

# the NIH Record

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

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NATIONAL INSTITUTES OF HEALTH

## Dr. F. Falkner to Direct NICHD Perinatal Biology, Infant Mortality Branch

The appointment of Dr. Frank Falkner as program director of the Perinatal Biology and Infant Mortality Branch has been announced by Dr. Gerald D. LaVeck, Director of the National Institute of Child Health and Human Development.

Dr. Falkner, who is presently head and professor of Pediatrics at the University of Louisville School of Medicine, will begin his new duties on Aug. 1.

He will be responsible for the



Dr. Falkner will assume his new duties at NICHD on August 1.

stimulation and support of extramural research and training programs related to the problems of perinatal biology and infant mortality.

Dr. Falkner joined the University of Louisville's Department of Pediatrics in 1956 as director of its Child Development Unit.

In 1963 he became head and pro-

(See DR. FALKNER, Page 8)

## Rep. D. Flood Dedicates Clinical Research Center

Congressman Daniel J. Flood, Chairman of the House Subcommittee on Labor-DHEW Appropriations, recently dedicated the Clinical Research Center at the Graduate Hospital of the University of Pennsylvania.

The ceremonies marked the opening of the newest of 91 general clinical research centers devoted to patient-oriented biomedical investigations, supported by the Division of Research Facilities and Resources.

Congressman Flood described the

## Evidence Cycad Plant Can Cause Cancer In Lab Animals Spurs More Research

By Sandra Silk  
NIH Information Intern

Back in 1770 a number of Captain Cook's sailors became violently ill after eating nuts from the cycad plant.

Although medical research scientists haven't been interested in the cycad for that long, recent findings by investigators at the National Institute of Arthritis and Metabolic Diseases have turned up some important information.

It has been shown, for example, that the plant can cause cancer in laboratory animals.

Dr. Gert L. Laqueur, chief of the Institute's Laboratory of Experimental Pathology, in collaboration with Drs. Olaf Mickelsen (now with Michigan State University), Marjorie G. Whiting of the Food and Drug Administration, and Leonard T. Kurland (formerly with NINDB, now with the Mayo Clinic), had shown previously that crude meal prepared from seeds of the *Cycas circinalis* plant induced tumors of the liver, kidney, and intestinal tract when fed to small laboratory animals.

The responsible agent was first thought to be the glucoside or sugar-containing compound cycasin, but Dr. Maria Spatz and E. G. McDaniel of NIAMD, working with Dr. Laqueur, later found that the tumor-producing effect of cycasin depended on its enzymatic degradation by intestinal bacteria.

The investigators now have shown that tumors can be induced in the offspring of rats by feeding the pregnant mothers meal prepared from the seeds of such plants.

This finding suggests a mechanism involving intrauterine injury

(See CYCAD, Page 5)

General Clinical Research Centers Program as "a vital link between the scientific laboratory and those Americans who are suffering from a variety of different illnesses."

Dr. Luther L. Terry, former U.S. Surgeon General, now Vice President for Medical Affairs for the University of Pennsylvania, presided at the dedication.

Dr. Carl D. Douglass, associate director of Project Planning, DRFR, also spoke.

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Pictured here is the cycad plant known as *Cycas revoluta* which is indigenous to Japan and adjacent islands.

## NLM Board of Regents Honors Sen. Lister Hill

Sen. Lister Hill was honored June 21 at the National Library of Medicine by the Library's Board of Regents and staff.

Paying tribute to the Senator, who is retiring after over 40 years of public service, were Sen. John Sparkman, also of Alabama, who served with Mr. Hill in the Senate for more than 20 years; DHEW Secretary Wilbur J. Cohen; and Dr. Worth B. Daniels, Chairman of the NLM Board of Regents and Mr. Hill's personal physician.

Also present were colleagues from both Houses of the Congress, officials of DHEW, and many other friends from the biomedical community.

Sen. Hill is Chairman of the Senate Labor and Public Welfare Committee and the Senate Appropriations Subcommittee on Labor and HEW.

Secretary Cohen told the audience of 150 that "The nation owes him a debt of gratitude for his great long-range vision of America's well-being. Millions of Americans are better off today, but millions will be better off tomorrow and in years to come because of the

(See SEN. HILL, Page 7)

## John E. Sharkey Named To Top NIH Financial, Budget Policy Position

Dr. James A. Shannon, Director of the National Institutes of Health, recently announced the appointment of John E. Sharkey as chief financial management officer, NIH.

In this post, Mr. Sharkey will act as chief advisor to Dr. Shannon and Richard Seggel, NIH Executive Officer, on the planning and execution of the budget and on financial policy relating to NIH's \$1.5 billion program.

### Directs Central Finances

In addition, Mr. Sharkey will serve as the director of NIH's central financial management organization, which has more than 175 employees and encompasses budget management, contract and grant financial analysis, grants payments, and accounting control activities.

Mr. Sharkey comes to NIH with 19 years of broad management experience in budgeting, programming, contract administration, and general administration.

Prior to his appointment here, he was assistant manager for Administration of the Mississippi Test Facility, NASA, which operates under the Marshall Space Flight Center at Huntsville, Ala.

He has also served as chief of the Financial Projects Staff at the Marshall Flight Center in Hunts-

(See MR. SHARKEY, Page 8)



John E. Sharkey's broad fiscal background will serve him in good stead on NIH budget policies.

# the NIH Record

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## NEWS from PERSONNEL

### EMPLOYEES JOB DETAIL

Recently the Civil Service Commission issued a bulletin to the heads of Federal agencies requesting them to reappraise the practice of detailing their employees to other jobs for long periods of time.

Even though this work is temporary it may result in problems and inequities. The Commission cited the following examples:

1. Possible loss of advancement opportunities for the employee who, because he has worked for a lengthy period at other than his assigned duties, has not received essential experience in his field.

### Other Examples Listed

2. Inequities may occur if the employee is detailed to a higher grade job. He does not receive appropriate pay, and his type of work may not be recorded properly. Thus, it might be difficult to receive credit leading to an eventual promotion.

3. Employees in the office of one detailed to a higher grade job may not receive the same consideration for promotion. Their experience was not equal to that employee detailed to the job due to be filled by promotion.

It was pointed out that the above problems undermine classification and placement principles. This results in dissatisfaction and decreases an employee's confidence in the merit system.

If it is impossible to avoid long period interim assignments, temporary promotions should be considered.

## Research Center Nurses Discuss Field Problems

Eighty administrative nurses representing 60 general clinical research centers, recently met at Georgetown University to discuss and evaluate the special problems in their field.

The centers are supported by the Division of Research Facilities and Resources.

