the NIH Record

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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

April 22, 1975
Vol. XXVII, No. 8

NATIONAL INSTITUTES OF HEALTH

Dr. Todaro Wins Award From Pathology Society For Imaginative Studies

Dr. George J. Todaro was honored on April 17 by the American Society for Experimental Pathology as the "member under 40 years of age who has made the most outstanding contribution to the conquest of disease" in the past year.

Dr. Todaro is chief of the Viral Leukemia and Lymphoma Branch, National Cancer Institute.

He was cited for imaginative investigations into viral and genetic factors that have advanced studies of the cause of cancer.

Famous for Theory

Dr. Todaro is best known for the "viral oncogene hypothesis" that he formulated with Dr. Robert J. Huebner, also of NCI. This theory holds that cancer causing genes are in the cells at birth and when activated by exogenous factors can emerge as viruses without being the result of outside infection.

Dr. Robert A. Good, ASEP president, presented a $1,000 check and gold medal—given by the award sponsor, Parke, Davis & Co.—to Dr. Todaro preceding the Award lecture.

In his lecture at the Society's

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Dr. Todaro has been cited by colleagues for providing leadership and inspiration to a number of students in his laboratories.

Dr. William Raub Named To NEI Extramural Post

Dr. William F. Raub has been appointed associate director for Extramural and Collaborative Programs of the National Eye Institute.

Dr. Raub replaces Dr. George T. Brooks, who joined the National Institute of Arthritis, Metabolism, and Digestive Diseases as associate director for Extramural Program Activities.

Held Post at DRR

Dr. Raub comes to NEI from the Division of Research Resources where he had been a health science administrator, chief of the Special Resources Branch, and most recently chief of the Biotechnology Resources Branch.

He assisted in the establishment of the first two one-million volt electron microscopes for biomedical research at the University of Wisconsin and the University of Colorado.

(See DR. RAUB, Page 8)

DHEW Awards Conferred on 6 NIH'ers At Ceremony Marking 22nd Anniversary

Dr. Rauscher

Dr. Gajdusek

Dr. Rall

Six NIH staff members—Dr. Frank J. Rauscher, Jr., Dr. Carleton D. Gajdusek, Dr. David P. Rall, Solomon Eskenazi, Gerald C. Macks, and Annie R. Collins—were honored at the DHEW Annual Honor Awards Ceremony held on April 11, the 22nd anniversary of the Department.

The DHEW Distinguished Service Award, the highest Departmental recognition conferred on civilian employees, was presented to Dr. Rauscher, Director of the National Cancer Institute, for his outstanding leadership and commitment to the National Cancer Program and for the discovery of the Rauscher leukemia virus.

Dr. Gajdusek, chief of the Laboratory of Central Nervous System Studies, National Institute of Neurological and Communicative Disorders and Stroke, also received the DHEW Distinguished Service Award.

He was cited for his discovery that certain chronic degenerative diseases of the human central nervous system are transmissible encephalopathies caused by unconventional virus-like agents.

The Distinguished Service Medal, the Department's highest award made to PHS Commissioned Officers, was presented to Dr. Rall, Director of the National Institute of Environmental Health Sciences.

Cited for Contributions

He was recognized for his contributions to research in comparative pharmacology, cancer chemotherapy, drug metabolism and regulation, and his leadership in directing the program of NIEHS.

The two recipients of the Department Management Award, a new honor, were Mr. Eskenazi, chief of the Statistics and Analysis Branch, Division of Research Grants, who received the Executive Management Award; and Mr. Macks, management analyst at the

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NIH OPEN HOUSE, APR. 26-27

Something for Everyone—Films, Exhibits, Speakers—Bring Family, Friends, Guests

This coming weekend, Saturday and Sunday, April 26 and 27, NIH is having its first public Open House in over 20 years. That means aunts from Dubuque, cousins from Connecticut, and friends from far-away places can come to the campus.

It's the weekend—10 a.m. to 4 p.m. each day—in which guests, friends, families and neighbors of NIH employees may visit NIH and see and hear about research that is being carried on here.

Labs Open

Laboratories will be open in Bldgs. 6, 10, 36, and 37. The labs will be staffed with knowledgeable NIH employees. Neophyte scientists can pour out questions about the investigators at NIH who search for the ways to cure a plethora of human illnesses.

That visit to the campus on the Open House weekend may well spark a flame in some boy—or girl—to become a biomedical engineer. The biomedical engineers at NIH work closely with the scientists and design the sophisticated instrumentation to help in the fight against disease.

The mysteries of the workings of a typical human cell will be made more comprehensible because of the NIH cell exhibit outdoors in front of Bldg. 1. There, a cell made of fiber glass—an abstract—demonstrates its structure and its importance in the study of diagnosing, treating, and preventing diseases.

The NIH Health Research Trail starts at the cell display. Follow the trail, it leads to exhibits, laboratories, and libraries. The National Library of Medicine is a repository for rare and new books, and for the latest computer equipment which, in the space of minutes, tells what periodicals carry the newest findings on the disease

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the NIH Record

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Camera Club to Sponsor Exhibit in CC Cafeteria

The NIH/R&W Camera Club is having a print competition and exhibit that is open to all NIH employees, patients and their immediate families. Up to four prints may be submitted in both black and white and color print categories.

Entries will be accepted on Friday, May 9, from 4-6 p.m. in the Masur Auditorium. A list of the rules and entry forms may be obtained at R&W locations or from Camera Club members.

NIH Singers Perform in May

The NIH Singers will perform at noon on Monday, May 5, in the Masur Auditorium.

The program will include madrigals, music by Vaughn Williams and Hindemith, and some modern arrangements of folk songs. Admission is free.

