NIGMS Grant to Advance Study of the Living Body Through Tiny Transmitters

By Wanda Wardwell

The study of the living body through tiny electronic devices whose components are so small as to be almost invisible will be greatly advanced by a 4-year program supported by the National Institute of General Medical Sciences.

According to Dr. Frederick L. Stone, Director of the National Institute of General Medical Sciences, this award is an important step in the Institute's expanding program of support for biomedical engineering, one of the general clinical areas for which the Institute is a major source of research support.

Dr. Ko Gets Grant

An initial grant of $155,440 goes to Dr. Wen H. Ko, Associate Professor of Engineering and Director of the Solid State Electronics Laboratory, Engineering Design Center and Engineering Division, Case Institute of Technology.

Dr. Ko has already succeeded in producing FM transmitters no larger than a shirt button to be implanted in the body and to record the electrical activity of the muscles and hearts of mice, rats and other animals.

The research program will be in six main areas. One will be the attempt to reduce the size of the transmitter still further for implanting in the body. This would permit long-term monitoring of electroencephalograms, electrocardiograms, and similar electrical signals given off by the body.

Attempts will also be made to construct implant transmitters that can transmit 10 or more different types of physiological information on multichannel systems.

In the second area, new energy sources for the implants will be sought. Up to now, the implants have been either battery-powered, with a limited life, or radio-powered.

Aim Described

Dr. Ko hopes to provide the small microwatt requirements of the FM implants by heat, light, or electromagnetic energy from their environment inside the organism or even by motion, pressure changes, chemical differences, or electrical differences within the organism itself.

Work is also proceeding in the use of body fluids as an energy source, employing the fuel-cell principle.

In a third area, it has been found that many semi-conducting materials alter their electrical properties in response to changes in the environment such as temperature, pressure, light, magnetic fields,

Patient on Whom First Craniotomy at NIH Was Performed Returns to Visit

John Unger, a former patient here, recently returned to the Clinical Center to renew old acquaintances. One of those he greeted was his surgeon, Dr. Maitland Baldwin, Director of Clinical Research, National Institute of Neurological Diseases and Blindness, who performed the first temporal craniotomy at NIH on Mr. Unger in October 1953.

Since that time, Mr. Unger has been well. He now recalls his associations with the NIH with a sense of gratitude and friendship.

He is representative of the temporal lobe seizure program, a major effort of the Surgical Neurology Branch of NINDB.

Approximately 400 persons have participated in this program, as inpatients, since its beginning in October 1953, and 60 percent of those operated on have achieved relief of seizures.

The program also provides information on language, memory, affect, particular behavioral mani-

John Unger (left), once a patient at the NIH Clinical Center and subject of the first temporal craniotomy here, is shown with Dr. Maitland Baldwin who performed the surgery in October 1953. —Photo by Tom Joy.
Published bi-weekly at Bethesda, Md., by the Public Information Section, Office of Research Information, for the information of employees of the National Institutes of Health, principal research center of the Public Health Service, U.S. Department of Health, Education, and Welfare, and circulated by request to all news media and interested members of the medical- and science-related fields. The NIH Record content is reproducible without permission and its pictures are available on request.

On the occasion of presentation of the Meritorious Service Medal to Dr. Stuart M. Sessoms, Deputy Director of NIH, in Dr. Shannon's office, others assembled for the ceremony were: seated to the right of Dr. Sessoms, Dr. James A. Shannon, Director of NIH. Standing, L to R: Dr. Robert P. Grant, Director, NIH; Dr. Robert Q. Marston, Chief, DRMP; Dr. Frederick L. Stone, Director, NIGMS; Dr. Richard L. Masland, Director, NINDB, and Dr. Kenneth M. Endicott, Director of NCI.—Photo by Jerry Hecht.

Former Newspaperman, Robert A. White, Joins NIGMS Information

Robert A. White, formerly a member of the Information Staff of the Agency for International Development, recently joined the Information Staff of the National Institute of General Medical Sciences.

He is a former newspaperman with broad experience as a writer, reporter and copy editor. Before joining AID as assistant editor of its internal publication—Front Lines—he worked on the sports copy desk of the Chicago Daily News and was a sports writer for the Rochester (N.Y.) Times-Union and the Dayton (Ohio) Daily News.

