

the NIH Record

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

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NATIONAL INSTITUTES OF HEALTH

Dr. Bernard B. Brodie, NHI, Among Winners of Nat'l Medal of Science



Dr. Bernard B. Brodie has won international renown for his research in biochemical pharmacology.

Dr. Bernard B. Brodie, chief of the Laboratory of Chemical Pharmacology, National Heart Institute, was the recipient of a 1968 National Medal of Science at White House ceremonies last Friday (Jan. 17).

One of 12 winners, Dr. Brodie was honored for "pioneering qualitative concepts that have revolutionized the development, study, and effective use of therapeutic agents in the treatment of human

(See DR. BRODIE, Page 6)

Antitumor Action of Chemical on Mice Suggests Possible New Cancer Weapon

A recently developed chemical has been used to control transplanted solid tumors in mice and rats, according to NIH scientists. The chemical is considered of interest for further investigation as a possible new weapon against cancer.

The drug is polysinosinic-poly-cytidylic acid (poly I:C), an artificial ribonucleic acid (RNA) which has been used experimentally to stimulate production of interferon, the body's natural virus-fighting system. However, the NIH scientists are not certain whether the antitumor action of poly I:C is directly related to interferon stimulation.

Dr. Hilton Levy, National Institute of Allergy and Infectious Diseases, and Drs. Lloyd Law and Alan Rabson, National Cancer Institute, reported their experiments with poly I:C to the Third International Congress on Interferon in Lyon, France, on Jan. 8.

Dr. Levy said that mice were inoculated with a variety of malignant tissues: leukemias, reticulum cell sarcomas, lymphatic lymphomas, fibrosarcomas, plasma cell tumors, human adenovirus 12-induced tumors, and Bittner mammary tumors.

A sarcoma was also implanted in rats. The tumors were all of animal origin and were transplanted into animals of appropriate strains.

Twenty-four to 48 hours after

tumor transplantation, the animals were injected with 100-150 micrograms of poly I:C, 3 times a week. In each experiment, Dr. Levy and his associates observed 8 to 10 treated, and an equal number of untreated tumor-bearing animals.

With all the tumors studied, poly I:C treatment decreased the rate of tumor growth, increased survival time of animals, or caused a regression of established tumors.

However, the effect of poly I:C on survival was most marked in experiments using a strain of black mice known as C57. These animals were inoculated with reticulum cell sarcoma tissue, a slow-developing tumor.

In one such study, all animals treated with poly I:C soon after implantation of the tumors were alive 41 days later; all untreated animals were dead. Thirty percent of the treated animals were alive with no signs of tumor 2 months

(See CANCER, Page 7)

NIEHS Established As Tenth Institute Within NIH Jan. 12

The establishment of the National Institute of Environmental Health Sciences as one of the National Institutes of Health was announced by DHEW Secretary Wilbur J. Cohen on Jan. 12.

Secretary Cohen presided at a ceremony marking the establishment of the newly designated Institute at the National Library of Medicine. Leaders from government, industry, and science attended.

Exhibits Portray Mission

Exhibits portraying the mission and activities of the new Institute as well as rare and old books on environmental diseases and problems were displayed.

NIEHS, the NIH unit that studies health hazards in man's environment, was formerly a division.

The headquarters and research center of NIEHS are at Research Triangle Park, N.C. The new In-

(See INSTITUTE, Page 8)

NIH FY '70 Budget Request, \$1.5 Billion, Exceeds Previous Year by \$90 Million

The Fiscal Year 1970 Federal Budget submitted by the President to the Congress last Wednesday (Jan. 15) included an appropriation request of \$1,484.1 million for the National Institutes of Health.

This represents an increase of \$90.2 million over current year (FY 1969) appropriations.

Of the \$1,484.1 million requested for NIH, \$1,099.8 million is in operating appropriations for research Institutes and Divisions, \$357.7 million for the Bureau of Health Professions Education and Manpower Training, \$22.2 million for the National Library of Medicine, and \$4.4 million for buildings and facilities.

Operating appropriations for NIH research Institutes and Divisions provide \$824.2 million for re-

search, fellowships and training grants (an increase of \$9.6 million), and \$275.6 million for direct operations (an increase of \$11.6 million).

Funds requested for FY 1970 will enable NIH to support more than 10,500 research project grants. Of these, approximately 3,000 will be new awards or renewals of grants whose prior period of support has expired.

New investigations include studies ranging from prevention of

(See BUDGET, Page 6)



DHEW Secretary Wilbur J. Cohen (center) signs certificate establishing the new National Institute of Environmental Health Sciences at ceremony held Jan. 12 at the National Library of Medicine. Around him are (from left): Dr. Robert Q. Marston, NIH Director; Dr. Paul Kotin, NIEHS Director, and Dr. William H. Stewart, PHS Surgeon General.—Photos by Tom Joy.

the NIH Record

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'Operation Clean-Up' Starts in February; 'Walk-Thrus' of NIH Buildings Scheduled

The third annual "Operation Cleanup" will soon be conducted at NIH. The objective of "Operation Cleanup" is to effect government economies and utilize idle equipment from both offices and laboratories.

Last year such equipment, valued at \$296,000, was transferred to Supply Management Branch's Property Utilization Warehouse and reissued to other NIH components or Government agencies.

Richard L. Seggel, Associate Director for Administration, has stated that in order to fulfill the objectives of "Operation Cleanup," each NIH component should initiate a "house-cleaning."

Organized "walk-thru" teams will visit all NIH buildings, both on and off the reservation, to oversee "Operation Cleanup." The teams will be composed of representatives from each Institute and Division, and SMB.

Off-the-reservation buildings will be visited the week of Feb. 17. Representatives will go to buildings on the reservation during the week of Feb. 24.

Don Watson, SMB chief, has asked for the cooperation of all NIH personnel.

NIH-Westwood Shuttle Adds 4 New Stops to Schedule

The Transportation Section recently announced that the transportation shuttle service between NIH and the Westwood Building has added four new stops to its regular run.