Prints will be exhibited in the Clinical Center cafeteria from May 10-May 22. The photographs will be returned to their owners on Friday, May 23, between noon and 2 p.m.

'After Hours' Program Tells Dates to Register For Summer Sessions

Registration for the Federal "After Hours" Education Program summer sessions will be held on Thursday, May 8, and Wednesday, July 2, from 10 a.m. to 2:30 p.m. in Conference Rooms A, B, and D, just off the lobby of the Department of Commerce Bldg., 14th Street and Constitution Avenue, N.W.

The first summer session for the off-campus courses begins May 19, the second, July 14.

Some 100 undergraduate and graduate level courses will be offered after working hours to civilians, military personnel, and the general public in 31 downtown Federal buildings in the District of Columbia.

Non-degree students may also enroll.

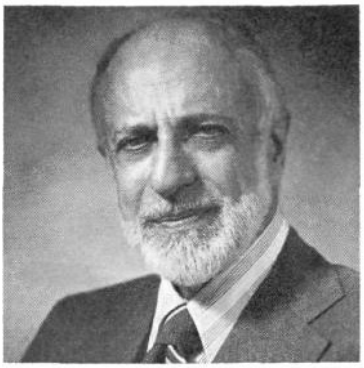
Tuition is $70 per semester hour, and all courses are 3 semester hours. This compares with a cost of $94 per semester hour for courses taken on the George Washington University campus.

For further information concerning the program, contact Robert W. Stewart, Jr., field representative, College of General Studies, G.W.U., telephone 676-7018.

Retirement Program Given

On May 15 and 16, the Employee Relations and Recognition Branch, OPM, is offering a retirement plan program for NIH employees.

For information about the classes, employees may contact their personnel offices.



Dr. Richard Feinberg, NINCDS, has been reelected president of the Mid-Atlantic Chapter, American Medical Writers Association. Dr. Feinberg, a research psychologist, Collaborative Perinatal Program, is research editor for the journal, "Eye, Ear, Nose, and Throat Monthly," and is editor-at-large for the "Journal of Learning Disabilities."

Officers Elected at Meeting Of Asian-American Committee

Dr. Richard S. Yamamoto was recently elected chairperson for 1975 of the NIH Asian-American Cultural Committee. Genevieve Nih Schiffman was chosen as vice-chairperson.

Plans for celebrating Asian-American Cultural Week—to be held this coming September—and for the June 1976 bicentennial cultural festival are being discussed at committee meetings.

These meetings are held the second Friday of the month from noon to 1 p.m. in Room 1 of the Clinical Center cafeteria. NIH'ers are invited to attend and participate in planning for the coming events.

Parents of youngsters attending the Child Development Center in Bldg. 35 have taken over the operations of the center. Their official name is Parents of Preschoolers, Inc. The parents have signed a contract with NIH to provide educational and child care services. The staff at the center, including the teachers, have been retained. A ribbon-cutting ceremony marked the occasion of the name change. Later, some of the parents, children, and staff enjoy a photo-taking session. Virginia Burke (far right) is the coordinator for the Daycare Center at NIH.

Schedule for Films Shown at NIH Open House

Wilson Hall, Bldg. 1

Progress Against Cancer—10 a.m. and 2:45 p.m. 28 minutes.

The Fragile Mind—10:45 a.m. 15 minutes.

Sickle Cell Anemia and Sickle Cell Trait—11:15 a.m. and 3:30 p.m. 33 minutes.

When to Treat Hypertension—noon. 31 minutes.

Laboratory of the Body—1:15 p.m. 28½ minutes.

Our Way of Life—2 p.m. 27 minutes.

Bldg. 31, Room 2, Visitors Center

To Seek... To Teach... To Heal—10 a.m., 11:30 a.m., 1:30 p.m. and 3 p.m. 28 minutes.

What Will Poor Robin Do Then—10:45 a.m., 12:15 p.m. and 2:15 p.m. 27 minutes.

Bldg. 31, Room 3

Hemo, the Magnificent—10 a.m. and 2:15 p.m. 55 minutes.

Code Blue—11:15 a.m. and 3:30 p.m. 26 minutes.

Modern Management of Tuberculosis—noon. 45 minutes.

Life, Death, and the American Woman—1:30 p.m. 60 minutes.

Tent, Facing Old Georgetown Road

I am Joe's Heart—10 a.m. and 3:30 p.m. 26 minutes.

Satellite Housecall—12:15 p.m. 22 minutes.

Early Recognition of Learning Disabilities—10:45 a.m. and 1:45 p.m. 30 minutes.

The Story of Rocky Mountain Spotted Fever—11:30 a.m. and 2:30 p.m. 29 minutes.

Gift of Life—3:15 p.m. 12 minutes.

OPEN HOUSE

(Continued from Page 1)

specialty a scientist may be researching.

The NIH Library in the Clinical Center also houses books and medical periodicals from all over the world that are used by the scientists on the campus.

Have you ever seen an artificial kidney machine and how it operates? The machine will be on display during Open House. Other exhibits include a cell separator, facts about genetic diseases, and eyeglasses that simulate the effects of visual diseases. They are all on display in a tent facing Old Georgetown Road.

Youngsters will be especially interested in that area under the big top that has been set aside to show the research animals which are normally housed in spotless laboratories. In fact, if they come to view the animals on Saturday, they may want to come again on Sunday. A germfree animal tank is part of the exhibit.

NIH glassblowers will demonstrate the tensile quality of glass—show how it stretches into shapes and vessels to hold the material scientists here require for their research.

