

the



Record

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NATIONAL INSTITUTES OF HEALTH

Jehu C. Hunter Named Ass't Director, NICHD Center for Research

Jehu C. Hunter has been named assistant director for Program Development, Center for Research for Mothers and Children, National Institute of Child Health and Human Development.

Mr. Hunter formerly served as chief of the Office of Planning and Analysis, where he worked on techniques for designing health research studies.

Mr. Hunter's primary responsibility will be the development of the Major Research Programs, a national network of extramural research centers devoted to the study of diseases and disorders of pregnancy, infancy, and childhood.

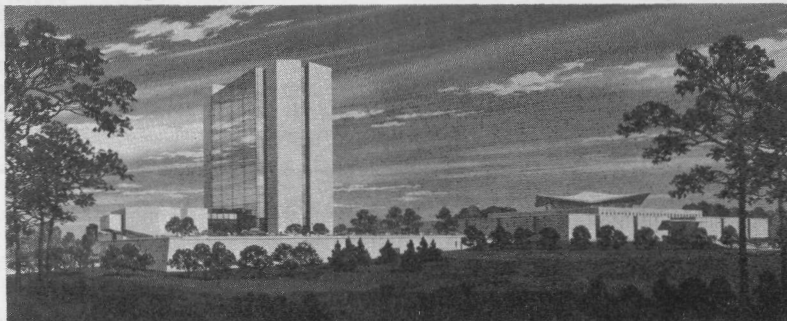
Areas Emphasized

Some areas of emphasis include gestation, embryonic and fetal development, infant risk of death and disability, and conditions which may handicap children.

He will also assist the CRMC director in designing programs

(See MR. HUNTER, Page 7)

Lister Hill Center Construction Funded; Building Scheduled for 1979 Completion



An artist shows the Library with the adjacent Lister Hill Center building as it will appear in late 1979 (J. Roy Carroll, Jr. & Partners, architects). The new NLM annex will house not only the present Lister Hill National Center for Biomedical Communications, but also the National Medical Audiovisual Center, Extramural Programs, the Office of Computer and Communications Systems, and the Toxicology Information Program—returning the existing NLM building to its originally intended use.

Authorized by legislation in 1968, funded for planning in 1971, off the drawing board in 1975, the Lister Hill Center building took a giant step toward reality with the authorization in January of \$26 million for construction.

The new facility will be adjacent to the existing National Library of Medicine building. If there are no major delays, actual construc-

tion could begin this fall, with completion in late 1979.

The Lister Hill National Center for Biomedical Communications has existed as an organization since 1968, when it was established within the NLM to conduct research and development in biomedical communications and to apply modern technology to the problems of information transfer.

The Center perpetuates the name of the distinguished former Senator from Alabama and honors the legislative interests of his long career in the U.S. Senate. Senator Hill was cosponsor of the 1956 legislation that created the National Library of Medicine from the Armed Forces Medical Library.

The new building will provide sorely needed space. The present NLM building, occupied in 1962, was called upon within the span of a few years to house a number of new programs its planners had not envisioned.

Besides the Lister Hill Center, the Library acquired new responsibility for an Extramural Program (1965) and a Toxicology Information Program (1966).

In 1967 the National Medical Audiovisual Center became a part of the Library, but, because of

(See LISTER HILL, Page 4)

Dr. Joseph G. Perpich Is Asso. Director, Program Planning and Evaluation

Dr. Joseph G. Perpich, who holds degrees in medicine and law, has been appointed NIH Associate Director for Program Planning and Evaluation.

He comes to NIH from the Institute of Medicine, where one of his major responsibilities as senior professional associate was assisting in development of a program in health ethics under a 3-year grant from the Andrew W. Mellon Foundation.

A 1963 graduate of the University of Minnesota, he also received his M.D. in 1966 and was a medical intern there.

Dr. Perpich held a psychiatric residency at Massachusetts General Hospital, Boston, and contin-



Trained as a forensic psychiatrist, Dr. Perpich's interests combine medical and legal issues, such as alternatives to litigation in medical malpractice.

ued his training as a PHS-NIMH Fellow in community and forensic psychiatry at the Washington School of Psychiatry and at St. Elizabeths Hospital.

While working in the Vester-marck Division of NIMH as the recipient of a PHS-NIMH Mental Health Career Development Award, Dr. Perpich pursued law studies at Georgetown University Law Center, receiving his J.D. degree in 1974.

A member of the D.C. Bar Association (See DR. PERPICH, Page 6)

Conference Sponsored by FIC Focuses On Nutrient Transport System in Cells

Cellular Regulation of Transport and Uptake of Nutrients was the subject of a conference at NIH sponsored by the Fogarty International Center on Feb. 26-27. More than 60 scientists from the U.S. and foreign countries, together with over 20 investigators from various Institutes

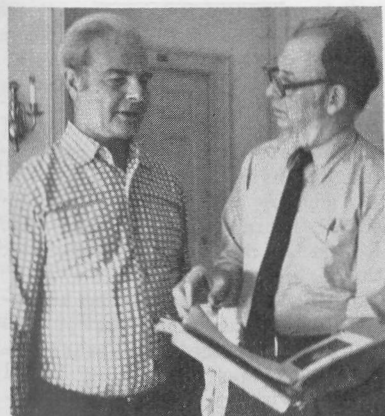
at NIH, attended the meetings held in Conference Room 10, Bldg. 31.

Dr. Herman M. Kalckar, a former NIAMDD researcher who is currently an FIC Scholar-in-Residence, chaired the organizing committee for the conference: Dr. Gordon Hammes, FIC Scholar; Dr. Elizabeth S. Maxwell, NIAMDD; Dr. Janet Passonneau, NINCDS; Dr. Ira Pastan, NCI, and Dr. Martin Rodbell, NIAMDD.

According to Dr. Kalckar, the participants were so eager to exchange research information on nutrient transport that they extended both days' discussions beyond the time scheduled for dinner and the last, after-dinner session far into the evening.

