

the



Record

U. S. DEPARTMENT OF
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NATIONAL INSTITUTES OF HEALTH

Dr. Griff Ross Honored Both Nationally, Abroad For Endocrine Research

Dr. Griff Ross, deputy director of the Clinical Center, recently received three honors within 5 weeks: he delivered the first Carl Gemzell lecture at the University of Uppsala, Sweden on the occasion of its 500th anniversary, received the Ashbel Smith Distinguished Alumnus Award from the University of Texas, and was honored with the Fred Conrad Koch Award by the Endocrine Society.

Lectures in Uppsala

On May 3, in Uppsala, Dr. Ross presented the Carl Gemzell lecture on Morphologic Correlates of Hormone Profiles in Blood and Antral Fluid During Ovulatory Cycles in Women at a symposium on new methods of fertility control.

Dr. Ross' talk focused on hor-



Dr. Ross is president-elect of the Endocrine Society and will assume office this year.

monal controls of follicular growth, ovulation, and atresia during the menstrual cycle.

Ovulation Is Mysterious

One of the great mysteries in hormonal control of ovulation, according to Dr. Ross, is that a woman's ovaries contain over 400,000 eggs at her first menstrual period, and of these, only about 400 will be released, the remaining 399,600 undergoing atresia in which the egg dies and the follicle

(See DR. ROSS, Page 4)

PHS To Have Strong Policy Role, Says Under Secretary of HEW at Ceremony

The role of the Public Health Service in improving the nation's health care system is a vital one, both now and in the future, PHS employees were assured recently.

Speaking on behalf of HEW Secretary Joseph A. Califano, Jr., at the Public Health Service Awards Ceremony, Under Secretary Hale Champion told the gathering that the Secretary foresees a "major and challenging role ahead for the PHS."

Mr. Champion said the Secretary was aware of "... the voices expressing concern about the future of the Public Health Service, and we are sensitive to the uncertainty that the leadership changes and reorganization have helped create."

Leads in Policy

The PHS, he said, has a strong organization with a leading role to play in the creation of health policy.

Demands by the public for better quality, increased access, and cost containment have generated enormous pressure on the health care system, he pointed out.

"These demands must be addressed through the political process with the involvement of a multitude of actors," said the Under Secretary. "Health can no longer be a one agency issue."

Programs Reorganized

To deal with this new reality, Secretary Califano reorganized the health programs of the Department, Mr. Champion said. The financing programs have been drawn together so that the PHS will relate to one agency, not two, he continued.

"I'm not saying that the relationship between the PHS and the Health Care Financing Administration will always be a smooth one," said the Under Secretary. "On the contrary, there is meant to be a creative tension between the cost concerns of HCFA and various health care system priorities of PHS."

But, said Mr. Champion, such a relationship is healthy and productive. "If we have learned one thing over the past 10 years from Medicare and Medicaid, it is that Government's role in financing health

care cannot be limited to simply paying the bills," he said.

What we pay for, the Under Secretary said, must be based on what constitutes good quality care and cost effective service.

In addition to the health care finance policy responsibility, Mr. Champion stressed that the PHS will continue to:

- generate new knowledge;
- develop new approaches to health care delivery;
- assure the right mix of professionals working throughout the country;
- control and prevent disease;
- protect the public against unsafe and ineffective foods and drugs;
- help local communities control the expansion of unneeded health services and facilities;
- help cope with the tremendous problems of mental illness, and alcohol and drug abuse; and
- provide care to certain of our citizens who would otherwise not get it.

The Under Secretary said to play all these vital roles effectively, the PHS needs strong leadership.

"The Secretary and I are confident that you will find Dr. Julius Richmond to be that leader," he said. "In addition, the Secretary wants Dr. Richmond to be an aggressive leader of the six agencies in the PHS and will lend full support to Dr. Richmond in this regard." He will be the Secretary's Chief Health Advisor, Mr. Champion said.

Director Honored in Sweden

Dr. Donald S. Fredrickson, NIH Director, received an honorary Doctor of Medicine degree from the Karolinska Institutet, May 31, in Stockholm.

Dr. Halfdan Mahler, Director General of the World Health Organization, also received an honorary Doctor of Medicine degree at the ceremony.

Dr. Carl Douglass Named Director of DRG; Held Deputy Post Since 1972



Dr. Douglass received the DHEW Superior Service Award in 1973. A Fellow of the American Institute of Chemistry, he is also affiliated with the American Chemical Society, the Society for Experimental Biology and Medicine, the American Institute of Nutrition, and the American Institute of Biological Sciences.

Dr. Carl D. Douglass has been named Director of the Division of Research Grants. He joined the DRG staff in 1970 as associate director for statistics, analysis, and evaluation, and was appointed deputy director in 1972.

Dr. Douglass received his B.S. degree from Hendrix College, Conway, Ark., in 1947, and his M.S. and Ph.D. degrees in chemistry from the University of Oklahoma.

From 1951 to 1952, Dr. Douglass was a Fellow at the Oak Ridge Institute for Nuclear Studies. He then joined the staff of the University of Arkansas in the department of biochemistry.

Dr. Douglass came to NIH in 1961 as Nutrition program officer in the National Institute of Arthritis, Metabolism, and Digestive Diseases, from the Food and Drug Administration, where he had been chief of the Nutrition Research Branch since 1959.

In 1964, he moved to the National Library of Medicine, before becoming an associate director in the Division of Research Facilities and Resources (later Division of Research Resources) in 1967.

the  **Record**

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Drs. Finley, Sullivan Join Advisory Council of DRR

Drs. Wayne H. Finley and Louis W. Sullivan have been named to the National Advisory Research Resources Council for terms ending Oct. 31, 1980.

Dr. Finley is currently the director of the Laboratory of Medical Genetics at the University of Alabama Medical Center. Dr. Sullivan is dean and director of the School of Medicine at Morehouse College, Atlanta, Ga.

The 12-member panel reviews applications for NIH grants made by the Division of Research Resources to fund clinical research center, animal resource, biotechnology resource, minority biomedical support, and biomedical research support grants.

Dr. Finley received his Ph.D. and M.D. degrees from the University of Alabama. He has previously served as an ad hoc member of the HEW Committee on Genetic Counseling, Children's Bureau.