Experience Cited

He earlier was a general assignment reporter for the Green Bay (Wis.) Press-Gazette and the Michigan City (Ind.) News-Dispatch. He began his career as news director of Radio Station WFJS, Freeport, Ill., and later was a radio newsmen at Station WJPG, Green Bay, Wis.

Mr. White received his Bachelor of Journalism from Missouri in '51.

training at the Memorial Center for Cancer and Allied Diseases in New York before joining the staff of NCI in 1958.

Dr. Sessoms is a Diplomate of the American Board of Internal Medicine, a Fellow of the New York Academy of Sciences, and a member of the Association of Military Surgeons and the American Hospital Association.

In 1957 he received the Distinguished Service Award of the U.S. Junior Chamber of Commerce.

The NIH Record reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policy of the paper and the Department of Health, Education, and Welfare.

The Secretary, DHEW.

the Clinical Center laundry. The exclusive recognition for a unit in supervisory employees of the Shops exclusive recognition for the non-su­

neering Branch, Division of Re­

fits are also available through local Social Security offices.

This handbook explains what benefits are available under both parts of the medicare program. The hospital insurance helps with the cost of hospitalization and related care, and the medical insurance helps with doctors' bills and other health expenses.

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Office Is Helpful

Although the handbook goes in to detail in its explanation of benefits and claims under the program, local Social Security offices can give more specific information or assist in the completion of claims for medical insurance benefits.

Copies of the handbook or other booklets on the medical insurance program or Social Security benefits are also available through local Social Security offices.

EMPLOYEE MANAGEMENT NOTES

The Shops Section, Plant Engineering Branch, Division of Research Services, has been approved as an appropriate unit for purposes of recognition under EO 10988.

A request from the Washington Area Metal Trades Council for exclusive recognition for the non-supervisory employees of the Shops Section is now under consideration by the NIH Management.

The Washington Area Metal Trades Council has also requested exclusive recognition for a unit in the Clinical Center laundry. The request for unit determination of the laundry is now pending with the Secretary, DHEW.

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**Handy Guide Summarizes**

Information on 75 Federal assistance programs to improve medical care is contained in a booklet released recently by the Division of Research Facilities and Resources by Dr. Thomas J. Kennedy Jr., Chief of the Division.

As chief of this section, Dr. McPherson will be responsible for the development of facilities and resources for laboratory animals at institutions that conduct medical research.

He will administer research grants to develop animal resources and grants that are related to research in laboratory animal medicine.

In addition, he will stimulate research and training programs for professional personnel in schools of medicine and veterinary medicine, departments of animal sciences, veterinary research institutes and medical research programs.

**Advises on Standards**

Also, as special advisor on standards for the care of laboratory animals and on standards for the construction of laboratory animal facilities, he will serve as scientific consultant to the Division’s Health Research Facilities Branch.

Dr. McPherson comes to the Division from the Laboratory Animal Branch in NIH’s Division of Research Services where he worked for 10 years. For the past two years he has been head of the Pathogen Free Unit, Acting Head of the Germfree Animal Production Unit and Assistant to the Chief of the Branch.

A native of Rugby, North Dakota, Dr. McPherson received his Bachelor of Science degree from the University of Minnesota in 1954 and his Doctor of Veterinary Medicine degree in 1956. He earned his Master of Public Health degree from the University of California in 1964.

**Financial Aid Available**

- Hospitals, nursing homes, medical schools, and other public and private agencies to strengthen medical care services.
- For each program, it outlines the purpose, the funding in fiscal years 1965 and 1966, who may receive the aid, and where further information may be obtained. Summary information is also given on the Medicare programs and the new expanded Medical Assistance Program (Title XIX).
- Single copies of To Improve Medical Care... may be obtained from the Office of Public Information, DHEW. It is also on sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for 40 cents per copy.

**Dr. Charles McPherson Joins the DRFR Staff**

Dr. Charles W. McPherson was recently named Chief of the Laboratory Animal Medicine and Veterinary Sciences Section in the Division of Research Facilities and Resources by Dr. Thomas J. Kennedy Jr., Chief of the Division.

As chief of this section, Dr. McPherson will be responsible for the development of facilities and resources for laboratory animals at institutions that conduct medical research.

