

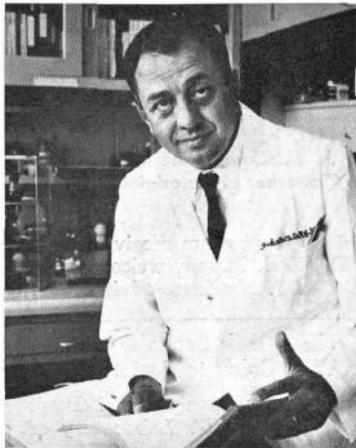
the NIH Record

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

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NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE

Dr. Good to Give 16th Dyer Lecture Here on April 26



Dr. Robert Alan Good, noted immunobiologist, will deliver the Dyer Lecture.—Photo by Time Inc.

Dr. Robert Alan Good of the University of Minnesota, one of immunobiology's leading clinical practitioners and chief theoreticians, will deliver the 16th annual Dyer Lecture on April 26.

His lecture, entitled "Development and Involution of Lymphoid Tissue and Immunologic Capacities," will be given at 8:15 p.m. in the NIH Clinical Center auditorium. Dr. Good is Professor of Pediatrics and Microbiology at the University of Minnesota Medical School, Minneapolis.

Originated Key Concept

Dr. Good and his coworkers at Minnesota are architects of a key concept of current immunobiology: that immunity is divided into two separate but mutually dependent systems.

According to their theory, one system is based on the thymus, directing production of lymphocytes or specialized white blood cells important to cellular immunity.

The other system is based on unidentified areas of lymphatic tissue, possibly the tonsils or appendix,

(See DYER LECTURE, Page 6)

Three NIH Employees Are Honored at the Annual DHEW Awards Ceremony April 11

Joseph S. Murtaugh, Director, Office of Program Planning, and Dr. Margaret Pittman, Chief, Laboratory of Bacterial Products, Division of Biologics Standards, were the two NIH personnel singled out to receive Distinguished Service Awards at the DHEW Honor Awards Ceremony on April 11.

The annual awards ceremony honors DHEW employees who exemplify public service at its best.

Daylight Saving Time Begins At 2 a.m., Sunday, April 30

April 30 at 2 a.m. most of the country, including the Washington Metropolitan area, will go on Daylight Saving Time. Employees are reminded to set their clocks ahead one hour to compensate for the time change.

NIH employees working the tour of duty extending from 12 midnight to 8 a.m. will work one hour less that day as a result of the change and should be charged one hour's annual leave. With the change back to Eastern Standard Time in the fall, employees working this tour will be compensated for one hour's overtime.

Presentations were made by John W. Gardner, Secretary of Health, Education, and Welfare, in the Departmental auditorium.

At the same ceremony, Luther W. Strickland, Plant Engineering Branch, Division of Research Services, NIH was given a length of service award. During 1966 Mr. Strickland reached his 40th year of service as an employee of the United States Government.

Mr. Murtaugh Cited

Mr. Murtaugh received his award "in recognition of consistently outstanding service and for major contributions to the development of the policies of the National Institutes of Health during a difficult and protracted period of rapid program expansion."

With the Federal Government 31 years, Mr. Murtaugh has been a
(See HONOR AWARDS, Page 6)

Lee's Appointment As Assoc. Dir. of DEHS Announced



Dr. Douglas H. K. Lee, Associate Director for Scientific Information, NIH Division of Environmental Health Sciences, Triangle Park, N. C.

Dr. Douglas H. K. Lee was transferred to the NIH Division of Environmental Health Sciences on March 12. He is located at the National Environmental Health Sciences Center in the Research Triangle Park, North Carolina.

"This is the most delayed event I've announced," said Dr. Paul Kottin, Director of the Division. He explained that Dr. Lee has been

(See DR. LEE, Page 7)



Honored at Secretary John W. Gardner's reception following the DHEW Honor Awards Ceremony were three from the NIH. With Sec. Gardner (from left) are Dr. Margaret Pittman, Luther W. Strickland and Joseph S. Murtaugh. Dr. Pittman and Mr. Murtaugh received the Distinguished Service Awards, the nation's top civilian award, and Mr. Strickland, an award for 40 years Federal service.—Photo by Ed Hubbard.

Dr. Bowman Receives Chemical Society Award

Dr. Robert L. Bowman, Chief of the Laboratory of Technical Development, National Heart Institute, received the American Chemical Society's \$2,000 Award in Chemical Instrumentation for 1967. Presentation was made at the Society's 153rd national meeting in Miami Beach, Fla., on April 10.

This highly coveted award was presented to Dr. Bowman for the

(See DR. BOWMAN, Page 4)

the NIH Record

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

NEWS from PERSONNEL

RETIREMENT

(Concluded from Apr. 4 issue)

Following is the fourth and final retirement planning installment which surveys the status of your financial obligations:

- What debts do you owe on real property, securities, automobiles, household appliances, or other movable property?
- Are all payments current? Can you plan to keep them current until paid?
- Do you owe any Federal, state, or local taxes?
- Do you file tax returns on time? Do you know the values and limitations under capital gains provisions, dividend exclusion, and retirement income credit on income tax returns? Do you maintain proper records to substantiate tax returns?

Further Questions to Ask

- Are there any suits or liability claims against you?
- Do you have charge accounts at local stores? Are payments kept current?
- Do you have loans at the bank or on your life insurance? What kinds of insurance do you carry? Is it sufficient within your means? If you have life insurance, who is the beneficiary? Do you understand all the provisions in your insurance policies?

If you have completed this four-part checkup, perhaps you can better determine whether you need to plan any changes with respect to your property, securities, and insurance.

You may find that professional help will enable you to decide

whether property should be in your own name or held jointly. Perhaps you will need help in clarifying your title to some of your property.

You may find that some changes will be desirable in your investments. Having a clear picture of your assets and obligations will enable you to plan the financial side of your retirement intelligently.

Folk Dancing Classes Sponsored by the R&W To Start Here May 3

Beginning Wed., May 3, the NIH R&W Association will sponsor classes in international folk dancing in Wilson Hall auditorium, Bldg. 1.



"Put some fun in your life"—try folk dancing on the NIH campus, starting Wednesday, May 3 at 8 p.m. in the Wilson Hall auditorium, Bldg. 1.

ing in Wilson Hall auditorium, Bldg. 1.