The Clinical Center's laminar air-flow rooms to allow for a germ-free atmosphere for patients will be shown, and its workings explained. Also, in the same building, the NIH Blood Bank and the Nuclear Medicine Department are not to be missed.

Movies—all of them in color—will be shown during the day at stated intervals in Wilson Hall, the Visitors Center in Bldg. 31, and in the tent.

Bring Relatives

Several of the films have won top awards because of the excellence of story, script, and acting. Stories cover numerous scientific and medical subjects such as advances in disease research, careers in health professions, and mental health studies.

Do you have visiting relatives who are in medical school or interning—bring them to the NIH Open House. They will surely recognize the names of the prestigious scientists who will speak about their medical specialties in the Masur Auditorium both on Saturday and Sunday.

NIH has three Nobel Laureates on the campus—they may very well be having lunch in one of the three cafeterias—CC, Bldgs. 31 and 35—that are available for refreshments during Open House.

Programs detailing the schedule of movies and speeches, where the exhibits are, the laboratories that are on view, and a map pinpointing destinations will be given to visitors.

Opening the campus to the public is the way NIH—the world's lagest biomedical organization—is observing the Nation's Bicentennial.

The activities seen by visitors during the 2-day Open House may well explain what the U.S. Government is doing to help the world in its search to eradicate disease.

On this page the NIH Record lists the times and places of the films. There is also information on the hours of the speeches of the NIH scientists and their topics.

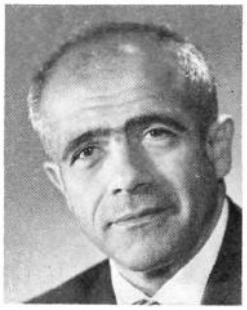
'Breast Self Examination' Film Showing April 23-24

A 10-minute film, "Breast Self Examination," will be shown on Wednesday, April 23, at 11:45 a.m. and 12:30 p.m., in the Masur Auditorium, and Thursday, April 24, at the same times, in the Westwood Bldg., Conference Room D.

Following the showings in the Masur Auditorium, Dr. Margaret Sloan, acting chief of NCI's Liaison Branch, will answer questions.

The film is being presented by the Employees Health Service in cooperation with the NCI Division of Cancer Control and Rehabilitation.

Mr. Macks



Mr. Eskenazi

Mrs. Collins

DHEW AWARDS

(Continued from Page 1)

Clinical Center, who received the Senior Management Citation.

Mrs. Collins, a public health educator with the National Heart and Lung Institute, is the first NIH employee to receive the HEW Volunteer Award. She was cited for her volunteer work in community, civic, and religious affairs—specifically, her efforts in improved housing and education for the community of Great Hope in Montgomery County.

Levy Gets Flemming Award

Dr. Robert I. Levy, NHLI, was also recognized as one of ten outstanding Federal employees who recently received the Arthur S. Flemming Award for 1975.

Dr. Theodore Cooper, Acting Assistant Secretary for Health, and Dr. Ronald W. Lamont-Havers, Acting Director of NIH, assisted HEW Secretary Caspar W. Weinberger with the presentations.

Booklet Updates Cancer Data; Includes Graphs

The incidence, risk factors, treatment, and survival associated with cancer throughout the world are described in the second edition of a paperback booklet entitled *Cancer Rates and Risks.* The booklet, which updates the first issued in 1964, is published by the National Cancer Institute's Biometry Branch.

This edition adds information collected since that time. It is a reference for physicians, medical students, teachers, public health workers, and others concerned with the course of malignant disease in individual patients or population groups.

The new volume gives answers to questions dealing with such subjects as the nature of the disease, its economic impact, recent changes in incidence and mortality, occurrence by body-site, and racial differences.

The book is illustrated with charts and graphs. Single copies are available free of charge from the Office of Cancer Communications, NCI, Bethesda, Md. 20014.

Bulk quantities may be ordered at $1.80 a copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The stock number is 1742-00086.

NIH Open House Speakers Forum, Masur Aud.

Saturday, April 26

10:15 a.m. *THE ENVIRONMENT & YOUR HEALTH*
Dr. David P. Rall, NIEHS

11:30 a.m. *CHILD HEALTH*
Dr. Norman Kretchmer, NICHD

12:45 p.m. *CANCER: WHO IS AT RISK? HOW CAN WE REDUCE THE RISK?*
Dr. Marvin A. Schneiderman, NCI

2:00 p.m. *YOUR LUNGS & YOUR HEALTH*
Dr. Ronald G. Crystal, NHLI

3:15 p.m. *HEART ATTACK*
Dr. Peter L. Frommer, NHLI

Sunday, April 27

10:15 a.m. *SICKLE CELL ANEMIA*
Dr. Rudolph E. Jackson, NHLI

11:30 a.m. *MENTAL DEPRESSION—CAUSES AND TREATMENT*
Dr. Frederick K. Goodwin, NIMH

12:45 p.m. *ACUTE LEUKEMIA*
Dr. Brigid G. Leventhal, NCI

2:00 p.m. *DIABETES AND OBESITY*
Dr. Jesse Roth, NIAMDD

3:15 p.m. *KIDNEY DISEASE*
Dr. Nancy B. Cummings, NIAMDD

3 ways to give blood for clinical center

By Susan Gerhold

Whole Blood

CC patients need 500 units (pints) of blood a month for transfusion during surgery or to prevent severe or fatal bleeding episodes. This blood must be carefully matched to insure compatibility and to prevent transfusion reactions. There are four main groups of blood—A, B, O, and AB, plus the Rh factor—that are matched between donor and patient.