His research interests include clinical cytogenetics, human congenital malformations, drug effects, anti-tumor agents, cell culture, and genetic counseling. He is the author or co-author of over 80 papers in these fields.

Dr. Sullivan received his M.D.

June 17 Is New Deadline Of Savings Bond Campaign

The 1977 U.S. Savings Bond Campaign has been extended through June 17. The extra time is provided to help those who may have delayed completing a bond allotment form to submit one during the 1977 Campaign. Also, it will help canvassers contact some persons who were on leave during the Campaign, or those who were undecided about starting a Savings Bond program.

If you haven't signed up, it is not too late to do yourself a favor. Sign up for a U.S. Savings Bond program today.

degree from Boston University in 1958 and held several clinical and teaching posts in New Jersey and in Boston until 1975. From 1969 to 1973, he served as special consultant to the General Clinical Research Centers Committee, DRR, and also on various panels and committees for NHLBI.

Dr. Sullivan's research interests are in hematology, with particular interest in nutritional anemias, vitamin B₁₂ and folate metabolism, the effects of alcohol on hemopoiesis, and sickle cell anemia.

Golf Association Plans Outings, Continues Through the Summer

The R&W-sponsored NIH Golf Association held its second outing of the 1977 season at the Montgomery Country Club, in Laytonsville on May 16.

Eighty-four members and their guests tested the par 73 layout. Complete results will appear later in the R&W Smoke Signals.

After the third stroke-play out-

ing scheduled for Brooke Manor Country Club in Norbeck on June 3, the final one is slated for the Washingtonian National Course in Gaithersburg on June 27.

The first two match play contests will be held at Northampton Country Club in Largo on July 21, and the Potomac Valley Country Club, Poolesville, Aug. 3.



NIH Associate Director for Collaborative Programs Dr. Leon Jacobs (third from l) recently spoke in Chicago on the problem of funding research with limited resources at a meeting of the Research Committee, Board of Trustees, Michael Reese Hospital and Medical Center. Among those present were (l to r) Nancy Arnold and Dr. Sidney Cohen of the Center, and Clifford Johnson (r), director of Research Administration at the Medical Center.

NANCDS Advisors Add Four Members to Council

Four new members have been appointed to the National Advisory Neurological and Communicative Disorders and Stroke Council for 4-year terms.

The new members are Dr. Bobby R. Alford, professor and chairman of the department of otorhinolaryngology and communicative sciences, Baylor College of Medicine; Anita D. Lunsford, a medical writer with the Birmingham News, Birmingham, Ala.; Dr. Fred Plum, chairman of the department of neurology, Cornell University Medical College; and Dr. Edward Peirson Richardson, Jr., professor of neuropathology at Harvard Medical School.

Dr. Alford is a teacher-investigator and otologic surgeon with special research skills in the area of the physiology of hearing. He was a member of the NINCDS Communicative Disorders Review Committee, 1970-74, and chairman 1971-74.

Ms. Lunsford is a well-known medical writer and three-time winner of the Medical Association of the State of Alabama Writing Award. She has been honored for her excellence in medical writing by the American Red Cross, the Leukemia Society of America, and the American Cancer Society. Ms. Lunsford is the author of the book entitled, *The Intimate Story of Lurleen Wallace: Her Crusade of Courage*.

Dr. Plum, a neurological research scientist and teacher, is a leader in stroke and epilepsy research and patient care. Since 1963 he has been the Titzell professor of neurology at Cornell University and neurologist-in-chief at New York Hospital, N.Y.C. He is also president of the American Neurological Association and editor of the *An-*

Volunteer Tutors Needed For NIH Summer Workers

Volunteers are needed to tutor high school and college students working at NIH for the summer.

Tutors are needed for the following subjects: algebra, geometry, trigonometry, calculus, foreign languages, organic and inorganic chemistry, and physics.

Tutors are asked to spend from 1 to 3 hours a week with their students for 6 to 10 weeks. Tutoring will take place at NIH, the time and place being arranged between student and tutor.

For further information, call Milt Tipperman, Training and Education Branch, DPM, Ext. 62146.

gnals of Neurology.

Dr. Richardson is both neurologist and neuropathologist at the Massachusetts General Hospital. He was president of the American Association of Neuropathologists, 1973-74; and first vice-president of the American Neurological Association, 1970-71.

Betsy Ross

"You'll have money saved in a stitch with U.S. Savings Bonds."



HLA Typing Volunteers Needed; Benefits Noted

The Bureau of Biologics of the Food and Drug Administration has recently opened a new Histocompatibility (HLA) Testing Laboratory at NIH, Bldg. 29, Rm. 232.

Results of histocompatibility testing are clinically useful if an individual needs a tissue transplant, a white cell transfusion, or is susceptible to developing spondylitic (arthritic) disease.

Healthy volunteers are requested to donate 20 to 50 ml of whole blood for control and research activities of this laboratory. The blood will be used for tissue typing and serum testing. HLA typing results will be provided to each volunteer on request, free of charge.

Simultaneously, the laboratory offers its facility to doctors in the greater Washington, D.C. area and suburbs, for HLA typing of any patients for purposes of collaborative clinical investigations only.

To participate in either program, call Joe Progar or Elmer Martino, Ext. 64038, or Dr. Kamal K. Mittal, Ext. 65200, between 2 to 4 p.m.

Blood Bank Requests Donors To Assist CC Patients' Needs and Cover NIH's



Donors such as Deborah Timmcke, shown here with CC nurse Marie Moroney, provide blood and other components to CC patients who are seriously ill or having surgery. Ms. Timmcke is a nurse epidemiologist in the National Cancer Institute's Environmental Epidemiology Branch.

Hemophilia, pheochromocytoma, systemic lupus erythematosus—tongue-twisters, indeed, but real diseases suffered by real people. Patients with these rare, often serious, disorders are sometimes in urgent need of blood.

The Clinical Center's Blood Bank, in its unceasing efforts to provide blood for the complex needs of patients, must have blood donors.

NIH employee-donors supply about half of the blood needs of CC patients. The remainder comes from the D.C. Chapter of the American Red Cross.

