



DEPARTMENT OF
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DR. GREENSTEIN WINS 1957 HILLEBRAND PRIZE

For outstanding contributions to the biochemistry of cancer, Dr. Jesse P. Greenstein, Chief of the NCI Laboratory of Biochemistry, has been awarded the 1957 Hillebrand Prize.

A plaque and a cash award were presented to Dr. Greenstein by the Washington Section of the American Chemical Society at a dinner meeting on March 13. The award, established in 1925, is presented annually to an ACS member who has done original work in the field of chemistry.

Dr. Greenstein is internationally recognized for his pioneer work in the field of biochemistry, particularly as related to cancer. He has been concerned with the chemistry of amino acids and peptides, and with the synthesis of these and related compounds.

A native of New York City and a recipient of a Ph.D. from Brown University, Dr. Greenstein has been with NCI since 1939.



Dr. Jesse P. Greenstein

NEW CC ASSISTANT DIRECTOR APPOINTED



Dr. Robert M. Farrier

Dr. Robert Farrier Named To CC Post

Dr. Robert M. Farrier, Bureau of Medical Services, PHS, has been appointed Assistant Director of the Clinical Center, effective March 31. He replaces Dr. Stuart M. Sessoms, now Assistant Director of NCI.

Dr. Farrier has been a Commissioned Officer in PHS since 1947. He has headed foreign quarantine programs in Austria and France and served as Deputy Chief of Medicine at the USPHS Hospital in Norfolk, Va. Since 1954 he has been on special assignment at the headquarters office of BMS.

A graduate of the Washington University School of Medicine, Dr. Farrier completed his medical internship and residency at the USPHS Hospital, Staten Island.

He is an Associate of the American College of Physicians and of the American Association for the Advancement of Science.

Dr. Dunn, NCI, To Tour USSR With Delegation

Dr. Thelma B. Dunn, NCI pathologist, is one of six American women doctors who will visit medical institutions in the Soviet Union this May.

The month-long tour will reciprocate a visit by six Russian women scientists who toured U. S. medical centers, including NIH, last October.

Dr. Dunn, head of the Cancer Induction and Pathogenesis Section, Laboratory of Pathology, NCI, was selected by the National Academy of Sciences to participate in the program.

Itineraries in the Soviet Union will be arranged by Soviet officials according to each delegate's interests. Dr. Dunn hopes to visit cancer research centers in Moscow and Leningrad.

Arrangements for the trip were made by the National Academy of Sciences in cooperation with the AMA, the Rockefeller Foundation, and the American Medical Women's Association.

Dr. Burney Speaks At 6th Gray Lady Graduation Here

Surgeon General Leroy E. Burney was the guest speaker at the 6th annual graduation of Montgomery County Red Cross Gray Ladies, held at NIH on March 19.

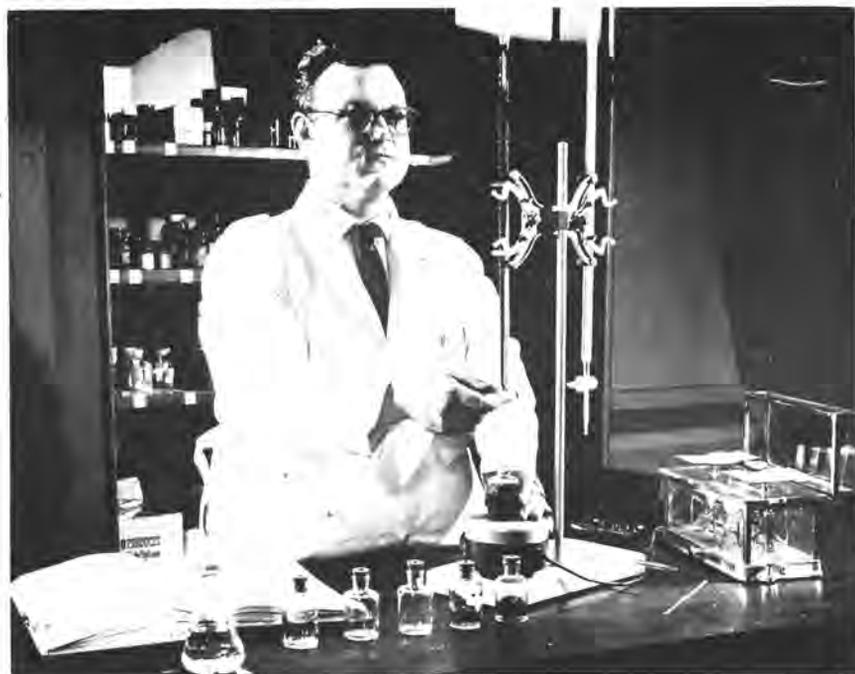
Twenty Gray Ladies, who have completed 150 hours of training, received certificates and pins at the colorful ceremony. Two Gray Ladies who transferred to NIH from other hospitals also received pins.