Marjory Weiss, National Institute of Arthritis and Metabolic Diseases, will teach dances of a dozen countries including Germany, Switzerland, Holland, England and Israel.

The class will meet from 8 to 10:30 p.m. The fee is 50c each for R&W members and members of their immediate families; 75c each for others. Additional dance ses-

Recent Acquisitions Help Round Out 'Pictures for Patients' Collection at CC



From left: Dr. Jack Masur, Harriet Englander, holding "Evening Shadows," an original linoblock print by Dr. Frank J. McClure; Jane Zwemer, Mary McGinnis, and Dr. McClure holding "Tulips," another of his original linoblocks. —Photo by Tom Joy.

The Clinical Center's "Pictures for Patients" program received another boost recently when the CC Director, Dr. Jack Masur, welcomed additional art from the collection of Dr. Frank J. McClure, advisor to the Director of the National Institute of Dental Research.

At the same ceremony, Dr. Masur announced the receipt of a \$500 gift from Maxwell M. Geffen, publisher of Medical World News. Mr. Geffen's generous contribution will be used to expand the art collection from which patients may choose for display in their rooms.

Among those attending the ceremony were Harriet Englander, who is in charge of the CC Art Cart, Jane Zwemer and Mary McGinnis, both Red Cross volunteers, and Dr. McClure.

Dr. McClure Is Patron

Dr. McClure has given 18 works of art from his collection, and has also purchased 25 reproductions. Mrs. Luther Terry, wife of the former USPHS Surgeon General, initiated the "Pictures for Patients" program among Federal hospitals (see *NIH Record*, June 28, 1966), and continues to be active in it.

sions are scheduled for Wed., May 10, 17 and 31.

Mrs. Weiss is a professional folk dance teacher. Participants need not have had previous instruction in dancing, and may come without partners. Beginners are welcome.

If this "trial period" of folk dancing at NIH arouses sufficient interest, it will become a regular R&W activity. So far approximately 60 persons have expressed interest in the instructional classes and in forming an R&W-sponsored

NIAID Lab Seeks Employes With Colds to Assist Study

Do you have a cold? Don't forget NIAID's Laboratory of Infectious Diseases needs your aid in its study of the common cold.

The study, designed to detect agents causing colds, has been carried on since November 1962.

Employes with colds are urged to contribute samplings of nasal secretions plus 2 blood samples, one at the start of the illness and one 3 weeks later. Participants receive \$2 for each blood sample.

Appointments may be made by calling Sara Kelly or Harvey James, Ext. 65811, preferably within the first 3 days of infection.

If possible, employes are requested to schedule appointments in the morning to give investigators ample time for processing.

folk dance club.

Members of the folk dance group have twice instructed the patients at the Clinical Center in folk dancing. The group also provided entertainment at the 1966 R&W picnic.

Ad hoc officers of the NIH Folk Dancers are Chairman, Irving Shapiro, NIAMD, and Secretary-Treasurer, Ruth B. Scott, National Institute of Neurological Diseases and Blindness.

The Young At Heart

Sixth of a Series

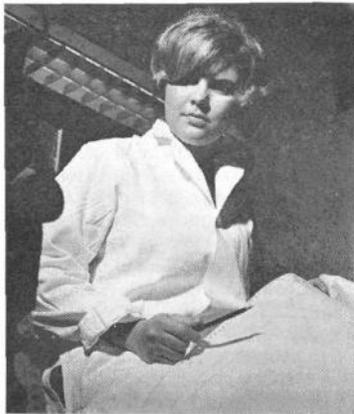
By Katie Broberg

Two years ago Paddy Wright had never heard of the NHI Laboratory of Kidney and Electrolyte Metabolism, but two weeks after graduating from Texas Woman's University in June 1965 she was working there.

Her trip to Bethesda came about after Dr. Zaka Slawsky, visiting her campus from the Naval Ordnance Laboratory, had spoken with her about a position with NOL. A few days later he called to explain that she could not be hired after all since she did not have enough engineering background with her chemistry major. Dr. Slawsky then added that NIH had a job for her.

Career Begins

Thus, Paddy Wright began working for Dr. James O. Davis, a cardiovascular, renal and endocrine



Paddy Wright waits patiently for the ergosterol sample to come off the gas chromatograph in order to measure the retention time and make comparisons with other steroids.—Photo by Ralph Fernandez.

physiologist. The job entailed double isotope derivative assays for steroids using descending paper chromatography techniques. Upon his departure last July, Paddy went to work for Dr. Edward Korn of the Laboratory of Cellular Physiology, Biochemistry Section.

Work Described

She has been working with an amoeba found in the soil, the acanthamoeba. In addition to keeping the cultures of the protozoan happily growing, Paddy is currently studying the effects of such factors as pH, ion concentration, and glucose transport on the ability of the acanthamoeba to engulf polyptyrene and polyvinyl-toluene beads. She is also responsible for calculations, conditions for maximum up-

Dr. Kaufman Appointed Section Chief at NIAMD

Dr. G. Donald Whedon, Director, National Institute of Arthritis and Metabolic Diseases, has announced the appointment of Dr. Bernard T. Kaufman as Chief of the Section on Vitamin Metabolism in the Laboratory of Nutrition and Endocrinology.

The Section conducts a broad research program concerned with the nutrition, metabolism, and isolation of B vitamins, amino acids, and their derivatives.

Research Noted

Dr. Kaufman joined NIAMD in 1960 as a research chemist and has made major contributions to the research program on the mechanism of action of folic acid enzymes.

He participated in the development of methods of analysis of folic acids by column chromatography so that profiles of folic acid compounds in tissue extracts could be established.

He also developed methods for producing highly purified preparations of the enzyme folic reductase.

Commenting on the new appointment, Dr. Whedon noted that the difficulties in investigating the baffling and complex nature of dihydrofolic reductase have been very frustrating. Nonetheless, he said, Dr. Kaufman has continued "to maintain the leadership in studies to expose the unusual properties of this enzyme whose existence was first recognized in our laboratory."

take of these beads, analytical assays for studying proteins and enzymatic activity relating to the structure of the amoeba.