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Arthur Catlin Retires; At NIH Since 1952

Arthur D. Catlin, Head of the Space Management Section, Office Services Branch, OD, retired recently after nearly 14 years at NIH. As head of that section, he determined and made recommendations for space assignments in buildings on and off the reservation, maintained these records, and was responsible for the acquisition of space in rental buildings off the reservation and in all buildings on the reservation.

Joins NIH in 1952

Mr. Catlin came to NIH Sept. 3, 1952. His first job was in the Supply Unit of the Supply Management Branch. He later became supervisor of the Central and Bethesda store areas, and in March of 1956 transferred to the OSB, where he became Head of the Space Management Section in 1958.

Shortly before retirement Mr. Catlin received a cash award for Superior Work Performance.

Award Quoted

He was cited for his "resourcefulness and ability to accomplish his regular assignments in addition to workloads created by acquisition of new space... on a "crash basis."

The citation continued, "His warm personality and easy manner have been prime factors in maintaining good rapport with many organizations within NIH, PHS, HEW, with other Government agencies and with owners of rental space."

Foundation for Advanced Education in the Sciences Expanding, Plans New Building

The campaign of the Foundation for Advanced Education in the Sciences for funds to build an educational and faculty center has received a contribution of $10,000 from Albert S. Keston, Ph.D., Director and Head of the Biochemistry Institute for Medical Research and Studies, New York City.

Announcement of Dr. Keston's gift was made by Dr. Daniel Steinberg, foundation president, and Chief of the Laboratory of Experimental Endocrinology, National Heart Institute, who accepted it from him during a campaign kick-off luncheon at the National Naval Medical Center Officers' Club June 17.

Noted Chemist

Dr. Keston, a noted biological chemist, developed the isotope method of analysis which is now widely used in the analysis of amino acids, proteins, steroid hormones and protein end groups. By a general and specific method, it is also one of the most sensitive ever employed for analysis of biological materials.

Dr. Keston became interested in the foundation's purpose and programs in 1959 when, as a visiting scientist at NIH, he did collaborative research with Dr. Sidney Udenfriend in NHI's Laboratory of Clinical Biochemistry.

According to Dr. Steinberg, Dr. Keston's gift of $10,000 from Walter H. Freygang are the largest contributions received to date.

Purpose Outlined

Mr. Freygang is the father of Dr. Walter H. Freygang Jr., Chief of the Section on Membrane Physiology, Laboratory of Neurophysiology, National Institute of Mental Health.

The foundation is an educational non-profit organization incorporated in the State of Maryland Aug. 25, 1959, by a group of NIH scientists "to foster and encourage scientific research and educational activities that will facilitate communication among scientists by whatever means may be practicable."

According to Dr. Steinberg the foundation plans to build the center on approximately 4 acres of land it owns across from NIH on Cedar Lane.

Architect's Plan

Architectural plans which have already been drawn include 9 lecture or conference rooms that can be used either for formal classes or for small conferences and seminars. These will be equipped with modern audio-visual aids.

In addition the center will house a book store, foundation offices, a small auditorium, a faculty center with a large dining hall, several small dining rooms and lounges, a library and study.

Research on Emphysema Intensified by Grants of $845,000 From NIAID

An $845,000 effort to step up the research attack on lung-crippling emphysema has been launched by the National Institute of Allergy and Infectious Diseases.

Research support for scientists at 10 major medical centers, totaling $676,669 for the coming year, has been granted by the Institute to enlarge the scope of its program to pinpoint the causes of emphysema and prevent its damaging effects.

In addition to the direct grants, the Institute will pay an estimated $169,000 this year in indirect costs, sharing with the 10 institutions the laboratories' overhead not covered by the grants.

More than 15,000 Americans will die of emphysema this year. The number of deaths reported from this lung disorder has risen more than sevenfold in the last decade, an increase attributed only in part to improved diagnosis.

The chronic, often progressive disease disables 1 out of 14 American workers over 45 years of age. Social Security disability benefits for victims of emphysema are exceeded only by those for heart disease.
Dr. Frank J. McClure, Authority on Fluorides, To Retire on July 15

Dr. Frank J. McClure, scientist, musician, artist and philanthropist, will retire July 15 from his position as Chief of the Laboratory of Biochemistry, National Institute of Dental Research. He intends to write a history of water fluoridation as a preventive of dental caries. The book "will not be a review of the literature but the story of a dramatic event," he says.

