

the



Record

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NATIONAL INSTITUTES OF HEALTH

Jessie M. Scott Named Ass't Surgeon General, Public Health Service

The promotion of Jessie M. Scott to the rank of Assistant Surgeon General was recently announced by Dr. Jesse L. Steinfeld, Surgeon General of the Public Health Service.

Miss Scott is Director of the Division of Nursing, Bureau of Health Manpower Education.

It is the first time in PHS history that Flag Rank has been given to the Director of this Division.

During the past 6 years, Miss



Miss Scott, an officer of the American Nurses' Association, is chairman of its Task Force on Organizational Relations.

Scott designed and operated programs for the support of nursing education and for delivery of safe, effective nursing care.

Her Division also administers grants to students and nursing schools.

Entering the PHS in 1955 as a nurse consultant in the Division of Nursing, Miss Scott served as its deputy chief for 6 years before assuming her present position.

During her tenure, she assisted the PHS with an exploratory project which led to the first Federally-supported experimental study of Progressive Patient Care. She also was assigned to three special projects for study and improvement of health services abroad.

Before coming to the PHS, Miss Scott was, for 6 years, assistant executive secretary of the Pennsylvania Nurses' Association. Earlier she was Educational Director

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Tauraso Appointed Chief Of DBS Virology Lab

Dr. Nicola M. Tauraso has been named chief of the Division of Biologics Standards' Laboratory of Virology and Rickettsiology.

As chief, he is responsible for a program of research on the fundamental aspects of viral and rickettsial infections in relation to vaccine safety, purity, and potency.

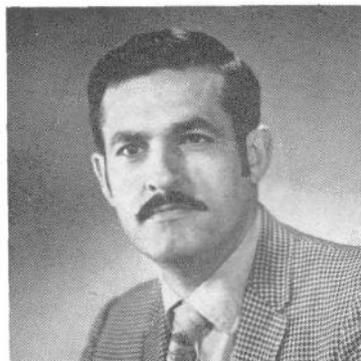
Dr. Tauraso graduated *magna cum laude* from Boston College in 1956, and in 1960 received his M.D. degree from Harvard Medical School.

He was a USPHS Research Fellow at Children's Hospital Medical Center in Boston from 1960 to 1961. On receiving his commission in the Public Health Service in 1963, he came to NIH as a research associate in NIAID.

The following year Dr. Tauraso joined DBS as a research associate.

Dr. Tauraso has been primarily concerned with studies on influenza and yellow fever vaccines. He was the first to isolate and characterize the simian hemorrhagic fever virus, which has caused epizootics of a highly fatal disease among quarantined monkeys in the U.S., Great Britain, and the USSR.

A diplomate of the American Board of Pediatrics and a fellow in the American Academy of Pediatrics, Dr. Tauraso is active in such professional organizations as the New York Academy of Sciences, the American Society for Microbiology, and the Society for Experimental Biology and Medicine.



Dr. Tauraso was the first to isolate and characterize the simian hemorrhagic fever virus.

Dr. Julius Axelrod, NIMH Researcher, Shares Nobel Prize With Two Others



Surrounded by colleagues and press photographers, Dr. Julius Axelrod joins in the revelry at an impromptu celebration after receiving word that he had been named co-winner of the Nobel Prize in Medicine or Physiology. Dr. Axelrod is the second Federal scientist to be so honored.

Dr. Julius Axelrod of the National Institute of Mental Health and two scientists from England and Sweden were awarded the Nobel Prize in Medicine or Physiology for their independent research into the chemistry of nerve transmission.

Dr. Axelrod will share the coveted prize, awarded Oct. 15 by the Caroline Institute, Stockholm, with Professor Ulf von Euler of Sweden and Sir Bernard Katz of England.

Dr. Axelrod, chief of the Pharmacology Section in the Laboratory of Clinical Science, NIMH, is the second Federal scientist at the National Institutes of Health to win a Nobel Prize.

The first was awarded to Dr. Marshall W. Nirenberg of the National Heart Institute in 1968.

Prof. von Euler, a former NIH grantee, is chairman of the Nobel Foundation and has been a professor of Physiology at the Royal Caroline Institute for 40 years.

Sir Bernard, professor of Biophysics at University College in London, currently is lecturing at the University of California at Berkeley.

The three eminent scientists were cited by the Caroline Institute for "their discoveries concerning the humoral transmitters in the nerve terminals and the mechanisms for their storage, release, and inactivation.

"Their discoveries concerning these regulatory mechanisms in the nervous system," it said, "are found

(Continued on Page 7)

Congratulatory Letters, Calls Inundate Axelrod

Immediately following notification of his award, Dr. Axelrod was deluged with congratulatory messages from friends and colleagues, as well as a phone call and complimentary letter from the White House.

In his message to Dr. Axelrod, Dr. Robert Q. Marston, NIH Director, said, in part:

"We are proud that your brilliant investigations have been carried on in the laboratories and clinics on the NIH Bethesda campus.

Work Acclaimed

"Your work has often been singled out for acclaim in the past. This worldwide recognition reflects additional credit upon you personally and upon American science."

Dr. Marston also sent congratulations to Prof. von Euler and Sir Bernard Katz who share the Nobel Prize with Dr. Axelrod.

"The Nobel Prize, with which your work has been honored, is a

(See LETTERS, Page 7)

the NIH Record

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Study of Early Pregnancy Needs Several Volunteers

The Reproduction Research Branch, National Institute of Child Health and Human Development, is seeking as volunteers women who are planning pregnancy.

In order to investigate the hormonal changes of early pregnancy, the investigators find it necessary to study several women during the month in which they become pregnant and for the following 6 weeks.

This research will require frequent small blood samples during the first few weeks and less frequent samples thereafter. A fee will be paid for each blood sample.

Those interested in participating should call Dr. M. B. Lipsett, Ext. 62136.

Marshall Turner Serves As White House Fellow

Marshall C. Turner, Jr., a former mechanical engineer in DRS, is one of 17 young men and women selected from over 1,000 candidates to serve a one-year residency in Washington as a White House Fellow.

He was assigned last month to the Office of HEW Secretary Elliot L. Richardson.

Mr. Turner entered the Public Health Service as a commissioned officer in 1966. While at NIH, he helped develop a mechanical heart assist device and an environmental testing kit for use in hospitals.

He served until 1968, when he entered Harvard's graduate school of business.

Dr. Kreshover Honored By N.Y. Dental Society

"In recognition of his contribution to the welfare of humanity in the field of dentistry," Dr. Seymour J. Kreshover, Director of the National Institute of Dental Research, received the Henry Spenadel Award.