Besides being class officer, cheerleader, member of the Wrangler Belles (a dance and drill team), Paddy was also valedictorian for Cisco Junior College. These activities apparently did not keep her busy enough, for at the same time she held a student job as a biology laboratory technician and linebacker position for the powder puff football team. From all that football regalia emerged the 1961 Miss Lake Cisco. Between the two colleges she attended, Paddy managed to earn several scholarships to supplement her student jobs.

Has Science Background

Paddy majored in chemistry and minored in biology. A paper she wrote on "Evidence for the Facile Saponification of the Imide Moiety of Alpha Phthalimido Acids" was published in her senior year under a Robert A. Welch Foundation Grant.

The Wright family has lived both in South America and Cuba, and now reside in Cisco, Tex. where

Division of Research Services Clears the Air and Lets the Sunshine in at the NIH

By Tony Anastasi

NIH is now taking important steps to reduce local air pollution. The Division of Research Services recently completed a study on the "Effect of Low Sulphur Oil on Air Pollution Status at NIH." The study points out that the so-called "smoke" on the NIH reservation is really not smoke. More than 95% of this "white air" is actually water vapor from condensed steam.

The chief pollutant and irritant emitted into the atmosphere has been sulphur dioxide. The study shows that sulphur dioxide has been reduced by 80% by switching from high sulphur to low sulphur fuel in the NIH boiler plant. The present air pollution level is well below existing federal and state regulations.

Low Sulphur Fuel Used

NIH switched to low sulphur fuel oil in its central power plant in September 1966. The federal specification governing purchase of this fuel calls for a maximum sulphur content of 0.5%. The sulphur content of fuel previously used was about 2.6%. The changeover to the new low sulphur fuel is an intermediate step, with conversion to natural gas as an eventual possibility.

The procedure used for gathering data in this comparison study included fuel oil analysis, stack gas analysis, and environmental sulphur dioxide sampling.

Two boilers were in operation at the time of the study. One was selected for stack sampling and placed on manual control to limit fluctuations in fuel consumption during the stack gas test.

The NIH power plant staff of the DRS Plant Engineering Branch provided valuable assistance and

(See AIR POLLUTION, Page 7)

Blood Bank at CC Reports 273 Units Given in March

The Clinical Center Blood Bank reports that 273 units of blood were received from NIH donors in March. During the same period CC patients received 2,194 units of blood.

Four NIH staff members joined the "gallon donor club." They are Alice E. Duncan, CC; Ruth Lasky, DRG; Phillip Nelson, NINDB; and Margaret B. Renfors, NIMH.

In addition, Milton Ray Mullican, OD, reached the two gallon mark.

Paddy's father is a geological engineer. Paddy herself believes in living a varied life; her other interests include photography, drawing, swimming, water skiing, and classical folk music. Most noticeable feature—a smile.

Dr. Schweet, Consultant To DRG Study Section, Killed in Plane Crash

Dr. Richard S. Schweet, 48, a PHS consultant serving on the Physiological Chemistry Study Section, Division of Research Grants, was one of nine passengers killed April 3 in the crash of a twin-engine chartered plane near Lexington, Ky.

Dr. Schweet was Chairman of the Department of Cell Biology at the University of Kentucky College of Medicine at Lexington at the time of his death.

He was leaving Lexington to make a site visit at the University of Colorado Medical Center near Denver where he was to meet Dr. C. Donald Larsen, Executive Secretary of the Physiological Chemistry Study Section.

Active Here Since '62

Prior to his appointment to the DRG Study Section, July 1, 1965, Dr. Schweet served as a member of the Biochemistry and Nutrition Fellowships Review Committee, completing the 3-year appointment in June 1965.

He was highly regarded as a specialist in the area of protein synthesis and cellular control mechanisms.

Memorial services were held at the University of Kentucky on April 6.

Dr. Schweet is survived by his wife, Shirley, two daughters and one son.



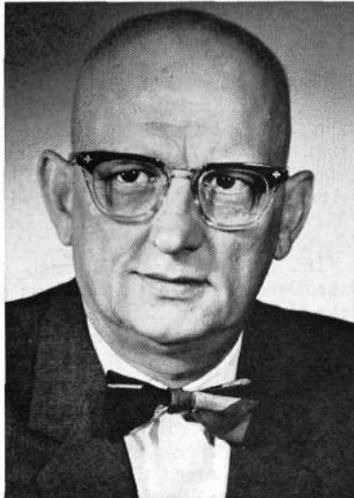
LONGTIME EMPLOYEE RETIRES—Walter A. Maki, a veteran of 30 years' service on the staff of the Rocky Mountain Laboratory at Hamilton, Mont., a unit of the NIAID, retired April 1. He had been head of the engineering shop and mechanical maintenance operations since 1955.

DR. BOWMAN

(Continued from Page 1)

development in his Laboratory of the spectrophotofluorometer and a number of other instruments which are now found in daily use in chemical and medical research laboratories throughout the country.

The sensitive and reliable procedures made possible by these instruments have had a profound



Dr. Robert L. Bowman, Chief of NHI's Laboratory of Technical Development.—Photo by Ralph Fernandez.

effect on advancement of research, especially in the pharmaceutical, pharmacological and medical fields.

On receiving his award, Dr. Bowman delivered an address as part of the Symposium on Fluorescence on "Biomedical Instrumentation."

Instrument Described

The spectrophotofluorometer is an accurate and extremely sensitive means for identifying chemical components in biological solutions. The instrument takes advantage of the fact that many biological substances strongly absorb light of certain wavelengths and subsequently fluoresce, that is, a portion of the absorbed energy is emitted as light of a different wavelength. Since the wavelengths at which various substances take up or emit light are highly specific, these characteristics can be used to identify the compound.

Other Products Noted

Another recent commercially available product from the Bowman laboratory is a curve resolver now being produced by the Instrument Products Division of DuPont.

This is a device for analyzing certain complex analog curves consisting of sums of distribution functions, such as those obtained through chromatography, electrophoresis and spectroscopy.

