., 5Department of Radiation Oncology, Stanford University School of Medicine

OA40: RANDOMIZED PROSPECTIVE TRIAL OF STEREOTACTIC RADIOSURGERY VERSUS CHEMOTHERAPY FOR RECURRENT MALIGNANT GLIOMA AFTER SECOND-LINE CHEMOTHERAPY Ankit Modh, MD1, David Bergman, MD1, Renee Hanna, BS2, Lonni Schultz, PhD1, James Snyder, MD<sup>1</sup>, Tom Mikkelsen, MD<sup>3</sup>, Benjamin Movsas, MD<sup>4</sup>, Samuel Ryu, MD<sup>5</sup>, M. Salim Siddiqui, MD, PhD<sup>1</sup>; <sup>1</sup>Henry Ford Hospital, <sup>2</sup>Michigan State University College of Osteopathic Medicine, <sup>3</sup>Henry Ford Health

System, <sup>4</sup>Henry Ford Cancer Institute, <sup>5</sup>Stony Brook Cancer Center

OA41: HIGHER RATES OF PSEUDO-PROGRESSION AMONG PEDIATRIC LOW-GRADE GLIOMA PATIENTS TREATED WITH PROTON VERSUS PHOTON RADIOTHERAPY

Ethan B. Ludmir, MD1, Anita Mahaian, MD2, Arnold Paulino, MD1, Jeremy Jones, MD3, Leena Ketonen, MD<sup>1</sup>, Jack Su, MD<sup>4</sup>, David Grosshans, MD, PhD<sup>1</sup>, Mary Frances McAleer, MD, PhD<sup>1</sup>, Susan L. McGovern, MD, PhD1, Yasmin A. Lassen-Ramshad, MD, PhD5, Adekunle Adesina, MD, PhD4, Robert Dauser, MD<sup>4</sup>, Jeffrey Weinberg, MD<sup>1</sup>, Murali M. Chintagumpala, MD<sup>4</sup>: <sup>1</sup>The University of Texas MD Anderson Cancer Center, <sup>2</sup>Mayo Clinic, <sup>3</sup>Nationwide Children's Hospital, <sup>4</sup>Texas Children's Cancer Center, Baylor College of Medicine, 5 Aarhus University Hospital

OA42: CONCURRENT CHEMORADIATION FOR CERVICAL CANCER: COMPARISON OF LDR AND HDR BRACHYTHERAPY

Alexander J. Lin, MD, PhD1, Pamela Samson, MD, MPH2, Jacqueline Zoberi, PhD2, Jose Garcia-Ramirez, MS<sup>2</sup>, Jeffrey Williamson, PhD<sup>2</sup>, Stephanie Markovina, MD, PhD<sup>2</sup>, Julie Schwarz, MD, PhD<sup>2</sup>, Perry Grigsby, MD2; 1Washington University in Saint Louis School of Medicine, 2Washington University in St. Louis

Educational Session - Immunotherapy (SA-CME) 8:45 am - 9:45 am

Pacific Ballroom 1-2

Moderator: Igor I. Rybkin, MD, PhD, Henry Ford Cancer Institute

8:45 am Immunotherapy in the Management of Lung Cancer

Igor I. Rybkin, MD, PhD, Henry Ford Cancer Institute

9:05 am Clara Hwang, MD, Henry Ford Health System

9:25 am Advances in Immunotherapy for Skin Cancer, and Potential Implications for Radiotherapy Trials

Mohammad Khan, MD, PhD, DABR, FACRO, Emory University Hospital

#### TUESDAY, APRIL 9, 2019

9:45 am - 10:00 am Networking Break / Exhibits / Poster Viewing

Monarch Ballroom

10:00 am - 11:00 am

Scientific Session #7 - QOL / Outcomes / Physics / Biology Moderators: Indrin J. Chetty, PhD, Henry Ford Health System Pacific Ballroom 1-2

Andrew Vassil. MD. Cleveland Clinic

OA43: QUANTITATIVE 3D ASSESSMENT OF BREAST COSMESIS AFTER CONVENTIONAL (CF-WBI) VERSUS HYPOFRACTIONATED WHOLE BREAST RADIATION (HF-WBI): RESULTS OF A RANDOMIZED CLINICAL TRIAL

Bhavana V. Chapman, MD¹, Xiudong Lei², Prithvi Patil³, Shikha Tripathi⁴, Krista Nicklaus⁵, Michelle Fingeret, PhD⁶, Simona F. Shaitelman, MDEdM⁷, Kelly Hunt, MD⁶, Thomas Buchholz, MD⁶, Fatima Merchant, PhD⁴, Mia Markey, PhD⁵, Benjamin Smith, MD⁷, Jay P. Reddy, MD, PhDづ; ¹MD Anderson Cancer Center, ²Department of Health Services Research, The University of Texas MD Anderson Cancer Center, ³The University of Texas Health Science Center at Houston, ⁴Department of Engineering Technology, University of Houston, ⁵Department of Biomedical Engineering, The University of Texas, ⁶Department of Behavioral Science, The University of Texas MD Anderson Cancer Center, ⁶Department of Breast Surgical Oncology, The University of Texas MD Anderson Cancer Center, ⁶Department of Radiation Oncology, Scripps MD Anderson Cancer Center

OA44: PELVIC REIRRADIATION UTILIZING PULSED LOW DOSE RATE RADIATION THERAPY Jonathan J. Paly, DO, Charles T. Lee, PharmD, MD, Jiangtao Gou, PhD, Thomas Galloway, MD, Mark Hallman, MD, PhD, Stephanie Weiss, MD, Shelly Hayes, MD, Eric Horwitz, MD, Robert Price, PhD, C.M. Charlie Ma, PhD, Joshua E. Meyer, MD; Fox Chase Cancer Center

OA45: TOXICITY AFTER RADIOTHERAPY IN PATIENTS WITH HISTORICALLY ACCEPTED CONTRAINDICATIONS TO TREATMENT (CONTRAD): AN INTERNATIONAL SYSTEMATIC REVIEW AND META-ANALYSIS

<u>Diana Lin<sup>1</sup></u>, Eric J. Lehrer, MD<sup>2</sup>, Jennifer Rosenberg, MD<sup>3</sup>, Daniel M. Trifiletti, MD<sup>4</sup>, Nicholas G. Zaorsky, MD<sup>3</sup>; <sup>1</sup>Penn State College of Medicine, <sup>2</sup>Icahn School of Medicine at Mount Sinai, <sup>3</sup>Penn State Cancer Institute. <sup>4</sup>Mayo Clinic

OA46: THE USE OF PATIENT REPORTED OUTCOMES TO PREDICT UNPLANNED INPATIENT HOSPITALIZATIONS AND EMERGENCY DEPARTMENT VISITS IN CANCER PATIENTS RECEIVING CONCURRENT CHEMOTHERAPY AND RADIATION THERAPY

