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DR. K. W. CHAPMAN DIES; CC ASSOCIATE DIRECTOR

Dr. Kenneth W. Chapman, Associate Director of the Clinical Center, died September 18 of a heart attack. He was 48.

A PHS commissioned officer, Dr. Chapman came to NIH in 1957. Previously, he had been chief of the PHS Narcotics Hospital in Lexington, Ky., from 1952 to 1954, and assistant chief of the PHS Division of Hospitals from 1950 to 1952. He became a psychiatrist in 1940 and joined the PHS soon after finishing his medical training.

As assistant to Dr. Masur at NIH, Dr. Chapman coordinated the activities of the professional service departments. In addition, he continued to act as one of PHS' permanent experts on the medico-legal aspects of narcotics, and was frequently called upon to give professional advice on this subject

(See Dr. Chapman, Page 4)

DR. VON SALLMANN CITED FOR RESEARCH

For outstanding contributions to blindness prevention, Dr. Ludwig J. K. von Sallmann, Chief of the Ophthalmology Branch, NINDB, received the Louis Braille Award September 16 in Philadelphia, Pa. A three-foot high silver trophy was presented to him by Ralph W. Pitman, Chairman of the Louis Braille Committee of the Philadelphia Association for the Blind, Inc.

Dr. von Sallmann was honored for "developing what is probably the most comprehensive eye research program in the country." Recent clinical studies of the Branch comprise new procedures to differentiate various types of retinopathies and uveitis. Currently, a critical evaluation is being made of diagnostic techniques for borderline glaucoma.

INSTRUMENT SYMPOSIUM HELD HERE THIS WEEK

The Ninth Annual Research Equipment Exhibit and Instrument Symposium is being held at NIH September 28 through October 1. Daily events will include panel discussions in the Clinical Center auditorium, displays and discussions of equipment in Exhibit Hall (Building 22), and demonstrations of gas chromatography systems in Wilson Hall.

In addition to NIH staff members, all scientists in the Washington area are invited to participate in this broad exchange of information. More than 5,000 visitors from all parts of the U. S., including Alaska, and from England and France attended last year's exhibit here.

The Symposium will be opened by Dr. James A. Shannon, NIH Director, on Monday, September 28, at 8 p.m. in the Clinical Center auditorium. This session will include a panel discussion, headed by Dr. Ralph H. Muller of the Los Alamos Scientific Laboratory, on trends in instrumentation.

Further sessions in the CC auditorium will include a discussion and demonstration of the phenomenon of electrophoresis at 2 p.m. on September 29, and panel discussions of gas chromatography at 8 p.m. on September 29, serum agar methods at 2 p.m. on September 30, and irradiation of parts of individual cells in tissue culture at 8 p.m. September 30. At 2 p.m. on October 1 there will be a discussion of nuclear and electronic magnetic resonance.

Instrumentation sessions featuring talks on new equipment will be held daily in Exhibit Hall at 9:30 and 10:15 a.m. Also on display in this building will be the newest devices in electronics, laboratory glassware, and surgical, optical,

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NEW SCENES FOR NIH FILM



The CC lobby was turned into a movie set recently when scenes for the revised NIH film were being shot there. From left are William E. Sanders, NHI, who played the part of a doctor; Gilbert Courtney, Department of Agriculture, film director; Nicholas Read, producer from Potomac Film Producers; Sandra Kamisar, NHI, who also played a doctor; and Daniel G. Rice, DRS, who acted as NIH coordinator.

Polyoma Cancer Virus Work Progresses

No. 232 in a Series

Evidence that viruses cause cancer in animals has been accumulating for more than 50 years, but the last decade has witnessed a surge of activity in research on tumor viruses and their fundamental nature.

Receiving a great deal of attention in this effort is the so-called "polyoma virus." Much of the action in the fascinating story of its discovery and study has been played here at NIH.

A pioneer in cancer virology is Dr. Ludwik Gross of the VA, who observed in 1951 that when he inoculated new-born mice with cell-free fluids from mouse leukemia tissue, the mice developed leukemia within one or two years. He concluded that he had discovered a virus that caused leukemia.

