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the NIH Record

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

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NATIONAL INSTITUTES OF HEALTH

Baboon Research in NIDR's Texas Unit May Solve Variety of Dental Problems

A research unit has been established by the National Institute of Dental Research at the Southwest Foundation for Research and Education in San Antonio, Tex., under the direction of Dr. James E. Hamner.

Dr. Hamner (left) places betel quid in a surgically-created pouch in the baboon's cheek, assisted by Ignatio Gomez of the Southwest Foundation.

Dr. Hamner is also chief of the NIDR Oncology Section in the Experimental Pathology Branch.

Under a collaborative contract, Dr. Hamner utilizes the facilities of the Foundation, a leading primate center for biomedical research, for his studies.

These include studies on carcinogenesis and natural and artificial tooth implantation with particular emphasis on plastics and ceramics.

Research in periodontal disease and basic histology is also being undertaken.

Studies on inducing leukemia in the baboon are in the developing stages.

Induces Tissue Changes

By inserting betel quid and Indian tobacco into surgically made pouches in the cheeks of baboons, Dr. Hamner has induced deleterious tissue changes in the animals and obtained histologic evidence that oral cancer developed at the site in one baboon.

The study closely mimics an actual habit of many people in India who chew "pan" (palm nuts, lime and catachu rolled in a betel leaf). The pan is held against the cheek for long stretches of time.

It is known that people who add tobacco to the basic betel chew have a higher death rate from oral cancer than do those who chew only the basic mixture.

Dr. Hamner's baboon studies help explain the higher cancer rate by showing that calcium hydroxide (lime) and tobacco work as co-carcinogens because caustic lime makes the mucosa more vulnerable

(See DENTAL, Page 8)

Dr. Marston to Observe Soviet Health Methods Under Exchange Program

Dr. Robert Q. Marston, NIH Director, will be among the delegates traveling to Russia under the auspices of the U.S.-USSR Public Health Exchange Program.

The delegation, leaving Friday, May 15, will observe the health planning structure of the Soviet Union, including their use of manpower. They plan to return on Friday, June 5.

Dr. Roger O. Egeberg, HEW Assistant Secretary for Health and Scientific Affairs, will act as chairman of the U.S. group.

Others in the U.S. delegation are: Dr. Russell B. Ross, Council on Medical Services, AMA; Dr. John Cooper, Association of American Medical Colleges; Frederick V. Malek, HEW Deputy Under Secretary, and Dr. Patrick B. Storey, Professor and Chairman, Department of Community Medicine, Hahnemann Medical College and Hospital.

The itinerary of the American delegation will be further discussed and settled upon arrival in Moscow, the first stop in the visit to the USSR.

The program, started in 1958, calls for an agreement between the U.S. and the Soviet Union to cooperate in an exchange of cultural, educational, and scientific knowledge.

Dr. Brown Is Appointed Acting Director, NIGMS

Dr. J. H. U. Brown has been named to the post of Acting Director of the National Institute of General Medical Sciences.

He assumes the duties of Dr. Frederick L. Stone, who recently became president of the New York Medical College.

Dr. Brown

Dr. Brown has been associate director of NIGMS since 1967. For 2 years prior to that he was assistant director of the Institute.

He joined NIGMS in 1960 as executive secretary of the Institute's biomedical engineering and physiology training committee.

From 1962 to 1965 Dr. Brown was with the Division of Research Facilities and Resources, becoming assistant director for operations of the Division before rejoining NIGMS.

Before coming to NIH, he was professor of Physiology and acting chairman of the Physiology Department, Emory University Medical School.

(See DR. BROWN, Page 4)

New Cancer Drug Facts Uncovered By Scientists May Increase Usefulness

New information about an important cancer drug that is likely to increase its usefulness has been uncovered by scientists at the Southern Research Institute in Birmingham, whose work is supported by the National Cancer Institute.

The drug is cyclophosphamide, an alkylating or cell poisoning agent, which is used in treating acute and chronic leukemia, Hodgkin's disease, lung cancer, and several other types of malignant disease.

Known also as Cytoxan (R), the drug by itself is inactive against tumors. But when it is taken into the body, the resulting metabolites, the breakdown products of cyclophosphamides found by the liver, are the active antitumor compounds.

Cyclophosphamide has proved to be less effective in treating human cancer than in the experimental treatment of cancer in laboratory animals.

This is because the human system produces low concentrations of cyclophosphamide metabolites contrasted with the mouse, for exam-

(See NEW FACTS, Page 6)

Medical Advice as Far Away as Doctor's Phone With DCRT's Prototype System

By Joan Chase

Nowadays, it is almost as easy to dial a telephone and "talk" to a computer as it is to communicate with another person.

Because of this and because the 12-tone push-button telephone can act as a familiar and relatively inexpensive computer terminal, scientists at the Division of Computer Research and Technology have adapted it for physicians and other medical personnel.

The procedure is simple. The user merely dials the telephone number of a small communications control computer maintained by DCRT in Bldg. 12A.

He must have an account number, but once he has identified himself and made his request, the control computer does all the work. It acts as a "switchboard" and transfers the call to one of several large, commercially owned computers

(See PHONE, Page 6)

The ordinary 12-tone push-button telephone, which most physicians have in their offices, can be used as an inexpensive terminal for a computer.

the NIH Record

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NIH Radio Amateur Club Receives Service Award For Meritorious Work

Because of its work during Hurricane Camille last summer, the NIH Radio Amateur Club which operates station K3YGG, received a Public Service Award from the American Radio Relay League, Inc.

The certificate was awarded "in consideration of meritorious work in connection with communications provided before, during and after Hurricane Camille struck the Gulf Coast on August 17, 1969 . . .'

The award certificate also stated that the work was "done without hope or expectation of material reward."

The club, made up of NIH ham operators, works out of the Radio Room in the Clinical Center.

During "Camille" the amateur operators relayed the locations and needs of hard-hit areas. Equipment and trained personnel were sent to these areas by PHS officials.

In further noting the service performed by K3YGG operators, ARRL pointed out that the work "exemplifies the spirit which makes amateur radio a valuable asset to the public and to the nation."

Charles C. Shinn Named Head Of New Federal Design Council

Charles C. Shinn, visual communications project officer, Division of Research Services, has been named president of the Federal Design Council.

The newly organized group is made up of Federal employees who will serve as consultants in Government visual arts and graphics.