<u>Amardeep S. Grewal, MD</u>, Peter Gabriel, MD, Abigail Doucette, BA, James M. Metz, MD, Andrzej Wojcieszynski, MD; *University of Pennsylvania* 

OA47: LIVER STEREOTACTIC BODY RADIATION THERAPY USING REAL TIME MAGNETIC RESONANCE GUIDANCE

Aharon M. Feldman, MD¹, Carri Glide-Hurst, PhD², Joshua Kim¹, Kate Aldridge, BS, RTT, CMD², Ning Wen, PhD¹, Ankit Modh, MD³, Jadranka Dragovic, MD, MSc⁴, Munther Ajlouni, MD¹, Indrin J. Chetty, PhD⁵, Benjamin Movsas, MD²; ¹Henry Ford Health System, ²Henry Ford Cancer Institute, ³Department of Radiation Oncology, Henry Ford Health System, ⁴Henry Ford Medical Center, Cottage, ⁵Henry Ford Hospital

OA48: EVALUATION AND MITIGATION OF INTERPLAY EFFECTS USING REPAINTING TECHNIQUES FOR PATIENTS WITH LUNG CANCER

Yuenan Wang, PhD, DABR¹, Haijiao Shang, PhD Candidate²; ¹Chinese Academy of Medical Science (CAMS) Shenzhen Cancer Hospital, ²RaySearch Lab

OA49: ASSESSING FOR ENHANCED RADIOSENSITIVITY IN HYPOXIC TUMORS BY BLOCKING OXIDATIVE PHOSPHORYLATION USING IACS-010759

Alexander Augustyn, MD, PhD, Cullen Taniguchi, MD, PhD, Steven Lin, MD, PhD; MD Anderson Cancer Center

11:00 am - 12:30 pm Challenging Cases in GU (SA-CME)

Pacific Ballroom 1-2

Moderator: Timothy Showalter, MD, MPH, University of Virginia

Panelists: Urology - Tracey Krupski, MD, MPH, *University of Virginia* 

Medical Oncology - Clara Hwang, MD, Henry Ford Health System

Radiation Oncology - Abhishek Solanki, MD, Loyola University Medical Center

Radiation Oncology - Rahul Tendulkar, MD, Cleveland Clinic

12:30 pm - 1:00 pm Box Lunch Pacific Ballroom Promenade

#### POSTER DIRECTORY -

# ANNUAL MEETING



(P01) RECONSTRUCTION DOES NOT IMPACT LOCAL CONTROL OR SURVIVAL OUTCOMES IN INFLAMMATORY BREAST CANCER PATIENTS TREATED WITH TRIMODALITY THERAPY - Patricia Mae G. Santos, MS¹, Hannah Bogen, BS¹, Neil K. Taunk, MD, MS¹, Julia Tchou², Liza Wu, MD², Gary M. Freedman, MD¹; ¹The Perelman School of Medicine of the University of Pennsylvania, <sup>2</sup>University of Pennsylvania

(PO2) INITIAL CLINICAL EXPERIENCE TREATING PATIENTS WITH BREAST CANCER ON THE HALCYON LINEAR ACCELERATOR - <u>Andrew R. Barsky, MD<sup>1</sup>,</u> Fionnbarr O'Grady, PhD<sup>2</sup>, Christopher Kennedy, PhD<sup>3</sup>, Neil K. Taunk, MD, MS<sup>1</sup>, Lei Dong, PhD<sup>4</sup>, James M. Metz, MD4, Taoran Li, PhD4, Gary M. Freedman, MD1; 1Perelman School of Medicine of the University of Pennsylvania, <sup>2</sup>Hospital of University of Pennsylvania, <sup>3</sup>University of Pennsylvania, <sup>4</sup>University of Pennsylvania

(P03) ROLE OF ADJUVANT TREATMENT IN RESECTED PRIMARY BREAST ANGIOSARCOMA - Shearwood McClelland III, MD1, Jess Hatfield, BSc², Catherine Degnin, PhD, MS³, Yiyi Chen, PhD³, Timur Mitin, MD, PhD2; 1Department of Radiation Oncology, Indiana University School of Medicine, <sup>2</sup>Department of Radiation Medicine, Oregon Health and Science University, 3Biostatistics Shared Resource, Oregon Health and Science University

(P04) THE EFFICACY AND SAFETY OF HYPOFRACTIONATED RADIOTHERAPY WITH CONCURRENT ANTI-HER-2 THERAPY FOLLOWING BREAST-CONSERVING THERAPY FOR BREAST CANCER - Alexandra D. Dreyfuss, BSE, Andrew R. Barsky, MD, Neil K. Taunk, MD, MS, Amy S. Clark, MD, MSCE, Gary M. Freedman, MD; The Perelman School of Medicine of the University of Pennsylvania

(P05) FIVE DAY ACCELERATED PARTIAL BREAST IRRADIATION (APBI) USING STEREOTACTIC BODY RADIATION THERAPY (SBRT) IN STAGE 0-II BREAST CANCER - Rufus J. Mark, MD, Valerie Gorman, MD, MD, Steve McCoullough, PhD, PhD; Baylor Scott & White Medical

(P06) DOES THE USE OF BIOZORB® RESULT IN SMALLER SEROMA VOLUME (BOOST CTV)? - Zeinab Abou Yehia, MD, Mutlay Sayan, MD, Bruce Haffty, MD, Nisha Ohri, MD; Rutgers Cancer Institute of New Jersey

(P07) ACUTE AND LATE TOXICITY OF HYPERFRACTIONATED REIRRADIATION FOR LOCOREGIONALLY RECURRENT BREAST CANCER - Michael J. LaRiviere, MD<sup>1</sup>, Alexandra Dreyfuss, BS<sup>2</sup>, Neil K. Taunk, MD, MS<sup>2</sup>, Gary M. Freedman, MD<sup>2</sup>; <sup>1</sup>University of Pennsylvania, <sup>2</sup>The Perelman School of Medicine of the University of Pennsylvania

(P08) UTILIZATION OF BREAST HYPOFRACTIONATION: A SINGLE INSTITUTION REVIEW - Jonathan Moayyad, MD, Parima Daroui, MD PhD, Pericles Ioannides, MD; UC Irvine Radiation Oncology

(P09) RADIOTHERAPY TIMING FOLLOWING BIOPSY AND ITS EFFECT ON OVERALL SURVIVAL IN UNRESECTED GLIOBLASTOMA MULTIFORME - Sarah Gao, MD1, Zachary Corbin, MD2, Jennifer Moliterno, MD, FAANS<sup>2</sup>, Ranjit Bindra, MD, PhD<sup>2</sup>, James B. Yu, MD, MHS<sup>3</sup>, Henry S. Park, MD, MPH<sup>1</sup>, Joseph Contessa, MD, PhD<sup>1</sup>; *1Yale* School of Medicine, 2 Yale New Haven Hospital, 3 Smilow Cancer Hospital at Yale New Haven Hospital / Yale School of Medicine / Yale University

