

NIH



record

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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NIH AIMS AT TOP IN UGF DRIVE

At the end of the first week of the UGF drive, 24 percent of NIH employees had contributed a total of \$18,332.03. This represents 27 percent of this year's quota. The average contribution thus far is \$12.83.

A special certificate will be presented by Surgeon General L. E. Burney to each PHS organization, at or above the Division level, that achieves 100 percent of its quota.

(See UGF Drive, Page 3)

PHS ANNOUNCES TOP STAFF CHANGES AT NIH, TO BE EFFECTIVE SOON



Dr. Endicott

Dr. Van Slyke

DR. VAN SLYKE TO BE NIH DEPUTY DIRECTOR

Three major staff changes in the immediate office of the NIH Director were announced recently by the Public Health Service. Dr. C. J. Van Slyke, now an Associate Director, has been appointed Deputy Director of NIH, a new position. Dr. Kenneth M. Endicott, NCI, will become Associate Director. And Richard L. Seggel, Director of the Office of Management Policy, DHEW, will be Executive Officer.

Dr. Van Slyke has served at NIH since 1946, first as Chief of DRG when that program of support for research in medical schools and universities came into being, then as Director of NHI when it was established in 1948. He became an Associate Director of NIH in 1952, with special responsibility for the rapidly growing programs in support of research, training for research careers, and construction of research facilities in the medical and biological sciences.

Dr. Endicott has been Chief of the Cancer Chemotherapy National Service Center, NCI, since 1955. As NIH Associate Director, his area of special staff responsibility will be the diverse training programs and activities carried out by NIH's eight operating programs whose appropriations for this purpose total more than \$60 million in the current fiscal year.

Mr. Seggel will succeed Albert F. Siepert as NIH Executive Officer. Mr. Siepert was recently named director of business administration at the newly created National Aeronautical and Space Agency (see page 4).

Dr. Van Slyke, Dr. Endicott, and Mr. Seggel will assume their new duties within the next several weeks.

DR. MAY APPOINTED TO WHO ADVISORY PANEL

Dr. Everette L. May of the NIAMD Laboratory of Chemistry recently accepted an invitation to serve on the WHO Expert Advisory Panel on Addiction-Producing Drugs. During his five-year appointment, Dr. May will keep the health organization informed of important developments in the field of narcotics and drug addiction.

A well-known chemist, Dr. May has been concerned with the synthesis of analgesics for the past ten years, and has made notable contributions to the literature of this field. In recent work on a series of totally synthetic chemical compounds, he succeeded in developing a new analgesic now under extensive clinical investigation. The new compound has many times the potency of morphine and may prove to be safer.

Grad School Enrollment Reaches New High Here

A record total of 523 students registered for the fall semester of the NIH Graduate School last month. Now in its fifth year at NIH, the Graduate School offered 26 courses, more than ever before,

(See Graduate School, Page 3)



"Will NIH reach 100 percent?" asks Karen Hyberg, DRG, as she prepares to push our UGF thermometer toward the top. Aply assisting Karen in attaining this goal are UGF Chairman Ernest M. Allen (left), DRG Director, and Vice Chairman Eckart Wipf, NINDB.

DBS Uses Skim Milk For Virus Testing

No. 216 in a Series



DBS technician Marshall Ford mixes a batch of skim milk medium.

A commercial laboratory advertises: "Get technicians out of the kitchen and back to the laboratory. Switch to--." Two DBS biologists, Dr. Samuel Baron and Richard J. Low, are keeping technicians in the laboratory by bringing the kitchen to them. Baron and Low's new serum-free cell culture maintenance medium is based on an inexpensive kitchen staple--instant skim milk.

The new medium appears to be the first good substitute for media containing animal serum. It is free of most of the virus inhibitors found in animal serum. It also has potential application as a standard medium for the safety testing of virus vaccines and for the comparative assay of a variety of viruses on a number of different cell cultures. Other potential uses are under study.