The organization will work with officials of GPO, GSA, and CSC.

NIH Television, Radio Program Schedule

Television

NIH REPORTS

WRC, Channel 4

NOTE: Until further notice **NIH REPORTS** will be seen at 1 a.m. Wednesday—following the Johnny Carson Show.

May 13

Dr. Murray Goldstein, associate director for Intramural Programs, NINDS

Subject: Stroke

May 20

Dr. Murray Goldstein, associate director for Intramural Programs, NINDS

Subject: NINDS Training Programs

Radio

DISCUSSION: NIH

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

May 15

Dr. Wm. J. Goodwin, chief Regional Primate Research Center Section, DRR

Subject: Primates in Medical Research

May 22

To be announced

Interview takes place during intermission, Library of Congress Chamber Music Series.

Jessie Scott Receives Indiana U Award for Service to Nursing

Jessie M. Scott, Director of the Division of Nursing, BEMT, received the Indiana University Sesquicentennial Award for Distinguished Service to Nursing.

She was cited for ". . . her remarkable combination of knowledge, wisdom and rich personal talent toward the improvement of nursing service . . . education . . .research . . ."

HEW Secretary Robert H. Finch, on behalf of President Nixon, wired congratulations.

Inez Bryan's Retirement Plans Include Traveling, Grandchildren, Bowling

Mrs. Bryan surveys her friends from NIH and elsewhere who attended a farewell lunch given in her honor.

Twin granddaughters, duckpin bowling, and traveling will take up much of Inez Bryan's time. Mrs. Bryan, who recently retired, has served over 30 years with the Federal Government—23 of those busy years at NIH.

Before coming here she was with the Government Printing Office.

Her husband, Jordan Bryan, retired from NIH in May 1969.

Mrs. Bryan was supervisor of the Purchase Services Sub-Unit, Procurement Section, Supply Management Branch.

During her tenure at NIH she received several awards for her superior work performance.

Recalls Early Days

Mrs. Bryan hearkens back to the days when there was no such thing as a parking problem at NIH, about 2,000 employees worked here, and there were all of nine buildings on the reservation.

And she also recalls the hectic months in 1953, before the opening of the Clinical Center, when the equipment for that building was purchased.

Completely outfitting a new building is no small task, but Mrs. Bryan and her colleagues covered themselves with glory—their job was finally completed and the CC opened wide its doors.

Before her retirement a farewell luncheon was given for her. Among the many guests who attended were a number of former Procurement Section employees who returned to wish her well on that important occasion.

Richard Terselic Issued Patent for Invention—'Split Welding Chamber'

Richard A. Terselic, National Cancer Institiute, has received a patent for his invention—the "split welding chamber." The device was completed in 1963—the patent came through in February of this year.

Mr. Terselic, who is NCI's Systems Analysis and Planning officer, designed the chamber while he was a member of an engineering design service group with NASA's Lewis Research Center in Cleveland.

The chief purpose of the invention is to facilitate the electron beam welding process in joining highly reactive materials with components of normal atmosphere when heated to high temperatures.

In this specialized technique, fusion is effected by focusing a concentrated electron beam on the joint that is to be welded.

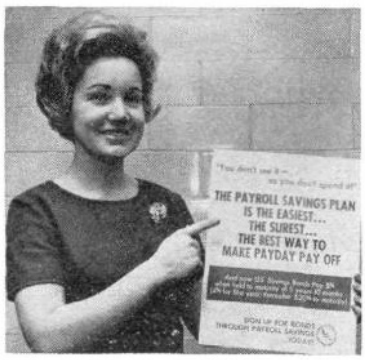
Since it is practically impossible to focus the beam in a high density, gas molecule-filled atmosphere, the process must be performed in a vacuum.

Evacuation to very low pressures is one of the features of the split welding chamber.

Mr. Terselic's invention also has other advantages over earlier devices. Because of its light weight, the chamber is portable and can be taken directly to the welding site rather than bringing the work to a stationary welding apparatus.

The chamber is easy to assemble. In addition, its ability to remain vacuum-tight assures maintenance of the controlled environment while the welding takes place.

Mr. Terselic, a graduate of Case Institute of Technology, has degrees in mechanical engineering, and a degree in Public Administration from the University of Michigan.



Sally Wilberding, NIDR secretary, holds a poster urging use of the payroll savings plan when buying U. S. Savings Bonds. Canvassers in the current NIH drive are reminding subscribers to put some of the pay raise into savings bonds. "The best part of your pay raise is that which you save for use later on," according to Dr. Seymour J. Kreshover, NIH Campaign Chairman and NIDR Director.

Trash Mixed in Baskets Of Glassware Present Problems to Personnel

An intensive campaign to correct the marked increase in injuries to glassware handlers in the Division of Research Services is being undertaken by the Laboratory Aids Branch in cooperation with John R. Leach, chief, Safety and Fire Protection Section, and Vinson R. Oviatt, chief, Environmental Services Branch.

According to Dr. Joe R. Held, LAB chief, last year, 69 percent of the injuries occurred while sorting dirty glassware that was returned for washing.

Pop art? Not exactly. This is trash separated from reusable glassware. Broken glass, crumpled papers, bottles and tin cans—it's all here. One thousand pounds of it is haul for one day!

The injuries to workers in LAB's Media and Glassware Section is particularly significant as only 10 percent of the personnel there is assigned to this duty.

The increase has been attributed to thoughtlessness and carelessness on the part of personnel returning glassware to the MGS.

In the baskets, mixed in with unwashed glassware, are found hypodermic needles and syringes, pipettes, broken glass, soft drink bottles, plasticware, and other trash.

Employees have also been burned by acids and exposed to unidentified substances and radioactive materials left in dirty glassware. Each day, on an average, 10 trash cans—1,000 pounds—of refuse are separated from legitimate glassware.

As a protective measure special clothing and safety glasses will be issued to employees in MGS. Form NIH-116—Record of Dirty Glassware—will also be redesigned to emphasize safety procedures.

Prof. Garnham to Give Smith Memorial Lecture

The thirty-second annual Theobald Smith Memorial Lecture, sponsored by the New York Society of Tropical Medicine, will be given by Professor P. C. C. Garnham at the Rockefeller Center in New York City on May 20. He is a Scholar-in-Residence at the Fogarty International Center.