Also in 1951, Dr. Sarah E. Stewart, Laboratory of Biology, NCI, attempted to reproduce Dr. Gross' results with mouse leukemia. Although she followed his method, the mice that she inoculated failed to get leukemia. They developed salivary gland tumors instead. Yet these tumors could not be reproduced by injecting new-born mice with cell-free preparations from the tumors.

Dr. Stewart teamed with Dr. Bernice Eddy, DBS, in 1957, to try to increase the potency of the tumor-inducing virus through a tissue culture technique. They minced the salivary gland tumor tissue and put it into tissue culture, where they maintained it long enough to allow the agent to grow and multiply. Then they removed the solid particles, or cell debris, from the culture, and injected the cell-free fluid into new-born mice. The results were remarkable. This time the mice developed not only salivary gland tumors, but also 22 other types, including tumors of the thymus, thyroid glands and mammary glands. No leukemia developed.

These studies indicate that the mouse leukemia tissue contained two viruses, the leukemia virus described by Gross, and the virus that Stewart and Eddy observed. Passing the material through tissue culture evidently permits the virus that produces salivary gland tumors to increase in potency, but not the leukemia virus. Furthermore, the tissue culture techniques so in-

creased the potency of the tumor virus that some mice developed cancer within six weeks.

Drs. Stewart and Eddy also showed that the agent, now known as the SE polyoma virus, has the remarkable ability to cross animal strain and species barriers. Although it is a mouse virus, it can produce tumors in rats and hamsters as well as in mice.

In further studies, the investigators devised an immunization procedure that successfully prevents tumors from developing in hamsters injected with the virus. They also showed that the SE polyoma virus is a single agent, not a group of agents each responsible for causing cancer in a specific tissue.

Many other scientists, both at NIH and elsewhere, are making intensive studies of the polyoma virus.

The SE polyoma virus has been seen under the electron microscope by several investigators, at NIH and elsewhere. Recognizing the virus in the tumor tissue is one of the steps in proving that the virus causes the tumor.

One very interesting characteristic of the SE polyoma virus is that it spreads through a colony of mice, and from one colony to another, in the pattern of a contagious disease. This has been shown by the detection in blood serum samples of antibodies to the virus. Special methods have been developed for this purpose. In a series of studies to understand the natural history of the virus, Dr. Wallace P. Rowe, NIAID Laboratory of Infectious Diseases, has reported that antibodies to the polyoma virus were most often found in those colonies in which breeding mice were housed close to mice that had been inoculated with the virus.

Dr. Rowe points out that even though highly potent antibodies develop in inoculated mice, they do not interfere with later development of tumors. It has been shown that the older the animal, the less likely is it to develop tumors through infection with the polyoma virus.

And how does all this research relate to the problem of human cancer? There is still no evidence that cancer in man is associated with viruses, though the idea is growing. Knowledge about animal

(See *Polyoma Virus*, Page 3)

Publication Preview

The following manuscripts were received by the SRB Editorial Section between April 29 and May 14.

DRS

Allen, A. M. Occurrence of the Nematode, *Anatrichosoma cutaneum*, in the nasal mucosa of *Macaca mulatta* monkeys.

Kinard, R., and McPherson, C. The use of trimar and fluothane anesthesia in the restraint of laboratory primates.

NCI

Dharadwaj, T. P., and Love, R. Demonstration of mitochondria in tissues fixed for cytochemical and general staining procedures.

Calabresi, P.; Edwards, E. A.; and Schilling, R. P. Fluorescent antiglobulin studies in leukopenic and related disorders.

Carroll, B. E., and Ingraham, C. C., II. A record and reporting system for several field research units.

Heller, J. R. Advances in cancer control. Jude, J. R., and Harris, A. H. A study of urapain as a reflection of gastric secretory activity.

Weissman, S.; Tschudy, D. P.; Bacchus, H.; and Eubanks, M. The use of precursor product relationships in determining serum albumin half life.