As an example of the unusual demands put upon the Blood Bank, a patient with a prior history of posttransfusion purpura (a disorder characterized by bruises and bleeding after transfusions) underwent cardiac surgery for the second time here.

After the patient's first operation 18 years ago, she developed

an antibody (one of the body's usual defense mechanisms against foreign substances) which severely depleted her platelets 1 week after surgery.

Platelets have a coagulation function in the blood, so this depletion caused a serious bleeding problem and an exchange transfusion was necessary.

For the second operation last month, frozen red cells from NIH donors plus matched platelets and plasma from relatives were prepared.

This careful matching was done to prevent restimulation of the antibody responsible for the severe platelet depletion after her first operation.

While here, the patient developed complications after being taken off the heart-lung machine. Fresh blood and unmatched platelets from NIH donors were given to her when all the frozen blood and matched platelets were used.

Over the next week, the Blood Bank obtained more matched platelets from family members, and the National Cancer Institute's Plasmapheresis Unit assisted in their collection.

Despite these efforts, the woman's antibody again went up and destroyed the platelets in her blood. She eventually required three plasma exchanges to combat this problem. After this therapy, her platelet count returned to normal levels.

In addition to CC patients, the Blood Bank supplies 50 to 100 units of blood per month for NIH employees and their families.

All NIH employees are covered

SUNY Dental Scientists Find White Cell Defects Contribute to Bone Loss

Defects in certain white blood cells (polymorphonuclear leukocytes, or neutrophils) may contribute to the rapid loss of tooth-supporting bone in patients with periodontitis, according to scientists at the State University of New York at Buffalo, School of Dentistry.

Periodontitis is a disease of young adults in which bone around the roots of a few specific teeth is lost rapidly.

This research, partially supported by the National Institute of Dental Research, may explain why certain individuals have increased susceptibility to periodontal destruction.

The investigators found that neutrophils from nine young persons aged 16-31 years with periodontitis were less efficient, both in migrating towards bacterial substances (chemotaxis) and in engulfing bacteria (phagocytosis), than cells from normal controls without periodontal disease.

Other white cells, monocytes, from the same patients responded normally. A battery of laboratory tests and medical histories showed that the affected patients had no other medical problems.

The scientists also showed that neutrophils from a group of age-matched patients with periodontitis—a chronic disease which differs from periodontitis—were normal with respect to both chemotaxis and phagocytosis.

These results suggest that assessment of neutrophil chemotaxis and phagocytosis may distinguish the two diseases in individuals where clinical diagnosis is uncertain.

These findings suggest that either the causative bacteria are releasing a substance which depresses the neutrophils or that periodontitis patients have an intrinsic defect in their defense system.

Preliminary evidence obtained by the Buffalo team from families with two or more affected members indicated that the neutrophil defect is an intrinsic characteristic. In these families non-diseased siblings also showed the defect.

Drs. Louis J. Cianciola, Robert J. Genco, Mark R. Patters, John D. McKenna, and Carel J. van Oss, reported this research in *Nature* 265:445, Feb. 3, 1977.

by the "blood assurance" plan, whether they are donors or not. However, everyone who can donate blood should try to keep this coverage in force.

To give blood, call Ext. 61048 and make an appointment. By doing so, you will help patients here and perhaps yourself or your family as well.

Lewis & Clark

"Explore new frontiers of financial security. Buy U.S. Savings Bonds."



1-Mile, Half-Marathon—Health's Angels Plan Jog

The Health's Angels (NIH Jogging Club) will sponsor its Second Annual Independence Day Classic at noon, Friday, July 1, beginning in front of Bldg. 1.

The Classic consists of two running events open to all interested NIH employees and members of their families: a one-mile run on the NIH campus, and a half-marathon (13.1 miles) run from NIH to the White House.

Ribbons Awarded

NIH Deputy Director Dr. Thomas E. Malone will be the official starter for both events. Commemorative ribbons will be awarded to all participants.

Persons interested in the long distance run should pre-register by contacting one of the Jogging Club co-presidents, Dr. David Young, Ext. 65433, or Jay Miller, Ext. 66941.

Blood Drive To Be Held June 29 at Westwood

The NIH Clinical Center Blood Bank and the Montgomery County Chapter of the American Red Cross are holding a pre-Fourth of July blood drive at the Westwood Bldg. on June 29.

Usually this is a time of blood shortage throughout the country, and everyone's help is enlisted to give blood in support of patient care in the CC and the NIH Blood Assurance Program.

The drive will be held Wednesday, June 29 from 9:30 a.m. to 3:15 p.m. in Conference Room 428 at the Westwood Bldg., 5333 Westbard Ave., Bethesda.

To become a volunteer at the Westwood drive, please contact Jimmie Driscoll at the CC Blood Bank, Ext. 61048.

DR. ROSS

(Continued from Page 1)

degenerates.

In order to understand how follicles can be doing different things—one maturing, while another dies—it is necessary to understand the regulatory process in the follicle itself, which Dr. Ross has found is mediated in part by the sex steroid hormones in the microenvironment of an individual follicle.

Understanding the mechanisms involved might provide alternative methods for voluntary fertility control.

Hormones Interact

In the sexually mature woman, male and female sex hormones interact. "Estrogens are the stimulators for growth, while androgens seem to be responsible for atresia," says Dr. Ross.

After returning from Sweden, Dr. Ross went to Galveston, Texas to receive the Ashbel Smith Distinguished Alumnus Award at commencement exercises at his alma mater on May 29.

Dr. William C. Levin, president of the University of Texas Medical Branch, cited Dr. Ross for his "contributions and service to medicine and mankind, both of which were served faithfully, selflessly, and generously."

Receives Koch Award

On June 9 in Chicago, Dr. Ross received the Koch Award, the highest award given annually by the Endocrine Society for work of special distinction in endocrinology.

Established in 1957, the award honors the late Dr. Koch, a distinguished service professor at the University of Chicago and a pioneer in isolating androgens, the male sex hormones.

Dr. Frederic Bartter of the National Heart, Lung, and Blood



Hilda Wexler of the Surgery Branch, National Cancer Institute, receives a Special Recognition Award for 25 years of outstanding service from Frank H. Weitzel of the D.C. Division of the American Cancer Society at its recent 31st annual meeting. Miss Wexler is currently vice president of the D.C. Division of ACS.