Dr. Garnham, one of the world's leading authorities on malaria, will discuss "Malaria Research: Old Problems Solved and the Challenge of the New."

He is Emeritus Professor and former Director of the Department of Parasitology at the London School of Hygiene and Tropical Medicine.

The Society sponsors the lecture in honor of Theobald Smith (1859-1934), a noted American pathologist.

All at LAB Testify 'It Will Take Three' To Make Up Maynard Turner's Retirement

This is no time for a cutback in personnel, for as everyone in the Laboratory Aids Branch will testify, "it will take three to make up for Maynard Turner's retirement."

Mr. Turner is lead foreman in LAB's Rodent and Rabbit Production Section, Division of Research Services. He has been at NIH for 28 years, the entire time in that section. He started as an animal caretaker.

Before coming to NIH he worked as a sheet metal worker, "but materials were hard to get, and I had to do something."

That "something" was working with small animals, "even monkeys," a new sort of chore for Mr. Turner.

He had lived and worked on a farm, but there was a difference in the animals he worked with—size for one thing. He had worked with cattle, now he was working with rabbits and rodents.

But Mr. Turner adjusted, and he was soon feeding, watering and weighing small animals with all the dexterity of an old hand.

When Mr. Turner came to NIH "there were six buildings here."

"We started out with wooden cages for the animals on the campus. Now the cages are all metal and plastic.

"There were no sterilizers, we washed everything by hand," Mr. Turner explained.

What a Brave Man Is He!

And there were also no women working on the reservation as animal caretakers. That came later.

When asked if women were as good as men in that job, Mr. Turner—the brave man—answered, "better."

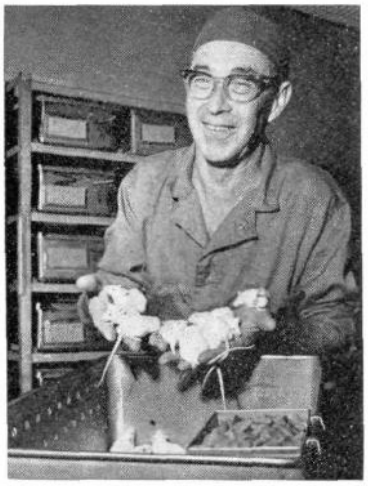
"I would say they were better. Their fingers are more nimble, and they're so patient," pointed out the truthful Mr. Turner.

Now there are six women animal caretakers working in his section.

In 1955 Mr. Turner moved to the Rockville Farm, which was then a part of NIH, and continued his work of caring for small animals.

He returned to the campus in 1960, and ten years later, after climbing up that proverbial ladder, he retired, well satisfied with his career at NIH.

"It's a good career for a young person," he said, "especially if they love animals."



Now there's a truly happy man! Maynard Turner, in his laboratory, is surrounded by "friends." He really meant it when he said he will "miss the animals at NIH."—Photo by Tom Joy.

Mr. Turner disliked missing a day's work—his accumulated sick leave when he left NIH amounted to 11 months and 16 days. It was explained that "it would have been much more, but in the old days you couldn't carry over 90 days of sick leave."

Mr. Turner is looking forward to such retirement pleasures as hunting "small game up to deer," visiting with his 10 grandchildren, "all live within 18 miles of my home in Boyd (Md.), two live opposite my driveway," and gardening on his three acres, "mostly flowers."

But he added a last wistful sentence, "I'm going to miss things here, I'll miss the people, and my work and the animals."

Sessions Help Employees To Plan for Retirement; Sponsored by ERRB

The NIH Pre-Retirement Planning Program held three meetings in April on an important topic—"Preparation for Retirement." The meetings were sponsored by the Employee Relations and Recognition Branch, Office of Personnel Management.

Relevant Subjects Discussed

Specialists discussed subjects pertinent to retirement that included legal and financial planning, health, housing and recreation, and Civil Service retirement and Social Security benefits.

OPM plans to hold a number of such group training sessions during working hours. Literature on retirement, including research material, will be available.

In sponsoring these programs ERRB is following the suggestion of the U. S. Civil Service Commission, who, in a bulletin issued last summer, promulgated a plan of "promoting, encouraging, and assisting" in establishing preretirement planning services in the Federal Government.

The CSC issued a research report to personnel directors and other department heads revealing significant facts about a program of this kind.

Program Useful

Almost all active and retired employees who took part in the Civil Service program considered it useful. And a larger proportion of program participants made definite plans for their retirement years, compared to nonparticipants.

John M. Sangster, OPM Director, opened the first session at NIH, welcomed the guests, and introduced the speakers.

Several state and Federal Government officials and others from private industry addressed the sessions.

Notes were taken and plans discussed at the three meetings on retirement. Dr. Sangster welcomed the participants and introduced the speakers.

Program Trains Scientists to Administer Activities in Extramural Research Field

In 1961 the Division of Research Grants was charged with administering the Grants Associates Program—a PHS-NIH program "to prepare selected scientists for administrative positions in the field of extramural research activities."

Since that time "GA"—standing for Grants Associate, a scientist chosen to take part in the DRG Program—has become a familiar title.

Since the first three associates reported for a year of training in September 1962, 68 others have followed. The average age of the applicants has been 37 years.

Most of their backgrounds have been in academic or Federal research or teaching. Their fields of interest span the alphabet from audiospeech pathology to zoology.

Quality Is Important

However, it is the quality of the science rather than the specialization that is of interest to officials selecting GA's.

Qualifications for selection include a doctorate degree or equivalent with a minimum of 2 years significant postdoctoral research experience.

Successful candidates receive three levels of review culminating in a personal interview with members of the governing board.

During 1969, 142 applications for admission were received, 34 of these were considered by the Board of Directors, 13 were invited to join the program, and 10 accepted the invitation.

The training is a combination of formal and informal programs that will lead to a better understanding of the policy questions involved in Federal research activities.

Formal training is conducted through a series of seminars held once a week. The series covers many areas of public administration, management skills, and aspects of management in Federal research programs.

These sessions introduce the GA to such critical issues as the relationship of the Federal Government to research and research training in the health sciences, and the interdependence of health manpower education and utilization, research, research training, and research resources.

A preceptor, Dr. William H. Batchelor, Training Grants and Fellowships officer, NIAMD (l), discusses with Dr. William E. Rogers, Jr., a GA, his year of training in the Program.