### Guest Speakers Named

Guest speakers at the 2-day session were Dr. William DeCesare, chief of the General Clinical Research Centers Branch, DRFR, and Dr. Sarah Allison, Director of the newly-established Institute of Nursing at Johns Hopkins University Hospital.

Dr. DeCesare talked about the importance of the research nurse in the history and development of the General Clinical Research Center Program.

A prospectus to stimulate projects in research nursing was presented by Dr. Allison. Suggestions on new techniques in patient education and attitude development within a clinical research center environment, were incorporated in the prospectus.

### Government Code of Ethics

Any person in Government service should:

Seek to find and employ more efficient and economical ways of getting tasks accomplished.

Instructions to be followed for the policy and procedures of NIH job details are specified in NIH PPM Personnel No. 27, "Detail of Civil Service Employees."

## NIH to Convert to FTS For Long Distance Calls

When employees return to their offices next Monday (July 15), a new era in telecommunications here will have begun.

On the previous day NIH, and other areas which it serves, are converting to the Federal Telecommunications System (FTS) for all long distance calls.

This automatic switching system, similar to the Bell System of Direct Distance Dialing, will effect considerable savings in time as well as money.

The FTS permits employees to place official calls to any Government or non-Government telephones within the continental United States.

### Advantages Noted

The services of the NIH telephone operators will be utilized to better advantage because calls can be made to another party on the FTS network without the assistance of an operator.

They will be able to provide faster service on information, conference, overseas, collect, and patient calls.

Another advantage of the new system is that employees can use FTS when away from their offices simply by calling the FTS operator in the city he happens to be in and request to be connected to any telephone within the network.

For calls made while in travel status, employees are required to give the operator the identification code number on their authorization card.

Orientation sessions have been held for all personnel responsible for placing long distance calls in order to effect a smooth transition to the new system.

## As Bond Campaign Ends All NIH Employees Urged To Join Payroll Plan

Nearly 800 additional NIH employees have joined the 1968 Bond/Freedom Share Campaign through new purchases or increased allotments.

Dr. G. Donald Whedon, NIAMD Director, who is Chairman of the 1968 Campaign, expressed the hope that many employees will still take advantage of the opportunity to save bonds and freedom shares through the payroll deduction plan.

Timekeepers in each Institute/Division can arrange for this simple, reliable method of saving.

New bond buyers were eligible to participate in the drawing for a transistor radio offered by the Recreation and Welfare Association of NIH. Carol J. Vucci, OD, was the winner.

### NIH Bond Campaign Figures Tabulated Through June 28

	% BASE*	Ending JUNE 28
DRG	57.2%	67.7%
DBS	52.7	57.1
DRFR	53.2	69.8
OD	47.0	51.7
NIGMS	50.0	53.6
DEHS	36.0	36.0
DRMP	33.6	38.7
DRS	49.8	55.0
NIDR	40.6	45.7
DCRT	24.9	28.7
NICHD	30.9	32.7
NCI	31.3	31.8
NIAID	35.8	36.3
CC	29.0	29.9
NIAMD	23.1	26.4
NINDB	24.7	26.3
NHI	18.4	19.9
BHM	51.7	60.8
NLM	48.4	53.7

\* Institute participation at start of present drive.

## Thirteen DRS Employees Complete Refrigeration, Air Conditioning Course

Thirteen employees from the Plant Engineering Branch, Division of Research Services, graduated recently from a Refrigeration and Air Conditioning course.

The 18-hour course, conducted by Martin L. Jeter, head of North Buildings Unit, Maintenance Engineering Section, is given annually if interest warrants.

Any NIH employee interested in taking the course next fall should contact his supervisor.

The graduates were: Gary E. Bailey, Robert R. Bedal, Jobe O. Breen, Robert F. Chapin, Fred W. Crandall, William F. Cummings, William G. Dunn, William M. Heller, Leroy O. Hobson, Nickles G. Keenan, Francis V. Lassak, Harry Mobley, and Edward O. Pittman.



Charles J. Stratton (left), receives a Federal Government Accountants Association charter for Montgomery-Prince George's Counties from George Penick, National President. Mr. Stratton, chief, Grants and Contracts Finance Analysis Section, FMB, is president pro tem of the local chapter.—Photo by Sam Silverman.

## Reorganization of DRS Designed to Improve Engineering Services

To increase the effectiveness of its engineering services to NIH, the Division of Research Services has been authorized to reorganize a major segment of its program.

The announcement was made by Chris A. Hansen, DRS Director.

The reorganization, scheduled to take effect in the near future, will establish three new Branches—Engineering Design, Construction Engineering, and Plant Engineering.

The design functions of the current Plant Engineering Branch and Research Facilities Planning Branch will be consolidated in the Engineering Design Branch.

The construction engineering functions of the current PEB and the RFPB will be consolidated in the Construction Engineering Branch.

### Some Branches Abolished

The Research Facilities Planning Branch, and the Engineering Design and Construction Sections, of the Plant Engineering Branch will be abolished.

Other organizational components of the current Plant Engineering Branch will not be affected except that the size of the components will be increased to provide the normal services for new buildings to be opened during FY 1969.

The realignment of organization functions will permit maximum



Chris A. Hansen, DRS Director (seated), is shown here with the three new engineering Branch chiefs. They are (from left): Alfred Perkins, Stanley Oliver, and Howard Biggs.—Photo by Tom Joy.

utilization of scarce engineering skills and improve coordination with other Government and private organizations.

This reorganization will result in little or no change in the procedures followed by the I/D's in requesting engineering services.

Mr. Hansen also announced the selection of the three new Branch chiefs. They are: Howard Biggs, Construction Engineering Branch; Alfred Perkins, Engineering De-

## Ross Holliday Appointed DRS Associate Director, Engineering Resources

Chris A. Hansen, Director of the Division of Research Services, has announced the appointment of Ross Holliday as associate director for Engineering Resources.



Mr. Holliday

In his new position, Mr. Holliday will assume responsibility for directing and coordinating DRS engineering programs.

Mr. Holliday came to NIH in 1949 as a mechanical engineer, and in 1952 was named chief of the Mechanical Engineering Section. Four years later, when DRS was established, he was appointed chief of the Plant Engineering Branch.

Under Mr. Holliday's leadership, PEB has grown to a work force totaling 580 professional, technical, clerical, trade, and labor personnel, and has an annual budget of around \$8 million.

Mr. Holliday is recognized for initiating major improvements in PEB, which increased responsiveness and efficiency, and decreased the cost of services provided to NIH components by the Branch.

### Improvements Described

Some of these changes include: (1) A major reorganization of the PEB; (2) Development and installation of a modern controlled maintenance program, including work processing procedures and formal work planning and estimating; (3) Consolidation of craft shop stores under single management, and (4) Development of a design and construction program for planning and administering multimillion dollar projects.