As of last Dec. 30, Buildings 12A, 29A, 36 and 37 have been added to its regular schedule.

Information on schedules may be obtained by calling Mrs. Erzen, Ext. 63426.

Louise K. Baker Retires From CC Nursing Dept.



Louise C. Anderson, chief, (l), CC Nursing Department, presents a letter of commendation to Louise K. Baker. Mrs. Baker recently retired after more than 29 years of service to patients.

Louise K. Baker, assistant to the chief, Clinical Center Nursing Department, has retired after more than 29 years of service.

Mrs. Baker began her career as a private duty nurse and educator, after graduating from Henry W. Bishop III Memorial School of Nursing, Pittsfield, Mass.

In 1941 Mrs. Baker entered the U.S. Navy Nurse Corps. She served at the Bethesda Naval Hospital and the U.S. Naval Hospital at Pearl Harbor. She was discharged in 1946 with the rank of Lieutenant Commander.

Mrs. Baker then entered Simmons College. There, she majored in science and received her B.S. degree in 1949. She did postgraduate work at Western Reserve University, majoring in nursing education. She was awarded her M.S. degree in 1952.

Later, Mrs. Baker taught at a V.A. Hospital, and then re-entered the U.S. Navy Nurse Corps as an instructor. After her discharge she taught medical nursing at Duke.

In 1954 she was commissioned in the PHS, and assigned to the CC. As a PHS Commissioned Officer she holds the rank of Nurse Director.

Donald Kennedy, Board Chrm., Joins DRFR's Advisory Council

Donald S. Kennedy, chairman of the Oklahoma Gas and Electric Company, was appointed to the National Advisory Research Resources Council, Division of Research Facilities and Resources. Dr. Robert Q. Marston, NIH Director, announced the appointment.

Mr. Kennedy received his Bachelor of Arts and Doctor of Law degrees from the University of Arizona. He also received a Doctor of Law degree from Butler University.

NIH Television, Radio Program Schedule

Television

NIH REPORTS

WRC, Channel 4
Sundays—4:25 P.M.

Jan. 26

Dr. Robert J. Nelsen, former chief, Materials, Science and Special Studies, NIDR

Subject: Barnacle Research and its Relation to Dental Filling Adhesive

Feb. 2

Dr. Lester Goodman, chief, Biomedical Engineering and Instrumentation Branch, DRS

Subject: Material in Human Protheses

NOTE: NIH REPORTS has been switched from Saturdays to Sundays at 4:25 P.M.

Radio

DISCUSSION: NIH

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

Jan. 24

Dr. John C. Bailar III, head, Demography Section, NCI
Subject: 3rd National Cancer Survey

Jan. 31

Dr. Marilyn Hutchison, Division of Physician Manpower, BHPEMT
Subject: Physician Manpower Shortage

Both interviews take place during intermission, Library of Congress Chamber Music Series.

Tax Returns Now Filed At IRS Service Centers

Federal income tax returns should no longer be filed with the Internal Revenue Service district office at Baltimore, Md., but with the IRS Service Center, 11601 Roosevelt Boulevard, Philadelphia, Pa., beginning Jan. 1, 1969. This applies both to tax returns with remittances and those with refunds due.

The IRS Mid-Atlantic Region, which includes Maryland and the District of Columbia, is the latest to require direct filing of all income tax returns with IRS regional service centers, under a law enacted Nov. 2, 1966.

Direct filing of returns will eliminate initial handling at the district office, where they are packaged and shipped to Philadelphia for processing.



Latest Participants in NIH Visiting Scientists Program Listed Here

12/9—Dr. Kai-Li Hsia Ting, Taiwan, Section on Chemistry. Sponsor: Dr. Henry M. Fales, NHL, Bldg. 10, Rm. 6N306.

12/16—Dr. Geoffrey C. Tooth, England, Office of the Director. Sponsor: Dr. Stanley F. Yolles, NIMH, Barlow Bldg., Rm. 14W01B.

12/24—Dr. Hiroshi Ogata, Japan, National Center for Prevention and Control of Alcoholism. Sponsor: Dr. Jack H. Mendelson, NIMH, Barlow Bldg., Rm. 12A03B.

1/6—Dr. Raffaele A. Massarelli, Italy, Laboratory of Preclinical Pharmacology. Sponsor: Dr. Erminio Costa, NIMH, St. Elizabeths Hospital, Washington, D.C.

2 CC Employees Feted At Retirement Party



Lucille R. White (left) and Marion E. Nottage, members of the CC Environmental Sanitation Control Department, smile happily at retirement ceremonies held in their honor recently.

More than 50 members of the Clinical Center Environmental Sanitation Control Department assembled at formal ceremonies in the CC auditorium recently to pay tribute to two coworkers.

Lucille R. White and Marion E. Nottage, who retired after completing a combined total of over 43 years of Federal service, were the guests of honor.

Mrs. White began her career in the Public Health Service in 1953. She served in the Business Operations Branch, CC Housekeeping Section until 1955 when she transferred to the CC Administrative Branch.

A resident of Washington, her retirement plans include relaxation first, and then a lengthy visit to her home of many years ago, Norfolk, Va.

Originally from the Bahama Islands, Mrs. Nottage started her Government career in 1942. With the exception of one brief absence, her service was continuous until she retired late last year. She joined the CC ESCD staff in 1957.

As to her future, Mrs. Nottage plans to continue volunteer work at Providence Hospital. She also will remain active in the Women's League of Maryland.

NIH Orchestra Concert To Be Given January 31

The NIH Orchestra will give its next concert on Friday, Jan. 31, at 8:30 p.m. in the Clinical Center auditorium.

Mark Ellsworth will conduct a program including Haydn's "Symphony No. 88 in G," J. Strauss's waltz, "Roses from the South," Beethoven's "First Symphony in C," and excerpts from Rimsky-Korsakoff's suite, "The Snow Maiden."

Admission to the concert, sponsored by the NIH Recreation and Welfare Association, is free. All are welcome.