JNCI Staff Wins Quality Recognition for Catching Up With Backlog



The JNCI staff includes (l to r): Margaret Clary, Dee Kittner, Anne Gibbons, Barbara Danforth, Florence Gregoric, Mary Cowgill, Edwin Haugh, Joan O'Brien, Pamela Holst, Sheila Munson, Phyllis Jay, Constance Jones, Amelia Champion, Mercedes LaCharity, and Sarah Butler. Each staff member contributes to one or more aspects of the work involved.

Institute, and chairman of the Society's award committee, cited Dr. Ross as "not one-dimensional. He is an inspiring teacher both in the clinic and at the bench, and a superb practitioner of the art as well as the science of medicine."

Develops Choriocarcinoma Therapy

Dr. Ross came to NIH in 1960. One year later he published the first paper on Actinomycin C for treatment of women with choriocarcinoma (a malignant disease involving trophoblastic placental cells) and developed both clinical and scientific expertise in the therapy of the disease.

His work with choriocarcinoma patients led him to the study of gonadotropins. With Dr. William Odell he developed a radioimmunoassay for the pituitary gonadotropins—LH and FSH—and began an extensive study of the menstrual cycle and its disorders.

Contributions Recognized

His contributions were recognized with the delivery of the Gregory Pincus Memorial lecture at the Laurentian Hormone Conference in 1970.

Dr. Ross then entered into investigations on human chorionic gonadotropin, a hormone secreted by the placenta, and developed a specific immunoassay for HCG which has been applied for detection of residual choriocarcinoma in patients treated for the disease.

The test was also used to demonstrate the early secretion of HCG by the fertilized ovum as it becomes implanted in the uterus.

Studied Puberty Changes

In still another area, he and his co-workers carried out extensive studies of the endocrine changes of puberty, devising methods for measuring urinary gonadotropins that are significant today.

In 1971, Dr. Ross initiated a series of new studies on the ovarian follicle, defining the role of androgens in follicular atresia, the interactions of estrogens and go-

Twelve members of the *Journal of the National Cancer Institute* staff recently received awards for exceptional efforts in reducing their backlog of scientific research papers while maintaining a high quality of editorial processing.

JNCI, a scientific research journal specializing in reports of new research findings relevant to cancer, is one of the most frequently cited cancer journals.

The employees who received the group award for special achievement are Phyllis J. Jay, Dee Ann Kittner, Florence I. Gregoric, Mercedes B. LaCharity, Joan O'Brien, Anne Welch Gibbons, Edwin A. Haugh, Sheila E. Munson, Amelia R. Champion, Barbara W. Danforth, Mary Helen Cowgill, and Constance R. Jones.

Has Tradition

JNCI has a tradition of excellence based on the submission by authors and selection by the *JNCI* editorial board of research papers of the highest quality, and the processing, editing, and publication of each selected paper according to the highest standards of professional journal management.

Rapidity Required

Authors must be satisfied with the prompt, effective, and courteous management of each paper, and readers must be satisfied with the standards of selection and quality of editorial work. The quality of editorial processing thus is essential to the overall success of *JNCI* in the rapid and effective

nadotropins in growth of the follicle, and demonstrating an androgen receptor in the granulosa cell.

Dr. Ross has published over 175 scientific papers on reproductive physiology, including the dynamics of reproduction, how the pituitary and ovary interact, and how the hormonal signal from one feeds back and modulates the response of the other, particularly the processes the hormones stimulate within the substance of the ovary.

communication of research results.

Widely recognized as significantly surpassing usual technical standards, *JNCI* received formal recognition in January 1977 from the Society for Technical Communication—the world's largest professional organization dedicated to advancement of the theory and practice of communication in all media.

Wins Award

The Washington Chapter of STC sponsors an annual competition, which this year drew about 150 entries, including 25 in the Complete Periodicals category. The November 1976 issue of *JNCI* was entered in the competition and honored by an Award of Achievement.

Shortly thereafter, it became obvious that the accumulation of a backlog of approved but unpublished papers had reached crisis proportions. As a result of exceptional efforts by the *JNCI* staff, the backlog has been reduced from 16 to 2 weeks without any appreciable loss in quality.

Dr. Fredrickson Will Speak At NCI's 4th Wed. Forum

NIH Director Dr. Donald S. Fredrickson will speak on NIH: Its Mandate and Its Programs at the National Cancer Institute's Fourth Wednesday Forum at noon on June 22 in Wilson Hall. The meeting is open to all NIH staff.

Dr. Fredrickson will discuss current debates within and outside of NIH concerning biomedical research in relationship to the health care system.

He will also outline some possible changes in approaches to program management and NIH processes. After his talk, Dr. Fredrickson will respond to questions from the audience.

Only those means of security are good, are certain, are lasting, that depend on yourself and your own vigor.—Machiavelli.

Idaho Biomed. Network Sponsored by NLM Links Small, Diverse Facilities

A project to pull together the sparse and diverse biomedical information services in Idaho has recently been funded by the National Library of Medicine. This project in networking—named IDA-HEAL-NET—will be directed by Idaho's State Library in Boise.

NLM funds, provided under a 3-year Library Resource Project Grant, will be used for personnel (including a full-time librarian), workshop materials, consultative services, supplies, and travel.

Has No Medical School

Since Idaho has no medical school or school of library science, the State Library in Boise accepted the responsibility for coordinating the project.

While it is unusual for a State library to become so actively involved in the health science information field, the project director, State Librarian Helen Miller, sees this new involvement as an interesting and challenging direction for the state's information services to take.

The state's population of 713,000, scattered over a large, rough terrain, suggests the need for a health sciences information network, as well as the special problems to be faced in developing it.

The 52 hospitals serving this population average 32 beds in size (only 12 have more than 100 beds), and many do not have identifiable libraries.

There, each of the three natural geographic divisions within Idaho (north, southeast, and southwest) has an "area health education consortium" (AHEC), which plays a key role in the development of IDA-HEAL-NET.