Graduation certificates were presented to the class by Lt. Gen. Lewis B. Hershey, chairman of the Montgomery County Red Cross.

(See Graduation, Page 4)

Two New Antileukemic Drugs Ready For Clinical Trials

No. 202 in a Series



John M. Venditti, biologist in the Laboratory of Chemical Pharmacology, NCI, prepares drugs for tests to determine their effectiveness against animal tumors.

The effectiveness of many drugs employed in cancer chemotherapy is limited by their toxicity to the host. Methods for improving the usefulness of some of these drugs have been developed by Dr. Abraham Goldin and his associates in the Laboratory of Chemical Pharmacology, NCI.

Employing experimental tumors in mice, these investigators conducted studies to determine what factors influence the effectiveness of various antitumor agents. They found that the following factors affected drug action: a) the age and size of the tumor when treatment is begun, b) the age and weight of the tumor-bearing animal, c) the schedule of treatment, and d) the treatment with combinations of different agents.

Thus the antitumor effectiveness of certain agents was determined with respect to the host, the tumor, and the host-tumor relationship. With the aid of statistical analyses made in cooperation with the Biometry Branch, NCI, optimal dosages and schedules of treatment were determined for drugs separately or in combination.

These studies established a procedure for quantitatively analyzing

the relative effectiveness of various treatments on both the tumor and the host. This procedure is a significant advance in the field of cancer chemotherapy.

The value of the procedure has already been well demonstrated in testing the therapeutic effectiveness and toxicity of a series of folic acid antagonists on advanced leukemia in mice. Two of these drugs appear to possess striking advantages over amethopterin (methotrexate)—a drug useful in the management of choriocarcinomas and acute leukemias—and are almost ready for clinical trials. Both drugs are chlorinated derivatives of amethopterin and are called monochloroamethopterin and dichloroamethopterin.

One significant advantage of these drugs is that much larger dosages can be given to strike at the leukemia harder with less toxicity to normal cells.

A search for even more effective folic acid antagonists is in progress, and arrangements are being made through the Cancer Chemotherapy National Service Center to make wide-scale use of Dr. Goldin's method to test new antitumor drugs.

Publication Preview

The following manuscripts were received by the SPB Editorial Section between January 14 and January 30.

CC

Kvarnes, M. J. Orienting nursing personnel to a research project in psychiatry.

DBS

Girardi, A. J.; Jeffries, B.; Warren, J.; and Goldman, C. Growth and CF antigenicity of measles virus in cells deriving from human heart.

NCI

Andervont, H. B. Problems of the tumor viruses.

Andrews, H. L. Species differences in responses to high radiation doses.

Barrett, M. K. The erythrocyte-borne antigen in tumor immunity.

Burr, B. E., and White, W. C. Notes on the mass spectrometric analysis of air samples: A comparison of conditioned and unconditioned tungsten filaments.

Lampkin, J. M., and Potter, M. The response to cortisone and the development of cortisone resistance in a cortisone-sensitive lymphosarcoma of the mouse.

Lipner, H. J.; Wagner, B. P.; and Morris, H. P. Goitrogen depression of the thyroid iodide pump.

Lipsett, M. B., and Bergenstal, D. M. A C₂₁ desoxysteroid with corticoid activity.

Mathans, D.; Fahey, J. L.; and Potter, M. The origin of myeloma protein.

Rotherham, J., and Schneider, W. Deoxyribosidic compounds in animal tissues.

Van Scott, E. J. Significance of changes in phloebaceous units in acne and other diseases.

Weissman, S. A method for the mathematical analysis of polynomial exponential functions and isotope distribution curves.

Wood, J. W., and Mora, P. T. Synthetic polysaccharides. III. Polyglucose sulfates.

NHI

Avigan, J., and Steinberg, D. Effects of saturated and unsaturated fat on cholesterol metabolism in the rat.

Bartter, F. C. The physiologic control of aldosterone secretion (abridged).

Chen, P. S., Jr.; Schedl, H. P.; Rosenfeld, G.; and Bartter, F. C. Conversion of progesterone-4-C¹⁴ to aldosterone by perfused calf adrenals.

Cooper, T.; Braunwald, E.; and Morrow, A. G. Pulses alternans in aortic stenosis: Hemodynamic observations in 50 patients studied by left heart catheterization.

Goodman, D. S. The interaction of human serum albumin with long-chain fatty acid anions. Shock, N. W. Old age.

Udenfriend, S., and Weissbach, H. Studies on the turnover of 5-hydroxytryptamine (serotonin) in tissues.

NIAID

Cook, M. K., and Jacobs, L. *In vitro* investigations on the action of pyrimethamine against *Toxoplasma gondii*.