Dr. Lamont-Havers Reorganizes Office; Dr. Stephenson Named Training Officer

Dr. Ronald W. Lamont-Havers, NIH Associate Director for Extramural Research and Training (ADERT), has announced a new organizational structure for his office. The reorganization establishes four major staff positions within ADERT (formerly the Office of the Associate Director for Extramural Programs).

Dr. Richard B. Stephenson, former associate director for Operations of the Division of Regional Medical Programs, HSMHA, has been named Training Officer.

In this position, Dr. Stephenson will assist and advise the Associate Director in the development and coordination of the extramural training and educational programs and provide guidance to the awarding units in solving problems relating to these programs.

From 1965 to late 1967, Dr. Stephenson had served as Research Grants Officer in ADERT. Prior to that, he was the first program director of the Gastroenterology



Dr. Akers



Dr. Stephenson

Program, Extramural Programs, NIAMD.

Dr. Stephenson received his B.S. degree from Tufts College in 1939 and his M.S. from the University of Maryland in 1940. He did further graduate work at the University of Illinois from 1940 to 1942, and in 1945 received his M.D. degree from the University of Illinois College of Medicine.

On completing a 4-year residency in surgery, Dr. Stephenson spent one year as a Surgical Fellow at the Memorial Hospital for Cancer and Allied Diseases and one year as a Pathology Fellow at the Memorial Hospital-Sloan Kettering Institute.

Following his clinical training, he served as chief surgeon at the PHS Hospital, McNeil Island, Washington, until he returned to his native Maine where he practiced surgery until joining the NIAMD Extramural staff in 1964.

Dr. Robert P. Akers, who has served on the ADERT staff for over 2 years as Extramural Operations and Procedures Officer, will serve as Policy and Procedures Officer.

Dr. Akers will be responsible for assisting and advising Dr. Lamont-Havers in the development, coordination, and application of policies which are appropriate for the consistent administration of the extramural research and training

programs. He will also assist the granting units in achieving consistent application of such policies and procedures.

He received his B.S. degree in 1939 from Bates College, Lewiston, Maine, and his M.A. and Ph.D. in physiology from Boston University in 1942 and 1951, respectively.

Dr. Akers has been with the NIH continuously since 1951, first joining the National Heart Institute's Laboratory of Cardiovascular Physiology where he served for 5 years as a research physiologist.

He transferred to the NHI's Extramural Programs where he served as chief of the Research Grants Branch, a position to which he was appointed after extensive experience in the administration of the NHI's fellowship training grant and research programs.

Prior to joining the ADERT staff in 1966, Dr. Akers served for 2 years as chief of the NIH Office of International Research Latin American Office in Rio de Janeiro, Brazil.

Dr. Robert J. Gibbs, who has served on the staff of the ADERT for the past 4 years as Assistant to the Extramural Operations and Procedures Officer, will serve in the newly-created position of Operations Analysis Officer.

In this position, Dr. Gibbs will advise and assist Dr. Lamont-



Dr. Gibbs



Mr. Jarboe

Havers in the analytical aspects of the operations of the extramural research and training programs.

Dr. Gibbs earned his B.S. from Fordham College in 1948. He received his M.S. and Ph.D. in Physical Organic Chemistry in 1949 and 1952, respectively, from Fordham University.

He joined NIH in January 1964 as a member of the Grants Associates Program which provides a one-year intensive training program in the administration of NIH extramural programs.

Before joining the Grants Associates Program, Dr. Gibbs was a research chemist with the U. S. Department of Agriculture from 1956 to 1964, serving as project director on basic research on muscle proteins.

Dr. Paul P. Weinstein, NIAID Lab Chief, Retires; With PHS for 25 Yrs.

Dr. Paul P. Weinstein, has recently retired as chief of the Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases.

He will become chairman, Department of Biology, University of Notre Dame.

Dr. Weinstein has been LPC chief since 1966, and prior to that served as acting chief. Dr. Weinstein was a member of the USPHS Commissioned Corps for 25 years.

Awards Noted

In recognition of his contribution to the understanding of parasitology and tropical medicine, Dr. Weinstein received the Bailey K. Ashford Award from the American Society of Tropical Medicine and Hygiene in 1957 and the Award of Honor from Brooklyn College in 1958.

Before coming to the NIH in 1949, he served on the Florida State Board of Health, Parasitology Division, and as a parasitologist with the Communicable Disease Center.

Dr. Weinstein received his A.B. degree from Brooklyn College and his Sc.D. degree in hygiene from Johns Hopkins University.

Dr. Gibbs also served as a research associate at the University of Virginia Medical School from June 1952 to 1954 and as a staff member at the Massachusetts Institute of Technology from 1954 to 1956.

George E. Jarboe, who has served on the ADERT staff for the past 3 years with responsibility in the training programs area, has been named to serve as the assistant to the Policy and Procedures Officer.

Mr. Jarboe will assist and advise Dr. Akers in the development of policy concerned with extramural research and training programs and will maintain liaison with the Division of Research Grants and the awarding units to assure consistent application of these policies and procedures.

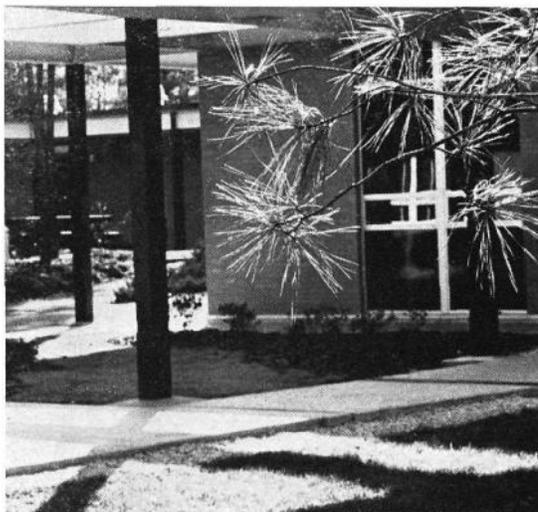
Mr. Jarboe received his B.A. degree from the University of Maryland in 1958 and subsequently was employed by the Department of Navy. He came to NIH in 1959 as a management intern and, on completion of a one-year training program, was employed by the Personnel Management Branch, OD, where he worked until he joined the staff of the Division of Research Grants in 1962.