The conference addressed the

(Continued on Page 5)



FIC Scholar Dr. Kalckar (l), who organized the conference, confers with participant Dr. Rollin D. Hotchkiss of Rockefeller University on a paper for the published proceedings.

the NIH Record

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Vinson R. Oviatt, chief of the Environmental Safety Branch, Division of Research Services, has been selected as a Diplomat of the American Academy of Environmental Engineers. Dr. Joe R. Held, DRS Director, presented the plaque which cited Mr. Oviatt's contributions. Mr. Oviatt is president-elect, Section on Environment, American Public Health Association.

Rampal Concert Is March 21

The master flutist Jean Pierre Rampal will present a program of music by Vivaldi, Schubert, Franck, and Bazzini on Sunday, March 21, at 4 p.m. at the National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, D.C.

This is the sixth concert sponsored by the Foundation for Advanced Education in the Sciences. Admission is by ticket only.

STEP Extends Deadline; April 26-28 Module Is on Interagency Interaction

The application deadline for STEP Module 3, Interagency Interaction, has been extended to March 23. Additional persons may participate now that the module will be held April 26-28 in Wilson Hall, Bldg. 1.

Panels Presented

Panel discussions will be presented each day. Topics will include:

- Establishment of program and development of counterpart contact, coordination, and cooperation; panelists are from the Hemophilia Program and Sickle Cell Anemia Program of NHLI and from the Diabetes Program, NIAMDD.

Programs Discussed

- The mechanics and dynamics of coordinating ongoing programs; NIAID staff and other panelists will discuss the Hepatitis Program and the Cholera Program; in the afternoon, a panel will discuss environmental health.
- Technology transfer and integration of NIH findings into health care delivery systems; panelists from DRR, DCRT, NLM, and George Washington University. The afternoon session will discuss NCI programs.

Application forms (NIH-2245) may be obtained from personnel offices or from the Special Programs Office, Bldg. 1, Room 314, Ext. 65358.

Betty Ford Gives Checks for Breast Cancer Meeting To Dr. Rauscher; Money From Sale of Inaugural Medal

First Lady Betty Ford recently presented two checks totaling \$99,445 to Dr. Frank J. Rauscher, Jr., to fund an International Conference on Breast Cancer. Dr. Rauscher is Director of the National Cancer Institute and the National Cancer Program.

The money was derived from the sales of limited edition medals and commemorative plates of President Ford's inauguration.

The medal was the first official solid gold medal struck in the United States for private ownership since the gold ban of 1933.

The face of the medal bears a three-quarters profile of President Ford and a soaring eagle. The Presidential seal is on the reverse. Royalties from the medal amounted to \$75,095.

The silver plates used the medal design and yielded \$24,350 in royalties.

During the White House ceremonies Mrs. Ford viewed breast cancer cells through a microscope provided by Dr. Alan Rabson, Director of NCI's Division of Cancer Biology and Diagnosis. The microscope was autographed by Mrs. Ford.

Conference Slated for Fall

The International Conference on Breast Cancer will be held this fall in Washington, D.C., under the sponsorship of NCI.

Cancer specialists from Europe, Asia, Africa, and the Middle East are expected to attend. Presentations will be translated simultaneously in four languages, and the proceedings will be published.

The meeting will cover prevention, cause, detection, treatment, and rehabilitation.

It is expected that another, smaller conference on breast cancer will be held later using the funds that remain from the sum presented to Dr. Rauscher.

Ethics for Protecting Humans in Research Topic of 3 Meetings

The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, which held a public meeting in mid-February, has scheduled two more meetings in the near future at NIH in Bldg. 31, Conference Room 6.

At a meeting on March 12-14, participants will discuss research involving prisoners, in preparation for recommendations to HEW Secretary David Mathews.

April Hearing Scheduled

On April 9, there will be a public hearing on the use of children and the mentally disabled as subjects of biomedical and behavioral research.

The February meeting, planned for the Commission to discuss and adopt basic ethical principles which should underlie research involving human subjects, was chaired by Dr. Kenneth Ryan, chief of staff at the Boston Hospital for Women.

There were five topics of discussion:

- The identification of ethical principles.
- Ethical principles which should underlie the conduct of biomedical and behavioral research involving human subjects.
- The boundaries between research involving human subjects and the practice of medicine.
- The role of assessment of risk-benefit criteria in the determination of the appropriateness of research involving human subjects.
- The nature and definition of informed consent.

A draft embodying the discussion and conclusions of the meeting will be reported either separately or as a part of the Commission's final report.

TRAINING TIPS

The Training and Education Branch, DPM, has announced a series of courses to begin in April.

Telephone Techniques 4/2
Small Purchase Procedures 4/2
Proofreading 4/5-12
Basic Mag Card I 4/9
Advanced Mag Card I 4/9
International Travel 4/13
Human Relations 4/14-16
Refresher Typing 4/19-6/14
Advanced Typing 4/20-6/10
Letter Writing 4/20-5/27
Refresher English 4/20-6/3
Clerical Orientation 4/22
Travel 4/26-29
Basic Time and Attendance 4/30

Application deadlines are about 2 weeks before classes start.

Further information is available from B/I/D personnel offices or the Training and Education Branch, Ext. 62146.

Historian's Project Locates Aerospace Medical Artifacts

The Aerospace Medical Association is compiling a directory of significant medical artifacts related to aviation.

Aided by a grant from the National Library of Medicine, Dr. Robert J. Benford is researching the directory.

He hopes to discover the whereabouts—for example, in private collections or medical library exhibits—of such items as World War I vintage aviators' oxygen-breathing "pipestem" tubes, goggles, helmets, protective clothing, and first aid kits.

His address is: Seacoast Gardens, Apt. 6-A, Indian Harbour Beach, Fla. 32937.

Jane F. Knapp Retires; DRG Special Ass't Had 33 Years' Fed'l Service

Jane F. Knapp, special assistant to the Director of the Division of Research Grants, retired on Feb. 27 after more than 33 years of Federal Service.

Serving as a staff consultant on technical matters relating to NIH grant and award programs, Mrs. Knapp has been on the NIH Grants Management Advisory Committee since its inception in October 1965.