Still another important product of his laboratory is a disposable oxygenator of compact design which promises to remove two of

Dr. Nirenberg Awarded Amer. Col. of Physicians Medal in San Francisco

Dr. Marshall W. Nirenberg, Chief of the Laboratory of Biochemical Genetics, National Heart Institute, has been named winner of the American College of Physicians Medal for distinguished contributions in science as related to medicine. Presentation was made at the 48th Annual Session of the College in San Francisco, April 10-14, 1967.

The award includes a bronze medal bearing the name of the recipient plus an honorarium. The Medal, established in 1958, is presented annually to an outstanding scientist who has made major contributions in fields related to medicine, whether clinical, biochemical or social.

Other Awards Presented

In addition to the Medal presented to Dr. Nirenberg, other awards were presented for distinguished service in internal medicine, outstanding contributions in preventive medicine, distinguished work by a layman in the health field, and significant contributions to the college itself.

Dr. Nirenberg presented his lecture, "Genetic Information Processing," on Tuesday, April 11, immediately following presentation of the Medal.

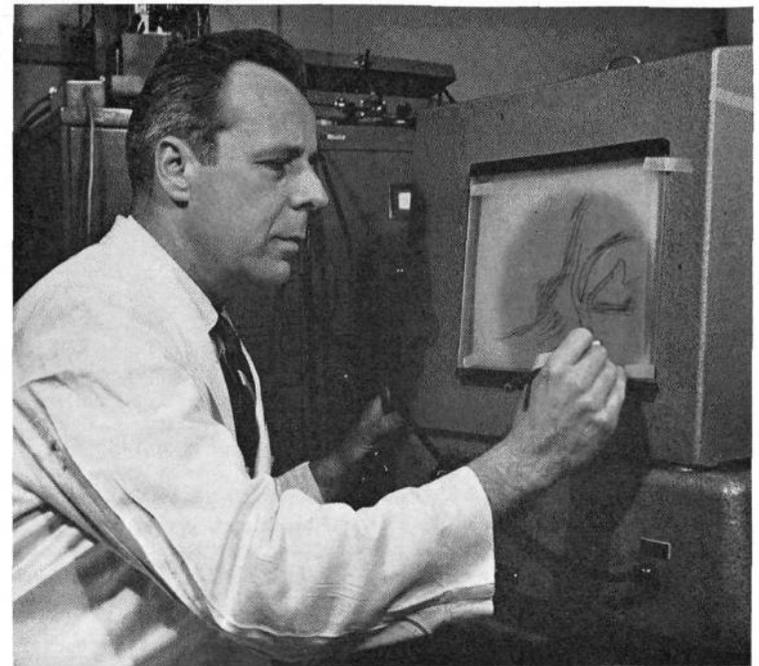
Dr. Nirenberg's pioneering experiments on protein synthesis led to the deciphering of the genetic code. His work has resulted in major advances in understanding of the mechanism by which genetic information is translated into various proteins that determine the nature of all living things.

The 39-year-old scientist's previous awards include: the National Medal of Science; Molecular Biology award; National Academy of Sciences; the Paul Lewis Award; the HEW Medal; the NIH Lecture; the Research Corporation Award; the Hillebrand Award; the Harrison Howe Award; the Modern Medicine Award, and the Robbins Lectureship.

the greatest disadvantages of present oxygenating equipment—exposure of blood to gas interface in the heart-lung machine and the need for several units of blood in order to prime such devices. Responsible for the design is Dr. Theodor Kolobow.

Currently his laboratory is working on new methods for clinical microbiology in which petri dish and test tube procedures for counting and antibiotic testing will be replaced by capillary tube methods which will be more amenable to automatic and rapid processing.

Modern Electronics Aid NIDR Scientists In Diagnosis and Treatment of Dental Ills



X-RAY MOTION PICTURES provide information on such defects as cleft palate. Here, Dr. James F. Bosma, Chief, NIDR Oral and Pharyngeal Development Section, sketches on ground glass as the cinefluorograph film is projected from behind the glass in slow motion. His analysis of the sketch will help determine variations from the normal in motions of chewing, swallowing, and speaking.—Photo by Robert S. Pumphrey.

By Jim Rice

National dental problems add up to one big toothache.

There are 800 million cavities needing treatment, to say nothing of more serious dental disorders, such as gum diseases (periodontal disease) and oral cancer. The bill for treatment is about \$3 billion a year—a small fraction of the amount needed for optimal care.

NICHD Information Off. To Operate Press Room At Pediatric Meetings

The National Institute of Child Health and Human Development Information Office will operate a Press Room for the annual meetings of the American Pediatric Society and the Society for Pediatric Research, April 26-29, in Atlantic City, N. J.

Information staff manning the Press Room will include Lois P. Meng, Robert Walters, Dan Rogers, and Patricia Gabbett.

The Press Room will be located in the Green Room, Lounge Floor, Chalfonte-Haddon Hall Hotels. The Press Room will be open Tues., Apr. 25 from 1 to 5:30 p.m., and on Apr. 26 to Apr. 29 from 8:30 a.m. to 5 p.m.

More than 2,000 pediatricians and pediatric investigators from this country, Canada, and Latin America—including many from the NIH—are expected to attend these meetings.

Births in the United States during 1966 totaled 3,629,000 — the smallest number since 1950.

Recognizing the magnitude of the problem, the National Institute of Dental Research seeks ways to prevent dental disease, while developing better means of diagnosis and treatment.

Advances Bring Hope

The disorders are ages old, but each new technologic advance brings new hope for their control. When NIDR grantees recently used X-rays to show that the ancient Pharaohs and their queens were plagued with periodontal disease, they reflected the increasing use of modern electronic methods.

Cybernetics, for example, promises to extend the human brain through employment of sophisticated computers that will help bring order out of the vast complexes of information now being developed.

Meanwhile, miniaturization of electronic components continues. Space-age developments now permit bioengineers to pack more electronic circuitry into a pea-size chip than formerly occupied a room full of radios.

A practical application of this miniaturization was the much published (See *ELECTRONIC METHODS*, Page 5)

New Electronic Methods Applied to Age-Old Dental Problems at NIDR

(Continued from Page 4)

licized "talking tooth" into which were built 6 radio transmitters, 28 other electronic components, and 2 rechargeable batteries. The force of chewing was translated into electrical signals to give objective, scientific data on the pressures involved.