Since together they include representatives of the state's health practitioners, institutions of higher education, and most hospitals, they provide a ready communication mechanism for coordinating information services to support the State's health programs.

Exchange Ideas

Representatives of the three AHECs meet monthly and IDA-HEAL-NET planners frequently attend these meetings to exchange ideas relating to improved health information services.

Judy Romans, a recent NLM Library Associate, has been hired as the network's full-time health sciences librarian.

Currently, Ms. Romans is working with hospital librarians on a union list of serials, planning workshops, and coordinating on-line services throughout the State.

There are now three MEDLINE

Radio Amateurs Test Contacts, Simulate Conditions of Nationwide Emergency



Ready at the Morse code key, Bob Lauder of the Division of Research Services, demonstrates some of the equipment to be used outdoors in the annual contest. In addition to his involvement with the NIHRAC station, K3YGG, Mr. Lauder has his own at home, call letters WB3DEX. NIHRAC members particularly invite CB radio operators to visit the outdoor demonstration June 25-26 in the Multi-Level Parking facility.

June 25 and 26 NIHRAC (the NIH Radio Amateur Club) will be part of a national test held annually to see how many other amateur radio operators an individual unit can contact in a 24-hour period.

The NIHRAC group, which usually meets at noon each Thursday in Bldg. 10, Room B2-N104, will set up equipment in the Multi-Level Parking facility on the west side of the NIH campus. They will be happy to demonstrate their skills

Iowa Researchers Study Joints and Replacements

The durability of human joints is indeed remarkable—with each of the approximately one million steps the average person takes in a year, one- and one-half times the body weight is placed on the hip joint alone. Over a lifetime, these joints will absorb millions of pounds of stress.

At the University of Iowa grantees of the National Institute of Arthritis, Metabolism, and Digestive Diseases, are now investigating the mechanics of normal and diseased joints to improve the science of their artificial replacement.

Combining the skill of the surgeon with the precision of the engineer, the university's Orthopedics Biomechanics Laboratory has been instrumental in refining surgical techniques and materials for prosthetic implants of hips, knees, ankles, shoulders, wrists,

centers, one in each of the three regions. Other projects include development of a union list of audiovisual materials and improved statistical procedures for document delivery services.

and equipment to visitors.

More than a simple competition, the annual contest sponsored by the American Radio Relay League simulates emergency conditions, so the entire operation of the non-commercial communications network is maintained by sources of

and finger joints.

Under the direction of Dr. Richard Brand, assistant professor of orthopedics, the researchers in the Biomechanics Laboratory have developed the technology required for measuring the amount of stress within several natural joints.

After 8 years of research, stress inside the hip, knee, and ankle was determined by using Euclidean geometry and detailed films of patients walking on pressure plates. This information is then used to improve surgical techniques for better distribution of weight on the affected joint.

Investigators are now examining the stress load on smaller joints as well. In fact, the Biomechanics Laboratory boasts possession of an instrument to measure joint pressure during arm and hand movements—only two such devices are currently in use in the U.S.

While technology has progressed significantly in artificial joint replacement, Dr. Brand stressed that every joint has its own set of problems due primarily to movements peculiar to each.

"Earlier, breaking of the replacement parts was a common

National Advisory Eye Council Adds 3 Members

Three new members have been appointed to the National Advisory Eye Council: Drs. Jerry Lee Christensen, Gordon G. Heath, and Lorrin A. Riggs.

As members of the Council they will advise the National Eye Institute on the awarding of grants for research and research training related to disorders of the eye and visual system and provide guidance to the Institute on program policy, planning, and development.

Dr. Christensen is chairman of the department of physiological optics and director of the graduate program in physiological optics at the School of Optometry, University of Alabama.

He joined the school in 1973, serving as assistant dean for student affairs from 1974 to 1976 when he was appointed to his present position.

Dr. Christensen is a fellow of the American Academy of Optometry, serving as chairman of its Visual

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power such as batteries or solar energy that are independent of the usual electrical power lines.

Many of the NIHRAC "hams" already have their own stations at home but will pitch in on Saturday and Sunday, June 25 and 26, to keep NIH's K3YGG on the air and in the running to contact a record number of other stations.

The NIHRAC group has experimented with satellite-mediated communications, including transmission of electrocardiograms from California last year (see *the NIH Record*, March 23, 1976, page 6). Of the seven OSCAR (Orbital Satellites Carrying Amateur Radio) that have been launched by NASA, two are still active.

For further information, call Leonard Aberbach, Ext. 64131.

problem. Now, breakage happens less frequently because of better design, but it still occurs in some joints," he noted.

Other problems with artificial replacements include loosening of the new joint from the bone and formation of scar tissue around the joint.

Despite the remaining technical difficulties, implants are successful in more than 90 percent of hip operations, and approximately 65-80 percent in other types of substitutions.

While the surgeons and engineers of the Orthopedics Biomechanics Laboratory are encouraged by their successes, they hope to refine existing artificial joints and develop new prosthetic devices that will restore movement to diseased joints and thereby enhance the quality of life.

Continuing Education: Mount Sinai Explores Use of AV Materials

How can medical librarians best serve the need for audiovisual materials in continuing education programs? What kinds of interaction should there be between librarians and continuing education faculty? How should outreach programs in CE be promoted?

These are some of the questions being explored at New York's Mount Sinai School of Medicine through a project funded by a 3-year National Library of Medicine Medical Library Resource Project Grant.

The grant provides for salaries, AV hardware, and AV software. The project will be directed by the Levy Library, with most activity aimed at Mount Sinai's Page and William Black Postgraduate School of Medicine.

Enrolls 2,500

The postgraduate school offers some 90 continuing education courses with an enrollment of over 2,500.

According to the project director—Rachael Goldstein of Mount Sinai's Levy Library—although library AV services in support of undergraduate medical education are fairly well established in medical schools, there is a paucity of information regarding their effectiveness in formal continuing edu-

Cystic Fibrosis Foundation Will Use New Contract to Determine Research Needs

The Cystic Fibrosis Foundation has been awarded a 1-year contract—funded by the National Institute of Arthritis, Metabolism, and Digestive Diseases and the National Heart, Lung, and Blood Institute—for an in-depth study of this incurable genetic disease to determine critical needs in future research and clinical care.