(P10) LOW-DOSE RADIOTHERAPY IN ADULT INTRACRANIAL EPENDYMOMA - Bryan Ager, MD, Michael Christensen, BS, Matthew Poppe, MD; University of Utah Huntsman Cancer Institute

(P11) PATTERNS OF CARE AND FACILITY VOLUME-ASSOCIATED **OUTCOMES FOR GRADE II AND GRADE III GLIOMAS - Nicolette Taku,** MD, MPhil, MPH, Kai Ping Liao, PhD, Chidinma P. Anakwenze, MD, MPH, Debra Nana Yeboa, MD; MD Anderson Cancer Center

(P12) LIMITED MARGIN RADIATION DOES NOT AFFECT PATTERNS OF FAILURE IN GLIOBLASTOMA PATIENTS UNDERGOING CONCURRENT TEMOZOLAMIDE THERAPY - Anthony Pham, MD<sup>1</sup>, Theodore Wang, BS<sup>2</sup>, Richard Jennelle, MD<sup>1</sup>, Naveed Wagle, MD<sup>3</sup>, Gabriel Zada, MD<sup>2</sup>, Eric L. Chang, MD<sup>1</sup>; <sup>1</sup>Keck Medical Center, Department of Radiation Oncology, 2Keck School of Medicine, Department of Neurosurgery, <sup>3</sup>Keck Medical Center, Department of Clinical Neurology

(P13) EARLY EVALUATION OF RADIATION-INDUCED WHITE MATTER INJURY FOLLOWING HIGH DOSE FRACTIONATED RADIATION THERAPY IN PATIENTS WITH GLIOBLASTOMA USING SERIAL DIFFUSION TENSOR IMAGING (DTI) - Hesham Elhalawani, MD, MS1, Tengfei Li, PhD¹, Karine Al Feghali, MD, MS¹, Sameh Radwan, MD¹, Yao Ding, PhD¹, Yan Jin, PhD¹, Abdallah Mohamed, MD, MS¹, Clifton D. Fuller, MD, PhD², Hongtu Zhu, PhD¹, Caroline Chung, MD¹; ¹University of Texas MD Anderson Cancer Center, <sup>2</sup>Department of Radiation Oncology, MD Anderson Cancer Center

(P14) MANAGEMENT OF BRAINSTEM GLIOMA: IS RE-IRRADIATION A GOOD PALLIATIVE OPTION? - Joshua J. Kovoor<sup>1</sup>, Jalal Hyder, DO<sup>2</sup>, Jay Burmeister, PhD<sup>3</sup>, Michael Joiner, MA PhD HonMRCR<sup>4</sup>, Steven Miller, MD4; <sup>1</sup>Wayne State University School of Medicine, <sup>2</sup>Detroit Medical Center / Wayne State Radiation Oncology, 3 Department of Oncology, Karmanos Cancer Institute / Wayne State University School of Medicine, Department of Oncology, Division of Radiation Oncology / Wayne State University School of Medicine

(P15) PATTERNS OF CARE AND SURVIVAL OUTCOMES FOR PATIENTS WITH PRIMARY SPINAL GLIOBLASTOMA MULTIFORME Chidinma P. Anakwenze, MD, MPH1, Kai Ping Liao, PhD1, Nicolette Taku, MD, MPhil, MPH<sup>1</sup>, David Boyce-Fappiano, MD<sup>2</sup>, Jing Li, MD, PhD<sup>2</sup>, Amol J. Ghia, MD<sup>2</sup>, Andrew J. Bishop, MD<sup>1</sup>, Arnold Paulino, MD<sup>1</sup>, Debra Nana Yeboa, MD<sup>1</sup>; <sup>1</sup>The University of Texas MD Anderson Cancer Center, <sup>2</sup>Division of Radiation Oncology, University of Texas MD Anderson Cancer Center

(P16) OUTCOMES AFTER GAMMA KNIFE RADIOSURGERY FOR INTRACRANIAL MENINGIOMAS - Zaker Hamid. Rana, MD¹, David Lin, BS<sup>2</sup>, Maged Ghaly, MD<sup>3</sup>, Jonathan Knisely, MD<sup>4</sup>, Troy Dawley, MD<sup>5</sup>, Michael Schulder, MD3, Anuj Goenka, MD3; 1Northwell Department of Radiation Oncology, <sup>2</sup>Zucker/Hofstra Medical School, <sup>3</sup>Northwell, <sup>4</sup>Cornell, <sup>5</sup>Northwell Neurosurgery

(P17) FRAMELESS STEREOTACTIC RADIOSURGERY ON THE GAMMA KNIFE ICON: FIRST 100 CONSECUTIVE PATIENTS - Horia Vulpe, MD, Carl Elliston, Yuanguang Xu, PhD, Simon Cheng, MD, PhD, Cheng-Chia Wu, MD, PhD, Jeffrey Bruce, MD, Guy McKhann, MD, Michael Sisti, MD, Tony Wang, MD; Columbia University

(P18) IMPACT OF TRAVEL DISTANCE ON RADIATION TREATMENT MODALITY FOR CENTRAL NERVOUS SYSTEM DISEASE - Shearwood McClelland III, MD¹, Timur Mitin, MD, PhD², Jerry J. Jaboin, MD, PhD², Jeremy N. Ciporen, MD³; ¹Department of Radiation Oncology, Indiana University School of Medicine, ²Department of Radiation Medicine, Oregon Health and Science University, ³Department of Neurological Surgery, Oregon Health and Science University

(P19) BIOPSY PROVEN METASTATIC MENINGIOMA: A CASE REPORT & REVIEW OF THE LITERATURE - Haris Vakil, BS¹, Lena Tran, BS¹, Gary D. Lewis, MD¹, Bin S. Teh, MD²; ¹UTMB-Galveston, ²Houston Methodist

(P20) THE BURDEN OF MENTAL HEALTH DISORDERS AMONG ELDERLY PATIENTS WITH GASTROINTESTINAL MALIGNANCIES -Jeremy Harris, MD, MPhil, Michael Xiang, MD, PhD, Daniel Chang, MD, Erqi Pollom, MD, MS; Stanford University

(P21) INCIDENCE OF SWALLOWING PROCEDURES AFTER CURATIVE TREATMENT FOR LOCALLY ADVANCED ESOPHAGEAL CANCER - Samual Francis, MD<sup>1</sup>, Shane Lloyd, MD<sup>2</sup>, Greg Stoddard, MStat, MBA, MPH<sup>3</sup>, Christopher Anker, MD<sup>4</sup>; <sup>1</sup>Department of Radiation Oncology, Huntsman Cancer Institute, University of Utah, Salt Lake City, Utah, <sup>2</sup>Huntsman Cancer Institute, University of Utah, <sup>3</sup>Department of Medicine, Study Design and Biostatistics Center, University of Utah, Salt Lake City, Utah, <sup>4</sup>Division of Radiation Oncology, University of Vermont Cancer Center, Burlington, Vermont

