

the NIH Record

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NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE

2 New NIH Components, BHM and NLM, to Add Over 1,000 Employees

The Bureau of Health Manpower, one of the two new components assigned to NIH under the April 1 reorganization of DHEW health activities by Secretary-designate Wilbur J. Cohen, will add 713 full-time and 189 other than permanent employees to NIH rolls.

The Bureau was established by the then Secretary, John W. Gardner, on January 1, 1967. Its mission, as determined by a task force set up by Surg. Gen. William H. Stewart, is to "concentrate the rapidly growing Federal support of programs designed to provide additional and better qualified manpower for health."

The need for such an organization had been defined by President Johnson in a letter of September 29, 1966, to Mr. Gardner, in which he said: "Our examination of the Nation's health problem makes clear that the most critical need is in the manpower field."

(See COMPONENTS, Page 8)

NICHD Establishes Pygmy Goat Colony For Intrauterine and Perinatal Studies

By Lloyd Blevins

Under a research contract from the National Institute of Child Health and Human Development, a breeding colony of pygmy goats has been established at the University of Oregon Medical Center in Portland by a team of scientists headed by Dr. James Metcalfe.

The breeding colony of pygmy goats is descended from various



Dr. James Metcalfe cradles one of the pygmy goats who have become favorites of the staff at the Oregon Medical Center.

Five NIH Employees Honored at April 11 Departmental Annual Awards Ceremony

Dr. Carl M. Eklund, who recently retired from the National Institute of Allergy and Infectious Diseases' Rocky Mountain Laboratory, was awarded the Distinguished Service Medal at the DHEW Annual Awards Ceremony, April 11.

Dr. Eklund was honored for "outstanding research in arbovirology and pioneer investigations of slow viral infections." The award, the highest Departmental honor for Commissioned Officers, was presented by Secretary-designate Wilbur J. Cohen.

Receiving the Nation's highest civilian honor, the Distinguished Service Award, were Dr. Marshall Nirenberg, National Heart Institute; and Dr. Joseph E. Rall, National Institute of Arthritis and Metabolic Diseases.

The annual awards ceremony honors DHEW employees who exemplify public service at its best.

(See AWARDS, Page 7)



Dr. Eklund

Dr. Camerino Appointed NIAMD Branch Chief

Dr. G. Donald Whedon, Director of the National Institute of Arthritis and Metabolic Diseases, recently announced the appointment of Dr. Pat W. Camerino as chief of the Analysis and Evaluation Branch, Extramural Programs.

The Analysis and Evaluation Branch develops data for NIAMD's extramural program and policy formation, and appraises program needs. Dr. Camerino is also responsible for the Institute extramural data storage and retrieval system.

Received Ph.D. in '61

Dr. Camerino received the Ph.D. degree in biochemistry in 1961 at Cornell University.

He was a PHS postdoctoral trainee in the Department of Biochemistry at Dartmouth College Medical School where he investigated electron transport. From 1963 to 1965 he continued his research and was assistant professor in the Department of Chemistry and the Science Research Institute at Oregon State University.

In 1965, he joined the Grants Associate Program at NIH, and in 1966 became assistant director of the NIAMD's Endocrinology Program.

Color Film on NIH Research To Be Telecast April 21

A color film story of NIH personnel and their contributions to medical research, entitled "The Miraculous Pool," will be telecast for the first time in the Washington area Sunday, April 21, at 8 a.m. on Station WTOP-TV (Channel 9).

The 28-minute film features scenes in laboratories of the National Institute of Allergy and Infectious Diseases and the wards and operating rooms of the Clinical Center.

Dr. S. Spiegelman Is Dyer Lecturer Here April 24

Dr. Sol Spiegelman, University of Illinois microbiologist who 3 years ago demonstrated in the test tube how a viral nucleic acid replicates itself, will deliver the 17th annual Dyer Lecture on April 24.

His lecture, "Test-tube Studies of a Self-Duplicating RNA Molecule," will be presented at 8:15



Dr. Sol Spiegelman, noted microbiologist, will discuss "test-tube studies of a self-duplicating RNA molecule."

p.m. in the NIH Clinical Center auditorium.

Dr. Spiegelman will describe his research leading to the discovery of how a virus replicates and the successful duplication of a viral RNA (ribonucleic acid, the genetic material of certain viruses) which reproduces in the test tube in the same way the virus replicates in a living cell.