The gold medal and an illuminated scroll were presented to Dr. Kreshover at the recent annual meeting of the First District Dental Society of the State of New York.

Has Over 4,000 Members

The Society—the largest component of the American Dental Association—has a membership of over 4,000.

Past recipients of the Spenadel Award include Dr. William J. Geis, a biochemist noted for his contributions to dental education and research, and Dr. Frederick S. McKay, a pioneer in research on the fluorides for prevention of dental caries.

NIH Television, Radio Program Schedule

Television

NIH REPORTS

WRC, Channel 4
1 a.m. Wednesday

October 28

Dr. Carl Kupfer, Director,
National Eye Institute
Subject: Glaucoma (R)

November 4

Dr. Frank W. Hastings, chief,
Artificial Heart Program,
NHLI

Subject: Artificial Heart Program, Part 1 (R)

Radio

DISCUSSION: NIH

WGMS, AM-570—FM Stereo
103.5—Friday, about 9:15 p.m.

October 30

Dr. Alfred S. Ketcham, chief,
Surgical Branch, NCI
Subject: Surgical Treatment of
Cancer

November 6

Dr. Laurence H. Miller,
Dermatology Program
director, NIAMD
Subject: Combatting Skin
Disease

Interview takes place during intermission of the Library of Congress concerts.

Publication Lists Grants To Build Nursing Schools

More than 130 U.S. nursing schools received Federal grants exceeding \$80 million to build new educational facilities, or to renovate, extend, and equip their nursing education quarters, according to a publication, *Construction Grants Awarded to Schools of Nursing, December 1965-June 1970*.

The grantees, listed by state, comprise 51 diploma schools, 49 programs leading to a baccalaureate or higher degree, and 32 leading to an associate degree.

Single copies of the publication are available from the Division of Nursing, BHME.

Trainees Complete Half Of Program to Improve Career Opportunities

Twenty-five employees recently completed the first half of an NIH Clerk-Typist Training Program.

The full-time program consists of 12 weeks of formal classroom instruction and 12 weeks of on-the-job training in various NIH organizations.

It is designed to provide career opportunities for employees in semi-skilled or dead-end jobs.

Richard Seggel, NIH Associate Director for Administration, presented certificates on Oct. 9 to the following trainees:

Eva Lucas, Dalmeter Tillis, Elsie Douglas, Charlotte Bryan, Janice Beard, Alberta Bess, Anna Brown, Doretta Calhoun, and Dorothy Coleman.

Other Trainees Listed

Also, Morine Cooper, Queen Covington, Barbara Brown, Elsie Browne, Mary Burroughs, Alice Ferguson, Lila Ingram, and Columbia Jackson.

Also, Lorene Garland, Phyllis Harrington, Arlene Johnson, Marietta Robinson, Edith Rollins, Josephine Rollins, Rosa Snell, and Erma Moore.

The trainees were selected through the Merit Promotion Program. Their classroom training began July 20 with instruction in typing, office procedures, English, and mathematics.

Classes were conducted by Marian Fitzenrider and Hanna Shapiro, teachers from the Adult Education Program, Montgomery County Public School System.

Through the coordinated efforts of Office of Personnel Management staff members, personnel officers, and NIH management officials, the trainees are now beginning the second half of the program. They are working in clerical and typing positions throughout NIH to practice what they have learned in class.

As they progress satisfactorily, they will be given permanent assignments which are likely to lead to advancement to higher grades.



Trainees in the Clerk-Typist Training Program concentrate as they improve their typing skills in the classroom.

CFC Reaches 72.3% of Goal in Its Latest Report



Dr. Baker (l) and Dr. Marston (c) lend their support to R&W President Benjamin Fulton during a drawing of prizes for early contributors to the CFC. The campaign ends tomorrow (Oct. 28).

Contributors to the NIH Combined Federal Campaign reached 72.3 percent of their goal by the latest reporting date—Oct. 14.

Pledges amounted to \$158,013.65 toward this year's quota of \$218,687. The total number of contributors thus far is 5,710, 60.4 percent of employees participating.

NIGMS First to Reach Goal

Organizations attaining 100 percent or more of their goals to date are OD/ODA, NIEHS, NIGMS, and DRG. NIGMS was the first unit to reach 100 percent of both goal and participation.

At a ceremony Oct. 8 in the Bldg. 31 lobby, Dr. Robert Q. Marston, NIH Director; Dr. Carl G. Baker, NCI Director and this year's campaign chairman, and Benjamin Fulton, President of the NIH Recreation and Welfare Association, presided at a drawing for three prizes for early contributors to the campaign.

Winner of the \$50 first prize was Nellie Fortner, DRS. Prizes of \$25 each were won by Galina Zarechnak, NLM, and John Irwin, DRS. The three prizes were donated by R&W.

In an appeal to all NIH personnel to meet or exceed the assigned dollar quota, Dr. Baker pointed out

that the CFC has for many years been assisting people in need at an extremely low administrative cost.

It is a fact, he said, that less than 3 percent of the total contribution raised goes toward administration of the program.

He also emphasized that the agency of the donor's choice—if so designated—will definitely receive the funds earmarked for it.

Those who have not yet contributed will find their assigned keymen eager to answer any questions.

Christmas Comes Early for Framous Edwards

There will be a merry Christmas at 110 16th Street, S.E. this year because of the diligence and hard work of the man of the house, Framous Edwards.

Mr. Edwards has won a Special Service Award from the National Institute of Child Health and Human Development where he is supply technician.

When asked the day after the presentation if he had spent the award money, Mr. Edwards said, "No indeed. That money went into the bank for Christmas."

The money was well-earned. From Jan. 1 to April 30, 1970, Mr.

Federal Register Prints Proposed Regulations For Blood Shipments

Proposed regulations to permit shipment in interstate commerce of whole blood from which the antihemophilic factor has been removed were published last Friday (Oct. 23) in the *Federal Register*.

The cryoprecipitated antihemophilic factor, which was licensed for commercial distribution on Sept. 8, 1970, is prepared from a unit of blood.

The procedure involves separating the plasma from the red blood cells into a satellite bag, freezing the plasma, placing the plasma at refrigerator temperature, and expressing the thawed plasma back with the red blood cells, resulting in a unit of blood containing little or no antihemophilic factor.

The proposed regulations establish standards with which blood banks must comply in order to distribute under Federal license whole blood from which the antihemophilic factor has been removed.

This conserves the blood supply by making such blood available for transfusion into patients who do not need the antihemophilic factor.

Interested persons have 30 days to comment. After comments are considered, final regulations will be published in the *Federal Register*.