(P22) DOES FIDUCIAL MARKER PLACEMENT PRIOR TO SBRT INCREASE THE RISK OF METASTATIC DISEASE IN PATIENTS WITH UNRESECTABLE PANCREATIC CANCER? - Shalini Moningi, MD Maureen Aliru, BS<sup>1</sup>, Daniel Lin, BA<sup>1</sup>, Santiago Avila, BA<sup>1</sup>, Danyal Smani, BA¹, Eugene Koay, MD, PhD², Cullen Taniguchi, MD, PhD¹, Prajnan Das, MD¹, Grace Smith, MD¹, Emma Holliday, MD¹, Irina Cazacu, MD¹, Ben Singh, BS1, Manoop Bhutani, MD1, Albert Koong, MD, PhD1 Joseph Herman, MD: 1MD Anderson Cancer Center, 2Radiation Oncology Department, The University of Texas, MD Anderson Cancer Center

(P23) PROGNOSTIC FACTORS AFFECTING OVERALL SURVIVAL IN NON-METASTATIC, PRIMARY SQUAMOUS CELL CARCINOMA OF THE PANCREAS - Joshua d. Gruhl, MD1, Samual Francis, MD2, Bryan Ager, MD¹, Stacey Scheick, MD¹, Randa Tao, MD¹, Ignacio Garrido-Laguna, MD¹, Shane Lloyd, MD¹; ¹Huntsman Cancer Institute, University of Utah, ²Department of Radiation Oncology, Huntsman Cancer Institute, University of Utah, Salt Lake City, Utah

#### (P24) WITHDRAWN

(P25) CLINICAL CORRELATION OF RSI /GARD IN PENILE CANCER Zhigang Yuan<sup>1</sup>, G. Daniel Grass<sup>1</sup>, Mounsif Azizi<sup>2</sup>, Kamran A. Ahmed<sup>1</sup>, G. Sean J. Yoder<sup>3</sup>, Eric A. Welsh<sup>4</sup>, William J. Fulp<sup>4</sup>, Jasreman Dhillon<sup>5</sup>, Javier F. Torres-Roca1, Anna R. Giuliano<sup>6</sup>, Philippe E. Spiess<sup>2</sup> Peter A. Johnstone<sup>1</sup>; <sup>1</sup>Department of Radiation Oncology, H Lee Moffitt Cancer Center and Research Institute, 2 Department of Genitourinary Oncology, H Lee Moffitt Cancer Center and Research Institute, 3Moffitt Genomics core, H Lee Moffitt Cancer Center and Research Institute, <sup>4</sup>Department of Biostatistics and Bioinformatics, H Lee Moffitt Cancer Center and Research Institute. 5Department of Anatomic Pathology, H Lee Moffitt Cancer Center and Research Institute, <sup>6</sup>Department of Cancer Epidemiology, H Lee Moffitt Cancer Center and Research Institute

#### (P26) WITHDRAWN

(P27) PROSPECTIVE PILOT TRIAL OF PARTIAL PROSTATE SBRT BASED ON TARGETED-BIOPSY PATHOLOGIC CORRELATION WITH MULTI-PARAMETRIC MRI - Elisha T. Fredman, MD¹, Michael Kharouta, MD¹, Bryan Traughber, MD², Tarun Podder, PhD¹, Lee Ponsky, MD1, Rodney Ellis, MD1; 1Seidman Cancer Center, University Hospitals Cleveland Medical Center, <sup>2</sup>Seidman Cancer Center, University Hospitals Cleveland Medical Center: Louis Stokes Cleveland VA Medical Center

(P28) RECTAL RADIATION DOSE COMPARISON BETWEEN DEFINITIVE RADIOTHERAPY WITH HYDROGEL SPACER INJECTION VERSUS POST-PROSTATECTOMY RADIOTHERAPY FOR PROSTATE CANCER - Daniel X. Yang, MD1, James B. Yu, MD, MHS2, Yi An, MD1, Preston C. Sprenkle, MD<sup>1</sup>, Michael S. Leapman, MD<sup>1</sup>, Henry S. Park, MD, MPH<sup>1</sup>; <sup>1</sup>Yale School of Medicine, <sup>2</sup>Smilow Cancer Hospital at Yale New Haven Hospital / Yale School of Medicine / Yale University

#### (P29) WITHDRAWN

(P30) PROGNOSTIC SIGNIFICANCE OF P16 IN PATIENTS WITH CERVICAL CANCER RECEIVING DEFINITIVE CHEMORADIATION

- Comron Hassanzadeh, MD, Amar Srivastava, MD, Stephanie Markovina, MD/PhD, Julie Schwarz, MD/PhD, Perry Grigsby, MD; Washington University in St. Louis

(P31) DOSIMETRIC EFFECTS OF THE SMIT SLEEVE ON HIGH DOSE RATE BRACHYTHERAPY PLANS FOR PATIENTS WITH LOCALLY ADVANCED CERVICAL CANCER - Shahil Mehta, BA, Benjamin Farnia, MD, Alberto de la Zerda, PhD, Robabeh Rahimi, PhD, Aaron Wolfson, MD. Lorraine Portelance, MD; Department of Radiation Oncology, Sylvester Comprehensive Cancer Center/University of Miami Miller School of Medicine and Jackson Memorial Hospital

(P32) STEREOTACTIC BODY RADIATION THERAPY BOOST FOR ENDOMETRIAL CANCER: SAFETY, EFFICACY, AND QUALITY OF LIFE OUTCOMES - Shraddha M. Dalwadi, MD, MBA<sup>1</sup>, Constantine Mantz, MD², Nabila Waheed, MD³, Danny Tran, CMD⁴, Mark Bonnen, MD¹, Michelle Ludwig, MD, PhD, MPH¹; ¹Baylor College of Medicine, ²21st Century Oncology, Inc., ³The Center Texas, ⁴Remote Dosimetry Services

(P33) TREATMENT PACKAGE TIME IMPACTS LOCOREGIONAL CONTROL FOR HIGH RISK P16+ OROPHARYNGEAL SQUAMOUS CELL CARCINOMA TREATED WITH TRANSORAL ROBOTIC SURGERY (TORS) AND POSTOPERATIVE RADIATION - Hann-Hsiang <u>Chao, MD, PhD</u>, Caitlin Schonewolf, MD, Erik Tan, BS, Alexander Lin, MD, Samuel Swisher-McClure, MD, Alireza Fotouhi Ghiam, MD, Gregory Weinstein, MD, Bert O'Malley, MD, Ara Chalian, MD, Christopher Rassekh, MD, Jason Newman, MD, Roger Cohen, MD, Joshua Bauml, MD, Charu Aggarwal, MD, John Lukens, MD; University of Pennsylvania