Dr. Spiegelman has been professor of microbiology at the University of Illinois since 1949. His research interests include the genetics and biochemistry of microorganisms and the mechanism of gene action.

His work in 1965 marked the first time a gene had been made to replicate in the test tube, an achievement which has enabled bi-

(See DR. SPIEGELMAN, Page 7)

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NIH Record Office.....Bldg. 16, Rm. 212. Phone: 49-62125

Associate Editor Frances W. Davis

Staff Correspondents

Tony Anastasi, DRS; Bari Attis, NINDB; Lloyd Blevins, NICHD; George Bragaw, NHI; Dale Carter, DRMP; Mary Anne Gates, NIAMD; Sue Hannon, NIDR; Bowen Hosford, CC; Walter Jacob, OAM; Sheila Jacobs, NCI; Elizabeth Y. James, DEHS; Betty Kuster, DCRT; Hugh J. Lee, DRG; Art McIntire, NIMH; Martha Mader, NIAID; Faye Peterson, DBS; Wanda Wardell, NIGMS; Beverly Warran, DRFR.

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NEWS from PERSONNEL

ANNUITY BOOST

Under a provision of the Civil Service Retirement Act, annuities are automatically increased to reflect changes in the cost of living as determined by the Civil Service Commission from the Consumer Price Index issued each month.

Such increases are made whenever the price index shows a level for 3 consecutive months at least 3 percent above the index for the month used in determining the last annuity increase.

As a result of such a rise in the Consumer Price Index during the 3 consecutive months—December, January, and February—a cost of living annuity boost of 3.9 percent is scheduled to become effective on May 1.

This annuity increase will apply to all employees retiring on or before April 30, and will be reflected in annuity checks received on June 1. Accordingly, an employee who wishes to take advantage of this increase must be separated by April 30.

Additional information on the cost-of-living increase is available in Institute/Division Personnel Offices.

UNION RECOGNITION

Dr. Ronald E. Myers, chief of Laboratory of Perinatal Physiology, National Institute of Neurological Diseases and Blindness, recently accorded formal recognition to Lodge 2641, American Federation of Government Employees (AFGE) for the employees at the Laboratory in Puerto Rico.

Under the provisions of Executive Order 10988, "Employee Man-

agement Cooperation in the Federal Service," an employee organization that has been granted formal recognition has the right to be consulted on matters of interest to its members.

Such consultation involves discussions between management and the organization's representatives in formulating and implementing personnel policies and practices, and matters affecting working conditions that are of concern to its members.

COORDINATED WAGE SYSTEM

Recently all PHS employees in the trades and labor occupations received a memo from the Director, Office of Personnel, pointing out the basic features of the new Coordinated Federal Wage System. The features of the new wage system outlined in this memo include:

1. Special emphasis on employee and union participation in the system;

Other Features Noted

2. A single system for all Federal agencies to insure equitable wage rates for all employees in the trades and labor occupations;
3. The development of wage rates through local wage surveys;
4. The issuance of uniform policies, procedures, and job classification standards by the CSC;
5. Conversion to the new system without loss of pay;
6. Coverage of most wage rate employees under common wage schedules including laundry and food service workers as well as those in the trades and in supervisory jobs; and
7. Continued coverage under special schedules of employees in printing and lithographic jobs, foreign nationals in foreign areas, and a few other groups presently covered by special schedules.

According to the Director, Of-



Displaying Sustained Superior Work Performance awards, six employees of the Clinical Center's Department of Environmental Sanitation Control are shown with Gordon Gamble, Operations Section chief (center), who praised their enthusiasm, outstanding performance, and pride in maintaining the CC in a clean condition. From left are: N. W. Rogers, Richard S. Hinton, Hilda T. Rodriguez, Mr. Gamble, Benedict Johnson, Floyd H. Miller, and Henry H. Trent.—Photo by Ed Hubbard.

William M. Cissel, DRS, Retires, Won 5 Awards

William M. Cissel, a Government electrician for the past 27 years, turns "lights out" on his Federal career April 22. Mr. Cissel will retire from the Plant Engineering Branch, Division of Research Services.

He came to NIH in 1941 when six buildings dotted the reservation and the electric shop was located on the ground level of Building 1, where personnel offices are now found. During his NIH career, he has won five employee suggestion awards.

Mr. Cissel and his wife will celebrate their 39th wedding anniversary next Tuesday, April 23, the day after his retirement.