It takes only 30 minutes to give a pint of blood in the CC Blood Bank on the first floor in Bldg. 10A. Healthy persons have between 10 and 12 pints of blood. They suffer no ill effects from donating a single pint. This unit is replaced by the body usually within a month; donors may donate a pint as often as every 8 weeks.

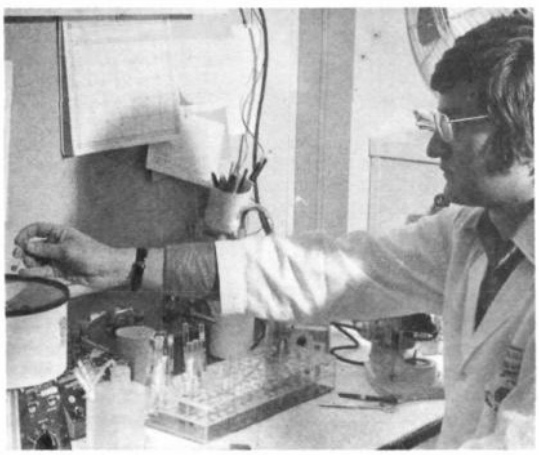
At the Blood Bank, a brief medical history is taken—temperature, pulse, and respiration are recorded. A hemoglobin test is administered by drawing a drop of blood from the finger. If the level is normal, the donor is taken to an area where, under the watchful eye of a Blood Bank nurse, blood is drawn. An attending physician is in the Blood Bank at all times.

Later, refreshments are served and within minutes the donor returns to normal activities. Each donor is given a reward sticker, their "badge of courage," which says "Be Nice to Me—I Gave Blood Today."

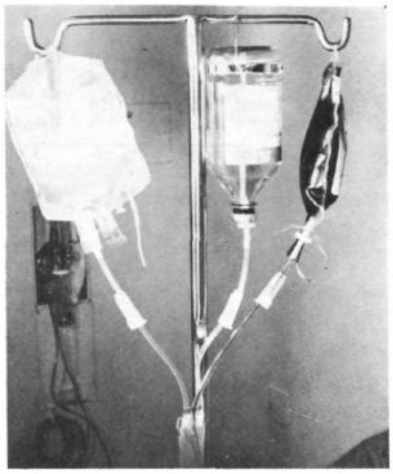
Behind the scenes, the unit of blood undergoes rigorous tests including blood grouping and Rh typing, and screening for hepatitis and syphilis. Once the blood has been tested and approved it may be used immediately or stored up to 21 days at 5 degrees centigrade or frozen for later use.

(In addition to blood for immediate patient use, smaller samples are sometimes needed for research. Blood for this purpose is collected by arrangement between investigator and donor.)

To become a whole blood donor, call the Blood Bank at Ext. 61048, or come to Bldg. 10A, Room 1E-33.



White



Patients with aplastic anemia, leukemia, and other forms of cancer frequently require white blood cells to protect them from infections. White cells (leukocytes) are matched between patient and donor by ABO group and Rh type, and HL-A, or white cell type. The odds against an HL-A match are nearly 5,000 to 1. Many volunteers are needed for testing before a match is found.

Donating white cells takes 4 hours during which whole blood is drawn from one arm, and the rest of the blood is returned to the other arm in a continuous process called leukapheresis.

Prospective white cell donors get a health screening before donating. The screening includes a chest X-ray, electrocardiogram, uri-

patients

Volunteer donors among NIH employees, patients' families and friends, and members of nearby communities play a vital role in CC patient care. The blood they donate is a life-giving resource for which there is no synthetic substitute.

Volunteers are the only source. Without transfusions of blood and blood products, such major surgery as open-heart operations would be impossible. Postoperative bleeding as well as bleeding from serious blood disorders—leukemia, severe anemia, and hemophilia —would take a far greater toll.

Three ways employees can donate are by giving whole blood, white cells, and platelets.

Cells

nalysis, and physical examination.

If the volunteer is healthy, and is HL-A matched to a patient, an appointment is made to donate in the NCI Plasmapheresis lab on the 3rd floor of the CC.

It is an interesting and painless procedure. An NCI-IBM Continuous Flow Blood Cell Separator is used to extract leukocytes from the blood as it flows from one arm into a centrifuge bowl and returns to the other arm minus some white cells which are replaced by the body in less than 12 hours.

The other parts—red cells, plasma, and platelets—are returned to the donor. The white cells are pumped into a collection bag for transfusion to CC patients.

Become a white cell donor, call Ext. 62022.

Platelets

Patients with aplastic anemia, Wiskott-Aldrich Syndrome and leukemia, as well as other malignant diseases, lack platelets—circular or oval cells that control bleeding by aiding coagulation.

Without platelets, patients may suffer severe or fatal bleeding. Because these patients usually need multiple transfusions, platelets must be matched by HL-A type. If this is not done, they become sensitized to unmatched platelets and reject them.

The first step in donating platelets is to be HL-A typed. A tiny blood sample is drawn, and a medical history is taken. The sample is flown to a laboratory in California for typing, and results are back here within 24-48 hours. If the blood matches the donor is contacted.