Mr. Jarboe served as DRG administrative officer until January 1964 when he became a staff specialist in the DRG Career Development Review Branch, a position he held until joining the ADERT staff in September 1965.

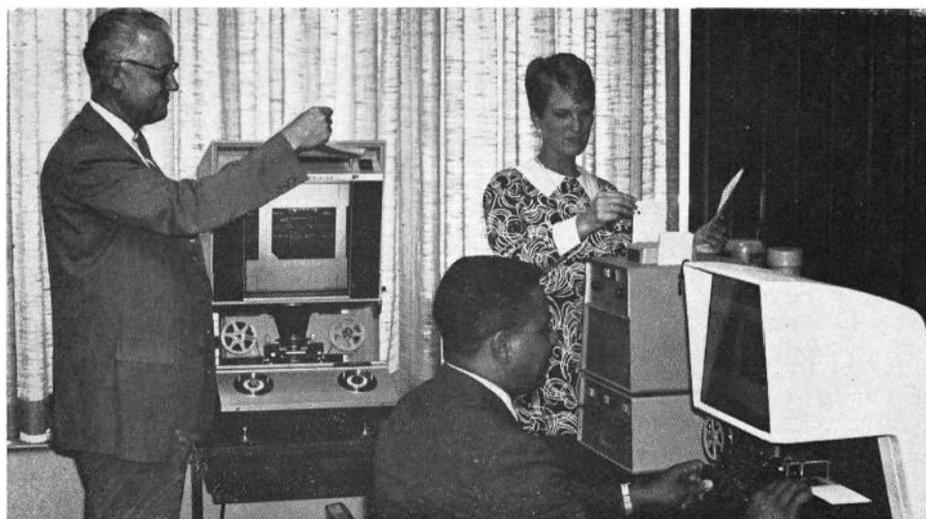
The National Institute of Environmental Health Sciences



This view of the drive leading to the headquarters of the NIEHS in the Research Triangle Park clearly shows the ideal setting in which it is located.



Pine boughs, a North Carolina trademark, enhance the beauty of the interior courts formed by several NIEHS buildings.



Shown here is some of the equipment for handling scientific information that will be used in the Quick Retrieval System (QRS) at the Institute. Manning the equipment are (from left) Richard K. West, technical information specialist; Ellen Carruth, secretary, and Ralph J. Hester, technical information specialist.

Research Triangle Park in North Carolina is the new home for the National Institute of Environmental Health Sciences, NIH's newest component.

Three universities, all about equidistant from the site, provide a fitting academic and scientific environment for the Institute's unique mission.

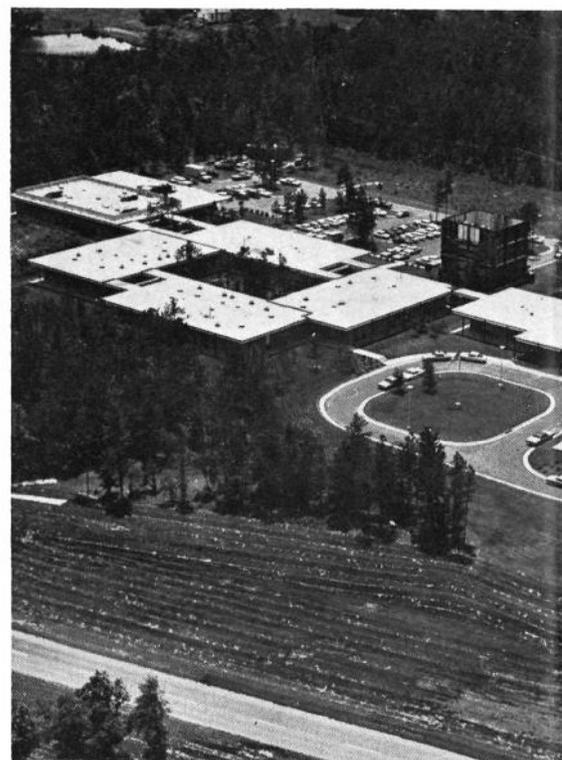
That mission is to identify the environmental factors that lead to man's health, and determine ways to prevent and eradicate such hazards.

These studies utilize disciplines from basic biology to chemistry, clinical medicine, epidemiology, toxicology, and other scientific skills.

The National Environmental Health Science Institute's intramural research covers a wide range of studies in polymer dusts, alpha radiation, and other hazardous constituents—this is just a small part of the Institute's work.

NIEHS cooperates and collaborates with the University of North Carolina and other institutions.

The new Institute fosters such research as the health, longevity, and productivity of the population.



Aerial view of NIEHS's leased headquarters in Research Triangle Park. In the center and to the right are office buildings.