A resident of Arlington, Va., Mr. Cissel was born in 1906 in Washington, D. C., where he attended school. His first job was as a pressman in 1922. He began his career as an electrician the following year.

After retirement Mr. Cissel plans to travel, study philosophy, and enjoy his two children and nine grandchildren.

Film, 'David Copperfield,' At CC April 20 and 21

"David Copperfield," a film portrayal of the Charles Dickens classic, will be shown on Saturday, April 20, at 8 p.m., and Sunday, April 21, at 7 p.m., in the Clinical Center auditorium.

The movie is open to CC patients and their guests and to NIH employees and their families.

Installation of this system will be especially significant in eliminating inequities in job grading and pay administration.

Employee Health Service Smallpox Immunization To Begin Next Week

The Employee Health Service has announced the following smallpox vaccination schedule for NIH personnel, including those working in off-reservation buildings:

Building 10 Health Unit, Room B2A-06, between 1:30 and 4:30 p.m., April 22, employees with last name initials A through D; April 23, E through H; April 24, I through M; April 25, N through S; and April 26, T through Z.

Vaccinations for the Building 10 night staff will be given daily from 8 to 9 a.m. in accordance with the above schedule.

Locations Listed

Building 31 Health Unit, Room B2B-34, between 1:30 and 4 p.m. on April 29 and 30.

Westwood Building Health Unit, Room 28, between 9:30 a.m. and 12 noon and between 1 and 4 p.m. on May 1.

Building 13 Health Unit, Room 2910, between 1:30 and 4 p.m. on May 2 and 3.

Wiscon Building, basement level near B1A-10, between 1:30 and 4 p.m. on May 6.

Barlow Building, Room 8C-05, between 1:30 and 4 p.m. on May 7. NBOC #2, Room 213, between 1:30 and 4 p.m. on May 8.

Mental Health Study Section, Adelphi, Md., at 2 p.m. on May 9.

Employees in other outlying areas may receive vaccinations at any of the locations at the times specified.

Vaccinations will not be administered to pregnant women, to individuals with chronic dermatitis, those receiving immunosuppressive drug therapy, or those with leukemia, lymphoma, or dysgammaglobulinemia.

Dr. Norman P. Salzman Named NIAID Lab Chief

Dr. Norman P. Salzman has been named chief of the Laboratory of Biology of Viruses, National Institute of Allergy and Infectious Diseases, by Dr. Dorland J. Davis, Institute Director.

Dr. Salzman, at NIH for 15 years, has been acting chief of the laboratory since the retirement last October of Dr. Karl Habel.

A biochemist, Dr. Salzman joined the National Heart Institute in 1953 and NIAID in 1955. Since 1961 he has been chief of the Cell Biology Section.

He is an editor of *Journal of Virology*, a publication of the American Society of Microbiology initiated last year, and a member of the Editorial Board of *Journal of Bacteriology*. He is author or coauthor of 30 articles.

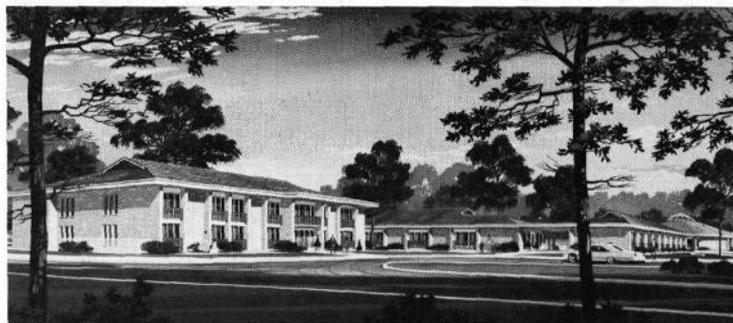


Dr. Norman P. Salzman is an editor of the *Journal of Virology*.

A member of the American Academy of Microbiology, Dr. Salzman's interests include control mechanisms of cell growth, mode of replication of animal viruses, and the effect of antimetabolites on virus replication. He is also a professorial lecturer in microbiology at the Georgetown University School of Medicine.

Dr. Salzman received a B.S. degree from City College of New York, an M.S. degree from the University of Michigan, and the Ph.D. degree from the University of Illinois.

Construction Projects Near Completion, 900,000 Square Feet of Space Added



NIMH Child Research Center will occupy southwest corner of reservation.