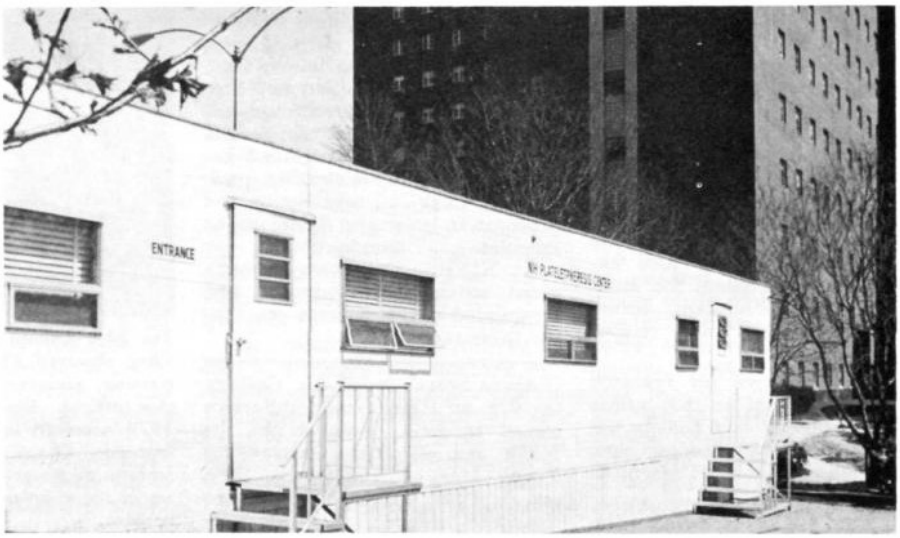
Healthy individuals may donate a unit of platelets in 2½ hours in the Plateletpheresis Center trailer located near the Blood Bank. Under supervision of physicians and nursing staff, a unit of blood is drawn and placed in a centrifuge which spins the blood at 2,400 rpm for 3 minutes, separating platelet-rich plasma from red blood cells.

The red blood cells are returned immediately to the donor while the platelet-rich plasma is once again centrifuged, this time at 4,000 rpm for 5 minutes. This causes the platelets to concentrate into a small "button."

The plasma is then returned to the donor. This procedure is repeated 3 more times to get a total of 4 units of platelets. During this time donors may read or watch television.

Their platelets are replaced by the body within 24-48 hours and the healthy donor may donate twice a week if necessary.

For an HL-A test and to donate platelets, call Ext. 62022 for an appointment.



Honesty, the best policy, paid off for Ida Price (l), a General Services Management night housekeeper who found a large sum of cash in the R&W office and turned it over to security guards. James B. Davis, general manager of the R&W Association, awarded a gift certificate to Mrs. Price. Leon Schwartz, OD, and Otis Ducker (r), DAS Director, presented letters and certificates of appreciation.

DR. TODARO

(Continued from Page 1)

annual meeting, Dr. Todaro reported recent findings on transmission of viruses as cellular genes from parent to offspring for generations in man as well as in other species.

He stated that viruses from one species can become part of the genetic information of a very different species.

Virus Function Surmised

Appearance of these genetically transmitted viruses in so many species suggests, he said, that the viruses have an evolutionary function that has allowed them to be preserved for millions of years.

It is when they break out of the normal genetic information pattern that they produce cancers, he believes.

Dr. Todaro started his career in experimental pathology as a medical student in the department of pathology at New York University Medical School where he obtained his M.D. degree. He was assistant professor of pathology there until joining NCI in 1967.

Developed Cell Lines

In his early work Dr. Todaro contributed to the field of mammalian cell culture, leading to the 3T3 and 3T6 cell lines used extensively by researchers for studies of contact inhibition, serum factors, oncogenesis, and related work.

He is also known for research of cells and viruses as they relate to the question of how tumors begin. This and other studies have led to publication of 141 scientific papers since 1963.

His other honors include the Gustave Stern award for virology in 1973, an HEW Superior Service award in 1971, inclusion in the JCC's list of Ten Outstanding Young Men of America in 1970, and a PHS Career Development Award in 1967.

Human Growth Hormone Symposium Proceedings Review Recent Progress

Proceedings of an international symposium on Advances in Human Growth Hormone Research have recently been published by the National Institute of Arthritis, Metabolism, and Digestive Diseases.

Over 400 investigators, including scientists from 18 countries, attended the symposium in October 1973.

Advances in growth hormone research over the past 10 years were reviewed, with the symposium divided into six major aspects.

These were: somatemedin protein metabolism; hypothalamic control of pituitary growth hormone secretion; structure and function; growth hormone secretion and therapy and growth in humans; HGH therapy for disorders other than growth, and circulating growth hormone, receptor assays and receptor sites.

The 961-page book was edited by Dr. S. Raiti, Director of the National Pituitary Agency, which receives contract support from NIAMDD.

The Agency collects human pituitary glands throughout the U.S., organizes the extraction of all anterior pituitary hormones, and distributes these to scientists for investigation.

The book, DHEW Publication No. (NIH) 74-612, is available at $8.25 per copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Dr. Otto Bessey Given Special Award Citation

Dr. Otto A. Bessey, who retired last year as NIEHS associate director for Extramural Programs, was recently honored by the Society of Toxicology. That organization, made up of scientists concerned with the study of poisons, presented Dr. Bessey with a special award citation.

He was cited for his "public service toward the promotion and support of research and research training in toxicology," and for his ability to "... provide detailed answers to . . . administrative questions, . . . ask . . . penetrating and provocative scientific questions to stimulate . . . imagination."

At NIEHS, Dr. Bessey coordinated extramural programs and formulated major policies concerning these programs.

4 Appointed to NHLI Adv. Council Including Drs. Braunwald and Ross

Dr. Eugene Braunwald is among the four new members appointed to the National Heart and Lung Advisory Council. Dr. Braunwald is physician-in-chief at Peter Bent Brigham Hospital and Hersey Professor of Medicine at Harvard Medical School.

From 1958 until 1968, Dr. Braunwald headed NHLI's Cardiology Branch and also served as the Institute's clinical director.

The other new appointees are Dr. Richard S. Ross, Johns Hopkins School of Medicine; Ira M. Lavin, radio and television executive, and Jose A. Morales, dean of students at the Purdue University Calumet campus.