The DBS Laboratory of Viral Products uses the new medium to test the sensitivity of live cells to poliovirus, adenovirus, and Coxsackie viruses, and to experimentally evaluate the safety of some vaccines.

Plaque assay of poliovirus showing the extent of cell destruction after six days in skim milk is pictured above.

Preparation of the medium is simple. Instant nonfat skim milk is dissolved according to directions on the label. Distilled water is substituted for the tapwater a housewife ordinarily would use to recon-

stitute the original volume, and the mixture is then sterilized by boiling or autoclaving. When sodium bicarbonate is added, and the milk is in proper acid and alkaline balance, it can be frozen for indefinite storage. The milk may be used, in a 10 to 40 percent mixture, as the protein component of cell culture media.

A rather unusual feature of the new medium is that the heating process does not affect its nutrient capacity. Heat also completely destroys the activity of any undesirable poliovirus antibodies that may be present in powdered milk.

Viruses need living cells in order to multiply. The cells may be monkey heart cells, malignant HeLa cells, KB cells, or any of the other cell lines that have been maintained for years in laboratories.

Animal serum is the usual protein component of the maintenance or growth media in which cells are kept alive. Animal serums contain active biological substances that may kill viruses or tend to retard their growth. Probably the substances are similar to the inhibiting factors in human blood which protect the body against disease. When inhibitors are present in culture serum, they make it difficult to observe how viruses infect cells and cause their destruction.

The new medium's nutritive value is attributed to milk proteins, which are believed to be responsible for its ability to maintain continuous cell lines for almost a month with supplemental feedings at weekly intervals. Other media maintain cell culture for much shorter periods, making frequent replacement with fresh medium necessary.

Two contributions to basic research are recent byproducts of the use of skim milk medium. Following up on the observation that milk loses its opalescence when fed to monkey kidney cells, Dr. Robert Kramer found that a protein-splitting enzyme is secreted by the cells. His discovery has led to the medium's use for detection of proteolytic activity. The enzyme digests the milk proteins in the medium, releases amino acids from the proteins, and causes the normally turbid milk to clear. Other cell cultures were found by Dr. Eugene V. Barnett, using skim milk as an

(See *Skim Milk*, Page 4)

Publication Preview

The following manuscripts were received by the SRB Editorial Section between July 12 and July 24.

DBS

Kirschstein, R. L.; Rabson, A. S.; and Kilham, L. Pulmonary Lesions produced by fibroma viruses in squirrels and rabbits.

NCI

Calabresi, P., and Edwards, E. A. Immunologic tolerance in rats to type specific antigens of human erythrocytes.

Elkind, M. M., and Sutton, H. Ultraviolet mitigation of X-ray lethality in dividing yeast cells.

Grinspoon, L., and Dunn, J. E. A study of the frequency of achlorhydria among Japanese in Los Angeles.

Gutter, F. J.; Peterson, E. A.; and Sober, H. A. Chromatography of proteins. III. Human, horse and dog hemoglobins on cation-exchange cellulose.

Lipsett, M. B., and Damast, B. The excretion of pregnan-3 α , 17 α , 21-triol-20-one (tetrahydro S) by patients with adrenocortical carcinoma.

Mora, P. T., and Young, B. G. Reversible inhibition of enzymes by interaction with synthetic polysaccharide macro-anions.

Nathan, D. G., and Berlin, N. I. Studies of the production and life span of erythrocytes in myeloid metaplasia.

NHI

Bartter, F. C. Disturbances of phosphorus metabolism.

Burns, J. J.; Yü, T. F.; Berger, L.; and Gutman, A. B. Zoxazolamine: Physiological disposition, uricosuric properties.

Duncan, L. E., Jr.; Cornfield, J.; and Buck, K. The circulation and distribution of albumin in the body.

Fredrickson, D. S., and Gordon, R. S., Jr. The transport of fatty acids.