These and other management improvements accounted for an estimated continuing annual savings of \$900,000.

The savings total was cited by DHEW in a report to the House Committee on Post Office and Civil Service.

For these achievements, Mr. Holliday also received a letter of commendation in 1965 from NIH Director Dr. James A. Shannon.

Mr. Holliday received a B.S. degree in mechanical engineering from George Washington University.

sign Branch, and Stanley Oliver, Plant Engineering Branch.

Mr. Biggs, who joined the Federal Government after a 25-year career in private industry, has been chief of RFPB since 1963. Mr. Perkins has served as chief of the Engineering Design Section since 1961. Mr. Oliver has been assistant chief of PEB since 1958.

## Festivities at Carnival for CC Patients, With Help of 80 Volunteers, Delight All



A young CC patient tosses a bean bag into the mouth of a papier mache clown and scores a hit at the recent Annual Patients' Carnival. She is accompanied by her mother and an NIH volunteer.—Photos by Ed Hubbard.

Children on foot, in wheelchairs, and guided by volunteers or parents, were lined up at the gate of the carnival grounds clamoring to get in before Margaret Badger, Clinical Center administrative officer, could cut the ribbon opening the sixth annual Patients' Carnival recently.

Festivities didn't end until a sudden rain squall, and patients, clutching their prizes, hurried for cover in the brightly decorated shuttle bus for the trip back to the hospital.

But the sunny weather had held out long enough for some 180 patients, along with their friends and relatives, to swarm over the carnival grounds for several hours.

### Balloon Booth Popular

The Space Balloon booth was again one of the most popular attractions. Each patient was given a huge helium-filled balloon with a self-addressed postcard attached.

The patient who launched the farthest-traveling balloon will receive a transistor radio. Last year the highest-flying balloon drifted only as far as Alexandria, Va., but the turbulent wind this year promises to carry the balloons much farther.

According to Arnold Sperling, CC Patient Activities chief, patients enjoy receiving messages from individuals who find the cards even though some of the balloons barely make it across Wisconsin Avenue.

Another popular activity was the turtle race. Six of the speediest turtles from the Washington Zoo tried to out-creep one another over the finish line as patients placed their bets and cheered their favorites to victory.

A new booth this year was the side show which included a female quartet, a magician, a belly dancer, and a fire-eater.

Lines of patients, both adults and children, formed before such booths as the shooting gallery, the bean-bag throw, the baseball



CC patient Tim Aldridge releases a helium balloon carrying his name tag with hopes that it will drift as far as North Carolina, making him a winner of the prize of a transistor radio.

throw, and pokeno.

Mr. Sperling attributed the success of the carnival largely to the generosity of volunteers, both from NIH and the Maryland-Washington community, who escorted patients, manned the booths, and helped decorate the carnival grounds.

### Many Volunteers Help

About 80 volunteers turned out to help, including most of the CC Personnel Office staff, the CC normal volunteers, and representatives of R&W.

Volunteers from the community included American Red Cross volunteers, B'nai B'rith, Veterans of Foreign Wars of Washington, the United Church Women's organization from Bethesda, and groups of girls from the Keyettes of Montgomery Blair High School, and from the University of Maryland.

## Dr. Jerome J. Helprin, DBS Biochemist, Dies

Dr. Jerome J. Helprin, 46, a biochemist in the Division of Biologics Standards, died of a heart attack on June 18. Dr. Helprin had been with the Division's Laboratory of Biophysics and Biochemistry since 1957.



Dr. Helprin

During that time he conducted extensive research on the inactivation by photodynamic action of polioviruses, bacteriophage, and many other viruses. His studies were important in the Division's evaluation of viral vaccines. He had also carried out investigations on the chemical composition and analysis of biological products.

A native of Flushing, N.Y., Dr. Helprin graduated from the University of North Carolina in 1948. He received his M.S. and Ph.D. degrees in 1953 and 1956 from Georgetown University.

Prior to joining DBS, he was with the Walter Reed Army Institute of Research as a biochemist.

Dr. Helprin was active in the American Chemical Society, American Society for Microbiology, and Society for Applied Spectroscopy. He was a Fellow of the American Association for the Advancement of Science.

Dr. Helprin leaves his wife, Dorothy; his mother, Mrs. Dora Helprin of Baltimore, Md., and a sister, Mrs. Doris Silver, of Great Neck, N.Y.

## Dr. B. Brodie Awarded Honorary M.D. Degree By Karolinska Institutet

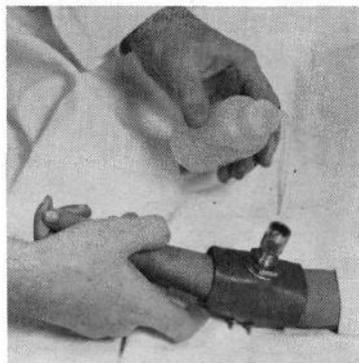
Dr. Bernard B. Brodie, chief of the Laboratory of Chemical Pharmacology, National Heart Institute, was awarded an honorary Doctor of Medicine degree in recent ceremonies at the Karolinska Institutet in Stockholm.

The Institutet cited Dr. Brodie for his aid, given through the years, in the training of Swedish medical researchers and for his important contributions to medical research.

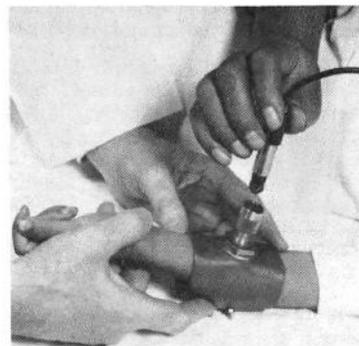
Dr. Brodie's laboratory has gained renown through its contribution to understanding of various aspects of biochemical pharmacology.

Dr. Brodie's other awards include honorary Doctor of Science, University of Paris, Torald Sollman Award in Pharmacology; honorary Doctor of Science, Philadelphia College of Pharmacy and Science; Honorary Doctor of Science, University of Barcelona, Spain, and the Albert Lasker Award for Basic Medical Research.

## New Instrument Detects Danger Signals In Breathing Patterns, Alerts Physicians



The first step in preparing the skin for  $pCO_2$  measurements is removal of natural skin oils with acetone. Next the horny outer layer of skin is removed with cellophane tape. The electrode holder assembly is then attached to the arm with an elastic strap and filled with saline (top left). The specially prepared skin forms the bottom of the well. The Severinghaus-type  $pCO_2$  electrode is calibrated against two standard concentrations of carbon dioxide (top right).