Actually, most electronic methods are shared by many fields of biomedical science. The tiny strain gauge transducer developed by NIH Division of Research Services bioengineers to measure pressure changes related to artificial heart development (*NIH Record*, Sept. 7, 1966) for example, has application in measuring occlusive pressures of teeth.

Commenting on this type of work by NIH bioengineers, Dr. James A. Shannon, Director, NIH, told newsmen recently that such groups serve as a "coupling device to bring space age talents together with civilian problems."

Approaches Taken

To study dental problems, the NIDR and its grantees are adapting electronic approaches in:

- Examining the structure of teeth crystals by beaming electrons through the microscopic universe within them. Here, atoms deflect some beams (X-ray diffraction). The pattern of spots made on film by emerging electrons is a clue to the make-up of the crystals. Methods such as this have helped show, for example, how fluoride is incorporated into tooth enamel, enlarging the crystals and making them more uniform.

- Beginning to control the incredible energy of light electrons, gathered in force and released in a sun-spot focus capable of drill-burning a tiny hole through steel (laser ray).

- Testing ultrasonic waves sent through teeth as a means of detecting cavities.

More Uses Cited

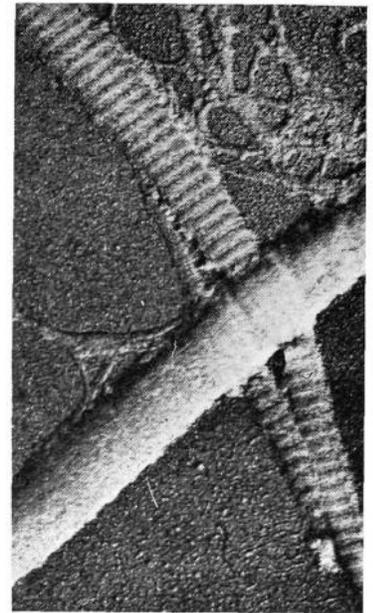
- Incorporating into various oral biochemical processes the "tagged" elements (radioactive isotopes) that have been called "hitch-hikers with walkie-talkies." Instead of joining a chemical compound silently, the isotopes report back to Geiger-type detectors so sensitive they have to be shielded against the cosmic (sun) electrons coming through the laboratory ceiling.

- Probing the brain with micro-electrodes to map complex circuits involved in oral health.

The applications of electronics shown in the accompanying photographs, and other uses, new and old, suggest that ways are being found to achieve formerly "unreachable" goals—that even the great challenge of oral diseases is not beyond the range of the science of our era.



ELECTRON MICROSCOPE uses electron beams instead of ordinary light rays and electromagnets instead of optical lenses to illuminate areas of the unknown. It can magnify about 250,000 times compared to about 2,500 times for a good optical microscope. Dr. Marie Nysten, Acting Chief, Laboratory of Histology and Pathology, NIDR, studies a fiber of collagen (see photo at right) under the microscope. —Photo by Robert S. Pumphrey.



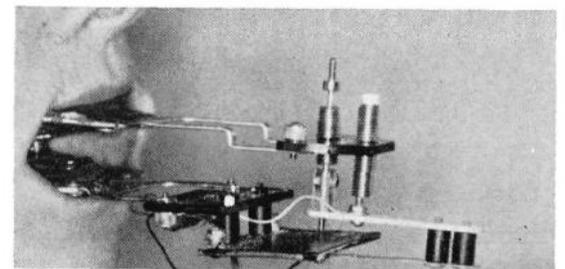
A FIBER OF COLLAGEN (connective-tissue protein) only about one-third micron in diameter is visualized with the electron microscope. Collagen and related enzymes also can be studied in even more minute detail by separating their fractions electrically—using opposite magnetic poles to attract fractions with different electrical potentials (electrophoresis). —Photo by Robert S. Pumphrey.



X-RAY EQUIPMENT used at NIDR can take a sequence of pictures from different angles. The entire dental arch can be photographed, for example, as the chair rotates. NIDR's Dr. Robert J. Nelsen developed a forerunner (while with the University of Washington) of the commercial "panographic" X-ray shown here. —Photo by Robert S. Pumphrey.



ONLY ELECTRONIC BEAMS will be able to "see" dental specimen after technician aligns it in cartridge to be placed in ultracentrifuge. The beams not only "see" it, but report on dial how heavier components are being separated out, while the ampule whirls at velocity exceeding that of bullet in flight. —Photo by Jerry Hecht.



MANDIBULAR MOVEMENT TRANSDUCER, which sketches diagram of jaw movement, can reflect oral neuromuscular dysfunction. Instruments of this type relay information to computers that will play it back, on demand, to operate "model" mechanisms in slow motion for investigators. —Photo by Albert Einstein Medical Center.

DYER LECTURE

(Continued from Page 1)

making plasma cells which produce antibodies in the blood against foreign substances.

His group is concentrating on the study of such diseases as agammaglobulinemia, in which gamma globulin and other immunoglobulins are absent, resulting in fewer antibodies with which the body can fight off infection. Through such studies of "abnormalities" in nature, they seek a better understanding of the body's defense system.

Honors Former NIH Director

The Dyer Lectureship was established in 1950 to honor Dr. Rolla E. Dyer on his retirement as Director of the National Institutes of Health, his final assignment in a distinguished career with the U. S. Public Health Service. The lectureship is administered by NIH and is awarded annually to a scientist who has made an outstanding contribution to medical and biomedical research.

Dr. Good, who has been American Legion Heart Research Professor at Minnesota since 1954, received the A.B., M.B., M.D., and Ph.D. degrees from the University of Minnesota. He has held research fellowships in poliomyelitis and rheumatic fever, was a Markle scholar from 1950 to 1955, and was a visiting investigator and assistant hospital physician at the Rockefeller Institute in 1949-50.

Previous Dyer Lecturers have been Dr. George W. Beadle, Sir F. MacFarlane Burnet, Dr. Rene J. Dubos, Dr. John Franklin Enders, Dr. Louis Pillemer, Dr. Karl F.

Listing of Formula and Special Project Grants For FY '66 Available

Publication of an annual listing of formula and special project grants for health services totaling \$152,657,979 during FY 1966 was announced recently by the PHS.

In some cases, the award constitutes a continuation of a previously approved grant.