The impact of Federal support of science on academic and other institutions is also discussed.

The meetings provide an insight into the administration of the programs at the institute and division level, and of the processes by which proposals are reviewed and evaluated.

The informal training consists of on-the-job assignments in different components of PHS and other Federal agencies.

When the new GA arrives he is assigned a preceptor who is a senior scientist administrator and member of the governing board.

The preceptor guides the GA through his year of training, and arranges assignments through key personnel in various components of PHS.

Some assignments are mandatory, such as experience with an initial review group and a research grants branch of an institute.

Other assignments concerning the special interests of the associate are arranged after consultation between the GA and his adviser.

No two associates have ever had the same training experience since each brings specific talents and interests to the program.

Typically, an associate has from 15 to 25 assignments that virtually take in the entire spectrum of PHS grant activities during his year of training.

Associate Evaluated

The adviser receives an evaluation of the GA from each supervisor to whom the associate is assigned. The preceptor then reports to the board on the development of the associate and how the program met his needs.

During the last weeks of training, interviews at PHS agencies are arranged for the GA by the executive secretary of the program.

Because of his on-the-job training, the GA is capable of assuming a variety of positions in science administration.

They may become executive secretaries of study sections, or executives in branches charged with reviewing and analyzing research proposals.

They may also be considered for management positions in research directed toward the solution of specific problems, and positions involving the development and evaluation of health research and manpower training programs.

Of the 61 associates to complete the program, 90 percent have remained in science administration with the Federal Government.

Their contributions have been extensive and have led to a better understanding of science and public policy.

Now, the GA's training is no longer confined to PHS. They go on assignment to other Government agencies.

Although the Grants Associates Program is an established part of NIH, it is constantly being evaluated for its effectiveness by the governing board.

And, because it is considered an innovation in administrative training, it is also eyed by other branches of the Federal Government.

The initial experience of caring for a patient in the Laminar Air Flow Room was discussed at a recent CC Nursing Conference. Participants were (l to r): Louise Lunceford, head nurse (moderator), and Joan Vollmers, clinical nurse, Cancer Nursing Service; Florence Seidler, assistant to the chief for Special Projects, CC Nursing Department, and Louise Taylor, clinical nurse, CNS. "Rationale for Bacteriological Environmental Control" was also presented.

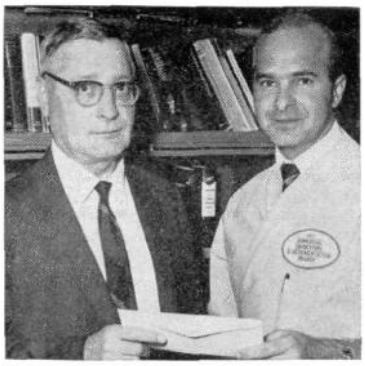
DR. BROWN

(Continued from Page 1)

Dr. Brown received the Sigma Xi Research Award and the Gerald Swope Award in 1961. In 1950 he was awarded a Fulbright Lectureship to the University of Rangoon.

Dr. Brown is President of the Biomedical Engineering Society and a Fellow of the American Association for the Advancement of Science. He is a Senior Member of the American Chemical Society and of the Institute of Electrical and Electronic Engineers.

He has written more than 80 technical and scientific publications and several books, and holds the patents for a number of biomedical engineering inventions.



Charles Shawver (r), Tool, Stock, and Parts Keeper in the Biomedical Engineering and Instrumentation Branch, DRS, receives a Special Achievement Cash Award from John DeBroske, assistant chief for Technical Services. Mr. Shawver was cited for interest in his unit's functions and his outstanding initiative and industry.

Facts on Osteoporosis Brought Up to Date In NIAMD Pamphlet

The pamphlet *Facts About Osteoporosis*, one of PHS's "best sellers," has been revised and reprinted by the National Institute of Arthritis and Metabolic Diseases.

The booklet presents background information on osteoporosis, a "bone-thinning" disorder which affects middle-aged and elderly persons, causing a gradual decrease in both the amount and strength of bone tissue.

In the normal adult, the skeleton constantly and systematically rebuilds itself. In older persons, however, this regeneration of bone is slowed in part due to a decrease in the body's production of hormones.

This factor, coupled with an insufficient intake of dietary calcium and other minerals over a period of many years, and marked physical inactivity, can lead to osteoporosis.

Single copies of the pamphlet may be obtained without charge from the Information Office, NIAMD.

It is also for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, at 10 cents each.

Abnormalities in Blood Vessels May be Cause Of Duchenne Dystrophy

According to an hypothesis by Dr. W. King Engel and a team of National Institute of Neurological Diseases and Stroke researchers, muscle damage in patients with Duchenne progressive muscular dystrophy is produced by abnormalities of the small blood vessels within the muscles.

This supposition is contrary to the notion that the disorder is primarily a muscle fiber defect.

Disorder Is Inherited

Duchenne dystrophy is the most common form of muscular dystrophy. The inherited disorder is characterized by progressive wasting and weakness of the voluntary, or skeletal, muscles of the limbs and trunk leading to symmetrical wasting and weakness which cripples the patient.

In the present study, findings are based on histochemical and electron-microscope studies of muscle biopsies from patients with Duchenne dystrophy, and from carriers of the disease who appear normal clinically.

This suggests that the muscle damage is a secondary rather than a primary defect of muscle fiber metabolism, as is generally thought.

Histologic Evidence Cited

The histologic evidence favoring obstruction of the small blood vessels in that disease is a grouped pattern of degenerating and regenerating muscle fibers as the earliest sign of the dystrophy, and a disproportionately large increase of scar tissue between muscle fibers in mid and late stages.

To support this hypothesis, identical early and late muscle lesions were produced in rabbits after one or repeated occlusions of muscle blood vessels by injecting microscopic beads of dextran into the leg arteries.

This report was published in the April issue of the *Archives of Neurology*.