Environmental Health Sciences

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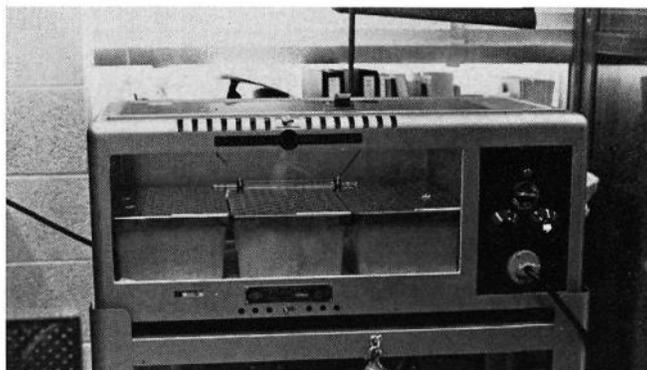
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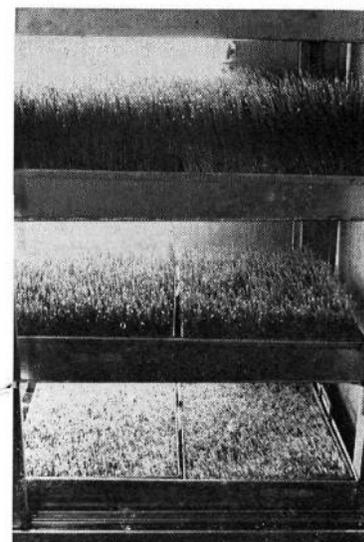
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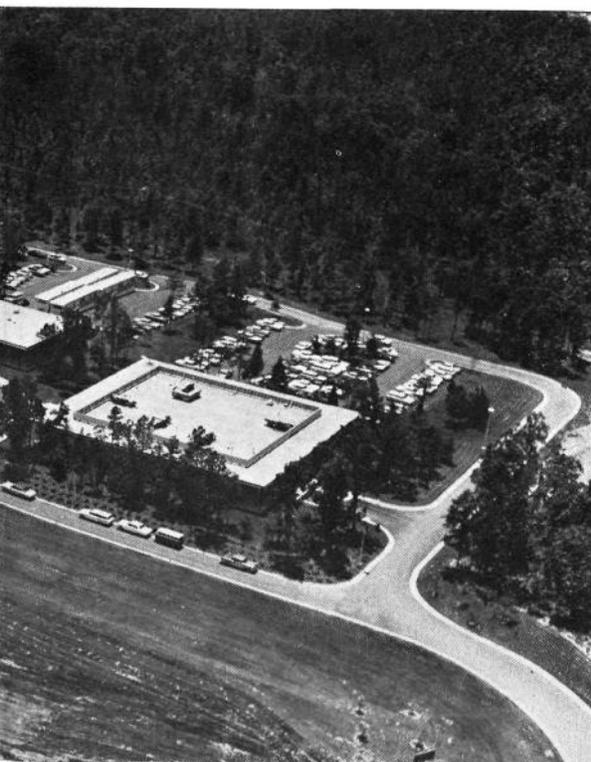
Infant incubators generally used for premature human babies are required to provide proper controlled environment for newborn litters of research animals.



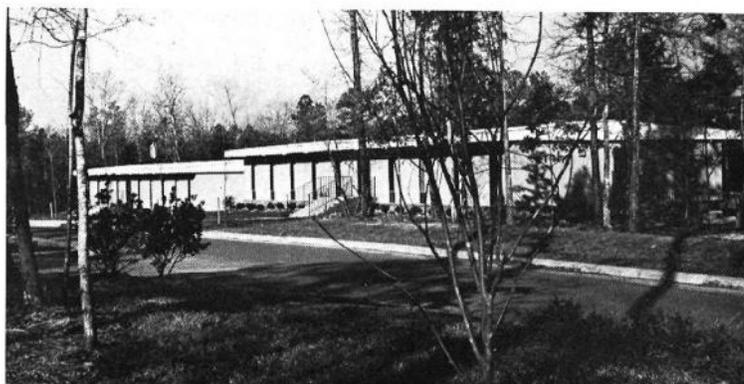
Vegetable material is produced in hydroponic solutions in controlled environmental chambers that are free of pesticide residues for comparison studies with field-grown crops.



Christina Coltrane, technician, adjusts controls for heat, humidity and light to environmental room in NIEHS animal building.



Triangle Park, North Carolina. To the left are laboratory build-



Housed in these mobile units at the Park are the information-storage-and-retrieval system, the library, and offices for research branch chiefs, administrative and support personnel.

DR. BRODIE*(Continued from Page 1)*

disease."

The award, the Government's highest for distinguished achievement in science, mathematics and engineering, honors scientists judged by the President to be "deserving of special recognition by reason of their outstanding contributions."

Dr. Brodie and his group have gained international renown in biochemical pharmacology. Their work has made major contributions to current knowledge of the mechanisms through which drugs penetrate biological membranes, become distributed in various body tissues, become changed to active or inactive metabolites, and are eliminated from the body.

Clarifies Drug Action

He has also helped to clarify how drugs alter physiological and biochemical systems which control the release and metabolism of biogenic amines, the mobilization and transport of fatty acids, and the activity of diverse enzyme systems.

In these studies, Dr. Brodie and his group have aided the development of a variety of drugs and helped to elucidate factors underlying species and individual variation in drug action.

This award is the latest to be added to a distinguished list of awards given to Dr. Brodie over the years. Among these have been the 1967 Albert Lasker Basic Medical Research Award, the Distinguished Achievement Award from *Modern Medicine* in 1964, and the Distinguished Service Award of DHEW in 1958. In 1966, Dr. Brodie was elected to the National Academy of Sciences.

He has been awarded honorary degrees from, among others, the University of Paris, the University of Barcelona, and the Karolinska Institute, Sweden.

Born in Liverpool, England, Dr. Brodie took his bachelors degree at McGill University in 1931 and his Ph.D. in Chemistry at New York University in 1935. He became an American citizen in 1939.

Joins NHI in 1950

In 1950, after spending several years teaching pharmacology and biochemistry at NYU, he came to NIH as head of the Heart Institute's Laboratory of Chemical Pharmacology.

Others receiving the National Medal of Science were:

Biological sciences—Horace A. Barker, University of California and a grantee of NIAMD; Detlev W. Bronk, Rockefeller University; Jay L. Lush, Iowa State University, and Burrhus F. Skinner, Harvard University.

Engineering sciences—John P. Eckert, Remington Rand Univac

Henry Juenemann Named Asst. Director, DCRT

Appointment of Henry J. Juenemann as assistant director of the Division of Computer Research and Technology has been announced by Dr. Arnold W. Pratt, Director of DCRT.

Mr. Juenemann came to NIH in December 1961 as deputy chief of the Computation and Data Processing Branch of DRS. In April 1962 he was made acting chief.

The Branch he headed was transferred in October 1965 from DRS to form the nucleus of DCRT.

A 1949 graduate of Georgetown University, Mr. Juenemann began his career as a mathematician with the Computation Laboratory of the National Bureau of Standards, where he participated in some of the earliest efforts to use machines for mathematical calculations.