By Kathleen DuBois

All of the surgery at NIH is not being done in operating rooms. For several years the reservation has looked as if it were undergoing major surgery—or at least a face-lift. New buildings have sprung up on three of the four corners and at various spots in between, and a network of trenches criss-cross the area, bringing necessary underground utilities to all buildings.

Now, as summer approaches, many of the projects are nearing completion, and the "patient" may soon look normal again.

The Division of Research Services, responsible for the design and construction of these new facilities, has summarized current and planned activities.

Project Completions Listed

The most recently completed project is the library relocation and cafeteria extension in the Clinical Center. Although it will be about 6 more weeks before the cafeteria's old seating area is renovated, the new section is now open for business. When completed, there will be three serving lines and 650 seats available.

Another project to be completed this month is the addition to Wing D of the Clinical Center. The 6th floor has been extended to the full length of Wing D, and a 7th floor has been built, adding 13,800 gross square feet of space and easing the urgent need for more space for clinical research.

In Baltimore, a laboratory building for the NICHD Gerontology Research Center is being completed on the grounds of the Baltimore City Hospitals and is now being

occupied.

In mid-June the NCI Virus Isolation Facility, Building 41, is scheduled for completion, to be followed in August by Building 34, a refrigeration plant that will provide the necessary chilling capacity for air-conditioning of many of the new buildings.

With the refrigeration plant operating, August and September should also see the completion and beginning occupancy of the largest single project now underway: the NCI-NIMH/NINDB complex of a cafeteria building and two laboratory buildings. They are designated Buildings 35, 36, and 37.

Less Inconvenience Anticipated

By the middle of September, much of the utilities extension work will be finished, at least that part of the project which has crossed roads and parking lots and has caused some inconvenience to drivers.

The last of the projects now under construction, the General Office Building Extension, 31C, is due to be finished in October.

All of the foregoing means that over 900,000 gross square feet of new space will become available during 1968.

One might think that this was the end of construction at NIH, but (See CONSTRUCTION, Page 5)

NIH Custodial Employees Vote on Representation By Union on April 26

An election to determine exclusive representation for the employees engaged in custodial laboring duties has been scheduled for Friday, April 26, at the request of the Washington Area Metal Trades Council, AFL-CIO.

This election will determine whether or not the WAMTC shall be recognized as the exclusive representative of all non-supervisory employees who perform custodial duties.

These include employees of the: (1) Department of Environmental Sanitation Control, Clinical Center; (2) Property and Supply Section, Administrative Branch, Clinical Center; and (3) Housekeeping Section, Office Services Branch, Office of Administrative Management.

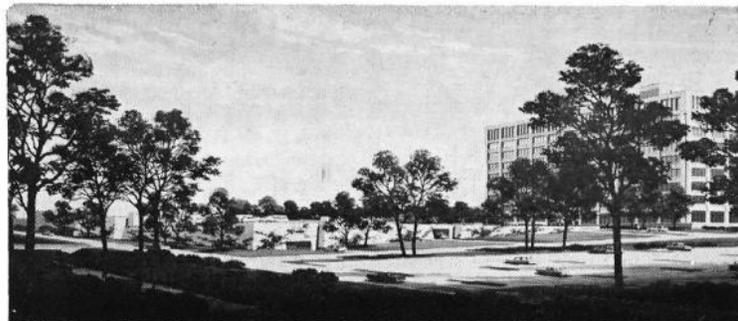
The election will be held by secret ballot on April 26 between 2:30 and 6:30 p.m. at two polling places: Wilson Hall, Building 1, for OAM employees; and the 14th floor auditorium of the Clinical Center for Clinical Center employees. Eligible employees will be allowed to vote on their own time or on official time.

Voting Encouraged

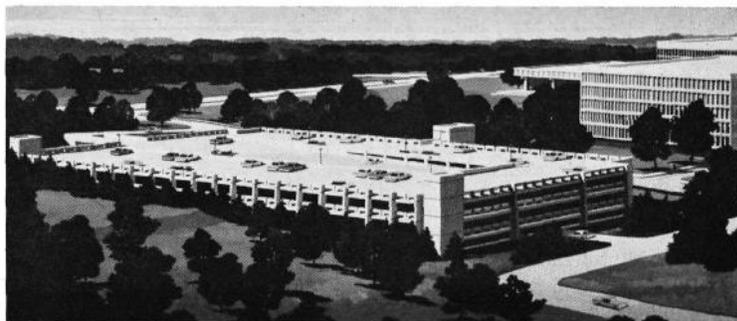
The ballot will give each eligible voter a choice of representation by either the Metal Trades Council and its affiliated Locals, AFL-CIO, or "no union." All eligible employees are encouraged to vote in order for election results to reflect accurately the wishes of the majority.