German, J. L. The glucose tolerance test after cortisone administration in corpulent and acorpulent men.

Philip, C. B. Some records of Tabanidae (diptera) in the Far East.

Philip, C. B. Records of Tabanidae from Sardinia and Corsica.

Ribi, E.; Larson, C. L.; List, R.; and Wicht, W. Immunologic significance of the cell wall of mycobacteria.

Rosen, L. Dengue antibodies in residents of the Society Islands, French Oceania.

Shelokov, A.; Vogel, J. E.; and Chi, L. Hemadsorption (adsorption-hemagglutination) test for viral agents in tissue culture. With special reference to influenza.

NIAMD

Ames, B. N.; Dubin, D. T.; and Rosenthal, S. M. The presence of polyamines in certain bacterial viruses.

Austen, F. K.; Rubini, M. E.; Meroney, W. H.; and Wolff, J. Salicylates and thyroid function. I. Depression of thyroid function.

Gladner, J. A., and Laki, K. The active site of thrombin.

Harris, P. L.; Ludwig, M. I.; and Schwarz, K. Ineffectiveness of factor 3-active selenium compounds in the resorption-gestation bioassay for vitamin E.

Holland, G. F., and Cohen, L. A. Studies on the synthesis of insulin peptides.

Rabinowitz, J. C., and Tabor, H. The urinary excretion of formic acid and formiminoglutamic acid in folic acid deficiency.

Schwarz, K., and Foltz, C. M. The factor 3 activity of selenium compounds.

Tomkins, G.; Curran, J.; and Michael, P. Further studies on enzymatic adrenal II- β hydroxylation.

Wolff, J., and Austen, F. K. Salicylates and thyroid function. II. The effect on the thyroid-pituitary interrelation.

NIMH

Bak, A. F. A unity gain cathode follower. Bondareff, W. Research on morphological changes in the aging nervous system.

Cohen, R. A. The hospital as a therapeutic instrument.

Duhl, L. J. Planning the physical environment (meeting the needs of people).

Freygang, W. H., Jr., and Frank, K. Simultaneous measurements of somatic membrane current and potential in motoneurons.

Goffman, E. The structure and function of situational proprieties.

Hewitt, R. T. Dedication of intensive treatment unit at Western State Hospital, Bolivar, Tennessee.

Mudd, S. H., and Cantoni, G. L. Enzymatic hydrolysis of S-adenosylmethionine.

Sokoloff, L. The action of drugs on the cerebral circulation.

NINDS

Boord, R. L., and Rasmussen, G. L. Analysis of the myelinated fibers of the acoustic nerve of the chinchilla.

Brightman, M. W. The site of pseudocholinesterase activity in the central nervous system of the chicken.

Frank, K., and Sprague, J. M. Direct contralateral inhibition.

Massopust, L. C., Jr. A component of the medial longitudinal fasciculus terminating in the inferior olive of the cat.

Pieper, S. J. L., Jr., and Kurland, L. T. Sequelae of Japanese B and mumps encephalitis.

Rasmussen, G. L., and Gacek, R. Concerning the question of an efferent fiber component of the vestibular nerve of the cat.

Van Buren, J. M. Some autonomic concomitants of epileptic automatism.

NIH RECORD

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NIH Spotlight



Eleanor Lawrence and "Topper." He's very gentle, she says!

Eleanor Lawrence, reference clerk in the NCI Information Office, is recognized for her achievements in breeding and showing fine animals wherever dog fanciers meet.

The remarkable part of the story is that Eleanor, who is 25, entered the field of intense competition only five years ago after receiving a female English bulldog as a gift. She is now co-owner of Char-Anne Kennels in Colesville, Md.

Shown above is two-year-old Champion Char-Anne's Top Octane--nicknamed "Topper." An English bulldog descendant of the gift dog, Topper is the current favorite at Char-Anne.

The arrogant pooch knows it too. Only last month he won Best of Breed over 24 entries, including 13 champions of record, in Westminster Kennel Club's show in Madison Square Garden.

Eleanor, one of the youngest breeders of dogs in the business, points out that Topper has done considerably more than prove his stuff at the Garden. He has won five Best of Breed awards, been named Winner's Dog in several shows, and recently picked up added laurels as Winner's Dog at the specialty show of the Bulldog Club of America. In acquiring that crown, Topper excelled over 84 entries.

Eleanor rises before dawn to feed the animals before reporting to work at the Cancer Institute. "Topper and my bulldogs are not the only thing we have at Char-Anne Kennels," Eleanor explains. "I also breed Saint Bernards and keep goats."

NEWS BRIEFS

Katherine B. Oettinger, Chief of the Children's Department, DHEW, was recently appointed by President Eisenhower to the Executive Board of the United Nations Children's Fund. Mrs. Oettinger succeeds Dr. Martha M. Eliot as U. S. representative on the Board.