She also served on numerous *ad hoc* committees through the years, and conducted studies on the impact of proposed policy decisions on Public Health Service programs.

Mrs. Knapp analyzed and made recommendations on extramural program problems, and interpreted the effect of Congressional action and legal decisions of the Execu-



In 1963 Mrs. Knapp received a Superior Work Performance Award, and in 1969 the NIH Superior Service Honor Award for "important contributions to the research mission of the NIH through highly effective program analysis in the DRG."

tive Branch on PHS policy and its implementation.

She joined the Social Security Board in 1942.

From 1943 until 1945, Mrs. Knapp was on active military duty with the U.S. Army, and later, from 1946 to 1948, worked with the Department of the Army at the Nuremberg trials in a civilian status.

She has been on the DRG staff since 1949.

C.O. Briefing on March 10

Commissioned Officers who are leaving active duty during the next 6 months will meet for a briefing on Wednesday, March 10, at 1:30 p.m. in Bldg. 1, Wilson Hall.

Computers' Artificial Intelligence Applied To Problem-Solving in Medical Research

The Stanford University Medical Experimental Computer, funded by the Division of Research Resources, has been established to provide the first national shared computer facility concentrating on the application of artificial intelligence in medical research.

Directed by Nobel laureate Dr. Joshua Lederberg, professor and chairman of the department of genetics, SUMEX-AIM is an innovative effort to help biomedical scientists meet today's research requirements and to explore computer applications in many health fields, ranging from basic research to bedside care.

SUMEX—AIM Described

At present, SUMEX-AIM consists of a PDP-10 computer available to approved users throughout the U.S. over a computer communication network on a time-shared basis.

Artificial intelligence is a part of computer science concerned with the symbol-manipulation processes that produce intelligent action.

Rather than employing the digital computer merely as a number calculator, scientists utilize the computer to reach decisions and solve problems through symbolic analysis and reasoning.

Initial applications are being actively pursued in medical diagnosis, planning of therapy, and the interpretation of data from advanced chemical structure studies.

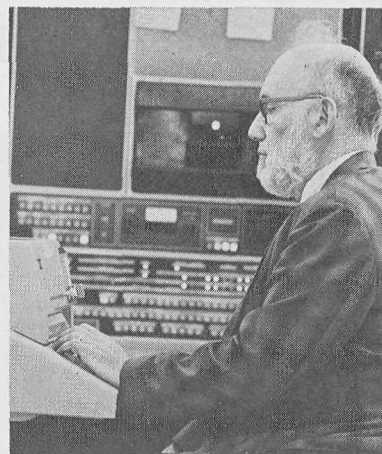
Some major artificial intelligence projects currently in progress are:

- **CASNET.** A group of computer scientists, led by Dr. Casimir Kulikowski of Rutgers University, is developing computer-based consultation systems for diseases of the eye in collaboration with Dr. Aran Safrin, ophthalmologist, at the Mount Sinai School of Medicine. CASNET, a network of collaborators for computer diagnosis and treatment of glaucoma, has been established.

The computer system, which includes an elaborate patho-physiological model of the disease, is being tested in eye centers at the Mount Sinai Hospital and Medical Center, New York; Washington University, St. Louis, and the Johns Hopkins University Hospital, Baltimore.

- **DIALOG,** a diagnostic project under the direction of Dr. Harry Pople and Dr. Jack Myers of the University of Pittsburgh, currently accesses a medical data base encompassing approximately 50 percent of the major diseases in internal medicine.

- **MYCIN,** a computer-based consultation-in-clinical-therapeutics project directed by Stanley Cohen, associate professor and head of the Division of Clinical Pharmacology at Stanford University, at-



tempts to model the decision processes of medical experts in arriving at the selection of therapy for patients with bacterial infections.

Dr. Lederberg, principal investigator, opens the new Stanford University Medical Experimental Computer, intended to encourage artificial intelligence in medicine and to ensure a national shared technological resource for health research.

tempts to model the decision processes of medical experts in arriving at the selection of therapy for patients with bacterial infections.

- **DENDRAL,** conducted at Stanford University under the leadership of Drs. Joshua Lederberg, Edward Feigenbaum, and Carl Djerassi, aims at assisting the biochemist in interpreting molecular structures from mass spectral and other chemical infor-

- **X-RAY CRYSTALLOGRAPHY.** Protein crystallographers Drs. Joseph Kraut and Stephen Freer at the University of California, San Diego, are using the SUMEX-AIM facility as the central repository for programs, data, and other information of common interest. Their general objective is to apply problem-solving techniques emerging from artificial research to determine the three-dimensional structure of proteins.

Answers to Questions on ERA Presented by FEW on Mar. 23

Questions about ERA will be answered when Federally Employed Women, Inc., presents a program on the Equal Rights Amendment—What's It All About? on Tuesday, March 23, from noon to 1 p.m. in the Parklawn Bldg., Conference Room L.

Marguerite Rawalt, an attorney who has had a long and close association with ERA, will discuss its history, the need for ERA, and the controversy involved.

Everyone is welcome.

Team Studying Grants Peer Review Holds Last Of 3 Public Hearings

The NIH Grants Peer Review Study Team—which held its last public hearing here Feb. 26—will transmit its recommendations as to how the present system can be improved to Dr. Donald S. Fredrickson, NIH Director, this June.

This report will be made after the team reviews suggestions made during open hearings as well as other information it is gathering.

The Feb. 26 hearing in Bldg. 1, Wilson Hall, was the last in a series. Previously, public hearings were held in Chicago and San Francisco.

Panel Members Introduced

Dr. Ruth L. Kirschstein, NIGMS Director, chairs the Study Team. After opening the meeting, she introduced the panel members:

Dr. S. Stephen Schiaffino, associate director for Scientific Review, DRG; Dr. William F. Raub, associate director for Extramural and Collaborative Programs, NEI; Dr. Ann A. Kaufman, NIH Research Grants Officer, and Richard J. Riseberg, NIH legal advisor.