Facts, Figures on Fluoridation Presented in BEMT Publication

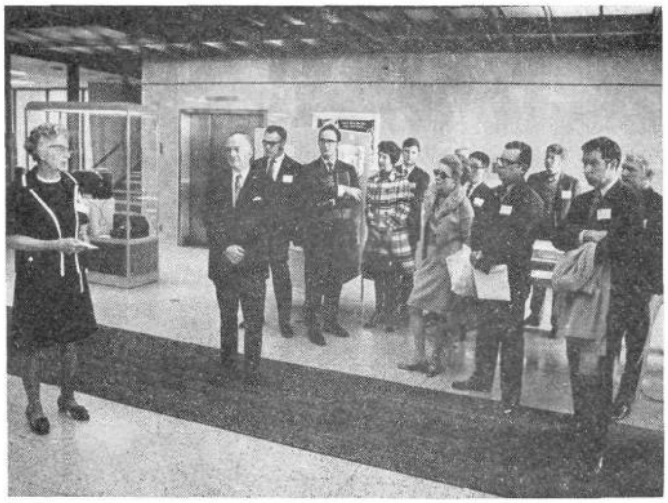
Nearly 90 million Americans now enjoy dental health benefits from drinking fluoridated water, according to the recently published *Fluoridation Census, 1969*.

It lists each U. S. community with controlled fluoridation and the date on which this health measure was instituted.

The date of publication by the Division of Dental Health, BEMT, coincided with the celebration of the 25th anniversary of community water fluoridation.

Single copies may be obtained from the DDH Office of Information.

ACPRA Members Visit NIH During Communications Conference

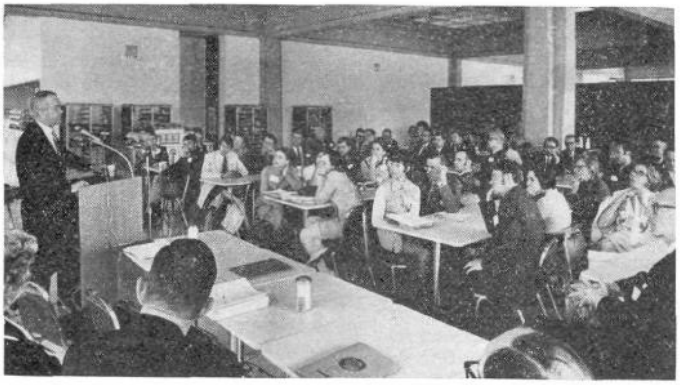


Miss Stafford and Dr. Mider welcome ACPRA visitors in NLM lobby.

During the tour, Mr. Monk describes a room designed for NLM computer systems, such as MEDLARS (Medical Literature Analysis and Retrieval System).

Photos by Ed Hubbard

The visiting group heard Mr. McCarn and others discuss the operations of the Library, using color slides to illustrate points.



Two views of Dr. Marston—addressing the ACPRA conferees (1) and answering a question posed by a member. Seated at the head table are (l to r) John E. Bennett, Director of Educational Programs, ACPRA, Conference Chairman Robert R. Lynch, Jr., Director of Information Services, University of Florida, and Miss Stafford.

American College Public Relation Association members visited NIH on April 21 during a 3-day conference in Washington, D.C. on "Communicating Science in the 70s."

They were welcomed by Jane Stafford, Acting Director of Information, NIH, and Dr. G. Burroughs Mider, Deputy Director, NLM.

On the agenda was a visit to the National Library of Medicine, a bus tour of the NIH campus, and luncheon followed by a talk by Dr. Robert Q. Marston, NIH Director.

After tours of the Library led by Peter K. Monk, chief, NLM Office of Public Information-Publications Management, and two other staff members, ACPRA members assembled in the Billings Auditorium where Dr. Joseph P. Leiter, associate director for Library Operations, and his deputy, Samuel T. Waters, explained NLM functions.

Davis B. McCarn, deputy director of NLM's Lister Hill National Center for Biomedical Communications, also spoke on the Center's operations.

Following the bus tour and luncheon in the Bldg. 35 cafeteria, Dr. Marston discussed NIH and health manpower needs of the Nation in the 70s, with a question and answer period.

NEW FACTS

(Continued from Page 1)

ple, which produces high concentrations of metabolites.

At Southern Research Institute studies have been going on for several years in an effort to find out whether the cyclophosphamide compound may split into several fractions, only some of which have anticancer activity.

Dr. Donald L. Hill, Marion C. Kirk, and Dr. Robert F. Struck of the Birmingham Institute's Kettering-Meyer Laboratory have now isolated and identified an active metabolite produced by dogs given cyclophosphamide.

Their findings have been published in the *Journal of the American Chemical Society.*

Dr. Howard E. Skipper, vice president of Southern Research Institute and director of the Kettering-Meyer Laboratories, said that Dr. Struck has also successfully synthesized small amounts of this active metabolite, containing an intact tetrahydro-2H-1,2,3-oxazaphosphorine ring, apparently an active area of the molecule.

Animal Trials Seen

If the new metabolite can be produced successfully by NCI scientists and collaborators at Southern Research Institute, the next step will be trial in animal tumors, and, if active, this will be followed by toxicological tests in monkeys to assure that it is not overly toxic.

"If those tests are successful, studies among patients would be probably two years of painstaking work away," said Dr. C. Gordon Zubrod, NCI's scientific director for Chemotherapy.

"In any case, the findings at Southern Research Institute are an important step forward in an understanding of the mechanisms of action of cyclophosphamide."

Mildred D. Casgrain, who was in charge of the CC Patients Library, retired on May 1. She has been with NIH over 7 years. Mrs. Casgrain always tried to stock the latest best sellers for the patients, and paid special attention to those with unusual physical or mental handicaps.

Blue-Green Light of Argon Gas Laser Suited for Treating Eye Vessel Diseases

A new concept of laser treatment has been used successfully against eye diseases that can result in blindness.

Research, supported by the National Eye Institute, demonstrates that the intense, blue-green light of the argon gas laser is particularly suited for the treatment of certain eye blood vessel diseases, because it is absorbed by the red blood pigment.

In the process of absorption, light energy from the laser is changed into heat energy and a thermal effect, or therapeutic burn, is produced.

Between June and December last year, Stanford University researchers treated 176 eyes with the argon laser for 11 different eye diseases.

Retinal Disorders Noted

These were retinal disorders, especially those occurring in diabetes, Eales' disease in which eye blood vessels grow abnormally and bleed easily, sickle cell anemia which produces sludging of blood in peripheral eye vessels, and several congenital conditions.

"Treatment of some of these diseases has been considered futile in the past," said Dr. H. Christian Zweng, principal investigator and clinical associate professor of Surgery in the Stanford University School of Medicine.

"No general ill effects have occurred in any of the patients treated with this technique.