Dr. Ross is Clayton Professor of Cardiovascular Diseases at Hopkins, and has been a member of the faculty since 1954. Next September he will become vice president of the Health Divisions and dean of the medical faculty at the University's medical school.

Dr. Ross has served on the NHLI Training Committee and on the Cardiovascular Study Section of NIH.

Mr. Lavin, active in Phoenix civic affairs, has been a member of the American Heart Association since 1960. He has served on several of that organization's committees including the one on public information. He has also been a board director of the Arizona Heart Association.

Mr. Lavin is executive vice president and general manager of KXIV radio, and president of Camelback Cablevision,Inc.

Mr. Morales, who was appointed dean in 1972, has taught at Purdue and the University of Chicago—he received his M.A. in social work from the latter school. Before his teaching assignments he did social work in New York and Chicago.

The four new members will serve through September 1978. The Council is composed of non-Federal scientists and those prominent in public affairs. They meet periodically at NIH to consider applications for research and training support and to advise on NHLI programs.

The 24th Annual Secretaries Week is being observed April 20-26. June W. Herman, secretary to NHLI's executive officer, has been named the 1975 secretary of the year by the Bethesda Chapter of the National Secretaries Association. She will represent the chapter in a regional competition.

May 5—'Don't Smoke Day;' Next Day EHS Shows Film

For those who are trying to kick the smoking habit—the next Montgomery County "Don't Smoke Day" is May 5.

The Employee Health Service is showing a 30-minute film, "Smoking and Your Heart," on Tuesday, May 6, at noon in Bldg. 31, Rm. B2-B57.

Statistical Study of U.S. Shows Arthritis, Sinusitis Prevalent

Arthritis and sinusitis are the most prevalent chronic conditions affecting the U.S. population, according to a recent study from the National Center for Health Statistics.

Hearing impairments, hypertension, hay fever, and heart disease follow the two leaders.

Arthritis affects 103 of every 1000 people; sinusitis affects nearly 93 per thousand.

NIH Visiting Scientists Program Participants

3/24—Dr. Bharat Bhooshan, India, Laboratory of Chemistry. Sponsor: Dr. Paul Torrence, NIAMDD, Bg. 4, Rm. 226.

3/28—Dr. Kunie Nakamura, Japan, Laboratory of Cellular and Comparative Physiology. Sponsor: Dr. T. Makinodan, NICHD, Gerontology Research Center, Baltimore, Md.

3/30—Dr. Herbert M. Pinedo, Netherlands, Medical Oncology Branch. Sponsor: Dr. George Canellos, NCI, Bg. 10, Rm. 12N226.

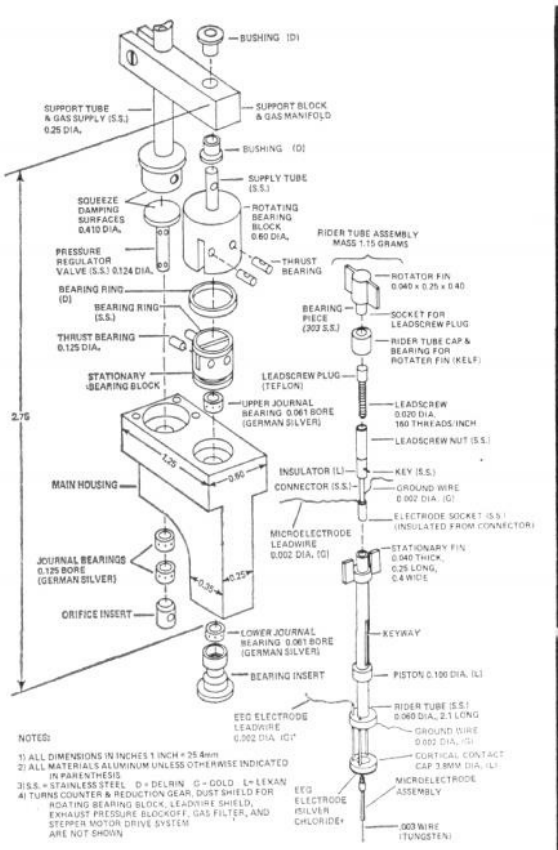
4/1—Dr. Marco Conti, Italy, Reproduction Research Branch. Sponsor: Dr. Maria Dufau Catt, NICHD, Bg. 10, Rm. 12N216.

4/1—Dr. Ricardo Oscar Duffard, Argentina, Developmental and Metabolic Neurology Branch. Sponsor: Dr. Roscoe Brady, NINCDS, Bg. 10, Rm. 3D03.

4/1—Dr. Yeu-zu Yang, Taiwan, Laboratory of Cell Biology. Sponsor: Dr. Edward Korn, NHLI, Bg. 3, Rm. 318.

4/1—Dr. Eliyahu Yarkoni, Israel, Biology Branch. Sponsor: Dr. Sarkis H. Ohanian, NCI, Bg. 37, Rm. 2B13.

4/7—Dr. Kenji Sorimachi, Japan, Laboratory of Nutrition and Endocrinology. Sponsor: Dr. Peter Condliffe, NIAMDD, Bg. 6, Rm. B105.