The  $pCO_2$  electrode is inserted into the holder (lower left). The micrometer screw adjustment on the holder is set so that the membrane of the electrode will impinge lightly on the skin. During insertion, the excess saline is forced out of the chamber. The  $pCO_2$  sensor is shown in place (lower right). The output of the sensor is displayed on a digital pH meter which has been modified to display  $pCO_2$  rather than pH. The value shown here is 40.4 mm Hg. A continuous recording of  $pCO_2$  is made on the strip chart recorder shown below the digital display. By using semi-logarithmic chart paper the data are displayed directly in terms of  $pCO_2$ .

A new instrument that continuously tells a physician whether proper lung function is being maintained in critically ill or injured patients has been devised by scientists supported by the National Institute of General Medical Sciences.

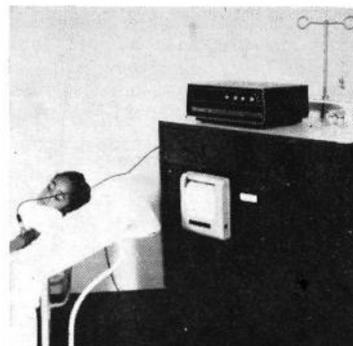
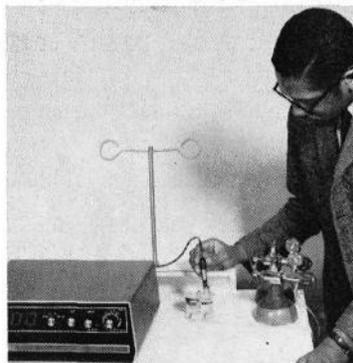
The small, wristwatch-like sensor detects subtle danger signals in breathing patterns by measuring automatically through the intact skin the amount of carbon dioxide in a patient's bloodstream.

### $CO_2$ Level May Rise

A rising blood level of carbon dioxide is a sign of severely disturbed breathing. Physicians alerted to this condition can act immediately to begin life-saving respiratory therapy for endangered patients.

Developed by a team of doctors and engineers at Johns Hopkins University School of Medicine, the new instrument is expected to be suitable for general hospital use before the end of this year.

The university project is part of a major national biomedical engineering research program supported by NIGMS to improve and



expand health services.

It is believed the instrument will help reduce substantially the tragic toll of Americans who die each year from acute respiratory disorders.

This includes 20,000 newborn infants who die in the first 5 days of life from an occult breathing disorder known as "acute respiratory syndrome," more than 17,000 patients who die from emphysema, and many others who suffer loss of respiration due to traumatic injuries.

Dr. Richard J. Johns, who heads the research team, said the new sensor is far simpler and requires less time and effort than other procedures now used to monitor respiratory function.

It consists of an electrode and cylindrical holder supported by a contoured lead band that fits around the patient's arm or wrist.

## Latest Participants in NIH Visiting Scientists Program Listed Here

5/28—Dr. Isaac Ginsburg, Israel, Laboratory of Microbiology. Sponsor: Dr. Roger M. Cole, NIAID, Bldg. 5, Rm. 210.

6/3—Dr. Kevin O'Brien, New Zealand, Cardiology Branch. Sponsor: Dr. Stephen Epstein, NHI, Bldg. 10, Rm. 7B14.

6/3—Dr. Pier F. Spano, Italy, Laboratory of Preclinical Pharmacology. Sponsor: Dr. Erminio Costa, NIMH, St. Elizabeths Hospital.

6/5—Dr. Marie Bruckova, Czechoslovakia, Respiratory Virus Section. Sponsor: Dr. Robert M. Chanock, NIAID, Bldg. 7, Rm. 302.

6/10—Dr. Janice Chou, Taiwan, Section on Enzymes and Cellular Biochemistry. Sponsor: Dr. William B. Jakoby, NIAMD, Bldg. 10, Rm. 9N109.

6/13—Dr. V. Raghupathy Sarma, India, Section on Molecular Structure. Sponsor: Dr. David R. Davies, NIAMD, Bldg. 2, Rm. 311.

6/16—Miss Marjorie Bick, Australia, Division of Environmental Health Sciences. Sponsor: Dr. Paul Kotin, DEHS, Research Triangle Park, N.C.

6/21—Dr. Haruhiko Aogagi, Japan, Laboratory of Chemistry. Sponsor: Dr. Bernhard Witkop, NIAMD, Bldg. 4, Rm. 330.

6/24—Dr. Pradman K. Qasba, India, Laboratory of Biology of Viruses. Sponsor: Dr. Norman P. Salzman, NIAID, Bldg. 10, Rm. 11N240.

6/24—Dr. Aurora V. Revuelta, Philippine Islands, Preclinical Pharmacology Laboratory. Sponsor: Dr. Erminio Costa, NIMH, St. Elizabeths Hospital.

The holder impinges lightly on, and contains a salt solution that is in direct contact with, the skin.

Measurable amounts of the  $CO_2$  in the blood and tissues diffuse into the salt solution and are monitored continuously by the electrode.

These measurements are relayed electronically to a numerical recorder located at the patient's bedside and can be read at any time by the attending physician or nurse.

### Device Painless

The device causes no pain or discomfort to the patient, and, since no blood samples are required, it is particularly suited to infants and children.

By contrast, the usual current method of monitoring  $CO_2$  pressure requires that a hollow needle be inserted into an artery so blood samples may be drawn periodically from the patient and analyzed in the laboratory for  $CO_2$  content.

This method is time consuming and is not suited to repeated frequent determinations.

## 2 Nurses Receive Medal For Hazardous Service In Vietnam From AID

Helen V. Foerst and Irene R. Martin, registered nurses in the Division of Nursing, Bureau of Health Manpower, were honored by the Bureau for Vietnam, Agency for International Development, at its recent Annual Honor Awards ceremony.

The two nurses received The Medal for Civilian Service in Vietnam which was given for the first time this year.

This new award, at the suggestion of President Johnson, was established to honor civilians who served in Vietnam under the extraordinary and hazardous conditions existing since January 1962.

Both Miss Foerst and Miss Martin served as public health nurse advisors to the Vietnamese Ministry of Health during this period.

From 1962 to 1965 Miss Foerst helped to establish preventive health services in rural villages



Miss Foerst



Miss Martin

throughout South Vietnam and to develop surgical service teams for hospitals in the provinces.

For a time, she served as chief nurse advisor for both United States and Vietnamese nursing personnel.

In 1963 and 1964 Miss Martin helped to formulate plans for training in public health for students from the School of Nursing in Chora, and to incorporate public health concepts into the curriculum.