Formula grants to States, administered by the various divisions and institutes of the PHS, are so named because they are allotted by a formula in which population, financial need and extent of the problem are considered.

The new publication is Part IV of a 5-part series entitled "Public Health Service Grants and Awards, Fiscal Year 1966 Funds, Health Services Formula and Project Grants," (PHS Publication No. 1564).

Others in the series list all grants made by the PHS for research projects (Part I); all awards for research training (Part II); all construction grants except those for waste treatment works (Part III) and summary tables (Part V) covering the data presented in Parts I through IV.

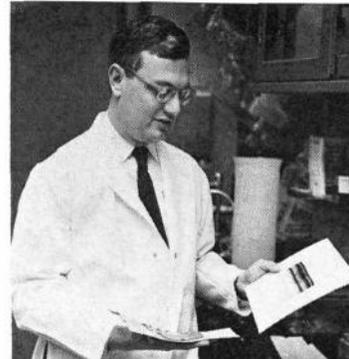
Copies may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, at 35 cents each.

Meyer, Dr. Richard E. Shope, Dr. Walsh McDermott, Dr. Salvador E. Luria, Dr. Harry Rubin, Dr. Alexander D. Langmuir, and Dr. Karl Habel.

Dr. Elliot S. Vesell Wins '67 Meltzer Award for His Studies on Isozymes

Dr. Elliot S. Vesell, Head of the Section on Pharmacogenetics in the Laboratory of Chemical Pharmacology of the National Heart Institute, is the 1967 winner of the Meltzer Award.

He is being honored for his



Dr. Vesell examines starch gels showing lactic dehydrogenase isozymes of human red cells.—Photo by Ralph Fernandez.

studies on multiple molecular forms of enzymes (isozymes) including the discovery of one of the most sensitive diagnostic tests for myocardial infarction.

Isozymes are also useful in the diagnosis and treatment of various other diseases including hepatitis, muscular dystrophy and certain types of cancer.

Award Described

The award, named for Samuel James Meltzer, founder of the Society for Experimental Biology and Medicine in 1903, consists of a bronze medal and a \$500 stipend. It is given annually to a scientist under 35 for outstanding contributions to biology and experimental medicine.

Dr. Vesell was honored at a dinner given in Chicago last night at the Conrad Hilton Hotel by the Society for Experimental Biology and Medicine.

Background Given

Dr. Vesell is a magna cum laude graduate of Harvard Medical School. He first showed that the enzyme lactate dehydrogenase exists in multiple forms in human serum and tissues while working as a medical student with Dr. A. G. Bearn at the Rockefeller Institute.

These investigations in 1956 demonstrated that various tissues have different isozyme patterns and that the serum pattern frequently indicates the damaged tissue.

Dr. Vesell's current work is directed toward understanding the intracellular function of the lactate dehydrogenase isozymes. Isozymes

HONOR AWARDS

(Continued from Page 1)

member of the PHS for 20 years, and at the NIH since 1956. He is a long-time exponent of a broader and a more concerted approach to program planning.

His efforts, which antedate the advent of current Program Planning and Budgeting System, were largely responsible for a progressive strengthening of program planning and analysis activities not only in the Office of the Director but in each of the Institutes.

Mr. Murtaugh has also been almost solely responsible for developing the program guidelines and administrative machinery for the international activities of the NIH.

In 1962 Mr. Murtaugh received the Departmental Superior Service Award.

Dr. Pittman Cited

Dr. Pittman was honored "for her pioneering contributions to standardization and testing of vaccines against infectious disease, which have enhanced preventive medicine and reflected credit on the Federal Service."

Dr. Pittman has been with the Federal government since 1936, and all 30 years have been spent in research and control work in the Division of Biologics Standards and its antecedent organization at NIH.

Internationally Known

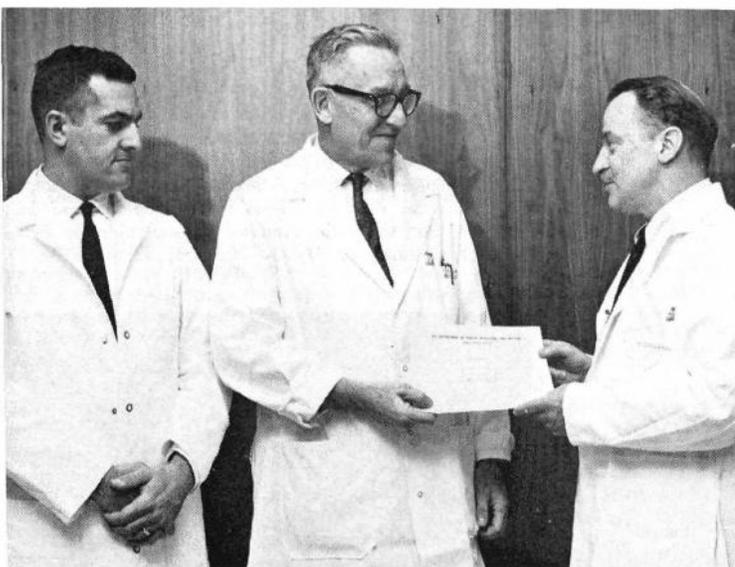
An internationally known bacteriologist, Dr. Pittman has served as a member of three World Health Organization Study Groups for the formulation of International Recommended Requirements for Biological Substances. She is NIH Project Officer for the SEATO Cholera Laboratory and a member of the NIH Cholera Advisory Committee. She is a member of the Board of Governors of the American Academy of Microbiologists, and was the first woman President of the Washington Academy of Sciences.

In 1963 Dr. Pittman received the Superior Service Award.

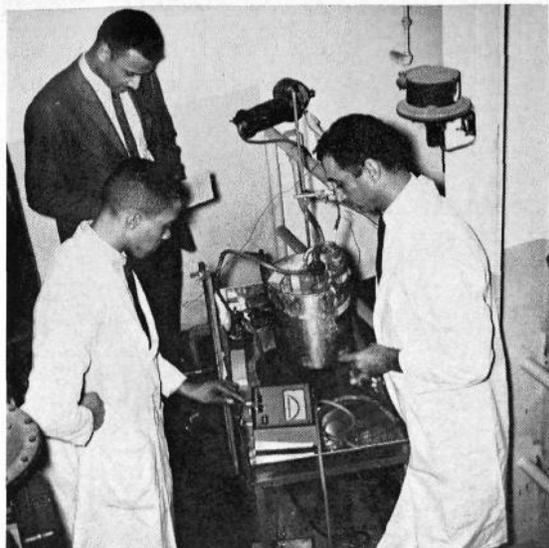
Twelve of Mr. Strickland's 40 years of Federal service have been spent at the NIH. He is a painter in the PEB, DRS.