(P34) SURGICAL EXCISION, MOHS MICROGRAPHIC SURGERY, EXTERNAL BEAM RADIOTHERAPY, OR BRACHYTHERAPY FOR INDOLENT SKIN CANCER: AN INTERNATIONAL META-ANALYSIS OF 58 STUDIES WITH 21,000 PATIENTS - Charles T. Lee, PharmD, MD¹, Eric J. Lehrer, MD², Abhishek Aphale, MD¹, Miriam N. Lango, MD¹, Thomas Galloway, MD¹, Nicholas G. Zaorsky, MD³; ¹Fox Chase Cancer Center, <sup>2</sup>Icahn School of Medicine at Mount Sinai, <sup>3</sup>Penn State Cancer Institute

(P35) POPULATION BASED SCREENING USING TRAINED **VOLUNTEERS IN DETECTION OF EARLY STAGE (STAGE1AND STAGE** 2) ORAL CANCERS AND PRECANCERS - Dexton Johns; Zain Clinical Research Center

#### (P36) WITHDRAWN

(P37) MONITORING DYSGEUSIA IN PATIENTS FOLLOWING RADIATION THERAPY FOR HEAD AND NECK CANCER - Quinn <u>Self<sup>1</sup></u>, Sharon Li, MD<sup>2</sup>, Havaleh Gagne, MD<sup>3</sup>, Carl Nelson, MD<sup>3</sup>; <sup>1</sup>Larner College of Medicine - University of Vermont, <sup>2</sup>Department of Otolaryngology / University of Vermont Medical Center, 3Radiation Oncology / University of Vermont Medical Center

(P38) A PROSPECTIVE TRIAL EVALUATING PATIENT REPORTED **OUTCOMES OF CUSTOMIZED ORAL STENTS FOR HEAD AND NECK** (HN) RADIOTHERAPY (RT) USING 3D PRINTING AND TRADITIONAL METHODS - Mohamed Zaid, MD¹, Nimit Bajaj, BDS, MPH¹, Ryan Mathew, BS², Caroline Chung, MD², Chris Wilke, MD, PhD³, Clifton D. Fuller, MD, PhD¹, Michael R. Andersen, DDS⁴, Brandon Gunn, MD¹, William Morrison, MD¹, Adam S. Garden, MD¹, Steven J. Frank, MD¹, David Rosenthal, MD, FASTRO¹, Otun O. Adegbenga, BDS⁴, Mark S. Chambers, DMD, MS<sup>4</sup>, Eugene Koay, MD, PhD<sup>1</sup>; <sup>1</sup>Department of Radiation Oncology, The University of Texas, MD Anderson Cancer Center, 2MD Anderson Cancer Center, <sup>3</sup>Department of Radiation Oncology, University of Minnesota, 4Onc Dentistry Prosthodontics, The University of Texas, MD Anderson Cancer Center

(P39) A DOSIMETRIC COMPARISON OF ORAL CAVITY SPARING IN THE UNILATERAL TREATMENT OF EARLY STAGE TONSIL CANCER: IMRT, IMPT, AND TONGUE DEVIATING ORAL STENTS - Stephen <u>Grant, MD<sup>1</sup></u>, Tyler Williamson, CMD<sup>1</sup>, Clifton D. Fuller, MD, PhD<sup>2</sup>, David Rosenthal, MD, FASTRO<sup>2</sup>, Steven J. Frank, MD<sup>2</sup>, Adam S. Garden, MD<sup>2</sup>, William Morrison, MD2, Jack Phan, MD2, Amy Liu, MSc1, Richard Wu, MSc¹, Brandon Gunn, MD², ¹MD Anderson Cancer Center, ²Department of Radiation Oncology, MD Anderson Cancer Center

(P40) CHRONIC GRANULATION TISSUE PREDICTS DEVELOPMENT OF SECOND PRIMARY TUMORS IN THE ORAL CAVITY - Eddie Zhang, MD, Tianyu Li, MS, Miriam N. Lango, MD, Douglas B. Flieder, MD, John A. Ridge, MD PhD, Thomas Galloway, MD; Fox Chase Cancer Center

(P41) SURVIVAL IMPACT OF TIME TO INITIATION OF ADJUVANT RADIATION FOR MERKEL CELL CARCINOMA: AN ANALYSIS OF THE NATIONAL CANCER DATABASE - Mehran Yusuf, MD1, Jeremy Gaskins, PhD<sup>2</sup>, Paul Tennant, MD<sup>3</sup>, Jeffrey Bumpous, MD<sup>3</sup>, Neal Dunlap, MD4; 1University of Louisville Hospital, 2Department of Bioinformatics and Biostatistics, University of Louisville, <sup>3</sup>University of Louisville Hospital/ Department of Otolaryngology, Ear, Nose and Throat, <sup>4</sup>University of Louisville

(P42) ADAPTIVE TREATMENT PLANNING MAY REDUCE PAROTID GLAND ATROPHY IN PATIENTS RECEIVING HEAD AND NECK RADIATION THERAPY - Ryan Thibodeau, MPH, William Ennis, MD, Amanda Raymond, CMD, RTT, Margaret Formica, MSPH, PhD, Michael Lacombe, MD, Seung Hahn, MD; SUNY Upstate Medical University

(P43) CO-60 BASED STEREOTACTIC RADIOSURGERY EFFECTIVELY TREATS PERINEURAL SPREAD FROM CANCERS OF THE HEAD AND NECK - Ravichandran K. Ramakrishnan, MD, Mark Linskey, MD, Jeffrey V. Kuo, MD; University of California, Irvine

(P44) PATTERNS OF CARE IN THE RADIOTHERAPEUTIC MANAGEMENT OF HEAD AND NECK CANCER OF UNKNOWN PRIMARY ORIGIN: IN SEARCH OF A STANDARD - Ryan Morse, BS, Rohit Ganju, MD, Allen Chen, MD; University of Kansas Cancer Center

# ANNUAL MEETING



(P45) RETROSPECTIVE ANALYSIS OF PATIENTS TREATED WITH RADIOSURGERY FOR 4 BRAIN METASTASES FROM ALK REARRANGED AND EGFR MUTATED NSCLC - Yan Wang, MD, PhD¹, Courtney L. Calbat, BS¹, Daniel R. Gomez, MD², Jing Li, MD, PhD²; <sup>1</sup>University of Taxes MD Anderson Cancer Center, <sup>2</sup>Department of Radiation Oncology, University of Texas MD Anderson Cancer Center

(P46) EARLY OUTCOMES OF PATIENTS WITH LOCALLY ADVANCED NON-SMALL CELL LUNG CANCER TREATED WITH INTENSITY-MODULATED PROTON THERAPY VS. INTENSITY-MODULATED RADIATION THERAPY: A SINGLE-INSTITUTIONAL EXPERIENCE -Nathan Y. Yu, MD1, Todd A. DeWees, PhD1, Chenbin Liu, PhD1, Thomas B. Daniels, MD¹, Jonathan B. Ashman, MD, PhD¹, Staci E. Beamer, MD², Dawn E. Jaroszewski, MD², Helen J. Ross, MD³, Harshita R. Paripati, MD³, Jean-Claude M. Rwigema, MD¹, Julia X. Ding¹, Jie Shan¹, Wei Liu, PhD¹, Steven E. Schild, MD¹, Terence T. Sio, MD, MS¹; ¹Department of Radiation Oncology, Mayo Clinic, ²Department of Cardiothoracic Surgery, Mayo Clinic, <sup>3</sup>Department of Hematology and Medical Oncology