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John A. Perkins, DHEW Under Secretary, resigned March 1 to return to his post as president of the University of Delaware.

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The supplement to "Survey of Compounds Which Have Been Tested for Carcinogenic Activity," compiled by Professor Philippe Shubik and Dr. Jonathan Hartwell, may be obtained by interested NIH research personnel free of charge in the Cancer Reports Section, ext. 2526.

Toastmasters Meet Here

Membership is still open in the newly formed NIH chapter of Toastmasters.

The group meets on the first and third Monday of each month in Bg. 10, Rm. 3N-320, to practice public speaking. Men interested in membership may contact John Hickey, ext. 3261.

Two Employees Retire

Rosie N. Sneed and Richard E. Thomas, employees of the CC Housekeeping Section, retired recently.

Mrs. Sneed, who had been at NIH for five years, was formerly employed by the Signal Corps and the Bureau of Engraving and Printing. Mr. Thomas came to NIH five years ago from the National Naval Medical Center.

The kennel's goats, kept to supply milk for the dogs' diet, do double duty. A number have won ribbons in agricultural and State fairs.

Eleanor came to the Information Office of the Cancer Institute a year ago as a typist, and was recently promoted to editorial clerk.

She received a B.A. degree at the University of Maryland in 1953. Eleanor is a resident of Kensington, Md., and graduated from Bethesda-Chevy Chase High School in 1949.

COMPUTER SYSTEM INSTALLED AT NIH



Components of the new IBM computer, recently installed in Bldg. 12, are shown above.

An IBM Magnetic Drum Computer system that can remember 20,000 digits of information and make 600 separate calculations per second is being installed in the Biometrics Branch, DRS.

Fifteen large and complex machines make up the computer. They are housed in an air-conditioned, dust-free room in the Statistical Processing Section, Bldg. 12.

The main unit of the computer contains a magnetic drum on which data and instructions are stored. This console unit also contains the intricate components that perform the calculations.

Data are fed into the computer on punched IBM cards or magnetic tapes. Computed results may be recorded on the drum, written on reels of tape, or punched on IBM cards.

Reels of magnetic tape are contained in separate units that receive or record information from the console. Data from 55,000 cards can be stored on one reel of tape. A printing machine that produces printed reports from tapes at the rate of 150 lines per minute is also a component of the giant computer.

Before data for a project are fed into the computer, a complex program is diagramed by experts in the Section. Step-by-step instructions are written and checked. These instructions are then translated into "punch card language." A trial run, using sample data, assures that the program will produce the desired results.

Six months before the computer arrived, programing for a number



EMPLOYEE HEALTH NOTES

Tetanus toxoid injections are a valuable safeguard against lockjaw, an infection that may occur after any skin injury or laceration.

Without these preventive injections, tetanus antitoxin must be administered after an injury. Tetanus antitoxin, unlike the tetanus toxoid, often results in dangerous side effects.

Allergic reactions to horse-serum in the antitoxin often involve risk to the recipient. Valuable time is lost in necessary skin-testing before antitoxin can be administered.

For complete immunization, the Employee Health Service urges all Civil Service personnel and Commissioned Officers to obtain the two tetanus toxoid injections and the follow-up booster shot.

of projects began. These include NIH payrolls, accounts, personnel, and several research projects.

This system will afford a rapid means of analyzing scientific experiments and studies, and of applying complex formulas to experimental results, as well as a rapid means of data reduction.

Ground rules for those who wish to do their own programing will be made available soon.

OBITUARIES

Joseph O. Devlin, a member of the staff of the Laboratory of Physical Biology, NIAMD, since 1943, died February 25 after a brief illness. A medical biology technician, Mr. Devlin had charge of facilities for experimental animals in Bg. 2 and had wide experience in handling different species.

Mr. Devlin is survived by his wife, Edna B. Devlin, an employee in the Laboratory of Physical Biology, NIAMD; three brothers, James W., Thomas E., and John P.; and a sister, Edith.

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Dr. J. Godwin Greenfield, NINDB Visiting Scientist, died suddenly on March 2. An internationally known British neuropathologist, he was employed at NIH for six months of each of the past three years.

Dr. Greenfield is survived by his wife, Florence Mary; a son, two daughters, and six grandchildren.

GRADUATION Contd.

Dr. Kenneth Chapman, CC Associate Medical Director, welcomed the class to the Clinical Center.

One of the new graduates, Mrs. O. Hayaishi, wife of an NIAMD scientist, will make use of her Gray Lady training in Japanese hospitals when she returns to Kyoto this month.



NIH Hamsters get a final inspection from costume designer Alida McBirney (kneeling) before a performance of "The Wonder Hat," this year's entry in the D. C. Recreation Department's play contest on March 13. Left to right are Marie Johnson, Marty Bacon, and James Tomlinson.