Fry, D. L. Theoretical considerations of the bronchial pressure-flow-volume relationships with particular reference to the maximum expiratory flow volume curve.

Goodman, D. S., and Steinberg, D. Studies on the metabolism of 3, 3-dimethyl phenylmyristic acid, a non-oxidizable fatty acid analogue.

Yiengst, M. J.; Andrew, W.; Barrows, C. H., Jr.; and Shock, N. W. Correlation of biochemical and histological changes with age in a tissue composed of reversible (liver) and irreversible (skeletal muscle) postmitotic units.

NIAMD

Coatney, G. R., and Greenberg, J. The effect of a diet deficient in Factor 3 on the course of *Plasmodium berghei* infections in mice.

Darnell, J. E.; Lockart, R. Z., Jr.; and Sawyer, T. K. The effect of neutral red on plaque formation in two virus-cell systems.

Foley, G. E.; Eagle, H.; Snell, E. E.; Kidder, G. W.; and Thayer, P. S. Studies on the use of *in vitro* procedures for the screening of potential anti-tumor agents: Comparison of activity in mammalian cell cultures and microbiological assays alone and in combination with experimental anti-tumor activity.

Gundelfinger, B. F.; Stille, W. T.; and Bell, J. A. Effectiveness of influenza vaccines during an Asian influenza epidemic.

Ribi, E.; Milner, K. C.; and Perrine, T. D. Antigens from the cell wall of *Salmonella enteritidis*: Methods for separation and some biological activities.

Stabenou, J. R.; Warren, K. S.; and Roll, D. P. The role of pH gradient in the distribution of ammonia between blood and cerebrospinal fluid, brain, and muscle.

Utz, J. P.; Szwed, C. F.; and Kasel, J. A. Clinical and laboratory studies of mumps. II. Detection and duration of excretion of virus in urine.

NIAMD

Bieri, J. G.; Briggs, G. M.; and Pollard, C. J. The acceleration of vitamin E deficiency by *Torula* yeast. II. Effect of *Torula* yeast ash and lipid.

Field, J. B. Some observations concerning the humoral insulin during diabetic ketosis.

Fry, E. M., and May, E. L. Mannich derivatives of analgesic agents.

Ginsburg, V. Formation of guanosine diphosphate fucose from guanosine diphosphate mannose.

Kirkman, H. N., and Bynum, E. A quantitative study of erythrocytic enzyme in galactosemia and its heterozygous carriers.

Lerner, E. M. II; Williams, R. R.; and Jenkins, J. C. The sensitized sheep cell hemagglutination reaction in rats with an experimental infection of bone and joint.

Labaw, L. W. An electron microscopic determination of a tobacco necrosis virus crystal structure.

Mosettig, E.; Heftmann, E.; Sato, Y.; and Weiss, E. Occurrence of lithocholic acid in the feces of healthy men.

Olson, R. A., and Engel, E. K. A study of the laminate chlorophyll structure of the *Chlorella* chloroplast *in vivo*.

Wolff, J., and Maurey, J. R. Cardiac glycosides and thyroidal iodide transport.

Wolff, E. C., and Black, S. Formation of the methylthiol ester of 3-phosphoglyceric acid catalyzed by triose phosphate dehydrogenase.

Wynngaarden, J. B.; Seegmiller, J. E.; Laster, L.; and Blair, A. E. The utilization of hypoxanthine, adenine and 4-amino-5-imidazolecarboxamide for uric acid synthesis in man.

NIDR

Burstone, M. S. Acid phosphatase activity of calcifying bone and dentin matrices.

Folk, J. E., and Gladner, J. A. Carboxypeptidase B. III. Specific esterase activity.

McBride, W. D. Antigenic analysis of polioviruses by kinetic studies of serum neutralization.

NIHM

Eisenman, A. J.; Fraser, H. F.; Sloan, J.; and Isbell, H. Urinary 17-ketosteroid excretion during a cycle of addiction to morphine.