Immediately following the awards ceremony, the awardees and members of their families attended a reception in the office of Secretary Gardner.

have been particularly useful in genetics, but also find application in a variety of other areas. More than 100 enzymes have been demonstrated to exist in multiple molecular forms so that enzymatic heterogeneity appears to be a general biological phenomenon.



William G. Jahnes (center), Head of the Avian Leukosis Unit, Laboratory of Virology and Rickettsiology, DBS, receives outstanding performance award for developing a test used for screening all live vaccines derived from chick embryo tissues for the presence of avian leukosis viruses. The award, recommended by Dr. Nicola Tauraso, LVR (left), was presented by Dr. Alexis Shelokov, Chief of LVR.—Photo by Tom Joy.

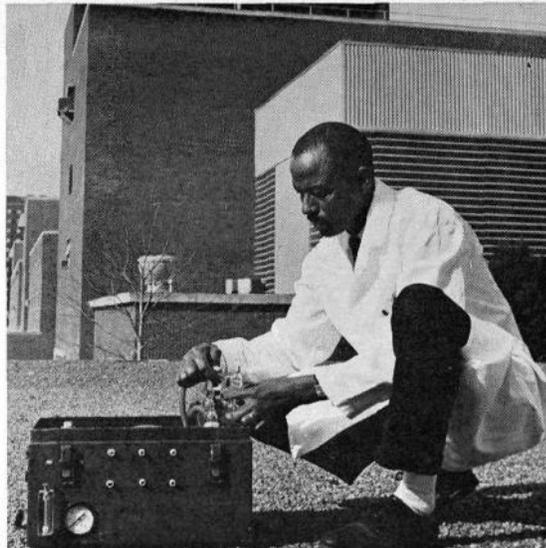


Three members of the ESB take temperature readings during air sampling for sulphur dioxide content. They are: Ed Radden (left foreground), health services officer; Elmer Dyson (left background), technician, and Narbik Karamian, chemist.—Photos by Jerry Hecht.

DATA COLLECTED DURING AIR POLLUTION STUDY



Russell Brown, assistant watch supervisor, PEB, monitors a chart for proper operation of the combustion control board for one of the three steam boilers in the Power Plant.



Morris Johnson, technician in the DRS Environmental Services Branch, operates an air-sampling device on the top of Building 11. The device has a source of suction which draws air through the sampling liquid. Samples are then returned to the laboratory for chemical analysis.

AIR POLLUTION

(Continued from Page 3)

data regarding operating conditions at the time of the tests. This included fuel consumption rate, air handling data, and stack gas information used in calculating the volume of stack gases present at time of the analysis.

Environmental sulphur dioxide ratings were taken from air samples at locations previously monitored and on the roof of Building 11. The environmental samples were taken on the roofs of six other NIH buildings. A fuel oil sample

was taken at the time of the stack sampling procedures and analyzed for sulphur.

The DRS Environmental Services Branch will continue monitoring the NIH atmosphere for sulphur dioxide on a monthly basis and will study the possible need for the monitoring of other atmospheric contaminants such as oxides of nitrogen. The results obtained from the National Center for Air Pollution Control trailer now sited at NIH will be reviewed as an aid in planning any future program of air sampling.

NIH has been concerned with

clean air problems now for more than a decade.

The "smoke" (water vapor) seen around the NIH reservation comes from the power plant (Bldg. 11). This building is the central source for NIH heating and cooling operations and also houses the incinerator.

The incinerator is being operated to full capacity, and major repairs and improvement have increased capacity and reduced air pollution.

Studies have indicated the need for significant expansion of the NIH incinerator capacity. DRS has requested funds for a new inciner-

ator.

Funds are in the NIH budget for its portion of a modern, single, federal incinerator installation to service NIH, the National Naval Medical Center, and the Walter Reed Army Medical Center.

The continuous monthly monitoring of the atmosphere, the conversion to new low sulphur fuel, and the proposed central federal incinerator are all vital steps in the DRS program to keep the NIH reservation and the local suburban atmosphere as clean as possible.

DR. LEE

(Continued from Page 1)

working on the environmental health program since November 1964 when he was "borrowed" to join the task group that prepared the case which became the basis for discussions at the Department level for a national center of environmental health sciences.

To Act as Liaison

In his new job as Associate Director for Scientific Information, Dr. Lee's principal responsibility is the development and maintenance of effective liaison between the research-oriented DEHS and the action-oriented Bureau of Disease Prevention & Environmental Control.

Successful liaison is essential to the integrity of the total environmental health program; and Dr. Lee is energetically preparing to funnel to the Division from the Bureau real life problems of environmental health and to the Bureau from the Division research results it can use for ammunition on the firing line.

Information handling facilities, set up for this purpose, will provide in turn the basis for wider, faster, and more useful systems for assisting the man in the laboratory, the program planner, and the technological inquirer to get what they need, even when they are not quite sure what it is or even if it exists. The system will tie in with others in existence or being developed elsewhere in the PHS, DHEW, and other parts of the governmental structure.

Background Impressive

Born in England, educated in Australia, naturalized by the United States, and engaged in scientific activities around the world, Dr. Lee brings to his job international breadth. He is President of the International Biometeorological Society and has participated in the International Biological Program.

Although academically trained as both physician and physiologist, his academic and Federal research careers are characterized by successful fusing of physical and biological disciplines in his involvement with environmental health

problems. His exceptional talent as a program leader at the interdisciplinary and intercategory levels has been applied within the Federal establishment since 1955 and in the PHS since 1960.

Major positions held by Dr. Lee are Professor of Physiology and Dean, Faculty of Medicine, University of Queensland; Professor of Physiological Climatology, Johns Hopkins University; Associate Scientific Director for Research, Quartermaster Corps; and Chief of Occupational Health Laboratories, PHS. He has also served as consultant to the Food & Agriculture Organization of United Nations, UNESCO, and U. S. Department of Agriculture.