Dr. McClure was one of the pioneers in studying the effects of fluorides. His research on the metabolic fate of fluorides in the body provided significant evidence of the safety of fluoridation of water supplies as a public health measure.

These studies included human metabolism of fluoride, the response of large population groups to fluoride waters and animal experimentation.

A widely known and respected international authority on fluoride, Dr. McClure has more recently conducted research on the effect of fluoride diet on dental caries, particularly the relations of protein and phosphates.

Dr. McClure intends to spend summer days at his home in State College, Pa., and winters at his Washington apartment. He will continue to serve as consultant to the Director of NIDR. He will also continue efforts in graphic art, with linoleum and wood blocks. Because of his interest in art, Dr. McClure commissioned the well-known sculptor, Don Turano, to design the bronze plaque which is given annually by the International Association for Dental Research, as part of the H. Trendley Dean Award, to a person honored for achievement in epidemiology and dental caries, or other research related to oral diseases.

Dr. McClure has endowed the Award in memory of Dr. Dean who was the leader in early fluoridation studies.

While retaining a life interest in the family farm near West Lafayette, Ind., where his grandfather staked out the original homestead, Dr. McClure has arranged for 100 acres to be developed and controlled by the Purdue Research Foundation, an affiliate of Purdue University.

Known as McClure Park, Inc., 60 of these acres have already been developed as an industrial research park. Here in attractive surround-

### 103 NIH Employees Are Now Listed in The National File of Rare Blood Donors

A group of NIH employees who are akin to each other in one respect—have inherited combinations of blood group factors that set them apart—is now listed in a national file of rare blood donors in Milwaukee. They have volunteered to help others when their special types of blood are needed.

Each of the 103 NIH rare donors has blood characteristics that are found not oftener than once among 500 persons. But they are rarer than that since they are among the relatively few possessors of such blood who have been identified and completely phenotyped. They were first discovered when they gave blood at the Clinical Center Blood Bank for patients.

**File Is Active**

The national rare donor file is sponsored by the American Association of Blood Banks.

Already the national listing has led to one call for blood from among the NIH donors. A patient in Australia suffered from gastrointestinal bleeding, and a worldwide call went out for donors to match his rare type of blood.

Dr. Scott E. Dietert, then of NCI and now an assistant professor of anatomy at the University of New Mexico, gave blood which was flown to Australia. Dr. Dietert's blood is so rare that it is found in only 1 among 100,000 persons.

Dr. James Carr Teegarden, Associate Director of the American Hearing Society of Washington, D.C., since 1960, has joined the Grants Associates program at the National Institutes of Health for a year of training as a scientist administrator.

The program, administered by the Division of Research Grants, develops professional personnel for the Public Health Service.

**New NLM Exhibit to Be On Display Through Oct.**

The National Library of Medicine has opened a new exhibit in its lobby, "Medical Symbolism in Books of the Renaissance and Baroque," to be on display through October.

Assembled by the Library's History of Medicine Division, the exhibit features selected symbols appearing in medical books and prints in the NLM collection, and describes some of the ways in which these symbols have been interpreted.

Items of special interest include a volume by Aetius of Amida and a manuscript license to practice medicine and surgery issued in Florence in 1589.

New medical books and prints are frequently invited to discuss the latest research with the National Cancer Institute, he developed an increasing interest in the biomedical applications of computers in selected areas of physiology, biochemistry and clinical investigation, and contributed significantly to the advancement of computer technology in this field.

He most recently headed the Energy Metabolism Section, Laboratory of Physiology, NCI.

Born in Binghamton, N.Y., in 1920, Dr. Pratt is an alumnus of Hobart College and received his M.D. degree from the University of Rochester School of Medicine in 1946. He is a member of the American Association for the Advancement of Science and the American Association for Cancer Research and the author of numerous scientific articles. He is frequently invited to discuss the application of computers to research in the life sciences.
**TRANSMITTER**

(Continued from Page 1)

atomic radiation and atmospheric gas.

These properties make them potentially useful and worth serious investigation as small implantable biotransducers translating signals from the body into readily recordable electric signals. Perhaps the most important area of research will be the design of microelectronic systems which can automatically measure and control various parts of the body, including the heart, bladder and the nervous system.

It is expected that this program will yield new and better tools and experimental techniques that will make hitherto unrealizable research possible.