Also, Dr. George T. Brooks, associate director for Extramural Program Activities, NIAMDD, and Dr. Mathilde Soloway, executive secretary of the Study Team, who presided at the hearing.

Opinions Presented

During the hearings, opinions offered on the current peer review system ranged from excellent to inadequate although most comments seemed to favor the present system with some modifications.

The establishment of an appeals mechanism, ethical considerations, priority-setting, bias against women, the need for confidentiality, and accountability of the study sections were some of the issues raised.

Other Team Members Attend

Other team members—several of whom attended the open hearing here—are: Dr. Robert Akers, NIH Policy and Procedures Officer; Carl Fretts, Director, Division of Contracts and Grants, and Dr. Norman D. Gary, DRG.

Also, Dr. William Goldwater, Assistant to the Associate Director for Extramural Research and Training, NIH; Dr. Jerome Green, Director for Division of Extramural Affairs, NHLI, and George Russell, Director, Division of Management Policy.

Also, Dr. Katherine S. Wilson, DRG, and David F. Kefauver, Assistant Administrator for Extramural Programs, ADAMHA.

Elward Bynum to Direct NIGMS Minority Access To Careers Program

The Minority Access to Research Careers Program of the National Institute of General Medical Sciences has been raised to full program status within the Institute with Elward Bynum as program director.



Mr. Bynum

Mr. Bynum will serve the program full time, relinquishing his previous duties as chief of the NIGMS Office of Program Analysis.

The Institute will now be able to make a greater commitment toward the program's objectives.

The MARC Program was initiated by NIGMS in 1972 as part of the Institute's Equal Opportunities Program. Its aim is to train greater numbers of minority individuals in biomedical and behavioral sciences research.

Individual fellowships as well as institutional fellowships are awarded for predoctoral and postdoctoral training.

The Minority Access to Research Careers Review Committee, chartered last April, reviews the research training applications, advises on the status of biomedical education for minority group students, and on related activities.

Other Institutes Cooperate

Recently, arrangements have been made whereby several other Institutes are cooperating with NIGMS in support of the MARC program.

Mr. Bynum received the B.S. degree in chemistry in 1951 at Johnson C. Smith University, Charlotte, N.C., and has since pursued graduate studies in biochemistry and biophysics at Georgetown University.

He came to NIH in 1956 as the recipient of a National Science Foundation fellowship and later served as a chemist with both the National Institute of Arthritis, Metabolism and Digestive Diseases and the National Heart and Lung Institute.

He joined NIGMS in 1966 as a research program health scientist administrator.

California, St. Louis Researchers Study Cervical Mucus Cycle, Ovulation Time

The National Institute of Child Health and Human Development, through its Center for Population Research, has awarded a contract to Cedars-Sinai Medical Center of Los Angeles to evaluate and compare two methods of "natural family planning" methods which do not require drugs or devices.

The 3-year study, begun Dec. 31, 1975, compares the symptothermal method with the ovulation method in about 1500 women volunteers; 750 women will be assigned to each method.

Both methods are intended to provide a couple with indications of the woman's fertile period so that they may avoid pregnancy.

Although some studies have been made on the efficacy of these methods, samples of study participants were too small to permit valid conclusions to be drawn. This larger study is designed to provide a more accurate determination of effectiveness.

Taught to Recognize Cycle

In the study, women will be taught to recognize their fertile period of the menstrual cycle by one of the methods; for they will then abstain from intercourse during this period.

Dr. Maelyn Wade, principal investigator of the Cedars-Sinai group, believes the study has special relevance because of increasing concern about the side effects of oral contraceptives and intrauterine devices, two of the most commonly used methods.

NICHHD support of research on natural family planning methods is directed to the fertility regulation needs of couples who choose these methods, and to couples wishing to enhance their chances of achieving a pregnancy.

The symptothermal method is used to predict the fertile period by combining daily temperature recordings with other symptoms of ovulation, such as changes in the amount and consistency of cervical mucus, and pain upon ovulation.

The ovulation method requires that women be trained to evaluate the characteristics of their cervical mucus over the course of their menstrual cycle. Both quality and quantity change in response to hormones released during the cycle. Couples will be advised to refrain from intercourse when abundant, clear mucus is present at or near

the time of ovulation.

Couples will be trained with the cooperation of the Archdiocese of Los Angeles at four hospitals—St. John's Hospital and Health Center in Santa Monica, Daniel Freeman Hospital in Inglewood, Little Company of Mary in Torrance, Santa Teresita Hospital in Quarte, and Cedars-Sinai.

Participating couples will receive physical examinations prior to their entry into the study. Women for whom pregnancy is contraindicated will be excluded from participation.

Women who become pregnant during the study will be referred to their own physicians.

In a separate research effort, also supported by NICHHD, Drs. Denis Cavanagh and Thomas H. Hilgers at St. Louis University School of Medicine will investigate correlations of cervical mucus changes with serum hormonal levels.

Hormone Levels Charted

Thirty women volunteers with normal menstrual cycles will be taught to recognize the cervical mucus cycle. After the training period, blood samples will be drawn on 15 different days during three successive cycles and analyzed for hormones (estradiol, progesterone, and luteinizing hormone) which influence mucus and control ovulation.

During these three cycles each volunteer will chart her mucus symptoms and basal body temperature. The data will be analyzed to see how accurately women can predict ovulation by following the mucus method.



William J. Stallers (r), administrative officer for NIAID's Office of the Scientific Director, receives a 30-year service award from Dr. John R. Seal, acting deputy director of the National Institute of Allergy and Infectious Diseases.

LISTER HILL

(Continued from Page 1)

space limitations in Bethesda, its staff of over 100 remained in Atlanta, Ga.

In addition, a rapidly expanding computer operation (MEDLARS) required space originally planned for books and journals.

The Lister Hill Center building will consist of a large podium-type base with a 10-story tower superstructure—in all, some 200,000 gross square feet of space.

Facilities Include Parking

The podium with three levels below grade, will connect to the present Library. Adjacent to this podium will be a three-level parking facility for 400 vehicles.