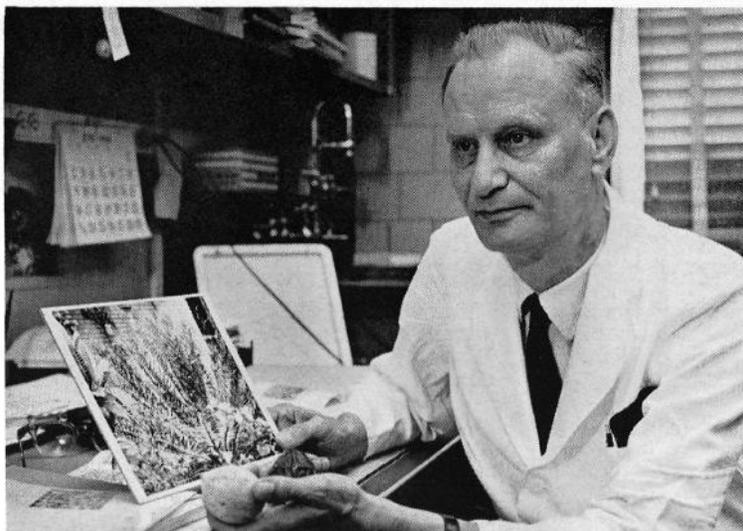
### Drug Film Shown July 16-17

A reminder—"Beyond LSD," the second of two documentary films sponsored by the Employee Health Service, will be shown to NIH personnel.

It will be viewed at the CC auditorium on July 16 at 11:30 a.m. and 12:15 p.m., and at the Westwood Building, Conference Room A, on July 17 at 1:30 and 2:30 p.m.

The film deals with the causes leading to drug abuse, and the lack of communication between teenagers and the Establishment.

There has been a greater decline in the infant mortality rate in the past 4 years—now, 22 deaths for every 1,000 live births—than in the preceding ten.



Dr. Gert L. Laqueur, chief, NIAMD Laboratory of Experimental Pathology, is shown here holding several cycad seeds from the *Cycas Circinalis*. In his other hand is a picture of another strain of cycad plant, the Central and South African variety known as *Encephalartos horridus*.—Photo by Ralph Bredland.

## CYCAD

(Continued from Page 1)

during early development and emphasizes the need for further studies to learn more about environmental chemical factors which might be responsible for tumor development in childhood or later life.

Impregnated rats were fed crude cycad meal containing 3 percent cycasin at various periods of gestation. Following delivery, 29 of the offspring and most mothers were sacrificed in order to determine the early effects of cycasin.

### Some Serve as Controls

The remaining young were weaned at 28 days and placed in individual cages for long-term observation. Ten untreated mothers and their respective offspring served as controls.

Eighty-one rats exposed *in utero* survived 6 months or longer and, at autopsy, 15 of these, or 18.5 percent, had tumors at various sites, whereas none were formed among the controls.

The tumors were seen frequently in the brain and small intestine, organs rarely involved in cycad feeding experiments in older rats; however, the minimal time interval required for tumor production, 6 months, was essentially the same.

An unusually high death rate of 42 percent prior to weaning was traced to hypoplastic mammary glands and a decreased suckling stimulus normally necessary to maintain lactation.

Subsequent studies have shown that the carcinogenic agent contained in cycad meal was carried transplacentally to the embryos or fetuses from which it was isolated and, in this manner, induced tumors at various sites in the offspring.

It was concluded that the agly-

cone of cycasin can be added to the group of carcinogens known to cross the placenta.

There are accounts of ill effects in humans who have used cycads as food and medicine. Casualties are reported to have occurred most frequently during periods of extreme food shortage and are often traced to improper preparation.

### Human Ailments Vary

Human ailments range from minor and vague complaints to severe and often fatal illnesses. Symptoms include headache, vomiting, vertigo, stupor, diarrhea, abdominal cramps, muscle paralysis, and death. People who use this plant have long recognized its toxicity and routinely take precautions in its preparation.

The cycad has also been held responsible for heavy losses of cattle who feed on this plant. In cattle, particularly, continued ingestion of cycads has been thought to produce an irreversible paralysis of the hind extremities.

### Belong to Ancient Family

Cycads belong to an ancient family, *Cycadaceae*, which were widely distributed during the greater part of the Mesozoic era. They are now restricted to tropical and subtropical regions of the world where they are well adapted to adverse conditions and survive when other plants are destroyed by natural elements.

For peoples living where cycads are native, these plants provide both a staple and emergency food. Their nutritional value lies chiefly in an edible starch extracted from the roots, seeds, stems, and leaves.

As a medicinal plant, cycads are used for a variety of ailments. The cycad has also been used as laundry starch, as a source for alcoholic beverages, fertilizer, and pillow and mattress stuffing, and

## CC Blood Bank Reports On Donors' High Status

Five donors achieved a special status at the Clinical Center Blood Bank. Howard P. Drew, NLM, attained the 8-gallon mark, Paul V. De Porte, DRS, reached the 4-gallon mark, and Ernest McDaniel, NIAMD, the 3-gallon mark.

Drs. Leonard I. Pearlin, NIMH, and Lee Van Lenten, NIAMD, reached the 2-gallon mark.

Six others joined the Gallon Donor Club. They are: Dr. Sidney S. Chernick, NIAMD; George W. Goertz, NINDB, and Donald A. James, DRG.

Also, Dr. James F. Kavanagh, NICHD, James R. Horine, DRS, and Dr. Marian Webster, NHI.

in the manufacture of small boxes and plates.

Although cycad starch is no longer prepared commercially in the United States, it was a pioneer industry in southern Florida during the last century. The plant was known as *Zamia*.

Mills along the Miami River once processed 10 to 15 tons of *Zamia* root weekly. "Florida arrowroot," as it is also known, was used in preparing of infant food, biscuits, spaghetti, and chocolates.

None of these factors is indicative that cycads cause cancer in man. Nor are data adequate to show a high rate of cancer among those who have subsisted on improperly prepared cycad products.

Nonetheless, cycad compounds



This is a fully grown *Cycas circinalis*, indigenous to Guam and many parts of the South Pacific, extending as far as India.

have produced cancerous tumors in a variety of laboratory animals and it is possible that they could become carcinogenic agents after ingestion in humans.

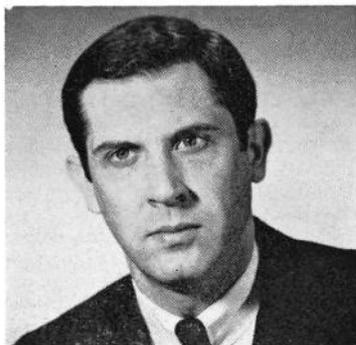
A study is underway on a Japanese island of natives who subsisted largely on cycads during a time of famine. The chief investigator is Dr. I. Hirono of Gifu University, Japan.