#### (P47) SEE OA33

(P48) OUTCOMES AND PATTERNS OF FAILURE FOR STAGE I NON-SMALL CELL LUNG CANCER IN A VETERAN POPULATION -Aryavarta Kumar, MD, PhD¹, Charlene Kan, MD, PhD¹, Bryan Traughber, MD²; ¹Louis Stokes Cleveland VA, ²Seidman Cancer Center, University Hospitals Cleveland Medical Center; Louis Stokes Cleveland VA Medical Center

#### (P49) WITHDRAWN

(50) NATIONWIDE PATTERNS IN HOSPITAL ADMISSIONS FOR BONE METASTASES AND ASSOCIATED PATHOLOGIC FRACTURES - Victor Lee, BS1, Vikram Jairam, MD1, James B. Yu, MD, MHS2, Henry S. Park, MD, MPH1; 1Yale School of Medicine; 2Smilow Cancer Hospital at Yale New Haven Hospital / Yale School of Medicine / Yale University

(P51) TUMOR CAVITY SHAPE CHARACTERISTICS DO NOT PREDICT LOCAL CONTROL IN PATIENTS WITH RESECTED BRAIN METASTASES RECEIVING ADJUVANT SRS - Kellen L. Mulford<sup>1</sup>, Chuyu Chen<sup>1</sup>, Kathryn Dusenbery, MD<sup>2</sup>, Jianling Yuan, MD/PhD<sup>2</sup>, Matthew Hunt, MD<sup>3</sup>, Clark Chen, MD/PhD<sup>3</sup>, Paul Sperduto, MD/MPP<sup>2</sup>, Yoichi Watanabe, PhD2, Christopher Wilke, MD/PhD1; 1 University of Minnesota, <sup>2</sup>Deparment of Radiation Oncology, University of Minnesota, <sup>3</sup>Department of Neurosurgery, University of Minnesota

(P52) OUTCOMES OF SINGLE FRACTION CONVENTIONAL RADIATION THERAPY FOR PALLIATION OF PAINFUL VERTEBRAL METASTASES - Sonal S. Noticewala, MD, MAS<sup>1</sup>, Daniel R. Gomez, MD<sup>1</sup>, Chad Tang, MD<sup>1</sup>, Laurence D. Rhines, MD<sup>2</sup>, Claudio E. Tatsui, MD<sup>2</sup>, Sarah Todd, PA-C<sup>1</sup>, Meaghan Gomez, ANP-BC<sup>1</sup>, Albert C. Koong, MD, PhD¹, Jing Li, MD, PhD¹, Amol J. Ghia, MD¹; ¹Department of Radiation Oncology, University of Texas MD Anderson Cancer Center, <sup>2</sup>Department of Neurosurgery, University of Texas MD Anderson Cancer Center

(53) MELANOMA METASTATIC TO BRAIN AND SUBSEQUENT BLEEDS: THE ROLES OF BRAF STATUS AND WHOLE BRAIN RADIOTHERAPY - Dylan Parker; University of South Florida College of Medicine

#### (P54) WITHDRAWN

(P55) RADIATION ONCOLOGY PARTICIPATION IN THE CENTERS FOR MEDICARE AND MEDICAID SERVICES' HOSPITAL COMPARE **OUTPATIENT QUALITY MEASURES: QUANTIFYING QUALITY AND** EFFECTIVENESS ON A NATIONAL SCALE - Khang T. Dinh, MD, MS¹, Lia Halasz, MD¹, Christoph Lee, MD, MPH²; ¹University of Washington, <sup>2</sup>Department of Radiology, University of Washington

(P56) COMPARING PROVIDER COSTS OF DIFFERENT PALLIATIVE FRACTIONATED REGIMENS FOR BONE METASTASES USING TIME-DRIVEN ACTIVITY-BASED COSTING - <u>David Boyce-Fappiano</u>, <u>MD<sup>1</sup></u>, Matthew S. Ning, MD<sup>1</sup>, Nikhil Thaker, MD<sup>2</sup>, Todd A. Pezzi, MD MBA<sup>1</sup>, Nicholas D. Olivieri, MS<sup>3</sup>, Alexis B. Guzman, MBA<sup>4</sup>, James R. Incalcaterra, PhD, MS<sup>5</sup>, Olsi Gjyshi, MD, Phd<sup>6</sup>, Shane Mesko, MD, MBA<sup>1</sup>, Chidinma P. Anakwenze, MD, MPH<sup>6</sup>, Chad Tang, MD<sup>1</sup>, Steven J. Frank, MD<sup>1</sup>, Daniel R. Gomez, MD<sup>1</sup>, Zhongxing Liao, MD<sup>1</sup>, Quynh-Nhu Nguyen, MD<sup>1</sup>, <sup>1</sup>Division of Radiation Oncology, University of Texas MD Anderson Cancer Center, <sup>2</sup>Arizona Oncology, <sup>3</sup>Quality Measurement and Eng, University of Texas MD Anderson Cancer Center, <sup>4</sup>Clinical Revenue/Reimbursement, University of Texas MD Anderson Cancer Center, <sup>5</sup>Financial Planning & Analysis, University of Texas MD Anderson Cancer Center, 6MD Anderson Cancer Center

(P57) THE RELATIONSHIP BETWEEN PRE-RESIDENCY PEER-REVIEWED PUBLICATIONS AND SUBSEQUENT CITATION-BASED SCHOLARLY ACTIVITY OF UNITED STATES RADIATION ONCOLOGY RESIDENTS - Shearwood McClelland III, MD1, Jerry J. Jaboin, MD, PhD2; <sup>1</sup>Department of Radiation Oncology, Indiana University School of Medicine, <sup>2</sup>Department of Radiation Medicine, Oregon Health and Science University

(P58) USE OF THE G-INDEX FOR ASSESSMENT OF CITATION-BASED SCHOLARLY ACTIVITY OF UNITED STATES RADIATION ONCOLOGY RESIDENTS AND SUBSEQUENT CHOICE OF ACADEMIC VERSUS PRIVATE PRACTICE CAREER - Shearwood McClelland III, MD1, Timur Mitin, MD, PhD<sup>2</sup>, Nima Nabavizadeh, MD<sup>2</sup>, Clifton D. Fuller, MD, PhD<sup>3</sup>, Charles R. Thomas, Jr., MD2, Jerry J. Jaboin, MD, PhD2; 1Department of Radiation Oncology, Indiana University School of Medicine, <sup>2</sup>Department of Radiation Medicine, Oregon Health and Science University, 3 Department of Radiation Oncology, MD Anderson Cancer Center