The Center will contain offices, conference rooms, an auditorium, unique biomedical communications laboratories, exhibit areas, computer and communications facilities, audiovisual production rooms, and necessary service facilities.

The main focus of the new building will be the communications technology and network engineering programs of the Lister Hill Center and the closely related functions of the National Medical Audiovisual Center.

Other Library divisions to be located in the new building will be the Extramural Programs, the Office of Computer and Communications Systems, and the Toxicology Information Program.

The existing National Library of Medicine building will essentially return to its originally intended use.

NIH Visiting Scientists Program Participants

2/1—Dr. Roby Jonathan Mitchell, Canada, Environmental Biometry Branch. Sponsor: Dr. David G. Hoel, NIEHS, Research Triangle Park, N.C.

2/3—Dr. Frederik Marthinus Engelbrecht, Clanwilliam, South Africa, Pharmacology Branch. Sponsor: Dr. J. R. Fouts, NIEHS, Research Triangle Park, N.C.

2/11—Dr. Dirk Gerben Streefkerk, The Netherlands, Section of Carbohydrates. Sponsor: Dr. C. Gaudemans, NIAMDD, Bg. 4, Rm. 204.

2/20—Dr. Shaw Watanabe, Japan, Laboratory of Pathology. Sponsor: Dr. Costan W. Berard, NCI, Bg. 10, Rm. 2A09.

2/29—Dr. Charles Bryan Freeman, England, Pediatric Oncology Branch. Sponsor: Dr. Arthur S. Levine, NCI, Bg. 10, Rm. 3B12.

2/29—Dr. Michele V. Muggeo, Italy, Diabetes Branch. Sponsor: Dr. Jesse Roth, NIAMDD, Bg. 10, Rm. 8S243.

Medical History Society Meets on March 18 at NLM

The next meeting of the Washington Society for the History of Medicine will be held Thursday, March 18, at 8 p.m., in the National Library of Medicine's Billings Auditorium.

Dr. Herman Viola of the Smithsonian Institution will speak on Red Visitors and White Doctors in Early Washington, 1820-1860.

Dr. Toby Appel will discuss The Heyday of Comparative Anatomy in France and Great Britain: "Anatomical Philosophy" in the Pre-Darwinian Era.

Visitors are welcome.

Election of officers will also be held at this meeting.

The Society's dinner meeting has been rescheduled for May 8.

February 9-13, 1976

NIH 5th Annual

Black History Commemoration

The Black presence in America has been felt in virtually every field of human endeavor, indisputably contributing to the greatness of the Nation and advancing the common good. Much of what they have contributed in all areas of American life has been accomplished despite adversities that make their achievements especially remarkable.

Donald S. Fredwoska
Director



CELL NUTRIENT TRANSPORT CONFERENCE

(Continued from Page 1)

important basic problems of transport of nutrients across cell membranes, particularly investigating the functions of membranes in microorganisms, which offer an opportunity for genetic dissection of transport systems involved.

"Scavenging" Action Noted

Among the important findings discussed was the increased uptake or "scavenging" of sugars and amino acids by transformed cells, such as tumor cells in cultures.

As researchers in numerous laboratories have discovered, the transformed cells develop more "carriers" than "normal" cells to transport nutrients across the cell

membranes; also, cells become more efficient at "scavenging" nutrients when they are relatively deprived of those nutrients.

"Fortunately for continued research," says Dr. Kalckar, "the conference found agreement among scientists that bacteria and higher cells seem to have related transport mechanisms and changes of these mechanisms in transformed cells.

Changes Triggered

"That is, in cell physiology—beginning with bacteria—certain conditions trigger a suddenly increased ability to use nutrients, which especially in neoplastic (tumor) transformation are util-

ized to increase cell growth and thus become part of the problem for the organism as a whole."

At the opening of the meeting, FIC Director Dr. Milo D. Leavitt, Jr., announced that the conference proceedings will be published as a supplementary issue of the *Journal of Cellular Physiology*.

Research Summarized

The person presiding at each session introduced a reviewer who summarized pertinent general facts on the topic before opening the floor for contributions and discussion.

Topics of the 10 sessions included: regulation of bacterial transport systems, active transport in bacterial membrane vesicles, regulation of transport and uptake of nutrients in eukaryotic

cells, and biochemical perturbations and stimulations of transport and uptake systems and parallel investigation of membrane vesicles.

Additional topics were: the effect of oncogenic transformation in transport and uptake, as studied in cells as well as in plasma membranes, which are tailor-made probes for transport assays.

Investigation Described

Other topics discussed included: enzymes associated with uptake systems; regulation of transport and uptake systems in avian and mammalian cell cultures by medium conditions, especially omission of glucose or glutamine; and prospects for isolation and purification of transport carriers from any type of cell.

GWU Offers 2 Courses In Electron Microscopy

The George Washington University Medical Center is offering a sequence of courses—Transmission Electron Microscopy, May 21-June 11, and Scanning Electron Microscopy, June 14-18 or June 21-25.

Tuition is \$450 for TEM, \$375 for SEM, and \$750 for the combined program.

Primary emphasis will be on specimen preparation, operation of electron microscopes, and photographic and darkroom techniques.

For information, write Fred Lightfoot, G.W.U. Department of Anatomy, 2300 I Street, N.W., Washington, D.C. 20037, or call (202) 676-2881 or 3511.

DR. PERPICH

(Continued from Page 1)

ciation, he clerked for Chief Judge David Bazelon, U.S. Court of Appeals for the District of Columbia, and was a Congressional Fellow with the Senate Committee on Labor and Public Welfare Subcommittee on Health.

He has served as a consultant to the D.C. Public Schools, Public Health Service, and Public Defender's Service.

Also, he served as assistant to Dr. Robert DuPont, when he was director of the Narcotics Treatment Agency, D.C. Department of Human Resources.

In 1971-72 he was associate editor of the *American Criminal Law Review* for a special issue on law and psychiatry. Currently he is serving on the American Psychiatric Association's Committee on Psychiatry and the Law and on the Association's Commission on Judicial Action.