NHI

Gordon, T.; Moore, F. E.; Shurtleff, D.; and Dawber, T. R. Some methodological problems in the longterm study of cardiovascular disease: Observations on the Framingham study.

Hughes, F. B., and Brodie, B. B. The mechanism of serotonin and catechol amine uptake by platelets.

Pisano, J. J.; Wilson, J. D.; and Udenfriend, S. γ -aminobutyric acid as a possible precursor of other physiological substances.

Quinn, G. P.; Parkhurst, A. S.; and Brodie, B. B. Biochemical and pharmacological actions of Ro 1-9569 (tetraabenazine), a non-indole tranquilizing agent with reserpine-like effects.

Seubert, W. Degradation of isoprenoids by microorganisms. The isolation and characterization of *Pseudomonas citronellolis* Nov. Spec.

Vagelos, P. R., and Earl, J. M. Propionic acid metabolism III. β -hydroxypropionyl coenzyme A and malonyl semialdehyde coenzyme A, intermediates in propionate oxidation by *Clostridium kluyveri*.

NIAID

Brennan, J. M., and Dalmat, H. C. Eight new species and other records of Guatemalan chiggers (Acarine: Trombiculidae).

Darnell, J. E., Jr.; Eagle, H.; and Sawyer, T. K. The effect of cell population density on the amino acid requirements for poliovirus synthesis in HeLa cells.

Oertli, E., and Perrine, T. D. Magnetically stirred separatory funnel.

Salzman, N. P.; Lockart, R. Z., Jr.; and Sebring, E. D. Alterations in HeLa cell metabolism resulting from poliovirus infection.

Takemoto, K. K., and Habel, K. Sensitivity and resistance of Type I polioviruses to an inhibitor in certain horse sera.

von Brand, T. Influence of pH, ions, and osmotic pressure on life processes.

Warren, K. S., and Newton, W. L. Portal and peripheral blood ammonia concentrations in germ-free and conventional guinea pigs.

NIAMD

Bowen, W. J., and Martin, H. L. On the ATPase activity of myosin in fibers and fibrils of glycerol-treated muscle.

Glenner, G. G.; Burstone, M. S.; and Meyer, D. B. The significance of aminopeptidase activity in the stroma of neoplastic tissue with a comparison of histochemical techniques.

Glenner, G. G., and Lillie, R. D. Pepsin release of guinea pig enterochromaffin substance.

Greenblatt, C. L.; Olson, R. A.; and Engel, E. K. Absorption microscopy observations on enzymatically treated isolated chloroplasts.

Highman, B.; Altland, P. D.; and Roshe, J. Staphylococcal endocarditis and glomerulonephritis in dogs. Effect of treatment with penicillin and streptomycin.

Itano, H. A.; Singer, S. J.; and Robinson, E. Chemical and genetical units of the hemoglobin molecule.

Jenkins, J. C. An invertebrate rack for simultaneous and uniform resuspensions.

Kny, H., and Witkop, B. Chemical and enzymatic studies of the labile metabolite 4(5H)-imidazolone-5-acetic acid.

Lerner, E. M., II. Pathology of acute and chronic brucellosis in experimentally infected guinea pigs.

Merritt, A. D., and Tomkins, G. M. Reversible oxidation of cyclic secondary alcohols by liver alcohol dehydrogenases.

Rall, W. Dendritic current distribution and whole neuron properties.

Saroff, H. A., and Lewis, M. S. Binding of calcium to serum albumin.

NIMH

Evarts, E. V. A neurophysiological theory of hallucinations.

Gould, R. F. Delinquency and the future.

Livingston, R. B. How man looks at his own brain: An adventure shared by psychology and neurophysiology.

Strumwasser, F. Some physiological principles governing hibernation in *Citellus beecheyi*.

Yarrow, M. R. The measurement of children's attitudes and values.

NINDS

Albers, W., and Jakoby, W. Transaminations and the isotopic labeling of glutamate in brain.

Cammermeyer, J. Differences in shape and size of neuroglial nuclei in the spinal cord due to individual, regional and technical variations.