Dr. Hirono worked closely at NIH with Drs. Laqueur and Spatz, and his current research on the carcinogenicity of cycasin is supported by the National Cancer Institute.

## Glen E. Wegner, NICHD, Is First M.D. to Serve As White House Fellow

Dr. Glen E. Wegner, of the Children's Diagnostic and Study Branch, National Institute of Child Health and Human Development, is one of 19 White House Fellows selected as assistants to White House staff members, the Vice President, and Cabinet officers. The group will serve during 1968-1969.

Dr. Wegner is the first Fellow with a medical background selected since President Johnson established the White House Fellows in 1964.



Dr. Wegner's work involves laboratory and clinical studies of diseases of the central nervous system.

The Fellowship was established to give rising young leaders one year of "first-hand, high-level experience with the Federal Government and to increase their sense of participation in national affairs."

During this year, the Fellows are encouraged to become involved in agency problems concerning international affairs, urban matters, economics, and social issues.

Dr. Wegner, a native of Kendrick, Idaho, was a premedical student at the College of Idaho, where he majored in both zoology and psychology.

### Awarded Scholarship

He was awarded the Western Interstate Scholarship for Higher Education at the University of Washington School of Medicine. In 1964 he received his M.D. from that University.

During Dr. Wegner's internship at Boston City Hospital he participated in community and civic programs aimed at helping low-income families in the area.

In 1967 Dr. Wegner completed a Fellowship and a Residency in Pediatrics at the Johns Hopkins Hospital and School of Medicine.

He is a Diplomate of the National Board of Medical Examiners, and a member of the Medical and Chirurgial Faculty of Maryland.

At NICHD, he is a Clinical Research Associate. His work involves the clinical and laboratory investigation of diseases of the central nervous system.

## Researchers Link Hurler's Syndrome to Faulty Mucopolysaccharide Degradation

Scientists of the National Institute of Arthritis and Metabolic Diseases have shown that the abnormal, excessive accumulation of mucopolysaccharide in the tissues of patients with Hurler's syndrome results from faulty intracellular degradation, rather than from excessive synthesis or defective secretion.

These findings were reported by Dr. J. C. Fratantoni, Dr. C. W. Hall, and Dr. E. F. Neufeld of the Institute's Laboratory of Biochemistry and Metabolism.

Hurler's syndrome is an uncommon hereditary disorder of mucopolysaccharide metabolism characterized by skeletal deformities, mental retardation, and early death.

The basic abnormality involves excessive intracellular accumulation of chondroitin sulfate B and heparitin monosulfate.

### Abnormality Clarified

It has not been known, however, whether this is due to excessive synthesis, defective secretion, or insufficient degradation of these mucopolysaccharides.

Studies of sulfated mucopolysaccharide turnover in fibroblasts derived from the skin of patients with either Hurler's or Hunter's syndrome, a related disorder, now have provided evidence that these cells accumulate mucopolysaccharide because of inadequate intracellular degradation. This finding narrows the search for the precise enzymatic defect in these disorders.

Fibroblasts were grown from skin biopsies or infant foreskin obtained from patients with Hurler's or Hunter's syndrome and from infant and adult control subjects.

### Cells Assayed

The cells were assayed for their ability to incorporate labeled sulfate into mucopolysaccharide, and to release prelabeled mucopolysaccharide into an unlabeled medium, either by secretion or degradation.

Patterns of label accumulation differed markedly in normal and diseased cells over extended periods, although the early rates of accumulation were identical. Secretion of mucopolysaccharide into the medium in the form of macromolecules was similar in both types of cells.

In normal fibroblasts, about two-thirds of newly synthesized mucopolysaccharide was secreted and one-third was retained in an intracellular pool where it was subject to eventual degradation.

Only 32 percent of the label remained in normal cells after 11 hours. In contrast, Hurler cells retained 70 percent and Hunter cells 50 percent after 3 days.

Most of the labeled mucopolysaccharide lost from normal cells was found in the medium as di-

## Dr. Hans Falk Appointed DEHS Assoc. Director At North Carolina Post

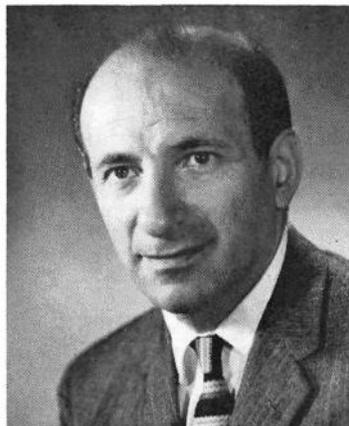
Dr. Hans L. Falk has been appointed associate director for Laboratory Research for the Division of Environmental Health Sciences, Research Triangle Park in North Carolina. Dr. Paul Kotin, DEHS Director, recently announced the appointment.

Dr. Falk was formerly associate scientific director for Carcinogenesis at the National Cancer Institute. He had been with NCI since 1962. Previously he was associate professor of pathology at the University of Southern California.

He also served as instructor in cancer research at the University of Chicago. Dr. Falk received his baccalaureate and doctorate degrees at McGill University.

Dr. Falk's particular research interests are toxic environmental agents, the synergistic activity of chemicals, and the carcinogenic, cocarcinogenic, teratogenic, and mutagenic effects of chemicals.

Under his direction, research at DEHS will be followed up on mycotoxins, metal compounds, hydrocarbon reaction products, tobacco smoke constituents, polymer dusts, pesticides, and pesticide synergists.



Dr. Hans L. Falk will continue his research on environmental health hazards in the DEHS laboratory at Research Triangle Park.

alyzable small fragments, indicating the loss takes place after intracellular degradation.

Thus, in diseased cells, the intracellular pool seems to increase due to impaired degradation, the cytoplasm becomes engorged with mucopolysaccharide, and this accumulation results in the clinically observed abnormalities.

## CENTER

(Continued from Page 1)

Prior to the dedication, Congressman Flood and Dr. William DeCesare, chief of the General Clinical Research Centers Branch, DRFR, toured the new five-bed Graduate Hospital Center with university and hospital representatives.

The Center is being used for interdisciplinary studies of hypertension, toxemia of pregnancy, the causes of red blood cell destruction (hematopoiesis), organ transplan-



Robert A. Wilson, a participant in hypertensive studies at the Clinical Research Center of Graduate Hospital, University of Pennsylvania, chats with Rep. Flood (seated) and Dr. William S. Blakemore, Center Director. Mr. Wilson, who lives in Nanticoke, Pa., is a friend and constituent of Rep. Flood. Their encounter was a surprise to both.—Photo by Jules Schick.

tation, and various metabolic disorders.

Four supporting laboratories within the facility provide for convenient monitoring of the experiments while protecting the integrity of research data.