(P59) MISSION TO MARS: RADIATION SAFETY OR RADIATION DISASTER? SPACE TRANSIT AND MARS RADIATION EXPOSURE RISKS - THE SHIELDING EFFECT OF A GRAPHENE SPACE SUIT AND A STORM SHELTER DURING SPACE TRAVEL - Tim Squire, MBBS; Ba.App.Sci. (MRS); Grad.Dip.Hlth.Sci.Med.Sono.¹, Grant Buchanan, MD, PhD², Hany Elsaleh, MBBS, PhD, FRANZCR³; ¹The Canberra Hospital; University of Notre Dame Australia, 2The Canberra Hospital; Australia National University, 3Radiation Oncology/ The Canberra Hospital

(P60) THE PREVALENCE AND IMPACT OF WORK-RELATED MUSCULOSKELETAL INJURY AMONG RADIATION THERAPISTS -Alexander N. Hanania, MD, MPH1, Aubrey Cook2, Michelle Ludwig, MD, PhD, MPH1; 1Baylor College of Medicine, 2Auburn University

#### (P61) WITHDRAWN

(P62) CURRENT AND HISTORICAL REPRESENTATION TRENDS OF BLACK PHYSICIANS IN THE US RADIATION ONCOLOGY (RO) WORKFORCE - lan K. Cruickshank, Jr., BS RT(T)1, Awad Ahmed, MD2, Charles R. Thomas, Jr., MD<sup>3</sup>, Curtiland Deville, Jr., MD<sup>4</sup>; <sup>1</sup>Sibley Memorial Hospital (Johns Hopkins Medicine), <sup>2</sup>Department of Radiation Oncology, University of Miami Miller School of Medicine/Sylvester Comprehensive Cancer Center and Jackson Memorial Hospital, <sup>3</sup>Department of Radiation Medicine, Oregon Health and Science University University, <sup>4</sup>Johns Hopkins University

(P63) THE DECLINE IN BRACHYTHERAPY USE FOR DEFINITIVE CANCER THERAPY - Eric J. Lehrer, MD¹, Charles T. Lee, PharmD, MD², Daniel M. Trifiletti, MD³, Timothy N. Showalter, MD⁴; ¹Icahn School of Medicine at Mount Sinai, ²Fox Chase Cancer Center, ³Mayo Clinic, ⁴University of Virginia

(P64) UTILIZING ARTIFICIAL INTELLIGENCE TO INCREASE MULTI-INSTITUTIONAL ACCESS TO CLINICAL TRIALS - Vincent Bernard, PhD¹, Maureen Aliru, BS¹, Shalini Moningi, MD¹, Sweet Ping Ng, MBBS, FRANZCR¹, Sergio Garza¹, Amy R Spelman¹, Zhongxing Liao, MD², Michael L Vanalstine<sup>1</sup>, Joseph Herman, MD<sup>1</sup>; <sup>1</sup>MD Anderson Cancer Center, <sup>2</sup>Department of Radiation Oncology, MD Anderson Cancer Center

#### (P65) THE PERVASIVE CRISIS OF DIMINISHING RADIOTHERAPY **ACCESS FOR APPALACHIAN PATIENTS IN THE UNITED STATES**

- Shearwood McClelland III, MD<sup>1</sup>, Tasneem Kaleem, MD<sup>2</sup>, Mark E. Bernard, MD<sup>3</sup>, Hiba Z. Ahmed, MD<sup>4</sup>, Terence T. Sio, MD, MS<sup>2</sup>, Robert C. Miller, MD, MBA<sup>2</sup>; \*\*Department of Radiation Oncology, Indiana University School of Medicine, \*\*Department of Radiation Oncology, Mayo Clinic, \*\*100 Clini <sup>3</sup>Department of Radiation Oncology, University of Kentucky, <sup>4</sup>Department of Radiation Oncology, Emory University

(P66) EXCEPTIONAL RESPONDERS IN ONCOLOGY: AN INTERNATIONAL SYSTEMATIC REVIEW AND META-ANALYSIS OF PATIENT LEVEL DATA - Mackenzie Cummings, BS1, Eric J. Lehrer, MD<sup>2</sup>, Joseph Drabick, MD, FACP<sup>1</sup>, Niraj Gusani, MD, FACP<sup>3</sup>, Daniel M. Trifiletti, MD<sup>4</sup>, Nicholas Zaorsky, MD<sup>1</sup>; \*\*1Penn State Cancer Institute, Hershey, PA, 2 Icahn School of Medicine at Mount Sinai, 3 Penn State Cancer Institute, Hershey, PA; Penn State Hershey Surgical Specialties, 4Mayo Clinic

(P67) REDDIT AND RADIATION THERAPY: A DESCRIPTIVE ANALYSIS OF POSTS AND COMMENTS OVER SEVEN YEARS BY PATIENTS AND HEALTHCARE PROFESSIONALS - Joel Thomas, BA1, Arpan Prabhu, MD<sup>1</sup>, Dwight Heron, MD, MBA, FACRO, FACR<sup>2</sup>, Sushil Beriwal, MD<sup>2</sup>, <sup>1</sup>University of Pittsburgh School of Medicine, Pittsburgh, PA USA, <sup>2</sup>Department of Radiation Oncology, UPMC Hillman Cancer Center, Pittsburgh, PA USA

(P68) MERKEL CELL CARCINOMA: SINGLE INSTITUTION **OUTCOMES WITH ADJUVANT RADIATION THERAPY - Praveen** Pendyala, MD, John Byun, MD, Sharad Goyal, MD MS, James Goydos, MD FACS, Ann W. Silk, MD, Vadim Koshenkov, MD, Joseph P. Weiner, MD; Rutgers Cancer Institute of New Jersey

(P69) IMPACT OF RADIOTHERAPY AND STEREOTACTIC RADIOSURGERY ON SURVIVAL FOR CHILDREN AND ADOLESCENTS A RETROSPECTIVE POPULATION-BASED STUDY -Amandeep R. Mahal<sup>1</sup>, James B. Yu, MD, MHS<sup>2</sup>; <sup>1</sup>Yale New Haven Hospital / Yale School of Medicine / Yale University, 2 Smilow Cancer Hospital at Yale New Haven Hospital / Yale School of Medicine / Yale University

(P70) HYPOFRACTIONATED RADIOTHERAPY ALONE FOR PALLIATION OF SARCOMA: A SINGLE INSTITUTION RETROSPECTIVE REVIEW - Shane A. Lloyd, MD, PhD, Steve Braunstein, MD, PhD; University of California, San Francisco

(P71) MASS TRANSPORT MODEL OF RADIATION RESPONSE: CALIBRATION AND APPLICATION TO CHEMORADIATION FOR PANCREATIC CANCER - Charles Wang, PhD¹, Dalia Elganainy, MD¹, Mohamed Zaid, MD², Joseph Butner, PhD¹, Vittorio Cristini, PhD¹, Eugene Koay, MD, PhD<sup>2</sup>; <sup>1</sup>MD Anderson Cancer Center, <sup>2</sup>Radiation Oncology Department, The University of Texas, MD Anderson Cancer Center