A major problem involved in heart disease research is in comparing data obtained from ambulatory patients and experimental animals with data obtained under more artificial conditions.

The design of telemetry systems will give better long-range knowledge of the activity of the heart in both experimental animals and humans who are free to move about. These systems will be capable of monitoring many physiological signals continuously and simultaneously, 24 hours a day.

A further objective of the program is to develop new techniques for investigating single living cells and parts of the cell that are too small for present techniques.

Dr. Ko says, “As knowledge of the electrochemical processes occurring the function and growth of single cells increases, and as the ability to control the electrochemical environment of the single cell becomes a reality, new micro-electronics, undreamed-of applications are expected to result.”

Joining Dr. Ko in this research program are Drs. Alan B. Kuper, Associate Professor of Engineering, and David Fleming, Professor of Bioengineering and member of the Systems Research Center, and Robert Plonsey, Professor of Electrical Engineering and member of the Systems Research Center, and 14 consultants including professors in engineering and medical sciences at Case and Western Reserve University School of Medicine.

Work of the laboratory is conducted in conjunction with Highland View Hospital, Veteran’s Hospital and Western Reserve University School of Medicine.

**International Research Seminar Held on Community Mental Health Programs**

An International Research Seminar on the Evaluation of Community Mental Health Programs throughout the world was held at Airline House, Warrenton, Virginia, recently. Organized by the National Institute of Mental Health, the Seminar brought together representatives of community mental health programs from 20 countries.

Dr. Richard H. Williams, Assistant to the Director for International Activities, NIMH, made the arrangements for the Seminar, and substituted for Dr. Stanley F. Yolles, NIMH Director, who could not be present because he was appearing before a Congressional Committee. Dr. Williams greeted the delegates in English, French and German.

He also spoke to them on the major issues to be considered and remarked that “in spite of your geographical diversity, you have been confronted by similar problems in developing treatment methods and research studies for community mental health programs.”

Dr. Tsung-Yi Lin of the World Health Organization spoke on “Developments in Community Mental Health Programs: A World View.”

Professor G. M. Carstairs, Director of the Medical Research Council Unit for Research on the Epidemiology of Psychiatric Illness, Edinburgh, Scotland, discussed “Problems of Evaluative Research.”

**Members in 5 Groups**

Members were divided into five discussion groups on the basis of geography and professional background. Psychiatrists, social scientists, social workers and nurses from the United States, Great Britain, Canada, Western Europe, Eastern Europe, Latin America, and the Far East participated in almost every group.

Discussions centered on the range of alternative services to be provided by community mental health centers, the boundaries of treatment capabilities and facilities, the real nature of mental programs, the integration of various mental health services, and the relation of the roles of various mental health professionals to each other. The specific problems of alcohol and drug abuse also were considered.

At the final session, three panel discussions were held:

1. David Fleming, Professor of Bioengineering and member of the Systems Research Center, and Rob ert Plonsey, Professor of Electrical Engineering and member of the Systems Research Center, and 14 consultants including professors in engineering and medical sciences at Case and Western Reserve University School of Medicine.

2. Participants arrived at the conclusion that mental health service was widely discussed. Differences of opinion were expressed on the extent to which mental health programs should become involved with a wide variety of social problems.

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Dr. O’Conor received the M.D. degree from Cornell University in 1948. After serving residencies in obstetrics and gynecology, he spent 8 years as pathologist at St. Francis Hospital in Hartford, Conn.

Before joining NCI in 1960, Dr. O’Conor served for 2 years as Lecturer in Pathology at Makerere College Medical School, Kampala, Uganda.

**147 Give to CC Blood Bank**

In June; 11 Join ’Gallon Club’

The Clinical Center Blood Bank reports that 147 units of blood were received from NIH donors in June. During the same period 166 CC patients received 1865 units of blood.

Eleven NIH staff members also joined the “gallon-donor club.” They are Dr. Wayne Counts, NCI; Dr. R. T. Evans, NIDR; Forest W. Gray 3rd, NCI; Maurice H. Haugh, NIAID; J. Loring Jenkins, DRB; Dr. Margaret C. Lanke, NIMH; Charles W. Mock, NCI; Richard Parker, DRG; David A. Rector, DRS; Arnold Sperling, CC, and Jack Volpe, DRS.

**Activities Wide-Range**

Financed by annual contributions by its members, the agency’s activities cover a broad range.