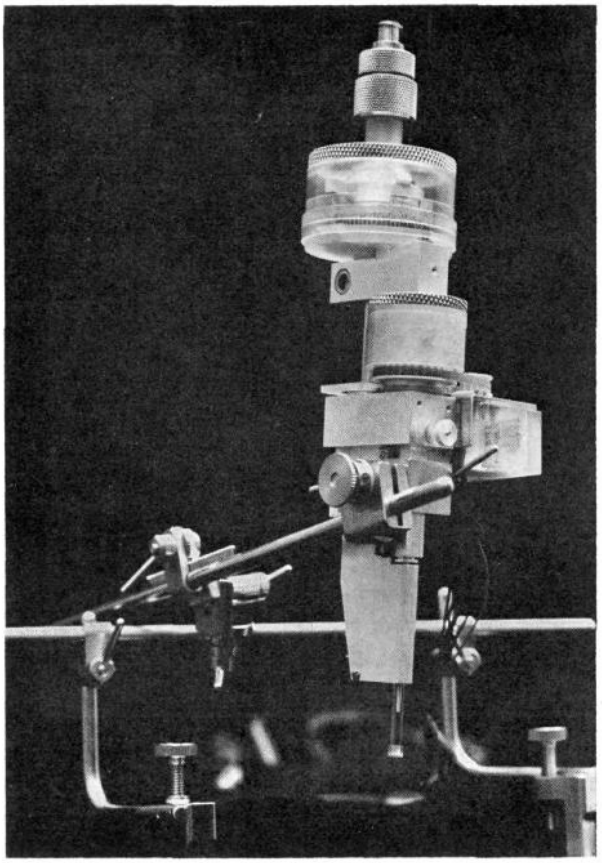


Diagram and photograph of the gas bearing floating microdrive developed and used clinically at NIH.

New Device Enables Scientists to Monitor Single Cell Activity in the Human Brain

A team of NIH researchers, including neurosurgeons, neurophysiologists, mechanical and electrical engineers, and precision machinists, has recently combined its talents, skills, and knowledge to try to discover the roles of individual nerve cells in the seizures characteristic of severe epilepsy.

Laboratory researchers have begun to understand fundamental mechanisms of the brain and of epilepsy through animal models. Mainly for technical reasons, behavior of individual cells in the nervous system of humans, with or without epilepsy, has been difficult to record.

Neurosurgeons and neurophysiologists have long sought a reliable and convenient technique for monitoring the minute electrical voltages produced by single nerve cells in the cerebral cortex, for instance during surgery to remove tissue thought to be causing epileptic seizures.

Since the surface of the brain pulses up to 2 millimeters with respiration and blood flow when the brain is exposed, special techniques are required for recording from nerve cells near the surface.

To accommodate this motion, a new device called a gas bearing floating microdrive was developed at NIH over the past 3½ years.

Dr. Karl Frank, former chief of the Laboratory of Neural Control, National Institute of Neurological and Communicative Disorders and Stroke, initiated the project of creating a new recording device *delicate enough to be used on* human subjects in the study and treatment of epilepsy.

The project was supported by the Laboratory of Neural Control (LNLC) and the Surgical Neurology Branch of NINCDS and by the Biomedical Engineering and Instrumentation Branch, Division of Research Services.

The device was designed by Dr. Seth Goldstein of BEIB, a mechanical engineer, with the assistance of electrical engineers Dr. Edward Schmidt and Martin Bak of LNLC. Frank Bierley of BEIB performed the precision machining of the instrument.

Follows Brain Motion

The microdrive is clamped to the skull and operates by causing the recording microelectrode to follow the motions of the brain surface while remaining close to a single nerve cell.

A 4 mm diameter "rider" follows the movement of the brain by contacting the cerebral cortex with a force of only 0.1 gram and is supported without friction in gas bearings by a film of nitrogen gas 0.001 inch thick.

The tungsten wire microelectrode is attached to the rider and protrudes beyond it into the cortex a variable depth controlled by a miniature lead screw having 160 threads per inch.

The lead screw is attached to the rider and is rotated without interfering with the brain's motion by an additional, unique system of gas bearings for which NIH recently received a patent in Dr. Goldstein's name.

One of the major technical problems in the overall development was the elimination of false electrical signals from the system. These were finally traced to static electricity and were solved by eliminating several plastic parts and utilizing a 0.002 inch diameter gold wire to connect the electrode to the amplifier.

After several months of trial use of the device with rhesus monkeys, the new microdrive was successfully used on March 9 to record stable electrical activity from single cells of the human cortex.

The recording was performed in the NIH Surgical Neurology operating suite during a neurosurgical procedure performed by Dr. John M. Van Buren, chief of the Surgical Neurology Branch, NINCDS, to remove an area of scarred cerebral cortex believed to be causing the patient's epilepsy for which medical treatment had proved ineffective.

The new device was able to record the activity of single nerve cells in the human brain for as long as the brain is exposed during surgery.

Drs. Schmidt and Goldstein and Mr. Bak managed the electronic recording apparatus and technical aspects of the device, which is linked to oscilloscopes and closed circuit TV for continuous monitoring of cellular activity individually or synchronized with an electroencephalogram.

Dr. John C. Oakley, clinical associate, Surgical Neurology Branch, NINCDS, performed the cortical search for single units, adjusting the microdrive in increments as small as 2½ microns, using a remotely controlled miniature stepper motor.

Other Uses Foreseen

Recording was carried out in an area involved in the epileptic process as determined by electro-corticography performed by Dr. Cosimo Ajmone-Marsan and Dr. Barry I. Ludwig of the Electroencephalography and Clinical Neurophysiology Branch, NINCDS.

Although the first problem to be attacked with the new techniques made possible with this device will be the role of individual nerve cells in the generation of epileptic seizures, other problems that can be investigated include the role of individual nerve cells in the control of movement, in speech, in vision, in hearing, and in many other normal and abnormal functions of the brain.

Review Panel to Study Current Drug Regulation Policy and Procedures

A review panel has been appointed by HEW Secretary Caspar W. Weinberger to study FDA's policies and procedures for regulating new drugs.