LaBrosse, E. H.; Axelrod, J.; and Kety, S. S. O-methylation, the principal route of metabolism of epinephrine in man.

Rosvold, H. E. Physiological psychology.
Wittman, M. The integration of social agency and mental health services.

NINDB

Albers, R. W. Neurochemistry of amino acids. Gamma-aminobutyric acid.

Burton, R. M.; Sadd, M. A.; and Brady, R. O. The incorporation of galactose into galactolipides.

Dalton, J. C. Intracellular recording of repetitive activity in a lobster giant axon.

Dakaban, A., and Drager, G. Metastases of the retinoblastoma to the central nervous system. Advisability of a combined intraorbital and intracranial removal of the affected optic nerve.

NIH RECORD

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NEW FILM BADGES NOW IN USE HERE

New film badges that indicate the extent of radiation exposure have replaced the metal badges used here for the past eight years. Made of red plastic, the new badges were designed by the Hanford Operation of the Atomic Energy Commission.

In addition to being colorful, the badges are more sensitive to radiation doses than those used previously. They are expensive, however, and should be treated with respect. Care should be taken to see that they are used properly and are returned to the Radiation Safety Office instead of being sent to the Laundry or the Incinerator. Anyone finding a lost badge should return it promptly to the Radiation Safety Office.

NEWS BRIEFS

Registered nurses in 99 colleges and universities will receive \$6 million in PHS grants this year under the Professional Nurse Training Program. The program was initiated in 1956 to train registered nurses in administration, supervision, and teaching methods.

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The number of States with programs for mentally retarded children has grown from four to 44 in the last three years, according to the Children's Bureau, HEW. Funds have been allocated to 30 States to increase clinical services and train physicians in this field.

UGF DRIVE Contd.

Says PHS-UGF Chairman Otis L. Anderson, "It will be particularly gratifying if we can present one of these certificates to each Bureau, and to its individual component organizations."

GRADUATE SCHOOL Contd.

designed to meet the needs of all employees.

The most popular course this year was Basic and Scientific Medical Russian, reporting an enrollment of 57 students. Other classes that attracted many students were Introduction to the Calculus and Elementary Electronics.

The NIH Graduate School is co-sponsored by NIH and the Department of Agriculture. Total enrollment in the Department of Agriculture Graduate School, including NIH, is expected to top 4,000 students.

Dr. Shear Interviewed By Trans-Pacific Telephone

A trans-Pacific telephone interview of an NIH scientist by a scientist in Tokyo was filmed here recently for television audiences in Japan. Dr. Murray Shear, Chief of the Laboratory of Chemical Pharmacology, NCI, answered a series of questions posed by Dr. Yuzo Tazaki, Director of the National Institute of Cancer, Tokyo, concerning recent developments in the NIH cancer chemotherapy program.

The conversation was filmed at both ends of the line and was shown on a split TV screen October 8 on the NHK television network in Japan. Dr. Shear was invited to participate by the Japanese network and is the first American scientist to be interviewed in this series of international goodwill programs arranged monthly by USIA.

Demonstration Marks Fire Prevention Week

A demonstration of fire fighting was presented at the rear of the Clinical Center on October 10 in observance of Fire Prevention Week. Under the direction of NIH Fire Marshal Kenneth Gettings, building wardens and the NIH Fire Department dramatized the correct and improper methods of extinguishing electrical, paper, and solvent fires.

Participants in the demonstration were Daniel Rice, narrator, Philip Joram, Robert Campbell, Leroy Snellbaker, William Mills, Thomas Balzer, Howard Brubach, and Wayne Levillain.

NIH Employees Invited To Hear NFFE Speaker

A representative of the National Federation of Federal Employees (NFFE) will address an open meeting in Wilson Hall on Thursday, October 23, at 12 noon.

Henry G. Nolda, NFFE Secretary-Treasurer, will outline briefly the organization's purposes and activities.

All employees interested in finding out more about NFFE or in becoming a charter member of an NIH local are invited to attend.