Dr. Grundy to Head New Clinical Research Section

Dr. Scott M. Grundy, assistant professor of Medicine at Rockefeller University, New York City, has been appointed chief of NIAMD's new clinical research section in Phoenix, Ariz.

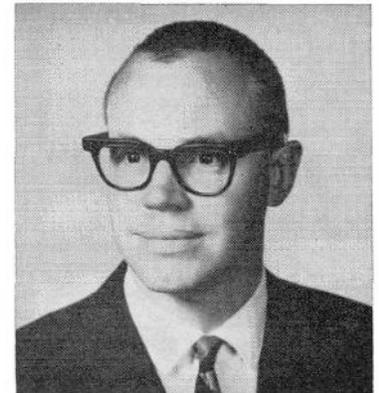
The section was established by the National Institute of Arthritis and Metabolic Diseases at the Indian Health Service's new Phoenix Indian Medical Center.

Has 2 Doctoral Degrees

Dr. Grundy received his M.D. degree from Baylor University College of Medicine in 1960 and the Ph.D. degree from the Rockefeller University in 1968.

Research at the new clinical facility will focus primarily on diabetes and gallbladder diseases.

Previous studies by NIAMD epidemiologists have shown that these disorders are more prevalent among the Pima Indians of the Phoenix



Dr. Grundy specialized in research, teaching and practice in metabolic diseases and gastroenterology.

area than among the general U.S. population.

Studies are scheduled to begin in January and will be under the direction of NIAMD's Clinical Director, Dr. Robert S. Gordon.

The NIAMD unit provides 25 beds, examination and treatment rooms, a metabolic kitchen, and 5 laboratories. Specially trained clinical and laboratory researchers will also work closely together for the benefit of the patients.

This facility is the first NIH clinical research unit to be established in an Indian hospital of PHS.

It is expected to yield information about the causes of a number of diseases prevalent in the general population of the United States, while at the same time aiding the Indians with their health problems.

The main hospital will be a referral facility providing diagnostic services and specialized treatment for Indian patients from 10 peripheral hospitals and 7 health centers in Arizona and Nevada, and 25 satellite clinics in Arizona, California, Nevada, and Utah.

NIH Special Foreign Currency Program Described in Brochure

A brochure describing the NIH Special Foreign Currency (P.L. 480) Program has been published by the Fogarty International Center.

It summarizes the objectives and benefits of the program and discusses the availability of funds.

The brochure was designed, in part, to accompany a new exhibit on the P.L. 480 Program which is being shown in Houston at the American Public Health Association meeting Oct. 25-29.

Single copies of the brochure are available upon request from the Fogarty International Center.



Framous Edwards is the man in the center with the million dollar smile although the award he won was considerably smaller. Dr. Gerald LaVeck, NICHD Director (r), and Calvin Baldwin, Institute executive officer, are pleased with the savings of time and money made possible through Mr. Edwards' efforts.

Dr. Belkin, Administrator And Scientist at NIH Since 1947, to Retire

Dr. Morris Belkin, who has been at NIH for 23 years, was recently honored by 60 colleagues and friends at a retirement party.

Dr. Belkin was a scientist administrator in the Research Grants Branch of the National Institute of Neurological Diseases and Stroke.

He acted as liaison between the Institute and seven Division of Research Grants study sections: Pharmacology, Experimental Therapeutics A and B, Medicinal Chemistry A and B, Toxicology, and Endocrinology.

Dr. Belkin's position in the Extramural Programs will be taken by Dr. Lawrence M. Petrucelli, formerly on the staff of the University of Pittsburgh School of Medicine.

Dr. Belkin came to NIH in 1947 to work as a pharmacologist in the National Cancer Institute. His major research interests at that time centered on pharmacology, toxicology, and chemotherapy.

From 1953 through 1961, he served as principal pharmacologist and head of the NCI Cellular Pharmacology Section.

Turns to Administration

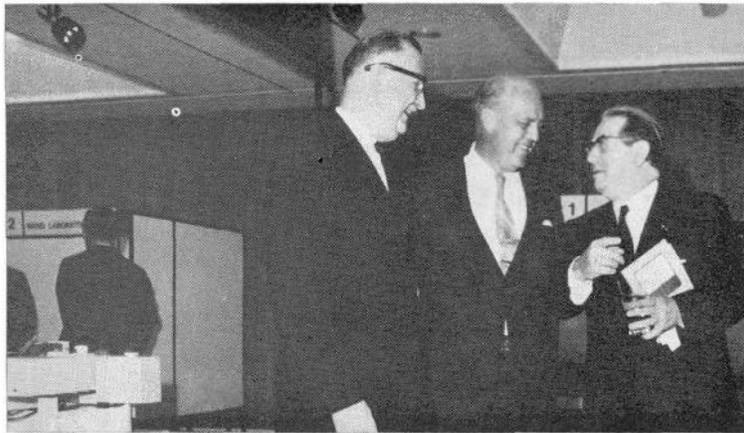
In 1961 Dr. Belkin turned to grants administration and became executive secretary of the Cancer Committee in the Special Programs Project of DRG. A year later he joined the staff of NINDS Extramural Programs.

Dr. Belkin was born in the Crimea, Russia. He received his B.A. and M.A. degrees from Harvard University. He then became a Biology teacher at Washington Square College, New York University, from 1928 to 1932. Subsequently, he returned to Harvard for his Ph.D.

From 1938 to 1942 he carried out research at Yale University School of Medicine, and in the 4 years following served on the faculty of the South Carolina College of Medicine.



Dr. Belkin received one of the first NIH research grants while on the pharmacology faculty of the South Carolina College of Medicine.



TWO NIH STAFF MEMBERS AT INTERNATIONAL COLLOQUIUM. L to r are: Dr. Heinz Specht, NIH representative in Europe; James B. Davis, Director, NIH Office of Administrative Services, and Jean De Larebeyrette, President, the French Institute of Foreign Exchange. At the request of the U.S. Department of Commerce, Mr. Davis served as general program chairman of an international colloquium and exhibition of analytical instrumentation for industry and research held in Paris last month.

'Users' Discuss Computerized System Developed to Evaluate Laboratory Data

Directors of clinical laboratories from 10 U.S. and Canadian hospitals attended a "Users Conference" on Oct. 22-23 in San Francisco to discuss their experiences with a computerized system to evaluate laboratory data on large numbers of patients.

The system was developed by Dr. George Brecher, Director of Clinical Pathology at the University of California's San Francisco Medical Center and the Berkeley Scientific Laboratories, Inc., with support from the National Institute of General Medical Sciences.