Drug Therapy Decreases Recurrence Rate Following Breast Cancer Surgery

Scientists in Milan, Italy, have reported that the rate of breast cancer recurrence after initial surgery has been decreased with drug therapy.

The study, supported by the National Cancer Institute, was conducted by Dr. Gianni Bonadonna and co-workers at the Istituto Nazionale Tumori.

The scientists used a combination of drugs—cyclophosphamide, methotrexate, and 5-fluorouracil—as a program of adjuvant chemotherapy in breast cancer patients.

Adjuvant chemotherapy is the use of anticancer drugs along with surgery as the primary treatment of cancer patients at high risk of recurrence.

5.3 Percent Have Recurrence

At 27 months, since the beginning of the study, only 5.3 percent of the women who received CMF have had a recurrence of the disease.

In contrast, 24 percent of a control group of women who did not receive CMF experienced a recurrence. The patients in the study have been followed for an average of 14 months.

In discussing the study, Dr. Frank J. Rauscher, Jr., NCI Director, said, "The results from Milan are encouraging; they will provide the basis for a combined approach to treatment of breast cancer with involved lymph nodes.

Early Treatment Is Essential

"This study—in conjunction with the earlier NSABP study using a single drug (L-PAM) following surgery in a similar group of women—supports the rationale for applying drugs early in the treatment of cancer to destroy microscopic tumor cells that may have spread to distant parts of the body."

Women selected for the study had undergone a radical or ex-

tended radical mastectomy (removal of a breast, underlying muscles, and axillary lymph nodes under the arm) and had been found to have cancer cells in one or more of the lymph nodes.

Involvement of the axillary nodes is an indicator of the woman's likelihood of long-term survival. The average 5-year survival rate is 84 percent for women in whom the breast cancer has not spread into the axillary nodes. The survival rate is 45 percent if the lymph nodes are involved.

In addition, the women in the study were less than 75 years of age, not pregnant, and were living near the institute so that they would be able to continue their treatment.

Groups Compared

The women were entered at random into two groups. One group began the CMF treatment program 2 to 4 weeks after surgery. The other, or control, group received no additional treatment beyond the mastectomy.

Patients in the two groups were also compared according to age (age 49 and younger or age 50 to 75 years), number of axillary nodes involved (one to three or four or more) and the type of mastectomy—radical or extended.

The women who received the drugs were given CMF in 12 cycles of 4 weeks each, or for a total of 1 year. The drugs were given over a 2-week period, followed by 2 weeks without drugs to permit the body to recover from toxic side-effects of the medicine.

Toxic effects observed in the patients included nausea and vomiting, which lessened as the treatment progressed, suppression of the bone marrow, and a decrease in the number of white blood cells in circulation.

Some patients experienced a par-

Cumulations Can Be Ordered

The Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, has announced ordering information for two National Library of Medicine annual cumulations.

- *Cumulated Abridged Index Medicus*, 1975; \$22 (\$27.50 foreign). HE 20.3612/2-2:6; S/N-017-052-00166-3.

- *Current Bibliography of Epidemiology* (Annual, 1975): \$18 (\$22.50 foreign). HE 20.3617/2:7; S/N-017-052-00168-0.



What is so rare as a day in June? Spring in February!

A Winning Toastmaster Asks What 'Old' Means

Jerry Gordon, assistant information officer of the Division of Research Resources, recently won the NIH Toastmasters Club 1976 annual contest for serious speeches, speaking on "Aging is a matter of the mind . . . You're as old as you think."

Six NIH employees competed in the contest.

Topic Is Universal

Mr. Gordon points out his topic has wide appeal.

"The National Institute on Aging reports that there are now 22 million people in the U.S. who are over 65. They estimate that by the year 2000, this figure will hit 30 million," he said in part of his winning oration.

tial or total loss of hair during treatment.

About half of the premenopausal women ceased menstruation, an indication of sterility. This proved to be temporary in some of the women, but it is not yet known whether all of the patients will regain their fertility.

CMF Appears Effective

At the time of the report, cancer had recurred in 43, or 24 percent of the 179 women of the control group and in 11, or 5.3 percent of the 207 women in the group receiving CMF. The reduced rate of recurrence with CMF was seen with both pre- and postmenopausal patients.

The scientists noted that the study has not been going on long enough to determine whether the actual survival rates of the patients will be increased by the three-drug treatment. Long-term side-effects of prolonged chemotherapy also remain unknown.

The Milan investigators reported the preliminary findings of their study in the Feb. 19 issue of the *New England Journal of Medicine*.



TWINS! The first set in over 2,200 pregnancies in the history of the Washington Primate Research Center, Seattle, was born last October. Twinning is a very unusual occurrence in monkeys—1.2 percent—and survival is even more rare. The long-tailed infant macaques, both males, are being used for studies on prematurity, infancy diseases, and nutrition. The Center is supported by the Division of Research Resources.

MR. HUNTER

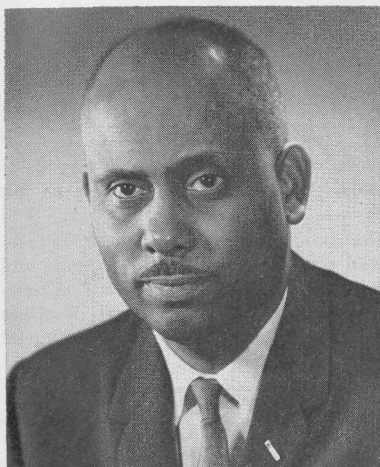
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and developing grant and contract guidelines for research in certain areas.

Mr. Hunter joined NICHD's extramural program staff in 1965 as a scientist administrator.

In 1969 he was appointed assistant director of planning. Five years later he became acting associate director for program planning and evaluation, and last year he was named chief of OPA.

Before joining NICHD, Mr. Hunter had worked for the National Cancer Institute. He went there in 1949 as a technician in the Laboratory of Biochemistry. Later,



Mr. Hunter, while at NIH, has presented the findings of a number of his important research projects at national and international scientific conferences.

he was promoted to research biologist in that laboratory.