For the last 20 years the Cystic Fibrosis Foundation, a national voluntary health organization head-

quartered in Atlanta, Ga., has directed its efforts toward the control and ultimate cure of CF.

Dr. Amoz Chernoff, CFF medical director and the contract's principal investigator, will direct the study to assess current levels of basic, clinical and epidemiological research, clinical care, and quality of life considerations to determine gaps in knowledge and the ordering of research priorities.

The study will also examine physical, vocational, and psychosocial rehabilitation, and public and professional education in CF. An inherited metabolic disease which claims the lives of most victims in childhood and adolescence, cystic fibrosis now costs the nation over \$50 million annually in treatment alone.

“Because the biochemical abnormality underlying the disease and its specific metabolic derangements are not yet defined, research on this disorder spans a variety of disciplines,” Dr. Chernoff notes.

Described in 1938

Not recognized medically as a distinct disease until 1938, this disorder of many disguises is characterized by the abnormal production of thick, sticky mucus by the exocrine (outward secreting) glands, particularly those in the respiratory and digestive systems. This unusually viscid mucus obstructs the breathing passages, creating a breeding ground for chronic pulmonary infections—the cause of 90 percent of all deaths from cystic fibrosis.

Because thick mucus also blocks the passageways carrying vital enzymes needed for the digestive process, CF patients suffer from impaired digestion and malabsorption of food.

Although the disorder affects clinically the exocrine glands, current research suggests that the fundamental metabolic defect may be present in all of the body's cells.

Also Affects Sweat Glands

Because CF also affects the sweat glands, the sweat salt levels of these patients is three-to-five times higher than normal.

This characteristic of sweat is used as reliable procedure for diagnosing symptomatic patients, but there is no specific method yet available to identify the asymptomatic carrier of the CF trait.

The development of such a test is of paramount importance in that with each pregnancy, children born to two asymptomatic carriers of the trait have a 25 percent chance of inheriting the disease, and a 50 percent chance of being a carrier themselves.

Discussing the study's broad implications for health, Dr. Benjamin

COUNCIL

(Continued from Page 5)

Science Study Section in 1975-76, and is the author of several research papers on the neurophysiology of vision and refractive errors of the human eye.

Dr. Heath is dean of the School of Optometry at Indiana University, Bloomington, where he has been a member of the faculty since 1955.

He received his doctor of optometry degree from the Los Angeles College of Optometry in 1951 and his Ph.D degree from the University of California at Berkeley in 1960.

Among his many professional activities, Dr. Heath served as president of the Association of Schools and Colleges of Optometry from 1963 to 1965 and continues to serve on its board of directors.

Studies Color Vision

He is also a research consultant to the Office of the Surgeon General of the Army and the author of numerous publications on physiological optics and color vision and its deficiencies.

Dr. Heath has previously served NIH as a member of the National Advisory Council on Health Professions Education from 1967 to 1971.

Dr. Riggs is the Edgar J. Marston professor of psychology at Brown University, Providence, R.I., and has been associated with that University since 1945. A graduate of Dartmouth College, he received his M.A. and Ph.D. degrees from Clark University, Worcester, Mass.

A past president of the Eastern Physiological Association, Dr. Riggs is a fellow or member of numerous professional societies and an associate editor of the *Journal of the Optical Society of America*.

Dr. Riggs was a member of NEI's Vision Research Program Committee from 1970 to 1973.

Awards Cited

A trustee of the Association for Research in Vision and Ophthalmology since 1971, Dr. Riggs received the ARVO's Friedenwald Award in 1966. His other honors include the Distinguished Scientific Contribution Award of the American Psychological Association in 1974.

Dr. Riggs has published extensively on his research into the electrophysiological and psychophysical aspects of vision function.

T. Burton, NIAMDD associate director and the contract's project officer, noted that the year-long investigation will benefit not only cystic fibrosis patients, but also victims of related pediatric pulmonary diseases such as asthma, bronchiectasis and bronchitis; gastrointestinal disorders; and a variety of genetic syndromes.

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NIH Visiting Scientists Program Participants

5/22—Dr. Shuji Matsuura, Japan, Reproduction Research Branch. Sponsor: Dr. G. D. Hodgen, NICHD, Auburn Bg., Rm. 202.

5/31—Dr. Susumu Terakawa, Japan, Laboratory of Neurobiology. Sponsor: Dr. Ichiji Tasaki, NIMH, Marine Biological Laboratories, Woods Hole, Mass.

6/1—Dr. Fernando de Azeredo, Brazil, Laboratory of Neurochemistry. Sponsor: Dr. Janet Passonneau, NINCDS, Bg. 36, Rm. 4D16.

6/1—Dr. Keiko Hayashi, China, Reproduction Research Branch. Sponsor: Dr. Maria L. Dufau, NICHD, Bg. 10, Rm. 12N216.

6/1—Dr. Yoshinori Satow, Japan, Laboratory of Molecular Biology. Sponsor: Dr. David R. Davies, NIAMDD, Bg. 2, Rm. 316.

6/5—Dr. Ferdinando Cortese, Italy, Clinical Endocrinology Branch. Sponsor: Dr. Jacob Robbins, NIAMDD, Bg. 10, Rm. 8N315.

6/5—Dr. Françoise Rentier-Delrue, Belgium, Laboratory of Pathology. Sponsor: Dr. Louis B. Thomas, NCI, Bg. 10, Rm. 2A29.

Drug Binding Actions Of Glial Cells Studied By NINCDS Grantees

Research supported by the National Institute of Neurological and Communicative Disorders and Stroke suggests that the membrane of glial cells (the fine web supporting nervous system tissue) may serve as the site of antipsychotic drug action, acting to bind up excesses of dopamine that appear to underlie some of the abnormalities of schizophrenia.

According to researchers at the University of Iowa's department of psychiatry, a large proportion of central nervous system binding sites for both dopamine and haloperidol (a dopamine antagonist) seem to be present on glial membranes and may be associated with adenylate cyclase localized on these membranes.