Two of the five patient rooms are equipped with special air filters and regulators modelled after those used in contamination-free space capsules.

### Removes Most Particles

More than 99.97 percent of all particles over 0.3 microns in diameter are removed from the circulated air, including bacteria and many viruses, as well as dust particles.

The rooms are used in the treatment of severely burned patients, and victims of certain diseases such as leukemia and asthma.

After thorough testing at Graduate Hospital, this air filter system, which is relatively simple to install, and adds only 10 to 15 percent to usual construction costs, may become a common therapeutic technique in thousands of hospitals.

After his inspection tour, Congressman Flood was honorary guest at a reception and luncheon held in the Graduate Hospital Star Room.

## Joseph Brown Receives Career Education Award For Study at Indiana U.

By Hedy W. Shpritz

When NIDR's Joseph Millard Brown is called a ten o'clock scholar, you can be sure the phrase is not describing a Johnny-come-lately dragging his books behind him, but an energetic, keen young man taking graduate studies at night and, by day, assisting Dr. Robert J. Nelsen, chief of NIDR's Collaborative Research Office, in administering a growing research contracts program.

But in September all this changes, for Joe Brown's job assignment will be that of a full-time student for a school year at the University of Indiana.

### NIH Supports Award

This switch is made possible by a Career Education Award from the National Institute of Public Affairs. Support for the award comes primarily from the NIH.

Combining education with employment is a way of life for Joe. He has been a family man since he was an undergraduate at the University of Maryland where he received his B.A. in 1961.

He and his wife Naomi now have three children: Kevin, age 10; Pam, 6, and Marc, 2. Since he came to the NIH in 1963, he has continued graduate work at the American University.

Last year he was elected to Pi Sigma Alpha, the national political science honor society. He received an M.A. in Public Administration just this past February. More recently, he began work toward a Ph.D. in Government.

To balance this busy work-study



Joseph Brown will once again tread a college campus—as a graduate student concentrating on Government courses.

schedule, Joe enjoys evenings with his family and squeezes in time for some hobbies. A favorite activity is growing roses. Bicycling keeps him fit, while fishing provides a relax-

## NIH Designers and Artists Win Awards



Following the Society of Federal Artists and Designers awards ceremony, NIH employees visit with CSC Chairman John W. Macy, Jr. (third from right). Pictured (from left) are: William E. Bowman; Linda J. Brown; Gerald D. Pavey; Charles C. Shinn, chief, MAPP; Mr. Macy; Elaine S. Hamilton, and Ronald B. Winterrowd, chief, General Illustration Section, MAPP.—Photo by Ed Hubbard.

Designers and artists of NIH's Medical Arts and Photography Branch, Division of Research Services, received 10 awards at the Society of Federal Artists and Designers' recent annual competition.

### Scientists and Educators Discuss Self-Instruction

The Fourth Rochester Conference on Self-Instruction in Medical Education was held June 26-28 at the University of Rochester.

Supported by a contract from the Division of Physician Manpower, Bureau of Health Manpower, NIH, the conference was conducted by the Rochester Clearinghouse on Self-Instructional Materials for Health Care Facilities, the School of Medicine and Dentistry, and the College of Education of the University of Rochester.

An important objective of the conference, which brought together scientists and educators, was the planning and development of more complete self-instructional programs for use in medical school curricula.

ing change of pace.

The year ahead at Indiana will not only advance his graduate program but, as he views it, will "provide an opportunity to step back from day-to-day detail to take a broad view of public needs and consider ways that Government policy can best meet them."

After a year engrossed in study, Joe will be ready to get back to the action on which he thrives.

At the National Institute of Dental Research, he works with materials scientists who are producing adhesive fillings that must meet specifications of the future.

Before coming to the NIDR, he was in the NIH Office of Personnel where he worked at recruiting administrative and scientific manpower from many of the colleges and universities in the eastern half of the country.

Joe believes that the people being brought into Government should be second to none in ability.

Awards for excellence were made in the following categories:

Poster Design—Linda J. Brown for the Clinical Center poster entitled "Twentieth Century Epidemic."

Publication Design, Cover—William E. Bowman for "3rd National Cancer Survey," NCI.

Publication Design, Total Unit—Gerald D. Pavey for "A Career in Administration at the National Institutes of Health," OD.

Awards of merit were presented in the following categories:

Exhibit Design—Elaine S. Hamilton for "A Spectrum of Careers in Dental Research," NIDR.

Poster Design—three awards to Ronald B. Winterrowd and Gerald D. Pavey, Combined Federal Campaign posters, NIAID.

Letterheads—Gerald D. Pavey for the DRMP "Regional Medical Program."

Poster Design—William E. Bowman for a poster entitled "National Institute of General Medical Sciences."

Publication Design, Total Unit—William E. Bowman for "National Institute of General Medical Sciences."

John W. Macy, Jr., Chairman of the U.S. Civil Service Commission, was guest speaker at the awards ceremony.

He emphasized the growing role of visual communication and the importance of design and art services to Federal programs.

### J. Solon Mordell Retires From Neurology Institute

J. Solon Mordell retired recently from the National Institute of Neurological Diseases and Blindness.

He came there in 1962, and served as executive secretary of the Communicative Disorders Research Training Committee, Training Grants and Awards Branch, Extramural Programs.

## SEN. HILL

(Continued From Page 1)

work Senator Hill has done."

The Secretary concluded, "We pledge to you, Sen. Hill, that we shall not forget your monumental good works, and those of us who go on will continue to fight to preserve those programs that you have created, but more so, to build on to them with the same unrelenting and unswerving support that you have given."

### Added Honor Proposed

Sen. Sparkman, in the featured address, responded to Secretary Cohen's pledge and proposed that the Library's planned new annex be designated the Lister Hill Center for Biomedical Communications "to perpetuate the name of the man who has done so much for the health of the nation, who has exhibited an abiding concern for and interest in libraries in general and the NLM in particular."

The Senator and his guests previewed a new Library exhibit on Law and Medicine which was also dedicated to Mr. Hill.



Sen. Lister Hill (left) and Dr. William B. Bean, a member of the NLM Board of Regents, enjoy a conversation following the ceremony honoring Mr. Hill. On behalf of the Board, Dr. Bean presented Sen. Hill with a hand-lettered scroll citing his many legislative accomplishments. — Photo by Ralph Fernandez.

### Concert by U. S. Navy Band Scheduled at CC on July 16

A concert for Clinical Center patients will be presented Tuesday, July 16, at 7:30 p.m., by the United States Navy Band in the Clinical Center auditorium.

NIH employees, their families and friends, are invited to attend, but patients will have priority in seating.