(P72) OVERALL SURVIVAL PREDICTION IN GLIOBLASTOMA USING CLINICAL FACTORS COMBINED WITH TEXTURE FEATURES **EXTRACTED FROM 3D CONVOLUTIONAL NEURAL NETWORKS** Joon K. Lee, MD¹, Weiwei Zong, PhD², Zhenzhen Dai, MS², Chang Liu, PhD², James Snyder, MD², Ning Wen, PhD³; ¹Radiation Oncology Department, Henry Ford Health System, 2Henry Ford Hospital, 3Henry Ford Health System

(P73) IMPROVED BOWEL-DOSE SPARING WITH THE USE OF OMENTOPEXY DURING CYBERKNIFE RADIOSURGERY FOR RECURRENT ENDOMETRIAL CANCER - Sana Sinhal, James Doty, MD<sup>2</sup>, Sean Toner, MS, DABMP<sup>1</sup>; <sup>1</sup>Golden Gate Medical Physics, <sup>2</sup>Stanford University Department of Neurosurgery

(P74) INCIDENCE OF RADIATION NECROSIS IN BRAIN METASTASIS PATIENTS TREATED WITH STEREOTACTIC RADIOSURGERY AND IMMUNOTHERAPY - Chase Glenn, BS1, Ryan Hughes, MD2, Claire Lanier, BS1, Ammoren Dohm, BS1, Jimmy Ruiz, MD3, Pierre Triozzi, MD<sup>5</sup>, Christina Cramer, MD<sup>2</sup>, Stephen Tatter, MD, PhD<sup>4</sup>, Adrian Laxton, MD<sup>4</sup>, Fei Xing, PhD<sup>5</sup>, Hui-Wen Lo, PhD<sup>5</sup>, Jing Su, PhD<sup>6</sup>, Kounosuke Watabe, PhD<sup>5</sup>, Ge Wang, PhD<sup>7</sup>, Michael Chan, MD<sup>2</sup>; \*\**Wake Forest School*\*\* of Medicine, 2Wake Forest School of Medicine Department of Radiation Oncology, 3Wake Forest School of Medicine Department of Hematology and Oncology, 'Wake Forest School of Medicine Department of Neurosurgery, 

Wake Forest School of Medicine Department of Cancer Biology, 
Wake Forest School of Medicine Division of Public Health Sciences, Virginia Tech-Wake Forest School of Biomedical Engineering and Sciences

(P75) A PILOT STUDY OF NICOTINE METABOLITES TO VERIFY **ACTIVE SMOKING STATUS IN HEAD AND NECK CANCER PATIENTS** UNDERGOING CURATIVE-INTENT RADIATION THERAPY - Jason W. <u>Chan, MD<sup>1</sup></u>; Ann Lazar, PhD<sup>1</sup>, Susan Wu, MD<sup>1</sup>, Erin Shugard, MS<sup>2</sup>, Neal Benowitz, MD<sup>1</sup>, Sue S. Yom, MD, PhD, MAS<sup>1</sup>; *'University of California San* Francisco, <sup>2</sup>Kaiser Permanente

#### (P76) WITHDRAWN

(P77) DATA ANALYTICS PLATFORM FOR OUTCOME COMPARISON OF PATIENTS TREATED FOR PRIMARY PANCREATIC CANCER USING SBRT VS CONVENTIONAL RT - Maureen Aliru, BS<sup>1</sup>, Vincent Bernard, PhD1, Sweet Ping Ng, MBBS, FRANZCR1, Shalini Moningi, MD1 MD Anderson Cancer Center, David Lindsay<sup>2</sup>, Chris Berlind<sup>2</sup>, Chris Ahern², Angela Holmes², Timothy Edwards¹, Benjamin Smith, MD³, Cullen Taniguchi, MD, PhD2, Eugene Koay, MD, PhD3, Prajnan Das, MD1, Emma Holliday, MD1, Joseph Herman, MD1; 1MD Anderson Cancer Center, <sup>2</sup>Oncora Medical, <sup>3</sup>Division of Radiation Oncology, University of Texas MD Anderson Cancer Center

(P78) TREATMENT-RELATED COMPLICATIONS OF CHEMOTHERAPY AND RADIOTHERAPY: AN ANALYSIS OF THE NATIONWIDE EMERGENCY DEPARTMENT SAMPLE - Vikram Jairam, MD1, Victor Lee, BS1, Henry S. Park, MD, MPH1, Charles R. Thomas, Jr., MD2, Edward R. Melnick, MD, MHS¹, Cary P. Gross, MD¹, Carolyn J. Presley, MD, MHS², Kerin B. Adelson, MD⁴, James B. Yu, MD, MHS⁵; ¹Yale School of Medicine, ²Department of Radiation Medicine, Oregon Health and Science University University, <sup>3</sup>The Ohio State University Comprehensive Cancer Center, <sup>4</sup>Smilow Cancer Hospital / Yale School of Medicine, 5Smilow Cancer Hospital at Yale New Haven Hospital / Yale School of Medicine / Yale University

(P79) PATIENT REPORTED OUTCOMES REGARDING RADIATION THERAPY IN PATIENTS WITH MULTIPLE MYELOMA - Ronica H. Nanda, MD, David Boulware, Rachid Baz, MD, Diane Portman, H. Michael Yu, MD, Heather Jim, PhD, Peter Johnstone, MD, FACR, FASTRO: Moffitt Cancer Cancer

(P80) BREAST AND PROSTATE CANCER SCREENING DISPARITIES AND MORTALITY RATES IN NEVADA AS COMPARED TO CALIFORNIA AND THE UNITED STATES - Parvesh Kumar<sup>1</sup>, Chad Cross<sup>1</sup>, Sheniz Moonie<sup>2</sup>; <sup>1</sup>University of Nevada Las Vegas School of Medicine, <sup>2</sup>University of Nevada Las Vegas

(P81) INCIDENCE OF URINARY TRACT INFECTION IN PROSTATE CANCER PATIENTS AFTER RADIOTHERAPY PLANNING SIMULATION - <u>Tasneem Kaleem, MD¹</u>, Katherine Tzou, MD², Michelle Fozman, RTT², Steven Buskirk, MD²; *Department of Radiation Oncology*, Mayo Clinic, <sup>2</sup>Mayo Clinic

(P82) DISPARITIES IN COLORECTAL CANCER SCREENING PREVALENCE AND MORTALITY RATES IN NEVADA: A POPULATION HEALTH ANALYSIS OF BEHAVIORAL RISK - Parvesh Kumar<sup>1</sup>, Chad Cross<sup>1</sup>, Karen Callahan<sup>2</sup>, Sheniz Moonie<sup>2</sup>; <sup>1</sup>University of Nevada Las Vegas School of Medicine, <sup>2</sup>University of Nevada Las Vegas

# AMERICAN RADIUM SOCIETY 102nd ANNUAL MEETING May 2-5, 2020 JW Marriott Camelback Inn SCOTTSDALE, ARIZONA

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