He transferred in 1950 to Headquarters, USAF, where he was in-



Mr. Juenemann headed the Computation and Data Processing Branch when it was still part of DRS and continued to head it after it became the nucleus of DCRT.

involved in the installation and operation of the first commercial electronic computer ever to be moved from the factory and installed in a user's site.

In 1955 Mr. Juenemann received the Meritorious Civilian Service Award for work in the development of computational methods for predicting the economic impact of possible nuclear conflict.

In his new position, he will represent NIH on the DHEW Career Service Board for Automatic Data Processing.

Division; Nathan M. Newmark, University of Illinois, and Jerry Neyman, University of California and a grantee of NIGMS and NCI.

Physical sciences—Paul D. Bartlett, Harvard University; Herbert Friedman, Naval Research Laboratory; Lars Onsager, Yale University and grantee of NIGMS, and Eugene P. Wigner, Princeton University.

BUDGET*(Continued from Page 1)*

dental caries and a better understanding of cardiovascular disease, to expanded research on human reproduction and family planning and visual disorders.

Moreover, an increase of \$7.6 million will be utilized to expand research support programs, such as clinical research centers, and to enlarge multidisciplinary research and training centers in such fields as mental retardation and environmental health.

The overall NIH budget also provides added impetus to health professions and related manpower training programs. In FY 1970, a total of \$96.4 million is proposed for a broadened program of assistance to medical, dental and related professional schools, an increase of \$30.4 million (46 percent) over the previous year.

Student Aid Expanded

Student assistance also will be expanded under the health professions and nursing scholarship programs, with more than 31,100 students expected to be aided—about 7,500 more than in 1969.

Loans under the nursing student loan program will be awarded to an estimated 29,000 nursing students in FY 1970, more than 2,000 above current levels.

In FY 1970, funds for construction of teaching, health research, and medical library facilities will be limited to facilities which will lead to an increase in the supply of medical and dental manpower.

When combined with funds carried over from prior years, the proposed 1970 increase in budgetary authority of \$43.1 million will provide \$141 million to build new facilities for training physicians, dentists, and related professional personnel, or to replace existing facilities.

The proposed 1970 request of \$22.2 million for the National Library of Medicine represents an increase of more than \$4 million

Blood Bank at CC Reports 123 Units Donated in Dec.

The Clinical Center Blood Bank reports that 123 units of blood were received from NIH donors in December, and CC patients received 1,796 units of blood.

Three donors joined the Galton Donor Club: David B. Coffman, DRS; Dr. Thomas F. Dutcher, CC, and Chaplain Robert B. Robey.

Increased demands for blood have resulted in shorter supplies. Your help is needed now. Make an appointment to donate by calling the Blood Bank, Ext. 64506.

1970 NIH Budget Summary

Component	Amounts in Thousands
OD	7,193
DBS	8,338
NCI	184,402
NHI	163,141
NIDR	30,062
NIAMD	139,968
NINDS	103,485
NIAID	103,922
NIGMS	157,803
NICHD	78,411
NEI	25,778
NIEHS	19,004
FIC	3,460
GR&S	74,809
BHPE&MT	357,769
NLM	22,182
Bldgs. & Facilities	4,400
Total	1,484,127

for expanded Library operations.

Of special importance has been the establishment of the Lister Hill National Center for Biomedical Communications. The Center currently is engaged in designing a biomedical communications network for more rapid transmission of information to improve health education, medical research and the delivery of health services.

Network Given Impetus

When completed, the network will use the latest electronic equipment and communications technology. The proposed FY 1970 budget increase of \$1.3 million—resulting in a total program of \$2.1 million—will furnish the necessary impetus to move beyond the design phase to engineering development and test applications.

Dr. Donnelly, New Chief, Dental Caries Program

The appointment of Dr. Charles J. Donnelly as chief, Dental Caries and Hard Tissues Program in the Extramural Programs of the National Institute of Dental Research, has been announced by the Institute Director, Dr. Seymour J. Kreshover.

Dr. Donnelly succeeds Dr. Robert C. Likins, who retired from PHS to direct the Walter G. Zoller Clinic at the University of Chicago.

Dr. Donnelly comes to the NIDR from the Division of Dental Health, Bureau of Health Professions Education and Manpower Training, where he had been chief of the Research Grants Program since 1966.

Dr. Donnelly earned his A.B., D.D.S., and M.P.H. degrees at the University of Michigan.

CANCER

(Continued from Page 1)

after injections of poly I:C were stopped.

In another study, delayed treatment of established tumors caused a virtual disappearance of this growth in 10 days.

Presently, Dr. Levy and his colleagues only speculate on the mechanism through which poly I:C causes tumor regression. They do not believe that the effect is attributable solely, if at all, to the antiviral action of the interferon induced, particularly since only two of the tumors tested are of viral origin.

Dr. Levy said, "We decided to test the effect of poly I:C on tumors after noting its apparent ability in interferon experiments to enable a cell to distinguish between viral RNA and normal RNA.

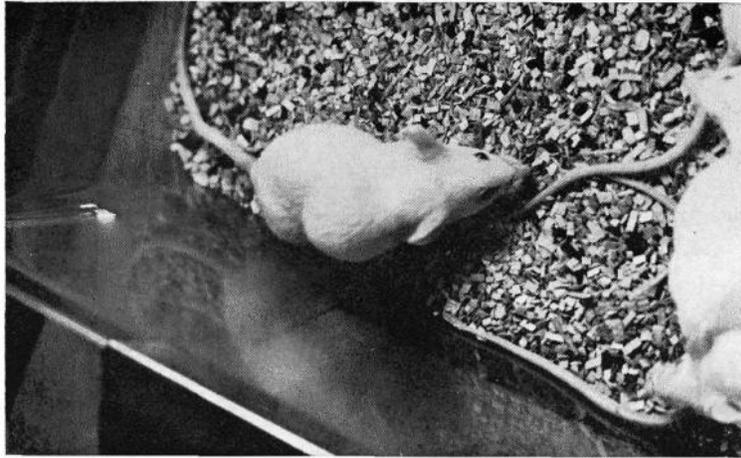
May Reject Tumor Cell RNA

"We theorized that the drug might also be useful in controlling tumor growth by making the host cell reject tumor cell RNA. Yet, although we have observed an effect on protein and RNA synthesis in treated cells, we do not understand the implications of this.