Its initial projects will focus on epidemiological research and training, with particular emphasis on Burkitt’s lymphoma and primary cancer of the liver.

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New Compactor at CC Simplifies the Disposal Of Radioactive Waste

Each month about a ton of paper, gloves, boxes and glass—seemingly harmless but with enough radioactivity to set Geiger counters chattering—moves from NIH.

During the past three months the Clinical Center's Radiation Safety Department staff has experimented with a compactor that crowds more waste into drums in a shorter time than previously and with added safeguards.

This solid waste, plus liquid waste that goes into a 10,000-gallon container in the yard of Building 21, is a by-product of nuclear medicine.

NIH use of radioactive nulcides is increasing at the rate of about 15 percent a year. In the fiscal year more than 55 curies were received in 3,000 shipments.

Radiation Safety Officer Joseph M. Brown notes that every thousandth of a curie must be accounted for, to the AEC.

When members of the Waste Processing Section, headed by James H. Austin, collect radioactive waste from laboratories and other areas, they must record the millicuries so these can be subtracted from those received.

Formerly, waste disposal technicians at Building 21 rammed waste into drums with hand implements. The compactor does so with a steel disc and a hydraulic force of 2,900 pounds.

A carbon steel enclosure protects the technicians against possible flying fragments. A filter screens out radioactive dust. And the technicians wear plastic face shields and charcoal dust filters over nose and mouth, and badges and dosimeters to warn against any possible overexposure.

The new machine cuts the volume of waste fourfold, which leads to a saving in transportation and burial.

James H. Austin (right) instructs Physical Science Technician Clearon Wilson in loading a radioactive waste compactor. In operating the machine, technicians wear face shields and dust filters.—Photo by Ralph Fernandez.

NCI Film Depicts How New Medical Technique Aids Leukemia Patients

A motion picture demonstrating a medical technique that is substantially reducing leukemia deaths due to hemorrhage has been released by the Acute Leukemia Task Force of the NCI.

Titled "Technique of Platelet Transfusion Therapy," the film was prepared as orientation material for blood bank personnel by the Task Force at the NIH.

The motion picture shows the method of obtaining blood platelets by plasmapheresis, a procedure in which platelets and plasma are removed from an ordinary blood donation by centrifugation and a simple pressure device.

The donor's red cells are immediately returned to him, so that a normal person can donate platelets from 2 units of blood as often as twice a week without ill effects.

The platelets thus obtained, when given in adequate amounts, prevent the hemorrhages common among acute leukemia patients and are a contributing factor to lengthening their life expectancy.

The film also portrays a family's role in contributing to a leukemic child's well being through platelet transfusions.

The 16-millimeter color production, running time 21.75 minutes, was made with assistance from the American Red Cross, the District of Columbia General Hospital and the NIH Clinical Center. Requests to borrow the film without charge may be addressed to the U. S. Public Health Service Audio-visual Facility, Atlanta, Ga. 30333.

Members of the Sciences Council of Japan visit NIH recently during their U.S. tour, at the invitation of the National Academy of Sciences. From left: Dr. Harold Stewart, Chief, Laboratory of Pathology, and Chief, Pathologic Anatomy Branch, National Cancer Institute; Dr. Kazushige Higuchi, Chairman, Seventh Division (Medical) Sciences Council of Japan and President of Jikei Medical College; Dr. Eisei Ishikawa, Professor of Pathology, Jikei Medical College; Herbert Gardner, Assistant to the Chairman, Division of Medical Sciences, National Academy of Sciences, and Thomas C. Leffingwell, Administrative Officer, Office of International Research.—Photo by Tom Joy.

New Medical Technique

A short intensive course in Bio-Medical Telemetry will be offered by the Smithsonian Institution at the Museum of Natural History, August 10-13.

This 4-day program, conducted by Dr. R. Stuart Mackay, is designed to provide a comprehensive introduction to the field for those engaged in research in the biological and health sciences.

Prerequisite for taking the Bio-Medical Telemetry Course is a B.Sc. degree.

Tuition is $125, and enrollment is required by August 1.

Further information may be obtained from Institute and Division Personnel Offices.

PHS Defense Courses To Be Held in Alabama

Three 1-week classes of the Public Health and Medical C and B Defense Course have been scheduled for Oct. 10-14, 1966; Feb. 27-March 3 and May 22-26, 1967, at Fort McClellan, Ala.