Dr. Richard L. Masland, former NINDB Director, commended Mr. Mordell for his "important contributions to the development of research and research training in the neurosensory sciences."

## DR. FALKNER

(Continued from Page 1)

fessor of Pediatrics at the University. He has also been chief of staff at the Louisville Children's Hospital since 1964.

Dr. Falkner attended Malvern College; Corpus Christi College, Cambridge University, and the London Hospital Medical College in England, receiving his medical degree in 1945.

### Has Broad Experience

He was Chief Resident at the London Hospital. He also obtained special training at the Children's Hospital in Cincinnati, and Guy's Hospital in London.

After conducting research in pediatrics at the University of Liverpool, Dr. Falkner was, for the next 6 years, on the staff of the Institute of Child Health, The University of London, and the Hospital for Sick Children also in London. He was an assistant to Sir Alan Moncrieff.

While on a year's leave of absence, Dr. Falkner was associated with Professor Robert Debre at the Hospital des Enfants Malades in Paris where he set up the organization for the present eight international coordinated Centre International de l'Enfance Growth Studies.

### Was Markle Scholar

From 1957 to 1962 he was a Markle Scholar in Medical Science and the following year was admitted as a Member of the Royal College of Physicians.

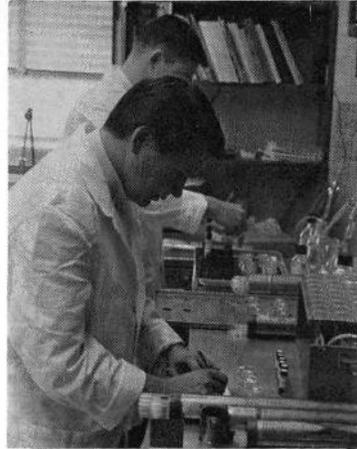
Dr. Falkner became a United States citizen in 1964.

He is a Fellow of the American Academy of Pediatrics; a Diplomat of the American Board of Clinical Nutrition, and a member of many societies, including the American Pediatric Society and the Society for Pediatric Research.

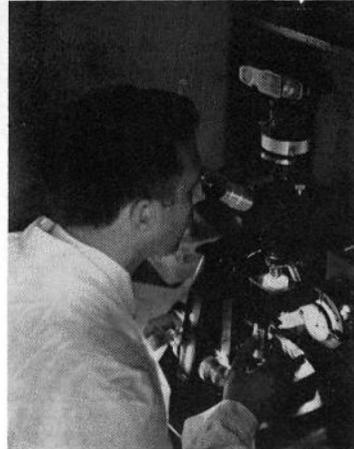


Dr. Bernhard Witkop (right), chief of NIAMD's Laboratory of Chemistry, presents the Sustained High Quality Performance Award to Harry Diehl for his 34 years of outstanding service to NIH. Mr. Diehl, who prepared over 400 new compounds used in the Laboratory's research program, shows the citation to his daughter, Christine. —Photo by Tom Joy.

## DBS Holds Workshop on Lab Techniques



Technicians representing 11 licensed manufacturers of viral vaccine participated recently in a 3-day DBS workshop on fluorescent antibody techniques for detecting latent viruses conducted by Dr. Kendall O. Smith of the Laboratory of Biophysics and Biochemistry. At left, technicians prepare to stain cells with fluorescent antibody which are then examined by fluorescent microscopy.



## MR. SHARKEY

(Continued from Page 1)

ville, and as director of the Atomic Energy Commission's Division of the Budget and Nuclear Materials Management in Cincinnati, Ohio.

Mr. Sharkey succeeds Charles Miller who left NIH in May 1967 to accept a position as chief finance officer of the Public Health Service.

A native of Cincinnati, Ohio, Mr. Sharkey graduated cum laude from Xavier University in 1948 where he received his B.S. degree in Business Administration, majoring in accounting.

### Wins NASA Award

He was recently awarded a Special Service Award by NASA in recognition of his outstanding service contribution while at the agency's Mississippi Test Facility.

Commenting on Mr. Sharkey's appointment, Dr. Shannon and Mr. Seggel, under whose general direction he will be serving, said "Mr. Sharkey has the broad management competence required to provide NIH with top-level leadership in the important field of financial management."

## Congress on Physiology Requires Advance Registrations by July 15

The deadline for advance registration for the XXIV International Congress of Physiological Sciences is July 15.

The Congress will be held at the Sheraton-Park and Shoreham Hotels in Washington, D.C. August 25-31.

Further information and registration blanks may be obtained from the Congress Secretariat, 9650 Rockville Pike, Bethesda, Md. 20014.

## Dr. Normand R. Goulet Given Alumni Award

Dr. Normand R. Goulet, assistant chief of the General Research Support Branch, Division of Research Facilities and Resources, was recently given the Alumni Award for Personal Achievement from his undergraduate alma mater, Providence College.

The citation accompanying the award described Dr. Goulet as, "A rare combination of productive scientist and skilled administrator..."

Dr. Goulet received his Ph.D. at the University of Michigan. While there he was chosen research assistant for the Salk Poliomyelitis Vaccine Evaluation Group.

He also served as research associate and virologist with several drug companies. In 1964 Dr. Goulet became a virology instructor at

## Conference on Techniques Reveals New Tools Lead To Improvement in Drugs

Powerful new analytical tools for clinical research are creating a revolution in the study of drug metabolism and leading to the development of safer, more effective drugs.

This was the major theme at a recent 3-day Conference on Applications of Newer Physical Techniques to the Study of Drug Metabolism sponsored by the National Institute of General Medical Sciences, the National Academy of Sciences, and the Pharmaceutical Manufacturers Association Foundation.

Four hundred basic and clinical pharmaceutical scientists attended the sessions at the National Bureau of Standards, Gaithersburg, Md.

Chemical and physical scientists described revolutionary new tools that track, separate, and detect drugs, drug metabolites, and other foreign substances in blood, urine, and body tissues.

Also, participants at the conference discussed the latest biological uses of gas-liquid chromatography, fluorescence and phosphorescence spectrometry, mass spectroscopy, x-ray diffractometry, nuclear magnetic resonance, radioautography, oscillographic polography, radioactive tracers, and various separation techniques.

Rutgers—the State University. He also continued his work in industrial virology.

Dr. Goulet's career as a science administrator with NIH began in 1965, when he joined the General Research Support Branch. He was named assistant chief of the Branch in 1967.



Dr. Philip R. Lee, DHEW Assistant Secretary for Health and Scientific Affairs, is pictured dedicating the Gerontology Research Center building, NICHG, on June 15. To his left are some of the nearly 200 Center male volunteers and their families who attended the dedication. They are participating in longitudinal studies at the Center.—Photo by Roland Schnick.