Mr. Hunter attended Howard University and was awarded a B.S. degree in zoology in 1943. He has also taken graduate courses in zoology and education.

Mr. Hunter is a member of several scientific societies, including the American Society for Cell Biology, the Society for Developmental Biology, Britain's Royal Society of Medicine, and AAAS.

Supervisors Group Chartered

A group of NIH supervisors has been granted a charter as Chapter 123 by the National Association of Supervisors, Federal Government.

All NIH employees in the metropolitan Washington area who are WS, WN, GS-12 or above, supervising three or more employees or having policy-making functions, are eligible for membership.

This is the second DHEW supervisory group to be chartered. The charter will be presented formally at a dinner meeting at the Washingtonian Motel on March 19.

For further information concerning membership or reservations, contact Joseph P. Maceira, vice-president, Ext. 66284.

Rare Donors Are Matched by Computer To Fulfill Patients' Special Blood Needs

Recently the Clinical Center Blood Bank had to fill "a tall order." A patient required three units of blood for a surgical procedure, but it was discovered that less than one donor in a thousand could provide compatible blood for transfusion.

However, the Blood Bank staff had provided for such an emergency by freezing several units of this rare blood from the two donors at NIH who have this unusual blood type.

When the surgeons requested a fresh unit of blood for this patient, a call went out to the American Red Cross, who located an additional donor in the Washington area.

Soon this blood was safely transfused, allowing the surgery to proceed uneventfully.

Fortunately, instances when rare blood is needed are relatively infrequent. The vast majority of patients can be safely transfused with blood which has been appropriately grouped and typed according to the familiar ABO and Rh blood group antigens.

However, according to Dr. Richard J. Davey, acting head of the CC Blood Bank's Blood Service Section, certain patients have inherited unusual blood types which make obtaining suitable blood for transfusion very difficult.

For example, some people have a rare blood type called O "Bombay," named for the place where it was first discovered. These people have a substance or antibody in their blood called "anti-H" which reacts against all normal A, B, AB, or O blood group antigens.

Bombay Type Is Rare

The only people who can donate blood for patients with the Bombay type are other Bombay donors. Since less than one in 10,000 people have inherited this blood variety, one can imagine the difficulty in obtaining sufficient blood of this rare type.

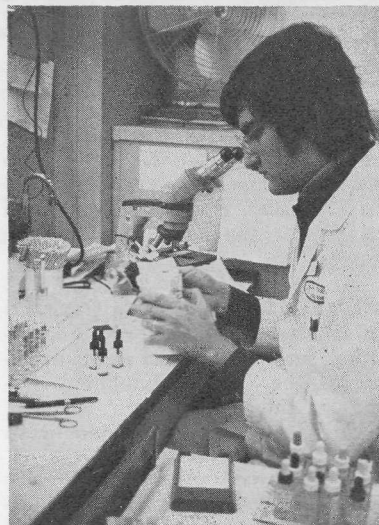
The CC Blood Bank faced a similar problem when a patient with a rare blood type called "genetic I-negative" needed 14 units of blood for open-heart surgery.

People with this blood type have a high concentration of an antibody in their blood called "anti-I" which reacts against 99.99 percent of normal donor blood samples.

Possible solutions to this problem included the freezing and storing of the patient's own blood for subsequent re-transfusion, but time did not permit the collection of such a large volume of blood from the patient.

Family members were screened, but none had inherited the same rare blood variant. A search was undertaken, therefore, for other genetic I-negative donors.

Through the use of American



Medical technician David Caden checks the phenotype of a donor's blood before a transfusion. Only a few drops are necessary to test the patient's serum against the donor's red cells for compatibility.

Red Cross and American Association of Blood Banks rare donor files, several units of I-negative blood could be obtained, but not enough to sustain the entire surgical procedure.

Therefore, an attempt was made to lower the concentration of anti-I in the patient's serum by absorbing the antibody onto a small quantity of normal I-positive red cell membranes which were infused into the patient.

This technique worked well enough to allow the surgery to proceed using I-positive blood in the heart bypass pump with the compatible I-negative units used for post-operative transfusions. The patient had a mild reaction to the I-positive blood, but otherwise did well.

More common than patients with rare inherited blood types are those who are exposed through transfusion or pregnancy to minor blood group antigens they have not inherited. These people may subsequently produce antibodies which react with these antigens.

There are now more than 200 "minor" blood systems known. They are often named after the patients in whom they were first recognized, such as the Kell, Duffy, and Kidd systems.

With these myriad minor antigens, it is impractical for blood banks to try to match a donor and recipient for every antigenic variation.

Thus many patients will receive transfusions of blood that are positive for certain antigens for which

the patient is negative.

In a few such patients, antibodies are subsequently formed, making it impossible to again safely transfuse those patients with blood which is positive for those corresponding antigens.

Often this difficulty is easily solved by obtaining blood for transfusion which is negative for the antigen in question.

Problems may arise, however, when a patient develops multiple antibodies, for then blood must be obtained which is negative for several antigens.

Other problems occur when a patient develops an antibody against a very common antigen, making it difficult to find a donor who is negative for that specific antigen.

In such situations, "rare donors" are needed. The NIH Blood Bank "phenotypes" or characterizes the antigenic patterns of all donors, so that those who have inherited an unusual combination of positive and negative minor blood antigens can be identified quickly when a patient needs blood with that specific combination.

In addition to the computerized NIH rare donor files, the American Association of Blood Banks maintains a national rare donor registry so that people with unusual blood phenotypes can be located quickly for possible donation for patients elsewhere in the country.

Approximately 5 percent of the donors at NIH have phenotypes which classify them as unusual or rare donors. These donors still contribute blood on a regular basis, and may also occasionally be called upon for a special donation when their specific blood type is needed.

They themselves can receive standard transfusions without difficulty, unless they have developed specific antibodies following previous transfusions or pregnancies.



When Blood Bank technicians find that a rare phenotype is needed to match a patient's blood, they ask Elaine Collins to check NIH's computerized list. If there is no matched donor, nationwide lists are consulted.