Sought as Speaker

Noted for the right word at the right time, this literate and articulate man has a formidable bibliography to his credit, and is in constant demand for participation in meetings and symposia.

His hobbies would be photography, bird watching, and stamp collecting—if and when time were available.

Drs. Reitz and Brookhart Named to DRFR Council

Appointments of Drs. J. Wayne Reitz and John M. Brookhart to the National Advisory Council on Health Research Facilities were recently announced by the Public Health Service.

Both appointments are for a 4-year term, beginning July 1, 1967.

Dr. Reitz is President of the University of Florida, Gainesville. He holds honorary L.L.D. degrees from Tusculum College, the University of Florida and Colorado State University, and the honorary D.Sc. degree from Jacksonville University.

Dr. Brookhart is Professor and Chairman of the Department of Physiology of the University of Oregon Medical School, Portland. He has been Editor-in-Chief of the "Journal of Neurophysiology" since 1964.

The health research facilities program is administered by the Division of Research Facilities and Resources.

NIAMD Scientists Featured in Training Film on Cystic Fibrosis

By George J. Mannina

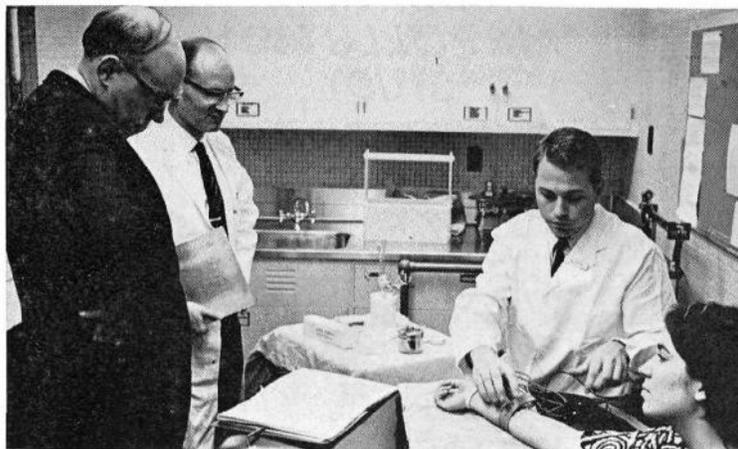
For two days recently the National Institute of Arthritis and Metabolic Diseases' laboratories and nursing unit at the Clinical Center resembled a movie set.

The shooting of on-location sequences for a full-color film on cystic fibrosis—an inherited metabolic disease which affects the exocrine glands of the body—had just begun.

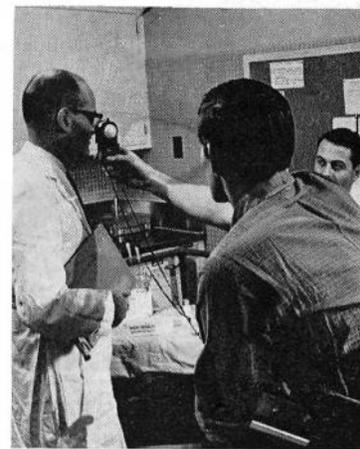
Roles of the cystic fibrosis investigators, including that of Dr. Paul di Sant'Agnese, Chief of NIAMD's Pediatric Metabolism Branch, were played by the scientists themselves. CC normal volunteers were cast in the roles of patients.

The film, which updates the principles of diagnosis and treatment of cystic fibrosis, was produced by Sturgis-Grant Productions under the auspices of the NIAMD and the National Cystic Fibrosis Research Foundation. Other portions of the movie were filmed at the Children's Hospital Medical Center in Boston, Mass.

When completed, the cystic fibrosis film will be available for showing to physicians, medical students, nurses, physical therapists and technicians throughout the nation.



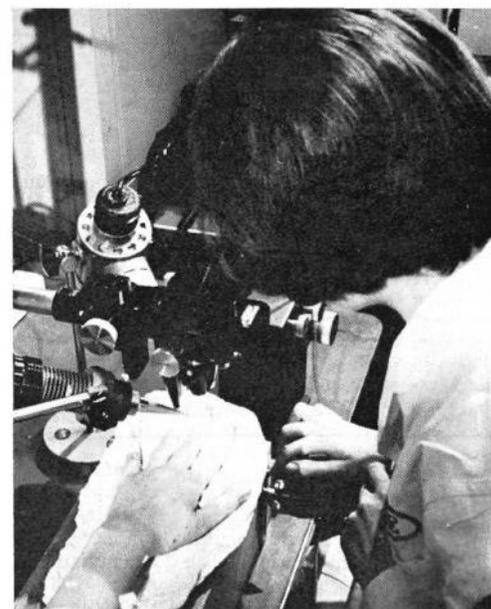
SCENE IS SET. Film director John MacKenzie confers with (from left) Dr. Paul di Sant'Agnese and Dr. George Peters on proper angle from which to shoot apparatus used in making sweat test on normal volunteer. The device measures the concentration of salt in patient's sweat after increased sweating has been induced.—Photos by Jerry Hecht.



LIGHT CHECK. Camera assistant verifies lighting prior to filming of sweat test. When properly performed, this test has a diagnostic accuracy of almost 99 per cent.



PREPARING FOR CLOSE-UP. The chief cameraman, his assistant and the sound technician position equipment before filming a sweat gland micropuncture sequence. At the microscope is Dr. Irene J. Schulz of the Pediatric Metabolism Branch.



CAMERA ZEROES IN on hand as Dr. Schulz checks microscope adjustment. In micropuncture test the coil of a sweat gland is punctured with tiny, sharp tipped glass pipettes. The sweat collected is then tested for salt concentration by ultramicromethods.



Left—

CAMERA LOOKS INSIDE a mist tent. Vapor or moisturized air forced into this plastic enclosure helps loosen the thick mucus characteristic of cystic fibrosis.—Photo by Paul Nathan.

Right—

CC COOPERATION in speeding necessary clearances and releases facilitated the work of the movie crew in setting up equipment and stringing wires along corridor walls as shown above.—Photo by Jerry Hecht.