"While investigation to assess the advantages of the technique must continue, our experiences to date suggest that certain eye diseases are best treated early by argon laser photocoagulation," Dr. Zweng added.

The development and use of the Stanford laser is a collaborative effort among physicists and engineers at the Stanford Research Institute and physicians at the Stanford University School of Medicine and the Palo Alto Medical Clinic.

The instrument makes use of a slit lamp which projects the laser light into the eye. Errors of refraction are reduced by a contact lens, through which the light is passed and focused on the retina.

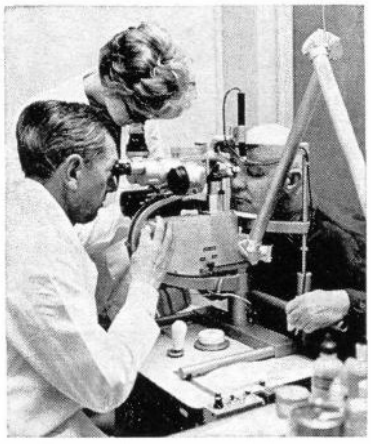
The instrument offers excellent illumination, three-dimensional viewing, and high magnification so that the laser light can be aimed accurately at the lesion sites.

Has Safety Feature

Power levels and the time of exposure are adjustable. There is also a safety feature that gives warning if the aiming beam becomes too bright.

The instrument also permits taking stereoscopic photographs of the eye.

Laser treatment has been used in ophthalmology for several purposes: to prevent retinal detachment, to coagulate abnormal blood vessels, and to burn a hole in the iris when disease has closed the pupil.



Dr. Zweng aims beam of intense blue-green light from argon gas laser into the eye of a patient. He is assisted by Ann Hammond. Unlike ruby lasers, this light is absorbed by red blood pigment, permitting treatment of eye vessels.

Other non-laser light instruments have been used for such therapy, such as the conventional photocoagulator which uses a high-pressure zenon gas tube as a source of white light.

But the instrument is bulky, and unlike the laser, must remain in a fixed position when in use.

It also produces large scars compared to the pinpoint lesions produced by the laser and introduces much energy into the eye.

The laser uses a very low amount of energy which minimizes the danger of applying excess heat to the tissues.

Anesthesia Unnecessary

No anesthesia is required in its use because the beam is turned on and off so quickly the patient feels no pain.

The ruby laser has been used for treating retinal detachment and certain eye diseases. But because of its red color it is not very effective in treating vascular diseases.

The blue-green argon gas laser and its slit lamp projecting device is useful for treating both vascular and non-vascular lesions.

A model of Stanford's argon-laser photocoagulator is now on display at the Smithsonian Institution in Washington, D. C.

The latest report of the Stanford research appears in the *Transactions of the American Academy of Ophthalmology and Otolaryngology*, January-February.

In addition to Dr. Zweng, medical collaborators in the laser project include Drs. Hunter L. Little and Robert R. Peabody.

Project leader at the Stanford Research Institute is Dr. Arthur Vassiliadis. The team includes Norman Peppers, Dr. Richard C. Honey, Ann H. Hammond, and Lloyd Alterton.

Summer Registration for 'After-Hours' Program Opens May 26, July 21

The Federal "After-Hours" Education Program is expanding to 80 undergraduate and graduate level courses for the 1970 summer session.

This program offers courses leading to B.S. or M.S. degrees in 15 downtown Federal buildings. It is coordinated by the U.S. Civil Service Commission's Bureau of Training in cooperation with the College of General Studies, George Washington University.

Anyone seeking self-improvement may also enroll as a non-degree student.

Registration for the first 7½-week session and the 15-week session will take place on Tuesday, May 26, between 10 a.m. and 3 p.m. at Conference Room A and B just off the lobby of the Department of Commerce Building, 14th Street and Constitution Avenue, N.W.

For the first session, classes begin the week of June 1.

For the second session, registration will be held on Tuesday, July 21, during the same hours, and at the same location. These classes begin the week of July 27.

Tuition is $50 per semester hour.

For information call Robert W. Stewart, Jr., Field Representative at G.W.U., at 676-7018 or 7028.

PHONE

(Continued from Page 1)

which store specific medical information.

Machine failure is never a concern since the medical information is always contained in more than one computer and the call is transferred to another machine in case of malfunction.

The user receives a computer-generated audio (voice) response via the telephone.

The audio messages had been previously stored inside the machines.

Researchers have tested the system on computer programs dealing with intravenous drug administration, fluid therapy for burns, antibiotic dosage calculations, and digitalis therapy.

Response is quick and efficient and can be readily applied to emergency situations.

The network designed at DCRT is only the prototype for such communication systems.

Once such a network is functioning, specialized medical information will be no further away than the nearest telephone.

Dr. Mergenhagen Named Chief of Lab in NIDR

Dr. Stephan E. Mergenhagen has been appointed chief of the Laboratory of Microbiology, National Institute of Dental Research.

Dr. Mergenhagen was a research associate in bacteriology and immunology at the School of Medicine and Dentistry, University of Rochester, before joining NIDR in 1958.

Mergenhagen

Since 1965 he has been chief of the Institute's Immunology Section in the Laboratory of Microbiology.

Dr. Mergenhagen received the International Association of Dental Research's Award for Basic Research in Oral Science in 1966.

He was honored for his outstanding research on host-parasite interactions in oral infections.

For his continuing fundamental contributions to the understanding of the pathogenesis of periodontal diseases, Dr. Mergenhagen was the recipient of the DHEW Superior Service Award in 1969.

Physician Augmentation Program Enables Schools To Increase Enrollment

The Physician Augmentation Program provided $7,652,845 in grants to 27 schools of medicine and osteopathy which enables them, this fall, to increase their first-year enrollment by 395 places. This figure is the same number of first-year places that would have been provided by four new medical schools.

Dr. Kenneth M. Endicott, BEMT Director, stated that it "would take 5 to 10 years and several times as much money" to establish a new school.

Grants are awarded on a competitive basis to schools documenting intentions to increase first-year enrollment using their own resources supplemented with funds allocated by the program.

The grants are administered by the Division of Physician Manpower and the Division of Health Manpower Educational Services.

Series Gives Diets for Patients With High Cholesterol Levels

A series of six publications entitled *Dietary Management of Hyperlipoproteinemia* has been prepared by staff members of the Molecular Diseases Branch, National Heart and Lung Institute, and the Nutrition Department of the Clinical Center.