"Further elucidation of these effects and other aspects of poly I:C's action will be needed. However, for the moment, the exciting thing is that it does show definite activity against a variety of tumors, particularly slow-developing ones."

Infectious, tumor-inducing virus has not been found in any of the tumors used, although adenovirus 12 specific T antigen is present in the adenovirus-induced tumor. However, since T antigens of transformed cells are not affected by interferon and even the adenovirus itself is relatively resistant to interferon action, not much antiviral action would be expected in this system.

The antitumor action might be related to a general enhancement of the body's immunological re-



An experimental animal tumor, originally induced by human adenovirus 12 and now known as MT₁, grows readily when implanted in a BalbC mouse.

sponse; or the drug may act directly on the tumor. In support of the latter hypothesis, there is the preliminary evidence mentioned by Dr. Levy that treatment of mouse cells with poly I:C does modify RNA and protein synthesis.

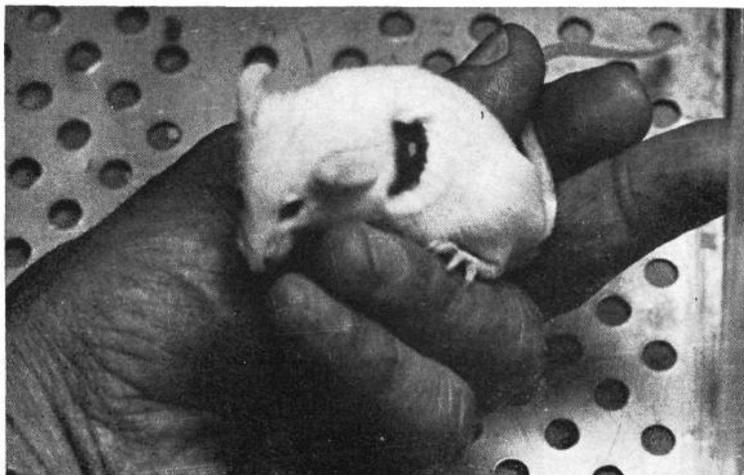
A third possibility is that poly I:C produces changes in the blood supply to the tumor, leading to tissue death.

Examination of these possibilities is now in progress. Meanwhile, preliminary plans are under way to develop a dosage schedule for trials of poly I:C in treating human cancer.

Seeks Non-Toxic Human Dosage

Although the animal tests have been encouraging, these successes are no guarantee that the drug will be useful in treating human tumors. A major problem to be solved is determining whether a dose large enough to be effective in humans will be non-toxic as well.

Nevertheless, the National Cancer Institute is hopeful that a non-toxic human dosage can be formulated because of the drug's promise in treating slow-growing tumors. If the drug is determined to be safe for human use, it could pos-



This BalbC mouse with a moderately large MT₁ tumor was treated with poly I:C resulting in massive destruction and sloughing of tumor tissue.

Dr. Rizzo, NIDR, Named Chief, Studies Program

The appointment of Dr. Anthony A. Rizzo as chief of the Materials Science and Special Clinical Studies Program in the Extramural Programs, National Institute of Dental Research, has been announced by Institute Director, Dr. Seymour J. Kreshover.

Dr. Rizzo succeeds Dr. Robert J. Nelsen, who has become executive secretary of the American College of Dentists, in St. Louis, Mo.

Studies Periodontal Disease

Dr. Rizzo assumes this position after working for 11 years in the NIDR Laboratory of Microbiology. While there, he studied the role of bacteria in periodontal disease.

During the past year he also served as assistant to the Director for Intramural Research, Dr. R. C. Greulich.

Prior to coming to the Dental Institute, Dr. Rizzo was an NIH Postdoctoral Fellow at the University of Alabama Medical Center, where he completed a one-year residency in periodontology.

He received both his D.M.D. and the M.S. degrees from the University of Alabama.

Medical History Society To Meet January 23

The Washington Society for the History of Medicine will meet on Thursday, Jan. 23, at 8:30 p.m., in the Billings Auditorium of the National Library of Medicine. The meeting is open to visitors.

Speakers and their topics are: Dr. Jane M. Oppenheimer, professor of biology, Bryn Mawr College, "Some International Aspects of Late 19th Century Experimental Embryology," and Dr. David L. Cowen, chairman, Department of History, Rutgers University, "Medical Science and Medical Practice in the 19th Century."

sibly be used against such tumors as cancer of the lung and breast which have not responded well to other drugs.

The announcement of the anti-tumor effect of poly I:C comes less than 2 months after NIH told of the drug's use in curing an acute viral infection in rabbits—the first time a virus disease had been cured through stimulation of interferon.

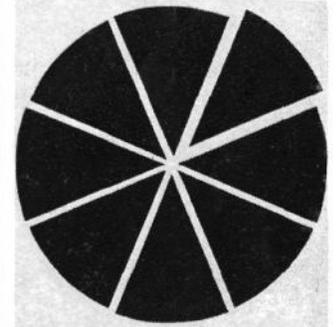
Poly I:C used as late as 3 days after inoculation of rabbit eyes with herpes simplex virus cured the resulting keratoconjunctivitis, an often fatal infection. These experiments were conducted at NIH by Dr. Samuel Baron, also of the NIAID (see *NIH RECORD*, Nov. 26, 1968).

Synthetic Acids Combined

Poly I:C is a synthetic double-stranded polynucleotide formed by mixing the two commercially available synthetic single-stranded materials—polysinosinic and polycytidylic acid. Dr. Maurice R. Hilleman and his associates at Merck Laboratories were the first to show that poly I:C had marked interferon-inducing ability. It is now widely synthesized and used experimentally in virus research.