Operating units have been tested nationally in 11 hospitals over the past 12 months, and several more hospital laboratories are soon scheduled to receive prototypes.

NIH convened the conference

so that laboratory directors might compare experiences and exchange ideas that might lead to improvements.

Reports indicate advantages over other laboratory data systems now in use. They are:

- Improves patient care by making available to the physician daily summaries of all laboratory work done on patients. This allows him to quickly assess the laboratory data.
- Helps physicians initiate therapy or quickly change required medication. This avoids complications of unattenuated disease processes and helps shorten periods of hospitalization.
- Reduces by 40 percent the time spent by hospital personnel handling laboratory information. The volume of tests processed has been greatly increased without significant increase in laboratory personnel.

The system is built around a small computer with a specially modified disc device that enlarges and speeds data storage beyond the capacity of ordinary storage units.

At numerous entry points, the system reads instruments automatically, and at others the interface is through laboratory data consoles and machine reading mechanisms. The system is adaptable to hospitals of all sizes.

During the past year, the system has been operating at the Clinical Center, University of California Medical Center, San Francisco; Presbyterian-St. Luke's Hospital, Chicago; Upjohn Clinical Laboratories, Kalamazoo, Mich., and the U.S. Public Health Service Hospi-

MISS SCOTT

(Continued from Page 1)

of Mt. Sinai Hospital in Philadelphia and taught at several medical college hospitals.

Her honors include the PHS Meritorious Service Medal, the award for Distinguished Service to Nursing from Indiana University and from the Pennsylvania Nurses' Association, and Honorary Membership in Sigma Theta Tau, National Honor Society of Nursing.

Miss Scott received her nursing diploma from the Wilkes-Barre General Hospital School of Nursing, her B.S. degree in Education at the University of Pennsylvania, and the M.A. degree in Personnel Administration from Teachers College, Columbia University.

Rodney Badgewick Joins BHME; Will Coordinate Reg'l Office Activities

Rodney J. Badgewick has been appointed assistant to Dr. Charles Boettner, associate director of the Bureau of Health Manpower Education.

Mr. Badgewick will assist in directing BHME regional affairs, and will coordinate regional office activities.

He came to the Bureau from the Division of Regional Medical Program Services, Health Services and Mental Health Administration, where he coordinated the development and operation of the Utah Stroke Study in Salt Lake City.

Before joining DRMP, Mr. Badgewick was with the National Communicable Disease Center. His assignments there included working in public health, epidemiology, and venereal disease control in New York City, Upstate New York, Newark, N.J., and Chicago, Ill.

Mr. Badgewick received a B.A. degree from the University of Vermont in 1963.



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Mr. Badgewick received a B.A. degree from the University of Vermont in 1963.

tal, Baltimore.

Also, St. Vincent's Hospital, Portland, Ore.; Meyer Memorial Hospital, Buffalo, N.Y., and Meriden Hospital, Meriden, Conn.

The system also has been in operation at Metropolitan Pathology Laboratory, Teaneck, N.J.; Medical University of South Carolina, Charleston, and Harrisburg Hospital, Harrisburg, Pa.

Drs. James F. Dickson III, program director for Biomedical Engineering, and Robert S. Melville represented NIGMS at the Users Conference.

Berkeley Scientific Laboratories was represented by Dr. W. H. Wattenburg, president of the firm.

DDH Aids Conference In Dental Technology

The Division of Dental Health, BHME, has awarded \$8,500 to Southern Illinois University to conduct a national manpower conference in dental laboratory technology.

This is the first time that a conference has been convened to discuss the role of the dental laboratory technician in a dental practice, the development of career programs for such technicians, and present and future manpower needs of dentists and dental laboratories.

James L. Goff, Public Health Advisor, DDH, was among those providing staff assistance to the conference.

The conference was held Sept. 30-Oct. 1 on the Edwardsville campus of the university.

Comments and recommendations will be compiled in a report which will be published by Southern Illinois University at a later date.

NIAID Interim Reagent For Australia Antigen Available for Research

Interim research reagents for Australia antigen—the substance found in the blood of many patients with serum hepatitis—is now available from the Research Resources Branch of the National Institute of Allergy and Infectious Diseases.

The reagents are intended solely for research purposes and for evaluating test systems used in the detection of Australia antigen or antibody, according to Dr. Robert J. Byrne, chief of the branch.

They should *not* be used for diagnostic purposes or for the routine examination of blood.

The reagents available for distribution include antisera produced in guinea pigs and antigen from Australia-positive human sera. Preliminary studies on the final packaged guinea pig antisera indicated a CF titer of 1:512.

The antisera also forms a specific line of precipitation with the Australia antigen when the latter is diluted 1:32.

Reagents are packaged in 0.5 ml amounts in lyophilized form. Further detailed information is provided in the Research Reagents Note No. 11 which accompanies each shipment of reagents.

Interim reagents can be ordered by using NIH Form 381-2. For further information, contact: chief, Research Resources Branch, NIAID, Room 7 A-23, Bldg. 31, NIH, Bethesda, Md. 20014.

Drs. Fletcher, McGovern Join Regents of NLM

Two new members have been appointed to the National Library of Medicine's Board of Regents: Drs. James C. Fletcher and John P. McGovern.

Dr. Fletcher is President of the University of Utah and the College of Eastern Utah. A physicist by training, he has been increasingly influential in higher education.

He has also contributed to the Nation's scientific advancement. He has been Assistant Secretary of the Air Force, 1961-64, a member of the President's Science Advisory Committee since 1963, and a member of the Air Force Science Advisory Board since that year.

Dr. McGovern is clinical professor of Allergy, Graduate School of Biomedical Sciences, University of Texas.

In addition to a distinguished career as an allergist, he is also qualified as a microbiologist and pediatrician.

His career as an educator has included posts at the Yale School of Medicine, George Washington University School of Medicine, Tulane University, and Baylor University.

He was a Markle Scholar from 1950 to 1955.

Double-Stranded, Virus-Like RNA Found In Normal as Well as in Diseased Cells

A type of RNA believed to exist only in viruses has now been found in normal human and animal cells as well as in diseased cells. Two NIH scientists found this double-stranded type of RNA in *all* cells studied and think it may be part of the cell's normal machinery.

Dr. Robert Stern, National Institute of Dental Research, and Dr. Robert M. Friedman, National Cancer Institute, made this discovery.

Previously, scientists believed double-stranded RNA was charac-



NIDR investigator Dr. Robert Stern (l) examines data with biologist Marlene Gaunard as Dr. Robert M. Friedman, NCI, adjusts equipment.

teristic of RNA viruses and that normal cells in mammals contained only single-stranded RNA.