The series, available to physicians and nutritionists recommends changes in the diet for patients with high levels of cholesterol or other fats in the blood.

The booklets may be obtained free of charge by writing to: Office of Information, NHLI, Bldg. 31, Rm. 4A-10, Bethesda, Md. 20014.

Experts to Attend Trauma Symposium; Will Explore Needs, Stimulate Research

An International Trauma Symposium to stimulate research in new or neglected areas in the care of the injured will be held May 18-20 at the Shoreham Hotel, Washington, D. C.

The National Institute of General Medical Sciences is sponsoring the symposium for some 300 invited experts from medical and scientific communities, industry, and Government.

The keynote address on "Trauma as a Disease" will be delivered by Congressman Lawrence J. Hogan (Md.) next Monday morning.

Mr. Hogan, a member of the House District of Columbia Committee, recently sponsored a bill to deliver better ambulance and other emergency services to District residents. He previously had posed as an accident victim to assess the effectiveness of the District's emergency medical facilities.

Sen. Yarborough to Speak

Sen. Ralph T. Yarborough (Tex.) will speak at the banquet to be held Tuesday evening, May 19.

Dr. J. Engelbert Dunphy, University of California Medical Center and member of the NIGMS Advisory Council, is general chairman of the symposium.

Topics to be discussed by 32 speakers will range from the biology of wound healing to the psychological response to trauma.

The opening session will focus on the trauma problem and explore means of relieving it.

Subsequent workshops will cover 16 specific aspects of injury problems and how to cope with them.

At remaining meetings research advances will be described and specific recommendations prepared through workshop discussions, considered.

Other speakers at the symposium will include Clyde F. Schlueter, president, Employers Mutual Insurance Company, who will examine the national costs of trauma.

Dr. Bertil Aldman, of Stockholm, Sweden, will describe how computers are being enlisted in his country to cut the accident toll.

Discusses Emergency Care

Also, Dr. Oscar Hampton, Jr., American College of Surgeons Committee on Trauma, will discuss inadequate facilities and emergency room personnel and other problems of emergency care.

This symposium is the latest in a series of efforts by NIGMS to focus public attention on the national problem of trauma which affects the medical care of millions of Americans.

Injuries are the major cause of death among Americans ages one to 39. Each year 115,000 Americans die from injuries, approximately half these deaths are from traffic accidents; 11 million are temporarily disabled, and 400,000 permanently disabled.

Dr. Dunphy, symposium chairman, directs a NIGMS-supported trauma research project at the University of California Medical Center.

Every 5 years, at this rate, there are 2 million permanently disabled Americans.

NIGMS supports seven trauma research centers and 30 projects dealing with aspects of trauma, ranging from death of the cell to septic shock.

Satellite Communication Between 4 Med Centers Demonstrates Potential

The first group communication via satellite was recently established between four medical centers—NLM's Lister Hill National Center for Biomedical Communications, the University of Alaska, the University of Wisconsin, and Stanford University.

Announcement of the experimental satellite communication was made by Dr. Ruth M. Davis, Director of the Lister Hill Center.

The series of voice communications was designed to demonstrate the potential of this technique in assisting physicians practicing in remote areas.

Equipment used by the Center was inexpensive and easy to install. It cost less than ham radios used by health aides in Alaskan villages. The transceiver loaned to the Center by NASA costs about $700; the antenna, $78.

Other tests planned include: EKG transmissions, information data transfer between medical institutions, and slow scan television transmission.

A future experiment would involve transmitting color photo facsimiles between Stanford University and the Lister Hill Center.

Kotin Discusses Social, Economic Implications Of Environmental Crisis

According to Dr. Paul Kotin, NIH has a "preeminent role" in our nation's pursuit of a better, more healthful environment today and in helping prevent a "recurrence of the present crisis for future generations."

Dr. Kotin, who is Director of National Institute of Environmental Health Sciences, spoke on "Environmental Medicine—New Perspectives," April 22 in the Jack Masur Auditorium, Clinical Center.

Speaking of the changing character of public health responsibility in dealing with environmental hazards, Dr. Kotin stressed the vital need for more fundamental information on which to base criteria and standards, for we cannot rid ourselves entirely of all environmental contaminants.

"A healthy environment," Dr. Kotin observed, "is not necessarily a completely 'pure' one. It is not likely we will want to sacrifice all of the advantages of our twentieth century civilization. There are some so-called 'contaminants' we must inevitably live with if we want to continue to enjoy the positive benefits of technology."

Cites Paradox

As examples of such necessary "hazards," Dr. Kotin cited drugs, many of which have potential toxic effects but which also bestow life-preserving benefits.

"Major social and economic implications of environmental control measures require scientific bases for solving the 'benefit versus risk' equation," he explained.

Another misconception of the environmental crisis, Dr. Kotin said, is that a clean environment is necessarily a healthy one.

He expressed his fear that once the "overt" contamination—air and water pollution and solid waste disposal—is corrected, many people will believe the environment has been rendered "healthy" and will lose their zeal for the cause.

In concluding his talk Dr. Kotin expressed delight with the growing public involvement in issues of the environment.

3 CC Blood Bank Donors Achieve a Special Status

The Clinical Center Blood Bank reports that three donors achieved a special status. Thomas C. Leffingwell, FIC, reached the 5-gallon mark.

Joining the Gallon Donor Club were Dorothy T. Hanks, NLM, and Alton Bell, CC.

For details on the new pay plan, call the Blood Bank now, Ext. 64508.

Amateur and Professional NIH Artists Asked to Submit Work for Show

Walter H. Clark, president of the NIH Art Club, has asked NIH employees and their families who are artists—amateurs or professionals—to submit their work for entry in the 12th Annual NIH Art Exhibit, sponsored by R&W.

Art work should be brought to the Jack Masur Auditorium, Clinical Center, on Wednesday, May 27, between 4 and 6 p.m. The work will be judged that evening between 8 and 10 p.m., and winners will be notified the following day (Thursday, May 28). An entry fee of one dollar will be charged.

The winning art work, and all accepted art work, will be shown at the exhibit which opens on June 1, at 12 noon, in the CC lobby. It will be on display for 2 weeks.

Mrs. Robert Q. Marston will speak at the opening and present cash awards to the prize winners.