The scientists, who worked with rabbit and cow brain tissue, suggest that a mechanism exists which would cause an increase in cyclic AMP in glia in response to neuronal activity—and that this mechanism provides "feedback" that also regulates neuronal activity. This feedback could involve changes mediated by cyclic AMP analogous to increased glycogen breakdown in skeletal muscle.

This mechanism could provide a way for antipsychotic drugs to have a regionalized effect on central nervous system activity and dampen a wide variety of functions.

Drs. Fritz A. Henn, David J. Anderson, and Ake Sellstrom reported their findings in *Nature*, April 14, 1977 (vol. 266).

NINCDS Grantee, U. of Chicago's Dr. Lim, Finds Rat Glial Cell Maturation Factor

Dr. Ramon Lim, a physician and biochemist at the University of Chicago Brain Research Institute and grantee of the National Institute of Neurological and Communicative Disorders and Stroke, has reported the discovery of a protein that promotes maturation in a type of embryonic brain cell known as the glial cell.

He has observed its effect on rat brain cells under the microscope, and a similar maturation factor may exist in humans.

This glial maturation factor is a high molecular weight protein extracted from adult pig brains. The brain tissue is homogenized and then centrifuged to obtain a liquid fraction, which is freeze-dried and washed with ethanol. Column chromatography is used to purify the protein.

Dr. Lim described the findings at the annual meeting of the Federation of American Societies for Experimental Biology in Chicago, April 7.

Movie Shown at FASEB

As part of his talk, he showed a motion picture demonstrating the effect of glial maturation factor on embryonic rat brain cells. Numerous outgrowths were shown extending outward from the primitive cells, which mature into astrocytes, a type of glial cell.

This discovery may affect research in brain tumors, head injuries, and mental retardation.

The majority of brain tumors may be caused by the uncontrolled growth of the glial cells resulting from reversion of the mature glia to undifferentiated primitive predecessor cells.

Lack of the factor, according to Dr. Lim, may permit normal glial cells to revert to a more primitive state—and glial maturation factor might enhance the maturation of

these cancer cells, thus slowing down or arresting tumor growth.

In cases of brain damage from head injury, there is usually an excessive growth of differentiated glial cells as part of the repair mechanism of brain tissue, a condition known as gliosis (formation of glial scar).

According to one hypothesis,

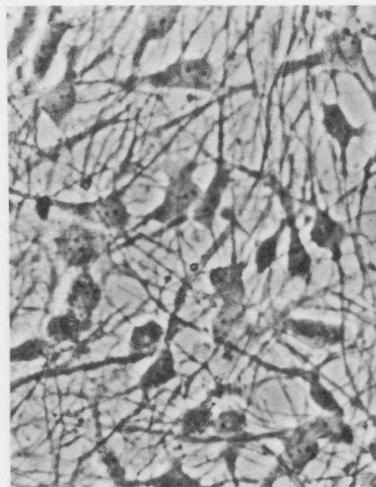
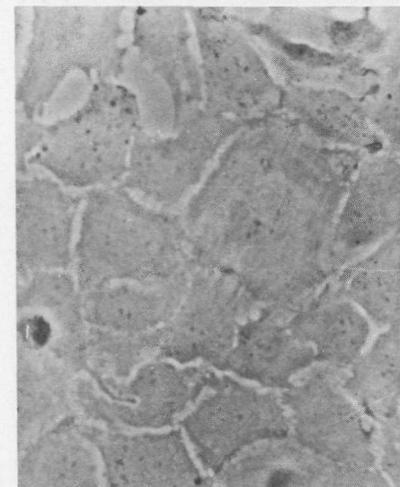


Dr. Lim is associate professor in the departments of neurosurgery and biochemistry in the University's Division of the Biological Sciences and The Pritzker School of Medicine.

when neurons are injured they release the glia maturation factor, which triggers gliosis. Gliosis can lead to long-term effects on the brain, such as epilepsy.

In this case, unlike brain tumors, Dr. Lim said the appropriate remedy would be to inhibit the development of glial cells by administering an antiserum against glia maturation factor.

Some types of retardation are due to inadequate development of



The brain cells in the left picture have not been stimulated by glia maturation factor and appear flattened and undifferentiated. The cells in the right photo have been stimulated by the protein factor and are morphologically and chemically mature. This difference led to the discovery of a glia maturation factor by Dr. Lim. The mature glial cells have long and branched processes which are interconnected. The discovery promises to shed light on the development of the brain and may have potential values in the management of mental retardation, brain tumors, and brain injury.



Joseph D. Naughton, chief of the Computer Center Branch, Division of Computer Research and Technology, recently received the 1977 Systems Professional of the Year Award, given by the Chesapeake Division of the Association for Systems Management.

brain cells and may be caused by a lack of glial maturation factor. If so, the patient might benefit from administration of the factor.

Co-authors were Drs. David E. Turriff and Shuang S. Troy, also of the Brain Research Institute. Dr. Lim and his colleagues stress that they have not conducted any tests on humans, and that "any use for humans at this stage is only speculative."

Amniocentesis Is Safe, Very Accurate Method

Science writers attending a seminar sponsored by the National Institute of Child Health and Human Development in San Francisco recently learned that amniocentesis—needle aspiration of amniotic fluid from the pregnant uterus to diagnose disorders prior to birth—has been shown to be safe and extraordinarily accurate.

Supported by NICHD, Drs. Michael Kaback, Harbor General Hospital, Torrance, Calif., and Aubrey Milunsky, Eunice Kennedy Shriver Center for Mental Retardation, Waltham, Mass., cited these findings from a collaborative, controlled study of approximately 2,000 pregnancies between 1971 and 1975.

The seminar, Issues and Answers in Child Health Research, attracted about 20 science writers on the West Coast. In addition to amniocentesis, the press heard talks on childhood infection and immunization, high risk infancy, child growth and development, and congenital malformation.

Advances in the use of amniocentesis for the prenatal diagnosis of neural tube defects such as spina bifida have shown, contrary to the public's general impression, most malformations are not caused by known environmental hazards such as drugs or X-rays; rather, they are the result of as yet unknown influences.

NIAID Clinical Director Dr. Sheldon M. Wolff Will Head Tufts Dept.