In this study the investigators report finding small amounts of the double-stranded virus-like RNA (2 percent of the total RNA) in cells from normal and diseased humans and animals and even from germ-free chick embryos.

RNA or ribonucleic acid, one of the master chemicals found in all living cells, is involved in the cell's production of protein. Until recently it was believed that RNA carried out this role only upon orders from DNA (deoxyribonucleic acid) which contains the blueprints for a living cell's heredity.

Originally, Drs. Stern and Friedman examined cells from patients with Burkitt's lymphoma to explore the possibility that an RNA virus might be involved in the disease.

After they found the viral-like RNA in these cells, they looked for control cells from such sources as healthy individuals and germ-free chick embryos. They found, however, that all the cells contained the double-stranded RNA.

To help them differentiate between viral RNA and cellular RNA, the scientists also studied the Semliki Forest virus, a known RNA virus. They succeeded in separating the virus at all stages of its reproductive cycle from within infected animal cells.

In their search for cells lacking the double-stranded RNA, the investigators treated all the cell preparations with actinomycin D,

which prevents cells from manufacturing single-stranded RNA.

They found that a viral-like RNA synthesis persisted in all cells after this treatment.

This viral-like RNA that remained also was present in cells treated with RNase, an enzyme which breaks down single-stranded RNA.

The scientists found that this remaining double-stranded RNA had many properties in common with the RNA found in viruses.

They theorize, therefore, that eons ago the double-stranded RNA may have had a viral origin but that it has adapted so completely to parasitic life that it cannot exist outside of a cell.

This viral-like RNA may actually be passed from one generation to the next in the egg or sperm. It may perform some needed cell function, or it may be a latent virus or "oncogene" which after years or generations of inactivity is somehow triggered to reproduce and cause disease.

If this material is an "RNA gene" which can cause disease, then, the scientists theorize, there may be a continuum instead of a sharp distinction between genetic and infectious disease.

Dr. Stern and Dr. Friedman reported their findings in a recent issue of *Nature*.

Other recent NIH-supported studies (by Dr. Howard M. Temin and others—see *The NIH Record*, July 21, 1970) suggest that RNA viruses contain an enzyme that can use RNA as a blueprint to synthesize DNA.

This is a reversal of the channeling of genetic information in which DNA is the blueprint and RNA, the messenger and transfer mechanism in the synthesis of proteins.

NHLI Employees Share A Superior Performance Group Award for Survey

Seventeen members of the NHLI Training Grants and Awards Branch and the Clerical Unit, Analysis and Reports Section, shared a group award for superior performance totalling \$1,000.

Individual awards, from \$45 to \$75, were presented to 13 of the recipients on Oct. 13 by Dr. Theodore Cooper, Director of the National Heart and Lung Institute.

The group's outstanding performance in making a comprehensive followup survey of all individuals who have received training grant or fellowship support from the Institute over the past 20 years was cited.

Survey Helps Evaluation

The survey, designed to help the Institute assess the worth and impact of its training activities, required 17 months.

The group worked more than 3,000 hours of overtime on the survey—obtaining and recording more than 10,000 current addresses; mailing and processing over 15,000 letters, and preparing some 50,000 punch cards and 40,000 code sheets.

It is anticipated that the final report will prove valuable as an historical document as well as a data base for formulating new directions for NHLI training-support programs.

Awardees Named

Recipients from the NHLI Training Grants and Awards Branch were Barbara Bennett, Faith Brammer, Geraldine Leser, Linda Pollard, Donna Rosenberg, and Linda Russell.

The Analysis and Reports Section awardees were Phyllis Adams, Carol Brammer, Louretta Doherty, Marcia Farahpour, Louise Fletcher, Denise Johann, Bonita Keiser, Loretta Prince, Molly Schlonsky, Barbara Shepler, and Rose Schreiber.



Dr. Theodore Cooper, NHLI Director, presented superior performance awards to these employees—part of the 17 who worked more than 3,000 hours overtime for a followup survey of training grantees and fellows receiving Institute support in the past 20 years.

Need to Integrate Basic, Clinical Epilepsy Studies Stressed at Workshop

"A most important aspect of research into the control of epilepsy is an integration of basic and clinical studies into centers devoted to patient care," Dr. Edward F. MacNichol, NINDS Director, said in his keynote address at the Epilepsy Foundation's Third Annual Workshop recently.

The workshop, "Epilepsy: Challenge of the Seventies," was held in Washington, Oct. 15-17.

Three other National Institute of Neurological Diseases and Stroke representatives: Dr. J. Kiffen Penry, head of the Special Projects Branch, Collaborative and Field Research; Dr. James Cereghino, a staff neurologist with the branch and Ruth Dudley, Institute information officer, participated in panel discussions.

Others Participate

Joining the NINDS speakers were representatives from voluntary, private, and Government agencies conducting research and providing services to the more than 4 million Americans suffering from convulsive disorders.

In his address, Dr. MacNichol described the Institute's extramural and intramural programs concerned with epilepsy and work at five Epilepsy Research Centers.

At these centers, researchers are conducting environmental and behavioral studies, investigating the electrical manifestations of seizures through chemical means, and determining the differences between normal and epileptic brain cells.

Some of the most important areas, according to Dr. MacNichol, are studies to investigate the role viruses, genetic factors, and perinatal and birth deficiencies may play in the etiology of epilepsy.

In addition, basic studies continue

Clinical Research Team at MIT Develops Method of Diagnosing Diseased Arteries

A simple non-invasive method of diagnosing diseased arteries has been developed by a team of researchers at the Massachusetts Institute of Technology's General Clinical Research Center.

The Center is supported by the Division of Research Resources.

Dr. Robert S. Lees, director of the Clinical Research Center, and Professor C. Forbes Dewey, Jr., an engineer in the Department of Mechanical Engineering at MIT, described the process in a paper published in the October *Proceedings of the National Academy of Sciences*.

to define the electrical and chemical activity of nerve cells in the brain.

When discussing drug research, Dr. MacNichol spoke of the work by NINDS and its grantees to accurately monitor the number of seizures and duration of seizures of epileptics in order to quantitatively measure the effectiveness of anticonvulsive drugs.

In the panel discussion, Dr. Penry described drug testing programs in greater detail.

Two major problems, according to Dr. Penry, are quantitative measuring of the patient's response to a given drug, and methods of measuring the precise levels of anticonvulsive drugs in the patient's blood.

Dr. Cereghino's discussion centered on identification of existing resources and services for epileptics. A series of surveys from the entire country, Dr. Cereghino said, point out critical needs: increased employment of epileptics, improvement in out-patient services, education of persons teaching epileptics, and increased understanding of the epileptic's capabilities.