Doty, E.; Copenhaver, R. M.; and Gunkel, R. D. Electroretinographic measurement of the spectral sensitivity in albinos, Caucasians and Negroes.

Edgar, R., and Baldwin, M. Vascular malformations associated with temporal lobe epilepsy.

Gernandt, B. E., and Gilman, S. Descending vestibular activity and its modulation by proprioceptive, cerebellar, and reticular influences.

Li, C., and Chau, S. N. Inhibitory interneurons in the neocortex.

McKhann, G. M.; Albers, R. W.; Sokoloff, L.; Mickelson, O.; and Tower, D. B. The quantitative significance of the gamma-aminobutyric acid pathway in cerebral oxidative metabolism.

Ramsey, H. J. Comparative morphology of fat in the epidural space.

Wanko, T.; von Sallmann, L.; and Gavin, M. A. Early changes in the lens epithelium after roentgen irradiation. A correlated light and electron microscopic study.

NIH RECORD

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NJH Spotlight



Mrs. Mary E. Johnson

By invitation from the Burgomaster of Veghel, the Netherlands, Mrs. Mary Johnson, order librarian in the Library Section, DRS, flew to Holland on September 14 to unveil and dedicate a monument to the 101st Airborne Division, U. S. Army. As part of the same ceremony, she also unveiled a plaque, naming the street on which the monument stands the "Colonel Johnson-straat," in honor of "the gallant and unforgettable commander of the 501st Regiment, 101st Airborne Division."

The gallant and unforgettable commander was Mrs. Johnson's husband, who trained the 501st Parachute Infantry Regiment through the early part of World War II. He landed with his men in Normandy on D-Day, and parachuted into Holland on September 17, 1944. With headquarters in Veghel, Col. Johnson helped to liberate Holland from the German occupation forces. He was killed on October 7, 1944, while inspecting his front lines.

Veghel's burgomaster invited Mrs. Johnson, her son, and her daughter to attend the ceremonies "on behalf of all wives who lost their husbands fighting with the 501st Regiment....in liberation of this kingdom."

Daughter Mary Evelyn, known as "Missy," delayed entering her sophomore year at the University of Maryland until next semester to make the trip. Son Joe, now a captain in one of his father's old regiments, the 15th Infantry, stationed in Germany, joined his family for the occasion. In addition to the unveiling and street-naming on September 17, a week of varied ceremonies, dinners, receptions, and

DR. BERGENSTAL DIES

Dr. Delbert M. Bergenstal, Assistant Chief of the Endocrinology Branch, NCI, died September 12 at the Clinical Center after a long illness. He was 41.

A pioneer in the endocrine management of cancer, Dr. Bergenstal developed the procedure for removal of the adrenal glands in the treatment of breast cancer. He also performed research in the field of chemotherapy of adrenal cancer and cancer developing in women as a complication of pregnancy.

Dr. Bergenstal joined the NCI staff in 1955, and held the rank of Medical Director in the Commissioned Corps Reserve, PHS. He was active on several committees and panels of the Cancer Chemotherapy National Service Center, NCI.

A native of Kansas City, Mo., Dr. Bergenstal received his Ph.D. in biochemistry from Purdue University in 1944, and his M.D. degree from the University of Chicago in 1947. He served his internship and residency at Presbyterian Hospital, New York City, and was a Damon Runyon Cancer Foundation Fellow at the University of Chicago.

Dr. Bergenstal is survived by his wife and two sons, of Bethesda.

POLYOMA VIRUS Contd.

tumor viruses is rapidly accumulating. If research in this field eventually shows that some types of human cancer are caused by viruses, it might then be possible to develop some means of preventing cancer.

luncheons were planned in eight other Dutch cities to commemorate the country's liberation. The Johnsons, plus nearly a hundred soldiers from the 101st Airborne Division, were scheduled to attend all of them.

Mrs. Johnson and Missy also planned to remain abroad for seven weeks of European travel. "We hope we'll find a tour to join," Mrs. Johnson said "but if not, it doesn't matter. We know where we want to go--Paris, of course, and Switzerland, Italy, and Belgium. Also England, where we have friends--and any place else there's time for."