(Note: To identify active anticancer drugs empirically, scientists use a "screen" of animal tu-

New EEO Program Symbol Being Posted Throughout NIH



The design above, representing the NIH Equal Employment Opportunity Program, is beginning to appear on bulletin boards throughout the reservation and other NIH facilities.

Dr. Colvin Gibson, who directs the program, says the design symbolizes that everybody is entitled to be considered equally for selection, training, or promotion, regardless of race, color, creed, sex, or national origin.

mors that are useful in predicting the material's activity against human cancer. Of about 20 useful test systems, two animal tumors are most effective in predicting the clinical usefulness of drugs. These are L-1210, a leukemia in the mouse, and Walker 256 I.M., a carcinosarcoma injected intramuscularly in the rat.)



Dr. Kotin (left) greets Mrs. Wilbur J. Cohen before formal ceremony at the National Library of Medicine. With them are (from left): Dr. Martin M. Cummings, NLM Director; Dr. Marston, and Sec. Cohen.

INSTITUTE

(Continued from Page 1)

stitute is the only major NIH component located away from Bethesda.

In making the announcement, Secretary Cohen said, "Fundamental knowledge developed at NIEHS will provide a scientific base upon which measures can be developed to help control or prevent environmental health problems. This is a major priority for HEW.

"I expect that close liaison between the new Institute and Federal environmental control agencies—many of which are in HEW—will contribute significantly to meeting the Nation's needs and priorities in environmental health."

The Secretary said that only by determining the hazards to man's

health within his total environment can "environmental crises of the future" be forestalled.

Established as a NIH division in November 1966, the environmental health facility is directed by Dr. Paul Kotin. Congress has appropriated \$17.8 million for NIEHS for the current fiscal year.

Research Aims Identified

At the Institute's North Carolina research center, scientists are working to identify harmful environmental agents, to determine the mechanisms by which these agents affect an individual's health, and to develop data on the effects of long-term, low-level exposures.

NIEHS is also the hub for nationwide Federal support of basic research and research training in the environmental health sciences.

Physicians Retraining Program Sponsors Project for Updating Medical Knowledge

In order to encourage the re-entry of inactive physicians into medical practice, the Division of Physician Manpower, Bureau of Health Professions Education and Manpower Training, sponsored a retraining project at the Pacific Medical Center in San Francisco.

The project offered a 6-to-12-month program under which physicians go through a "preceptorship-residency" type of retraining. This is designed to update knowledge of advances made since they became inactive.

Because of its success similar programs are being planned throughout the country.

In connection with this project the AMA's Department of Survey Research conducted a study to determine the reasons for the present inactivity of physicians under the age of 55 years.

Also surveyed were the number of inactive physicians who wish to return to practice via a retraining program.

About one-third (614) physicians

of inactive physicians into medical Manpower, Bureau of Health Professions Education and Manpower Training, sponsored a retraining project at the Pacific Medical Center in San Francisco. indicated an interest in taking part in retraining programs. Other physicians said they would like to participate in future programs when their present responsibilities have ceased.

More than half of the inactive physicians (55.5%) stopped their practices for "pregnancy or family reasons." Another 28 percent left for other than health reasons; many of this group were foreign graduates who had difficulty obtaining a license.

In the opinion of AMA research assistants, the 614 inactive physicians interested in re-entering medical practice would be equivalent to the number of men and women graduating from 12 U. S. medical schools, thus alleviating the shortage of physicians.

Computerized Analysis for NCI Research Programs Now Being Used—First at NIH

A new type of computerized analysis, the only analysis of its kind at NIH, is used by the National Cancer Institute for its research programs.

The computerized analysis relates each research project to NCI's entire support program for cancer research.

The breakdown is based on 2,138 abstracts describing individual grants, contracts, transfers of funds and intramural programs.

These abstracts are grouped together into 227 research categories, 28 sub-areas, and 4 major areas of cancer research to form a "Multi-Level Analysis of Projects Supported by NCI in Fiscal Year 1968."

Final camera-ready copy of the 252 pages of abstracts with page numbers, table headings, underlined titles, and subtitles was computer-organized in 4.8 minutes.

It was printed from magnetic tape in 20 minutes of off-line printing on a high-speed, computer-driven printer in the Division of Computer Research and Technology.

Summary boxes showing the number of grants, contracts, and intramural projects and funding for each of the 227 research categories were also calculated and printed automatically by the computer.

The analysis was prepared by Dr. John H. Schneider, scientific and technical information officer, Office of the Associate Director for Program, for use by NCI program directors, and other staff members.

Paul Kelly Joins NLM Pub. Information Office

Paul Kelly has been appointed deputy chief of the Office of Public Information & Publications Management, National Library of Medicine.

He was previously with the Military Traffic Management and Terminal Service, Bailey's Crossroads, Va., where he served as deputy chief of the Information Office.

Mr. Kelly, a former Boston Post reporter, served as Information Officer for the U.S. Army Combat Developments Command at Ft. Belvoir prior to his retirement from the Army in 1966 as a Colonel.

Heads 'Stars and Stripes'

During his military career he was also Officer in Charge of Pacific STARS and STRIPES in Tokyo.

As a free lance writer, Mr. Kelly has had numerous articles published.

A native of Boston, Mass., he attended Holy Cross College and received a B.S. degree from the University of Maryland. He is also a graduate of the Army Command and General Staff College, Ft. Leavenworth, Kan.



NIH employees outdid themselves last Christmas donating almost \$5,000 to the NIH Patient Welfare Fund via the "Davis Plan." Here, Dr. Robert Q. Marston, NIH Director (right), and Dr. Jack Masur, Clinical Center Director (standing) review the record of exceptional generosity posted in 1968. Noting the sharp rise clearly indicated on the chart held by James B. Davis, Director of the Office of Administrative Services and initiator of the plan, Louise C. Anderson, chief of the CC Nursing Department, expresses appreciation of patients who will benefit from the fund throughout the year. Under the Davis Plan, NIH employees donate to the fund money normally spent in exchanging Christmas cards with other employees.