Mrs. Dudley, who participated in the public information and education sessions of the workshop, described methods of reaching and educating the public about this often misunderstood disorder.

ings of the National Academy of Sciences.

The new technique, phonoangiography, employs the basic principle of a stethoscope. Instead of listening to heart sounds, though, the investigator listens to the sound of blood flowing in a patient's arteries.

When blood flows through a normal artery, no sound is produced. Blood flowing through an artery narrowed by arteriosclerosis is interrupted and becomes turbulent,



Dr. Lees (l) and Professor Dewey examine a chart of the sound produced by blood rushing through the narrowed arteries of a patient at the Massachusetts Institute of Technology's Clinical Research Center.

thus producing sound.

"Researchers have known of this sound for years," Dr. Lees said, "but until now, few doctors have tried to quantitate it."

Medical investigators in MIT's 12-bed Clinical Research Center found that the turbulent sounds produced by the narrowed arteries could be detected with a sensitive microphone. The loudest sounds were detected adjacent to the area where the artery was narrowest.

By recording and analyzing the sound, researchers can plot the frequency and intensity of the sound of blood rushing through the narrowest artery.

With a fluid mechanical theory developed by Professor Dewey, the clinical team can then estimate the extent of narrowing at the site of the sound.

Works Close to Surface

At this time, phonoangiography works only in arteries close to the surface of the skin. The sound from deeply buried arteries is too diffused by intervening layers of tissue to be of use by the time it reaches the surface.

"One of the great advantages of phonoangiography is that the technique is non-invasive," Dr. Lees

Proceedings Give Recent Progress in Methods of Measuring Bone Minerals

Proceedings of the third and most recent conference on bone measurement, *Progress in Methods of Bone Mineral Measurement*, have been published by the National Institute of Arthritis and Metabolic Diseases.

Editors of the publication are Dr. G. Donald Whedon, Director of NIAMD, and Dr. John R. Cameron, associate professor of Radiology and Physics, University of Wisconsin Medical Center, Madison.

The conference brought together researchers from such diverse disciplines as orthopedics, nutrition, endocrinology, radiology, and environmental space science.

All are working on more sensitive and accurate tools to measure the mineral content and density of the human skeleton, specifically the degree of change in bone brought about by various agents and stresses.

First Meeting Held in 1959

The first meeting to stimulate interest in this field, held at NIH in 1959, was followed 6 years later by a second bone densitometry conference at the NASA headquarters in Washington, D.C.

NASA was interested in examining the possibility of bone mineral loss in space flights of long duration. Such a derangement had been predicted on the basis of ground immobilization studies as the nearest simulation to weightlessness.

The 25 papers in the current proceedings focus on four subjects in describing the progress in development, definition, and refinement of bone measurement tools: Measurements from X-Ray Source Images, Measurements by Gamma-Ray Sources, Measurements of Bone Structure by X-Ray and by Pathologic Techniques, and Measurements by Novel Techniques.

Short discussions and references follow each topic.

The 579-page publication is free upon request to researchers working in the field.

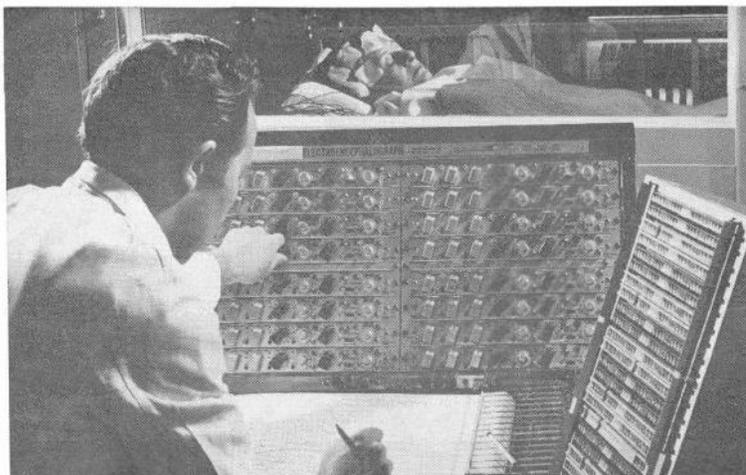
pointed out.

At present, direct assessment of the state of arteries requires the threading of catheters into arteries and injection of an X-ray dye to show narrowing.

"Direct assessment by catheterization is uncomfortable for the patient, sometimes requires general anesthesia, and involves the risk of infection and bleeding," he added.

Both Professor Dewey and Dr. Lees said they plan to continue their work with additional patients at the Clinical Research Center.

They hope to refine the technique so that detection and measurement of narrowed arteries deep within the body will be possible.



The electroencephalograph aids in the diagnosis of epilepsy. An EEG recorded during a seizure is likely to show exceptionally high bursts of energy coming either unusually slow or unusually fast. Even between seizures, the EEG of most persons with epilepsy will show some irregularity.

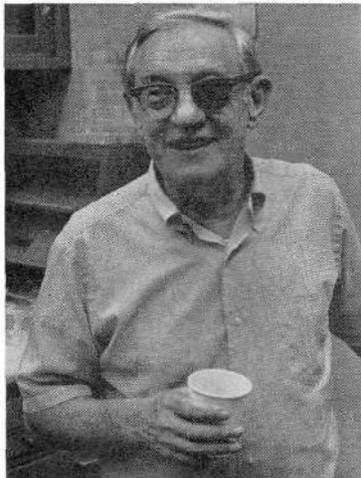
What Began as a Quiet Day Turns Into Hectic But Rewarding Event

The morning of Thursday, Oct. 15, appeared normal enough. At about 8:30 a.m., however, a wire service story out of Stockholm announcing the winners of the 1970 Nobel Prize in Medicine or Physiology changed it all.

Radio broadcasts spread the word of Dr. Julius Axelrod's honor quickly. By 8:45, Dr. Bertram Brown, Director of NIMH, had been on the phone with the Associate Director for Mental Health Research.

The machinery was set in motion for a noon press conference, and a search for Dr. Axelrod began.

Contrary to his usual practice of arriving at the lab early each morning, Dr. Axelrod was nowhere to be seen. His secretary reported he had scheduled an early dental appointment and was not expected



Dr. Axelrod pauses for a refresher during the hectic moments between celebrations and press conferences.

in the office before 10 a.m.

Following a cup of coffee at a nearby drug store, Dr. Axelrod entered his dentist's office, unaware of the exciting news. When told of the prize he remained skeptical until called to the phone to respond to the inevitable query from a local radio station, "What is your reaction to winning the coveted Nobel Prize?"