The course is designed to give selected health and medical personnel a general knowledge in technical aspects of chemical and Biological Defense. It is sponsored by the Public Health Service and the U.S. Army Chemical Center and School at Fort McClellan.

Requests for enrollment should be submitted to Assistant for Civil Defense, Plant Safety Branch, Office of Administrative Management, Office of the Director, Bldg. 12A, Em. 1065, at least 6 weeks in advance of the course.

Dr. Roy Hertz was recently appointed Professor of Obstetrics and Gynecology at the George Washington University School of Medicine. Dr. Hertz joins the GWU faculty after serving as Chief of the General Obstetric and Gynecological Branch of the National Cancer Institute, and most recently as Scientific Director of the National Institute of Child Health and Human Development.

In his new post, Dr. Hertz will conduct both clinical and experimental research on problems of fertility, fertility control, menstrual disorders, adolescence, the menopause, and on complications arising during pregnancy.

These investigations will be carried out in the new Eugene Meyer Pavilion of the George Washington University Hospital.

In addition to his work at GWU, Dr. Hertz will continue to serve as a consultant to NCI in order to develop the Institute's national program for the detection and treatment of choriocarcinoma.

Achievements Cited

Dr. Hertz is widely known for his research in the field of human reproduction, particularly in relation to certain complications of pregnancy. Most notable was his development of the first chemical cure of tumors which arise in pregnancy from what would normally become the after-birth or placenta.

This type of tumor (choriocarcinoma) was previously fatal in almost all cases. Although all women with this subject were subjected to removal of the uterus in past years, only a few were relieved of their disease by this operation.

Due to Dr. Hertz's work, in collaboration with his colleagues at the NCI, it is now possible to cure 9 out of 10 of these women by drugs alone, if treatment is begun early enough. In this way the fertility of these women is preserved and they can continue to have normal babies.

Research Described

In addition, Dr. Hertz, in collaboration with Dr. William W. Tullner, developed the first orally active pregnancy hormone for the treatment of menstrual disorders and related gynecological problems.

They also developed the first drug capable of inhibiting functions of the adrenal cortex. Dr. Tullner is now with the NICHD as Chief of the Reproduction Program's Laboratory of Biology.
Dr. Arden Howell Jr., Of NIDR Dies at 56; Was Noted Mycologist

Dr. Arden Howell Jr., Scientist Director in the PHS Commissioned Officer Corps and internationally known mycologist at the National Institute of Dental Research, died of a heart attack June 22 while vacationing with his family at Myrtle Beach, S.C.

Dr. Howell joined the Dental Institute in 1950 after five years of field studies with the Division of Tuberculosis Control. One of the early investigators of histoplasmosis, a disease sometimes mistaken for tuberculosis, Dr. Howell worked to standardize the antigen used in skin tests to diagnose the disease.

For the past 16 years Dr. Howell has studied fungi and other thread-like organisms of the mouth.

**Howell Pioneers**

In a largely unexplored field, of interest to few scientists because of its complexity and lack of reliable data, Dr. Howell succeeded in classifying some of these forms, establishing their relationships, discovering their food requirements, and learning more about their sensitivity to antibiotics, production of enzymes and potential for disease.

Among these, he and his colleagues identified and named the fungus, *Odontomyces*, and showed that it lives harmlessly in the mouths of hamsters until sucrose is included in their diet.

Sucrose makes the fungus grow rapidly and produce so much of a gummy byproduct that physical pressure in the dental crevices soon causes periodontal disease.

**Experiment Described**

However, when the hamsters return to a standard diet, the overgrowth of fungus subsides and the dental tissues can recover.

Dr. Howell was also interested in the puzzling diphtheroids, which are intermediate between the tuerculus group of bacteria, true diphtheria, and orthodox fungi.

When cultured, these organisms may grow in filaments, but in the mouth they usually appear singly. The separation and definition of such microorganisms as *Actinomyces*, *Leptotrichia*, *Bacteri nema* and *Odontomyces*, requiring a combination of careful microscopy and modern chemistry, have contributed to Dr. Howell's international reputation as a mycologist.

He served actively on the Subcommittee on Actinomyces of the International Association for the Study of Biological Societies, and collaborated with other scientists here and abroad.