The panel, which held its first meeting on April 8, will report its recommendations to Mr. Weinberger by the end of the year.

Of the six panel members, only one—Dr. David Rall, Director of NIEHS—is a Federal employee.

Another member, Dr. Thomas C. Chalmers, former Clinical Center Director, is now President and Dean of the Mt. Sinai School of Medicine, New York.

Other panel members are: Dr. Allen Astin, Director *Emeritus*, National Bureau of Standards; Marsha Cohen, an attorney with consumer interests; Norman Dorsen, general counsel, American Civil Liberties Union and professor of law, New York University, and Alanson W. Willcox, former general counsel, HEW.

Dr. Robert S. Stone, former NIH Director, and Mrs. Stone attend the unveiling of Dr. Stone's portrait which will hang in Bldg. 1 with other paintings of NIH Directors. B/I/D Directors and the staff of the Office of the Director heard NIH Acting Director Dr. R. W. Lamont-Havers (far left) laud Dr. Stone's "extreme frankness, openness, and extreme honesty with this institution and what it stands for." The artist, Bjorn Egeli, who has painted portraits of several previous NIH Directors, including Dr. Robert Q. Marston and Dr. James A. Shannon, exchanges greetings with Dr. and Mrs. Stone.

NCI Forum Discusses Epidemiology Apr. 23

Do areas of the United States with above-average cancer mortality rates provide new clues to occupational or other environmental causes of the disease?

The Fourth Wednesday Forum, sponsored by the National Cancer Institute, will present a panel discussion of these questions tomorrow, April 23, from noon to 1 p.m. in the 14th Floor Assembly Hall of the Clinical Center.

Dr. Robert W. Miller, chief of NCI's Epidemiology Branch, and Dr. Joseph F. Fraumeni, Jr., associate chief, will moderate the discussion. Drs. Robert N. Hoover, Thomas J. Mason, and William J. Blot, also of the Epidemiology Branch, will serve on the panel and respond to questions from the audience.

NAS Holds Open Meeting Tomorrow to Discuss Science Issues and Policy

The public is invited to attend a meeting on issues in science, technology, and public policy to be held tomorrow (Wednesday, April 23) at 9 a.m. at the National Academy of Sciences Building Auditorium, 2101 Constitution Avenue, N.W., Washington, D.C.

This is a joint meeting of the NAS and the National Academy of Engineering.

Fredrickson to Speak

Open seminars will follow plenary presentations on the state of the sciences and their potential for solving societal problems by Dr. Donald S. Fredrickson, President of the Institute of Medicine, and the chairmen of the eight assemblies and commissions of the National Research Council.

At the seminars, opinions on the role of the National Research Council as an advisor to the Federal Government will be sought from science officers from Government agencies, representatives of professional societies, and interested members of the community.

For more details, call the NAS office of information, 389-6511.

DR. RAUB

(Continued from Page 1)

During the past 6 years he has been instrumental in the development of the PROPHET computer system designed to promote predictive science in pharmacology and drug research.

Dr. Raub received his Ph.D. in 1965 from the University of Pennsylvania. He was an instructor and postdoctoral fellow in the department of physiology at the University of Pennsylvania Medical School before coming to NIH in 1966.

While working in DRR, Dr. Raub helped to develop the PROPHET computer system which assists pharmacology and toxicology researchers in numerous centers around the country.

Extramural Program on Speech Disorders Headed By Dr. Bradley Included in NINCDS Reorganization

A reorganization in the National Institute of Neurological and Communicative Distorders and Stroke—that Institute has recently changed its name to include communicative disorders—will emphasize several new program areas to include the disorders of hearing, language and speech which affect more than 20 million Americans.

The Institute's extramural research areas will be divided into four major programs: Communicative Disorders, Neurological Disorders, Stroke and Central Nervous System Trauma, and Fundamental Neurosciences.

Dr. Wesley H. Bradley, clinical professor of otolaryngology at Upstate Medical College in Syracuse, N.Y., and the immediate past president of the American Otological Society, has been named director of the new Communicative Disorders Extramural Research Program.

New Focus in Program

This program will also incorporate the research in communicative disorders that is under Dr. Lois Elliott, a research scientist in the field of audiology.

This latter program is currently expanding its research into new problem areas such as: improved objective identification of young hearing-impaired children; effects of noise on children, and improved assessment and treatment of language communication disorders not apparently attributable to sensory impairments.

The reorganization of the Institute will mean a unification of its grant and contract activities within each of the four major program areas. The NINCDS extramural programs in communicative disorders headed by Dr. Bradley will include support for research projects, out-patient clinical research centers, contracts, training grants to universities and medical centers, and multidisciplinary centers.

It is expected that almost $17 million will be spent this year for communicative disorders research and research training.

This reorganization does not alter the Institute's current intramural laboratory and clinical research organization.

Earlier Changes Noted

Last year, the Institute created a new intramural Laboratory of Neuro-Otolaryngology to study the biochemical, anatomic, and physiologic processes of the auditory system and to develop better methods of preventing and treating auditory disorders.

The laboratory is headed by Dr. Jorgen Fex, who was formerly a professor in the Center for Neural Sciences, department of anatomy and physiology at Indiana University.

Dr. Siraganian Is NIDR Acting Clinical Director

Dr. Reuben P. Siraganian has been designated acting clinical director of the National Institute of Dental Research.

He replaces Dr. Edward J. Driscoll who will return to full-time research studies in pain control, oral surgery, and anesthesiology.

Dr. Siraganian will continue his work on human oral and allergic diseases as chief of the Clinical Immunology Section of NIDR's Laboratory of Microbiology and Immunology.

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