Art work may be submitted in the following categories: oil paintings, watercolors, sculpture, graphics and drawing. Three prominent artists will judge the entries.

They are: Jack Perlmutter, chairman, Graphics Department, Corcoran School of Art; Clifford Chieffo, chairman, Department of Fine Arts, Georgetown University, and Phillip Ratner, sculptor.

This year, for the first time, all art work receiving "honorable mention" will be given a cash award. Dr. W. King Engel is the chairman of the exhibit.

Walter Clark points out to Peter Tsaris the spacious surroundings in the CC lobby where prize winning and accepted paintings will hang during the 2-week exhibit.

Charles E. Thomas Dies; Was Custodian at CC

Charles E. Thomas, a custodian in the Environmental Sanitation Control Department, Clinical Center, died recently, after a brief illness.

Mr. Thomas, who was born in Americus, Ga., lived with his family at 5509 First St., N.E., Washington, D.C.

He leaves his wife, the former Elsie B. Gillis, three daughters, three sons, and two stepdaughters.

The burial was held in Harmony Memorial Park.

Barbara Heffner Demonstrates Her Skill, Inspires Handicapped Workers at Meeting

Barbara Heffner, a transcriber in the Clinical Center Medical Record Department, inspired delegates at the recent annual meeting of the President's Committee on Employment of the Handicapped in Washington.

Mrs. Heffner operates an MT/ST (Magnetic Tape Selectric Typewriter). The machine is multiphased. It has an electric typewriter and recording device operated by a console.

To work the console keyboard and transcribe accurately, the operator must be well trained. Mrs. Heffner, who is blind, is highly competent.

Barbara Heffner recently displayed her exceptional ability at the annual meeting of the President's Committee on Employment of the Handicapped.

Selected for Meeting

She was selected to participate in the annual meeting because of her remarkable efficiency in operating the MT/ST despite her handicap.

She demonstrated her skill for handicapped visitors, Committee members, and guests to lend support to the meeting theme, "Promise for the Seventies."

The International Business Machines Corporation, manufacturers of the MT/ST, displayed an exhibit of machines designed to increase job opportunities for the handicapped. It was at this exhibit site that Barbara gave her demonstrations.

Mrs. Heffner explained that she records physicians' dictated reports taken from a transcribing machine on to medical record forms and magnetic tapes.

She showed the mechanics of taking the dictation, and how, unassisted, she selects and inserts the forms into the typewiter and installs the magnetic tape reels into the tape console. She then demonstrated, by touch, how she independently operates the console and prepares complete reports.

Spectators Watch

Spectators watched as she recorded in Braille such data as patients' names and unit numbers. Mrs. Heffner records new terminology such as the name of a new drug or unfamiliar disease under her own Braille reference system.

Barbara described some other techniques she developed for her own use. For example, there is a grooved ventilator plate on the back of each MT/ST typewriter. She found she could use this groove as an indicator to tell her when she had reached a culminating point on the form being typed—a very necessary consideration to maintain precision.

Although there are many important facets to her job, the need for accuracy makes her position one of considerable responsibility. During her demonstrations, Barbara was asked to make errors deliberately so she could show how corrections could be made.

DENTAL

(Continued from Page 1)

to tobacco's weak carcinogenic action.

Although chewing "pan" is not practiced in this country, people everywhere who smoke or chew tobacco or dip snuff have a higher rate of oral cancer than do those who don't use tobacco.

Therefore, a more complete understanding of the relation between betel-tobacco chewing and oral cancer would be useful.

Studies Reimplantation

Another problem Dr. Hamner is exploring is reimplantation of teeth. How should dentists treat "Johnny" after his mother's frantic call, "Johnny's front tooth was knocked out."

Dr. Hamner's studies suggest the answer should be, "Wrap the tooth carefully in moist gauze, put it in a jar filled with salt water. Then come to the office immediately."

The baboon studies showed the importance of speedy treatment. For optimum success the tooth should be replanted within 30 minutes, if at all possible, and its surface left intact so that the periodontal membrane and the cementum (the hard covering on the tooth root) are not damaged.

When this regimen was followed in baboons, Dr. Hamner obtained excellent fibrous union between the tooth cementum and the alveolar bone socket within one month.

But when the cementum and periodontal membrane were removed from the tooth, resorption began within 6 months and destroyed a sizable portion of the root in a year.

Dr. G. T. Brooks Named Deputy Director, DRG

Dr. George T. Brooks has been appointed deputy director of the Division of Research Grants. He has been acting deputy director of DRG since September 1969.

Dr. Brooks was formerly chief of the John E. Fogarty International Center's Latin American Office in Rio de Janeiro.

From 1965 to 1966 he served as biologist with the National Institute of Arthritis and Metabolic Diseases. He was director of its Extramural Hematology program.

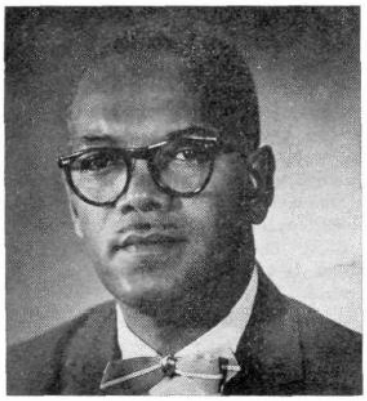
Before that he was a scientist administrator with the National Institute of Child Health and Human Development.

Dr. Brooks came to NIH in 1962 as a grants associate. Before coming to NIH, he was with the Regional Insect Control Project of the Agency for International Development. He served in Lebanon, Iran, Pakistan, Nepal and several African countries.

Dr. Brooks was an associate professor of Biology and acting head of the Department of Biology at Texas Southern University before going with AID.

During World War II he served with the U.S. Army Air Corps.

Dr. Brooks, an entomology major, received his Ph.D. degree from the University of Kansas.



Before coming to NIH, Dr. Brooks served with AID in a number of countries including Lebanon, Pakistan, and Nepal.

Dr. Davidson Appointed To Duke University Post

Dr. Jack D. Davidson, chief of the Clinical Center Department of Nuclear Medicine, has been named associate professor of Radiology at Duke University Medical Center. He assumes his post in July.

Dr. Davidson is a Medical Director in the U. S. Public Health Service Commissioned Corps. He joined NIH in 1957.

He is known for his contributions in developing improved techniques of liquid scintillation counting.