NLM Director, 2 Scientists, 5 Grantees Are 'Modern Medicine' Award Winners

Three NIH'ers and five NIH grantees are among the 10 recipients of the 1976 Awards for Distinguished Achievement announced in the March 1 issue of *Modern Medicine*. Winners are selected from nominations by medical school deans, heads of medical societies, and readers.

Dr. Roscoe O. Brady, chief, Developmental and Metabolic Neurology Branch, National Institute of Neurologic and Communicative Disorders and Stroke, is cited "for identifying the metabolic defect responsible for the known hereditary lipid storage diseases and for carrying out research toward effective therapy."

Dr. Robert M. Chanock, chief of the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, is recognized "for his discoveries of viral causes of specific diseases and his research into immunologic therapies."

Dr. Martin M. Cummings, Director of the National Library of Medicine, receives recognition "for developing a computerized information retrieval system that has made the world's biomedical knowledge promptly available to investigators."

NIH Winning Grantees Listed

□ Dr. Harriet P. Dustan, vice-chairman, Research Division, Cleveland Clinic Foundation, Ohio, "for skillfully applying disciplined research and clinical insight to finding the causes of hypertension and improving its management." Dr. Dustan is also a member of the National Heart and Lung Institute Advisory Council through October 1976 and president-elect of the American Heart Association.

□ Dr. George Engel, professor of medicine and psychiatry, University of Rochester School of Medicine and Dentistry, N.Y., "for nurturing the liaison between medicine and psychiatry and linking the two disciplines in a unique teaching program for students and physicians."

□ Dr. Morton I. Grossman, professor of medicine and physiology, University of California at Los Angeles, and Director, Center for Ulcer Research and Education, Los Angeles, "for broadening medi-

James DePreist, Noted Conductor, Talks Mar. 11

James DePreist, principal guest conductor of the National Symphony Orchestra, will speak on Music: Superfluous or Essential? on Thursday, March 11, from noon to 1 p.m. in the CC, 14th floor auditorium.

Mr. DePreist, who received first prize in the Dimitri Mitropoulos International Conductors' Competition, has been named music director of the Quebec Symphony Orchestra this coming fall.

This lecture is the second in an FAES series.

Dr. Grossman is also an alternate *ex officio* member of the NIAMDD Advisory Council.

□ Dr. Arno G. Motulsky, professor of medicine and genetics and Director, Center for Inherited Diseases, University of Washington School of Medicine, Seattle, "for enlarging the field of medical genetics to embrace environmental interaction, pharmacogenetics, genetic counseling, and amniocentesis."

□ Dr. Irving J. Selikoff, professor of community medicine and Director, Division of Environmental Medicine, Mount Sinai School of Medicine, New York City, "for exposing the carcinogenic properties of asbestos, thus implicating environmental pollution in human disease, and for his work in chemotherapy of tuberculosis."

Other winners are: Dr. Jacques Genest, Scientific Director, Clinical Research Institute, Montreal, and Dr. Rosalyn S. Yalow, chief, Nuclear Medicine Service, and Director, Solomon A. Berson Research Laboratory, VA Hospital, Bronx, N.Y.



During his Feb. 10 visit to NIH, Senator J. Glenn Beall, Jr. (l)—a member of the Subcommittee on Health of the Senate Labor and Public Welfare Committee—listens as Nobel laureate Dr. Julius Axelrod, NIMH, explains his latest research on brain function. NIH Director Dr. Donald S. Fredrickson and Dr. Philip Chen, Jr., Assistant Director for Intramural Affairs, escorted Sen. Beall on a tour, including the new EMI head scanner, the operating rooms and intensive care unit on the CC's 10th floor, and the Clinical Pathology Department. Later, he met with members of the Medical Board, four Institute Directors, and the chairman and several members of the Inter-Assembly Council of the Assemblies of Scientists.

Car Pools a Necessity and Boon in \$\$\$, Environment as Parking Problems Loom

The critical shortage of parking spaces at NIH has triggered the need for a plan for employees to participate in a car pool system.

Within the next year, projected building plans will result in the loss of approximately 1600 spaces from the current total of 5895 regular employee parking spaces.

The Parking and Traffic Control office is currently developing a questionnaire which will soon be distributed to all employees. Each employee should complete the form, whether responses are positive or negative.

Participation is vital for two reasons: first, the data will provide the Parking office with information for implementing a car pool system; second, the data will serve as a basis for making adjustments and modifications in parking.

Car pools will be guaranteed a parking space in special areas near all buildings. If car pool members work in several different buildings, consideration will be given to the one most convenient location for all concerned.

Though some of the conveniences

of driving individual cars will be lessened, car pools offer significant monetary savings.

According to the Council of Governments, by sharing a car with one person, annual savings may range from \$208 to \$661. With five people in a car pool, commuters can save up to 70 percent per year over the cost of driving alone.

Additional Benefits Cited

In addition, car pooling reduces traffic congestion, air pollution, and unnecessary use of gasoline.

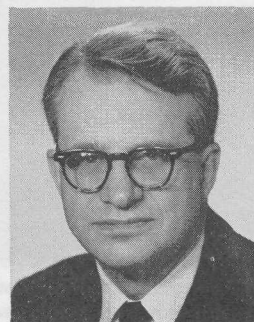
The Parking and Traffic Control office requests employees' assistance in initiating this program, which will benefit NIH and the surrounding community and complies with policies set forth by the General Services Administration and by the Administrator of the Federal Energy Office.

Flexitime to Be Discussed At Meeting on March 17

A talk on Flexitime will be presented by the NICHD Women's Organization on Wednesday, March 17, at 1:30 p.m. in Wilson Hall, Bldg. 1.

Barbara Fiss of the Civil Service Commission will be the speaker.

All NIH employees are invited.



Drs. Brady, Chanock, and Cummings (l to r) won three of the annual "Modern Medicine" Distinguished Achievement Awards. The magazine's March 1 issue cites notable accomplishments and gives a brief biography of each winner.