The NFFE, an independent organization, is the oldest and largest of national employee groups for Federal workers. All Federal civil service employees are eligible for membership.

MR. SIEPERT LEAVES NIH FOR SPACE AGENCY POST

Albert F. Siepert, NIH Executive Officer for the past eleven years, left NIH last week to direct administrative management activities at the newly created National Aeronautics and Space Administration. In his new position as Director of Business Administration, Mr. Siepert will be responsible for organizing and directing essentially the same types of activities as he has led at NIH.

"Mr. Siepert has rendered outstanding services to NIH during a decade of tremendous expansion," says NIH Director James A. Shannon. "We are certain that his abilities will be of prime value in this new and important program, so essential to science and to the Nation."



Albert F. Siepert

Mr. Siepert began his Government career in 1936 as one of the first full-year interns in an experimental program of administrative training. He came to PHS in 1938, spending four years in the States Relations Division in the development of management procedures for Fed-State health programs.

In July 1947 Mr. Siepert was detailed to NIH as Executive Officer to work with former Director R. E. Dyer to plan, install, and direct a reorganization of all administrative management activities in support of the rapid expansion of research programs then getting under way.

A key member of the NIH Director's staff since 1948, Mr. Siepert advised the Director on matters of policy concerning NIH, particularly in the administrative area. He was responsible for setting program goals and evaluating the effectiveness of all NIH central services. He also played a major role in planning the construction of additional physical facilities to keep pace with expanding NIH programs.

NIH BASIC RESEARCH TO BE FEATURED ON TV



The crew of "Conquest," CBS-TV production, shoots scenes in an NINDB laboratory in the CC. Left to right, Miss D. Allen, script girl; Harold Mayer, director; and Eric Sevareid, commentator. "Conquest of the Brain" will be presented on Channel 9, Nov. 16, at 6:00 p.m.

Mr. King Joins DRS Staff

James King joined the NIH staff on October 15 as Executive Officer, DRS. He replaces Calvin B. Baldwin, recently appointed Administrative Officer of the Division of General Medical Sciences.

A Commissioned Officer, Mr. King formerly served as Special Assistant to the Chief, PHS Communicable Diseases Center, Atlanta.

NIAMD Metabolic Chamber To Be Featured On TV

The NIAMD Metabolic Chamber will be the subject of a feature spot on "You Asked For It," an ABC-TV network show to be telecast in Washington at 7 p.m. on Friday, October 24, over Channel 4 (WRC-TV).

The telecast was seen on other ABC stations, coast to coast, on October 5.

Mr. Siepert's outstanding abilities were recognized by the Arthur S. Flemming Certificate of Merit, which cited him in 1950 as one of the most outstanding young men in the Federal service, and the Distinguished Service Award--DHEW's highest recognition--in 1955.

Mr. Siepert was born in Peoria, Ill., in 1915 and attended Bradley University there. He was honored by his many NIH friends at a farewell reception at Top Cottage last Thursday and at a dinner party October 14.

Fellowship Awarded To NIMH Scientist

Dr. Seymour Perlin of the NIMH Laboratory of Clinical Science was recently awarded a fellowship at the Center for Advanced Study in the Behavioral Sciences, Stanford, Calif. He will begin a year of study there January 1 on leave of absence from his position as Chief of the Section on Psychiatry.

Dr. Perlin will join a group of 49 scientists and scholars carefully selected from all parts of the U. S. and abroad to conduct research and exchange views in areas relating to human behavior.

An NIH staff member since 1955, Dr. Perlin plans to investigate the cross-cultural implications of an NIMH research project on aging. He is the recipient of numerous awards, including a National Open Scholarship, the Mierhoff award in pathology at the College of Physicians and Surgeons, and a PHS fellowship.

SKIM MILK Contd.

indicator, to produce an enzyme activator for plasminogens. The enzyme's action causes dissolution of blood clots. Both the proteolytic enzyme and the activator were previously unknown.