After 17 years of service at the National Institute of Allergy and Infectious Diseases, Dr. Sheldon M. Wolff, clinical director and chief of the Laboratory of Clinical Investigations, will leave NIH on June 22 to become chairman of the department of medicine at Tufts University School of Medicine and physician-in-chief of the New England Medical Center Hospital.

Took Active Roles

Dr. Wolff has headed NIAID's clinical program and Laboratory of Clinical Investigation since 1968. In addition, Dr. Wolff has taken an active role in the affairs of the NIH Clinical Center, serving as chairman of the NIH Clinical Center Medical Board and as a consultant to other Institutes regarding problems related to allergies and infectious diseases.

In 1976, he received an honorary doctorate from the Federal University of Rio de Janeiro in Brazil, where he helped develop a clinical training program in immunology. He also received the 1976 Squibb award of the Infectious Disease Society of America.

Before joining the Laboratory of Clinical Investigation at NIAID in 1960, Dr. Wolff completed residency training in internal medicine at Albert Einstein College of Medicine in New York City. From 1964 until 1966, he was head of the clinical physiology section of the laboratory and, in 1966, he became acting clinical director and acting chief of the Laboratory of Clinical Investigation.

Since 1969, Dr. Wolff has also



In addition to his administrative duties, Dr. Wolff has also maintained an active program of individual research with special emphasis on the mechanisms responsible for fever, the functions of the reticuloendothelial system and host responses to infection. In 1971, he received the NIH Superior Service Award.

been a clinical professor of medicine at Georgetown University School of Medicine, and has also served as consultant in infectious diseases at the National Naval Medical Center for the past 7 years.

Edits Text

Author of more than 160 scientific papers, Dr. Wolff is consulting editor for microbial diseases for the next edition of Beeson and McDermott's *Textbook of Medicine* and a member of the Subspecialty Board of Infectious Diseases of the American Board of Internal Medicine.

His colleagues honored Dr. Wolff at a farewell reception on June 9 at the Officers Club of the National Naval Medical Center, Bethesda.

NEI Reaffirms Interest In Grantee Applications

The National Eye Institute reaffirms its interest in encouraging investigators to apply for research grants in four areas identified by the National Advisory Eye Council in its 1975 report, *Vision Research Program Planning*.

In this report, the NAEC calls attention to scientific areas in which there were both important needs and promising opportunities for research related to retinal and choroidal diseases, corneal diseases, cataract, glaucoma, and sensory and motor disorders of vision.

Previously announced in the Jan. 7 *NIH Guide for Grants and Contracts*, these areas include the following:

- 1) Research on eye diseases associated with diabetes mellitus.
- 2) Animal models of human visual abnormalities and disorders.
- 3) Human lens in health and disease.
- 4) Clinical applications of psychophysical and physiological optics techniques.

Seeks New Developments

By emphasizing these areas, NEI seeks to develop new knowledge about normal and abnormal structure and function of the human eye and visual system, advance the basic and clinical sciences related to vision, and hasten the application of new knowledge to improving eye care.

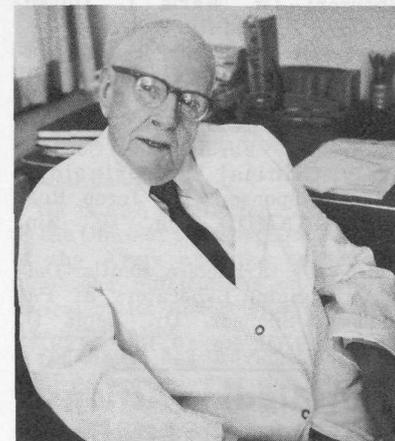
Receipt dates for new research grant applications have been established by the Division of Research Grants as of July 1, Nov. 1, and March 1. Such applications will be reviewed through the usual NIH procedures.

Preliminary drafts of grant proposals and inquiries regarding this announcement, the Jan. 7 *NIH Guide for Grants and Contracts*, and the NAEC report may be addressed to Chief, Scientific Programs Branch, National Eye Institute, Bldg. 31, Room 6A49, NIH, Bethesda, Md. 20014.

IAP Honors Scientist Emeritus Dr. Stewart

Dr. Harold L. Stewart, NIH scientist emeritus, has been named the first recipient of the F. K. Mostofi Distinguished Service Award. The award was made during the recent annual meeting of the U.S.-Canadian Division of the International Academy of Pathology in Toronto.

Dr. Stewart is head of the National Cancer Institute's Registry of Experimental Cancers, recently designated the WHO International Reference Center for Animal Tumors as a result of Dr. Stewart's



Dr. Stewart actively continues work at the Registry of Experimental Cancers in the Del Ray Building in Bethesda.

dedication and efforts.

With NCI since its founding in 1937, Dr. Stewart retired in 1969 from his posts as chief of the Pathologic Anatomy Branch and chief of the Laboratory of Pathology.

Pioneered Animal Models

He pioneered methods of inducing stomach and intestinal cancers in animals with chemical carcinogens, providing the first animal tumor model system for gastric cancer in humans.

The F. K. Mostofi Distinguished Service Award was established as an annual reminder of the long and distinguished service of Dr. Mostofi to the International Academy of Pathology.

Dr. Mostofi was the IAP's secretary-treasurer for 18 years and served as president of both the U.S.-Canadian Division and worldwide IAP.

He is acting chairman of the Center for Advanced Pathology at the Armed Forces Institute of Pathology and chairman of the department of genitourinary pathology at AFIP.

During the years 1947-48, when Dr. Mostofi was Special Research Fellow in the Laboratory of Pathology, NCI, he demonstrated the alveolar cell origin of pulmonary tumors induced by administering urethan to rats.



Dr. John R. Heller, a special consultant with NCI's Office of International Affairs and former NCI Director between 1948 and 1960, was recently presented with a Doctor Honoris Causa degree from the Universidad Argentina John F. Kennedy. Mrs. Heller (r) also attended the ceremonies in the residence of the Argentine Ambassador to the U.S. Jorge A. Aja Espil (l). The University Chancellor, Dr. Alberto Delmar, (second from l) joined the Ambassador in presenting the diploma and medallion. The award cited Dr. Heller's long career as a researcher, teacher, administrator, and advisor, and called attention to his "infinite kindness" in dealing with others.