When he entered his Clinical Center laboratory, dozens of co-workers and fellow scientists were waiting to congratulate him. Soon photographers from the wire services appeared. Then network television. And the telephones remained busy.

There was an air of excitement in the 13th floor conference room at the Barlow Building as plans for the press conference were completed. Television cameramen and film crews made last-minute checks on equipment.

Each reporter was given a brief

DR. JULIUS AXELROD, NIMH, SHARES NOBEL PRIZE

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fundamental in neurophysiology and neuropharmacology and have greatly stimulated the search for remedies against nervous and mental disturbances."

The sympathetic nervous system is involved in normal and abnormal behavior, cardiovascular function, and rapid utilization of energy.

Sympathetic nerves contain a specific chemical, noradrenaline, which was discovered by Prof. von Euler. He also showed that noradrenaline is released from sympathetic nerves on stimulation.

Finds Enzyme Terminator

Dr. Axelrod found an enzyme that terminates the action of the nerve transmitter, noradrenaline. He also showed that the major way the actions of noradrenaline are ended is by re-uptake into the sympathetic neurone.

The NIMH researcher also demonstrated that some anti-depressant drugs act by preventing the re-uptake of noradrenaline and thus prolong its action in the brain.

Sir Bernard's work led to discoveries concerning the mechanism for the release of a transmitter chemical substance called acetylcholine from the nerve terminals at the nerve-muscle junction, under the influence of the nerve impulses.

The three researchers will re-

biographical sketch, information about Dr. Axelrod's research, and photographs. Reruns of the video tape of the press conference with its rapid-fire questions and good-natured answers were played in Barlow Building conference rooms throughout the afternoon.

During a luncheon with colleagues and members of the NIMH Director's staff, phone calls and messages from well-wishers continued to pour in.

When Dr. Axelrod arrived home in the late afternoon, he was congratulated by his wife who had been in Baltimore attending a Maryland state teachers conference.

During one of the rare lulls, the telephone rang and a feminine voice announced: "This is the White House calling for Dr. Julius Axelrod."

President Calls

After a short wait the President came on the line, congratulated Dr. Axelrod and discussed for several minutes the research that had brought the award, NIMH research in general, and some of the economic problems facing medical scientists.

Calls from his two sons who are away at college, more messages from relatives and friends, and reporters looking for a different angle or more information continued through the evening.

It was a day to remember.

ceive their awards from King Gustaf Adolf of Sweden at ceremonies to be held Dec. 10 in Stockholm.

Since 1931, 46 scientists who have received support from the NIH and its predecessors have won Nobel Prizes for their research.

Dr. Axelrod came to the NIH in 1949 as a biochemist with the National Heart Institute. In 1955 he transferred to the National Institute of Mental Health to assume the position he still holds.

He received his B.S. degree from the City College of New York in 1933, and his M.S. degree in 1941 from New York University. He earned his doctorate in Chemical Pharmacology in 1955 from the George Washington University.

Affiliations Noted

Dr. Axelrod's professional affiliations include membership in the International Brain Research Organization of UNESCO, American Association for the Advancement of Science, American Chemical Society, American Society for Pharmacology and Experimental Therapeutics, and American Society of Biological Chemists. He also is corresponding member of the German Pharmacological Society.

Among other honors accorded Dr. Axelrod have been the *Modern Medicine* Distinguished Award for 1970, the HEW Distinguished Service Award (1970), and the Gairdner Foundation Award (1967).

Von Euler, Former NIH Grantee, Has Scientist Son With the NIGMS

One of the 1970 recipients of the Nobel Prize in Medicine or Physiology, Professor Ulf Svante von Euler of the Royal Caroline Institute in Stockholm, has especially close ties with the National Institutes of Health.

Not only is Professor von Euler among the 46 winners of the world's foremost scientific award to have received research support from the NIH—he was a grantee of the National Institute of Neurological Diseases and Stroke from 1963 to 1965—but he also has a son who is a scientist at NIH.

Dr. Leo H. von Euler is chief of the Medical Sciences Section, Research Training Grants Branch, National Institute of General Medical Sciences.

Dr. von Euler first heard that his father had shared the 1970 Nobel Prize in Medicine or Physiology while attending a conference in Vermont.

"Naturally" he said, "I was delighted for him, very proud that his studies on the physiology of nerve impulse transmission had been singled out by the Nobel Committee for this great honor."

Dr. von Euler also recalled that

Conference in Australia To Acquaint Biochemists With U.S. Automation

Dr. J. H. U. Brown, associate director, National Institute of General Medical Sciences, will chair a 2-day conference on Instrumentation and Automation in Biochemistry Nov. 9-10 in Sydney, Australia.



Dr. Brown

The meeting is being organized by the Australian Government and the U.S. Department of Commerce to acquaint engineering and biochemical workers in Australia with the latest American developments in laboratory instrumentation and automated analytical systems.

Opening speakers for the conference will be the U.S. Ambassador to Australia, Walter L. Rice; Secretary Sir Alan Westerman of the Commonwealth's Department of Trade and Industry, and the Minister for Health, State of New South Wales, A. H. Jago.

Grantees Listed

Grantees of the NIGMS automation of clinical laboratories research and training program who are participating include:

- Dr. Norman G. Anderson, Director, Molecular Anatomy Program, Atomic Energy Commission's Oak Ridge National Laboratory—Advances in Analytical Methodology.

- Dr. George Brecher, Director, Clinical Pathology, University of California San Francisco Medical Center—Computer Control of Analytical Processes.

- Dr. Evan Horning, professor of Chemistry and Director, Institute of Lipid Research, Baylor College of Medicine—Gas Chromatographic Analysis.

his father in 1967 shared the \$50,000 Stouffer Prize with three other scientists for contributing to the understanding of high blood pressure and hardening of the arteries, and that his grandfather, Hans von Euler, shared the Nobel Prize for Chemistry in 1929.

LETTERS

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high tribute to you and to the research being done daily in the National Institute of Mental Health and the other health agencies of the Federal Government," HEW Secretary Richardson wrote.

"Your research holds, I believe, great promise for the future health of Americans and the people of the world. Everyone at the Department of Health, Education, and Welfare is proud that the Nobel Prize has been awarded to a dedicated colleague."

Latest Participants in NIH Visiting Scientists Program Listed Here

9/30—Dr. Mahmood J. Nahvi, Iran, Laboratory of Neural Control. Sponsor: Dr. Charles D. Woody, NINDS, Bldg. 36, Rm. 5A20.