**Noted as Administrator**

Noted as well for his administrative abilities, Dr. Howell responded generously to requests for advice. He contributed significantly as a member of the committee that planned the scientific facilities of Building 30, constructed for the Dental Institute.

Born in Richmond, Va., in 1910, Dr. Howell attended the University of Richmond and then Harvard for his M.A. and Ph.D.

Before entering the Public Health Service, he was a Research Fellow at Duke University and taught at Tulane University where he met and married another botanist, Grace Flottman. Dr. Howell is survived by Mrs. Howell and three children. Burial was at Arlington National Cemetery.

Emery Bower, retired educator, reviewed his experiences of 73 years of members and guests at the June meeting sponsored by the Retired Employees and Welfare Association of N.I.H.

Mr. Bower began collecting in 1882 when he was 9 years old. His first acquisition was a basket of envelopes and paper brought home from the office—mostly revenue stamps.

From 1896 until 1908, "more important matters" required his attention, but when he went to work as physical director of a YMCA in New York State, he resumed stamp collecting. The following year he joined the American Philatelic Association and holds the coveted low membership and auction number 3664.

In the course of his years of collecting, many rarities went through his hands including an early imperforate from Madeira, a perfectly centered 1851 U.S. 3-cent stamp, a block of four 1908 2-cent stamps, and a number of unusual perforations picked up during the years when the U.S. Mint was trying to find out which perforations worked best.

At one time he acquired more than 1,000 envelopes mailed between 1851 and 1880. And once he bought an 1847 stamp on cover (a copy of the first stamp ever issued by the United States) for $4.

"Stamps," he said, "paid for a trip to Europe on one occasion, and on another, provided the down payment on a house.

Officers elected for the coming year were: President, Herbert B. Nichols, NHI; Secretary, Dr. Paul H. Keyes, NIDR; Treasurer, Dr. Edward P. Offutt Jr., NIAMD; Program Chairman, Mr. and Mrs. Nabirk Karamian, DRS and NIDR; Auction Chairman, Webster C. Leysolon, and Auctioneer, Roy Perry, DRS.

Regular meetings of the Stamp Club are held on the first Thursday of each month. Each program includes a short talk on some phase of stamp collecting, the opportunity for swapping, purchasing plate blocks at face, and participation in a stamp auction. The next meeting is August 4 at 7:30 p.m. in Bldg. 31, Conf. Rm. 6.

**CRANIOTOMY**

(Continued from Page 1)

festations, and electrophysiological data.

It is a multidisciplinary effort in which neurosurgeon, neurologist, psychiatrist, psychologist, physiologist, and social worker participate. The Nursing Department of the Clinical Center has made a major contribution to its success.

**Artificial Heart Program Lets 15 New Contracts**

The National Heart Institute recently awarded 15 new contracts totalling $3,090,284 to 12 institutions for research aimed at the solution of specific problems in artificial heart development, it was announced recently by the Public Health Service.

Seven of these contracts will support research seeking materials that provide the combination of physical and chemical properties most desirable for artificial heart construction.

Three contracts will support studies on the effects of extra heat on blood, tissues, organs and their physiological functions in order to establish what levels of heat generated by an artificial heart power source could be safely tolerated by the body.

**Other Contracts Listed**

Two contracts will be concerned with evaluating effects of various blood pumps on blood pressure and flow, on red blood cells and other formed elements of blood, on blood chemistry and on the function of various organs.

Two contracts will provide for refinement and limited production of those assist devices now ready for further testing so that these models can be supplied to research teams for continued testing.

And a contract was awarded for research to determine the feasibility of an implantable fuel cell as a potential power source for the artificial heart.

This group of awards increases to 32 the total number of contracts let by the Artificial Heart Program since 1964, when NHI launched an expanded program of research and development to make circulatory-assist devices and, eventually, total heart replacements a clinical reality within the shortest possible time.

**Goal Given**

To this end, NHI is supplementing its highly successful program of individual research grants to university scientists with negotiated contracts to chemical companies, academic institutions, and engineering firms and other elements of private industry as well as to academic institutions.

The overall goal of the program is to tap the scientific resources and manpower of both the university research community and of private industry, in a coordinated research and development program employing, where appropriate, systematic development techniques that have served the defense and space industries so well. During the fiscal year just past, the NHI outlay for artificial heart research and development totaled nearly $4 million.