She looked fondly at a picture of her husband taken just before D-Day. "Visiting Veghel, where people knew my husband, will be a happy occasion--but a sad one, too."

EXECUTIVE SECRETARIES NAMED BY DRG; DGMS

Executive secretaries were appointed by DRG and DGMS recently to head newly-acquired committees.

Dr. James M. Stengle has been named Executive Secretary of the Neurology Field Investigations Committee, which was transferred from NINDB to DRG during July, 1959. Dr. Stengle is also Executive Secretary of the Hematology Study Section of DRG.

Dr. Margaret J. Carlson, formerly a supervisory bacteriologist for the Walter Reed Army Institute of Research, has been appointed Executive Secretary of the new Microbiology Training Committee in DGMS. The Microbiology Training Program is expected to begin operation on January 1, 1960.

Biomedical Instruments Bibliography Available

A bibliography of 76 articles on various biomedical instruments developed by the Instrument Section, DRS, has been compiled.

Listed are the titles of the articles, their authors, and the publications in which they appeared. The bibliography will be revised periodically.

Copies of the bibliography and a limited supply of reprints of most of the articles are available. Requests may be made to the office of Dr. Frederick Alt, Chief of the Instrument Section, DRS, extension 4426.

SYMPOSIUM Contd.

radiation, and gas-sampling equipment. The exhibit will open at 11:30 a.m. each day, and will close on September 28 at 6 p.m., September 29 at 9 p.m., September 30 at 5 p.m., and October 1 at 6 p.m.

Demonstrations of gas chromatography systems will be presented each morning in Wilson Hall (Bg. 1) at 9 a.m. and 11 a.m., September 29 to October 1.

James B. Davis, Chief of Supply Management Branch, OAM, is executive secretary of the Symposium. Sponsors are the Washington sections of six scientific societies: American Chemical Society, Instrument Society of America, Society of American Bacteriologists, American Association of Clinical Chemists, Society for Experimental Biology and Medicine, and the Professional Group on Medical Elec-

ART EXHIBIT BEING PLANNED



The committee for NIH's second annual art exhibit plans the exhibit layout and measures space for panels in the east side of the CC lobby. From left are Kenneth Carney, Inez Demonet, Walter Clark, and Elaine Shutts (chairman), all of Medical Arts Section, DRS.

DR. CHAPMAN Contd.

to congressional committees and voluntary agencies.

Dr. Chapman was currently serving as president of the board of directors of the NIH Credit Union.

A man of varied interests, Dr. Chapman was well known and loved by his associates at NIH. His psychiatric training, combined with his deeply religious nature and inherent gentleness, made him a confidant of many who had personal problems.

Dr. Chapman is survived by his wife and two sons, his mother, and a sister. The home address is 5910 Kingswood Rd., Bethesda, Md.



Dr. Kenneth W. Chapman

tronics of the Institute of Radio Engineers. The exhibit will display the research equipment of 125 national manufacturers.

The Second Annual Art Exhibit, sponsored by the NIH Recreation and Welfare Association, will be held October 19 to November 5 in the Clinical Center lobby. Paintings, sculpture, and graphic arts works will be included in the exhibit.

Entries may be submitted by NIH employees and members of their immediate families. Application blanks, to be distributed soon, must accompany each entry. Exhibits will be received on October 14 and 15 at the R&W film desk, CC lobby, from 5 to 9:30 p.m.

Prizes will be awarded October 16 by judges of professional standing.

OBITUARIES

Three NIH employees died early this month.

Boyd F. Schaff, 49, of Falls Church, died September 7 in the Clinical Center. An auditor in DRG, he had been at NIH since May 1947, and previously worked in the Office of Education, FSA.

James R. English, a nursing assistant in the CC Nursing Department, died September 6. A native of southwestern Virginia, he came to NIH in July 1956.

NIH Guard Dorsey C. Plummer died September 9 at the age of 63. He had worked at NIH since December 1947, and in May of this year received a Superior Performance Award of \$75. He was a resident of Gaithersburg, Md.