10/1—Dr. Carmelo B. Bruni, Italy, Section on Microbial Genetics. Sponsor: Dr. Robert G. Martin, NIAMD, Bldg. 2, Rm. 208.

10/1—Dr. Victor E. Marquez, Venezuela, Drug Development Branch. Sponsor: Dr. Jonathan L. Hartwell, NCI, Bldg. 37, Rm. 6D19.

10/1—Dr. Anelia Uzunova, Bulgaria, Laboratory of Biomedical Sciences. Sponsor: Dr. Edgar E. Hanna, NICHD, Auburn Bldg., Rm. 125.

10/5—Dr. Dante Marciani, Peru, Laboratory of Physiology. Sponsor: Dr. Peter Riesz, NCI, Bldg. 10, Rm. B1B50.

10/7—Dr. Ian R. Peake, United Kingdom, Nutritional Biochemistry Section. Sponsor: Dr. John G. Bieri, NIAMD, Bldg. 2, Rm. 5N102.

10/12—Dr. Bila Schechter, Israel, Immunology Branch. Sponsor: Dr. John L. Fahey, NCI, Bldg. 10, Rm. 4B18.

Dr. William J. Gartland Joins Program at DRG For Grants Associates

Dr. William J. Gartland, Jr. has joined the Grants Associates Program to train for a year in grants administration.

Dr. Gartland comes to the Division of Research Grants from Del Mar, Calif.

Dr. Gartland received his B.S. degree in Chemistry from Holy Cross College, Worcester, Mass. in 1962 and his Ph.D. degree in Biochemistry from Princeton University in 1967.

He was with the New York University Medical Center from 1967 to 1969 as assistant research scientist. While there, he participated in a program on the photochemistry of transfer RNA, utilizing ultraviolet light.

Taught at University
From 1969 until the present, he served with the University of California at San Diego as postgraduate research biologist.

His latest work has been the isolation of certain strains of hormone-dependent mammalian cells, which will be useful in the study of growth control mechanisms.

Dr. Gartland is a member of the American Association for the Advancement of Science and has co-authored several papers in his field.



Elislee DesBordes, LPN, CC Cancer Nursing Service, demonstrates the practicality of her suggestion—for which she received a \$50 cash award and certificate—to install additional sidewalk ramps on NIH grounds to facilitate transportation of patients and the handicapped by wheelchair. Additional slanted curving will be placed between the Clinical Center and the park area. Posing as a patient is Theresa Kramer, CC Patient Admissions Section.

New NINDS Sections Stress Cell Research

Three new sections established in the Laboratory of Molecular Biology, NINDS, will stress research involving a closer look at the way cells develop and differentiate from one another.

The laboratory is headed by Dr. Ernst Freese, who is also chief of one of the new sections—the Section on Developmental Biology.

The other two sections are: Regulation of Nucleic Acid Synthesis, headed by Dr. Robert A. Lazzarini, and Regulatory Cell Physiology, headed by Dr. Michael Cashel.

Researchers in the Section on Developmental Biology plan to identify and isolate components of cellular development enabling one type of cell to develop differently from another.

They also plan to identify biochemical reactions responsible for abnormal cell development in mutant cells.

Scientists in the Section on Regulation of Nucleic Acid Synthesis are concerned with how DNA and RNA are made and broken down. The researchers are particularly interested in regulation of the cellular content of DNA and RNA.

The Section on Regulatory Cell Physiology will study the biochemical response of cells to different kinds of environmental stress. This will involve identifying how a cell coordinates the formation of its chemical parts and maintains a balanced cell metabolism.

The Laboratory of Neuropathology and Neuroanatomical Sciences, headed by Dr. Igor Klatzo, also has added two sections.

Dr. Herman Will Assume Presidency of Sanitation Management Institute

Dr. Lloyd G. Herman, chief, Laboratory Section, Environmental Services Branch, Division of Research Services, has been elected president of the Institute of Sanitation Management.

Dr. Herman will be installed as president tomorrow (Oct. 28) at the 12th Annual National Environmental Sanitation and Maintenance Management Conference and Exposition in Cleveland, Ohio.

Headquarters Are in Florida

The Institute has its headquarters in Clearwater, Fla., and active chapters in the Washington, D.C. area and 25 other cities.

The membership of almost 2,000 institutional sanitation managers covers food industry, institutional buildings, health care facilities, industrial plants, schools and universities, air and surface transportation facilities, and sanitation consultants.

The Institute conducts regular regional and national seminars to provide liaison between Federal agencies and the various manufacturing groups.

The laboratory is responsible for studying the structure and pathological conditions of nerves.

The new Section on Neurocytobiology, under Dr. Maria Spatz, will concentrate on evaluating old techniques and developing new ones for growing nerves in tissue culture.

The Section on Cellular Neurochemistry, headed by Dr. Janet

Dr. Edward V. Evarts Appointed Acting Chief Of NIMH Laboratory

Dr. Edward V. Evarts has been appointed acting chief of the Laboratory of Neurophysiology in the National Institute of Mental Health's Division of Biological and Biochemical Research.

He was formerly head of the Section on Physiology in the Laboratory of Clinical Science.

Dr. Evarts will continue the program of neurophysiological research initiated by Dr. Wade Marshall who retired in July.

Expands Studies

He also plans to expand studies on cerebral and cerebellar control of movement. Much of this work will be carried out with monkeys trained in skilled movements.

Dr. Evarts has developed techniques which make it possible to record the activity of individual nerve cells in moving animals. By means of this technique, he is able to follow the chain of neuronal events which occur between a stimulus and a behavioral response.

In expanding this work on behaving animals, Dr. Evarts also plans to study the modifications of brain activity associated with learning.

Except for a brief period with the Department of Physiology at Duke University in 1961-62, Dr. Evarts has been with NIMH since 1953. He is a graduate of Harvard College and Harvard Medical School where he held the John Harvard and Mosely Fellowships.

Author of a number of papers related to the physiology and chemistry of the brain, Dr. Evarts' main fields of research interest have been the cerebral mechanism underlying sleep, electrophysiological correlates of behavior, and the neurophysiology of movement.

461 Units of Blood Donated By Employees in September

The Clinical Center Blood Bank reports that 461 units of blood were received from NIH donors in September, and CC patients received 1,840 units.

Three members attained a special status: Paul P. Becker, NCI, attained the 3-gallon mark; Forest W. Gray, ODA, reached the 2-gallon mark, and Jo Ann Hutchinson, NCI, joined the Gallon Donor Club.

Passonneau, will probe the basic biochemical composition of nerve cells.

Both normal cells and those exposed to experimental injury will be examined for levels of protein, enzymes, and metabolites.