For the election to be valid, either of the following criteria must be met: (a) a representative vote by a minimum of 60 percent of those employees present at the time of the election and eligible to vote, or (b) more than 50 percent of the employees eligible to vote must cast ballots for one choice.

Further information concerning the election will be posted on official bulletin boards. Election results will be announced early in May, after tabulation of the ballots.



Multilevel structure planned for parking near Building 31. C wing is at right.



Multilevel parking facility to be located near Buildings 35, 36, and 37.

NIH Historian Records Past for Posterity, Makes Background of Events Come Alive



Dr. Wyndham D. Miles, NIH Historian, listens intently as Dr. Helen Dyer, retired NIH biochemist, tells her story.—Photos by Ed Hubbard.

In a quiet, secluded room at Stone House, a speaker is revealing details of past events as a tape recorder spins along. When he hesitates, another voice softly asks a question, and the speaker continues.

This is not a psychiatrist practicing therapy, but NIH Historian, Dr. Wyndham D. Miles, recording the past for posterity.

Dr. Miles is making it possible for people centuries from now to listen to voices of executives, physicians, scientists, photographers, engineers, and others describe how they did their work, how they played a part in the creation of Institutes and Divisions, or how they made scientific discoveries.

At these recording sessions, researchers frequently reveal interesting sidelights on circumstances that led to significant medical contributions.

Or, if the participant is an administrator, he may explain what his major problems were at the time an Institute was being created and why certain alternatives were selected.

Records Not Complete

From experience Dr. Miles has found that, for a true history, records alone are not completely dependable. Everything that happens does not go on paper. People talk about details in their reminiscences. The tape recordings are a skeleton which can be filled out by records.

Dr. Miles' main purpose in making tape recordings is to get a well-rounded portrayal of the background history of NIH and to make the stories of the people who have played a vital role in past events here come alive.

To accomplish this, Dr. Miles has the person who is being interviewed, tell his story in chronological order from his youth. In this way he learns why a particular career was chosen or reasons for coming to NIH.

By skillfully drawing out a doctor's philosophy of science, his outside activities, and hobbies, or suggesting that he relate appropriate

anecdotes, Dr. Miles is able to make the past more vivid.

When a contributor makes a recording, he has as many sessions as necessary. During the recording sessions, each of which last about an hour, the speaker discusses anything he wishes.

Material Easily Retrieved

As each recording session is completed, Mary B. Abernethy, Dr. Miles' secretary, types a detailed or "expanded" table of contents which is synchronized with specific points on the tape to enable future historians to locate their areas of interest easily.

Several retirees who have preferred not to make tape recordings have made their contributions in writing. One, for example, was Dr. Alice C. Evans, a noted bacteriologist, who retired a quarter of a century ago. Another, Dr. Mary E. Maver, a retired chemist, also wrote her story.

About 10 percent of those requested decline to add to the store-



Dr. Miles is interested in an anecdote about NIH's past as his secretary, Mary B. Abernethy, types a table of contents for future reference.

Dr. Peter H. Forsham Named to DRFR Council

Dr. Peter H. Forsham, Professor of Medicine and Pediatrics of the University of California School of Medicine, San Francisco, has been named to the National Advisory Council on Health Research Facilities for a 4-year term beginning July 1.

house of knowledge about NIH's history. A great many interviews are conducted with NIH staff members who have been at NIH for a number of years and are still employed, as well as retired employees.

Dr. Miles' greatest problem with these retirees is that, contrary to the usual conception of retirement, they are frequently so busy with the present and future, they can't find time to recall the past.

However, Dr. Miles' persistence has often won out. After 2 years, Dr. Helen Dyer recently began her story, and others have promised their cooperation.

Several Institute Directors, some of whom have since passed away, have made valuable contributions to history by their recordings.

In addition, a number of non-professional staff have also played



Dr. Miles (left) and Roy Perry, recently retired NIH photographer, read a resume of a previous recording before another taping.

a significant part in rounding out the NIH story. Some of these employees were around in 1930 when the Hygienic Laboratory was redesignated the National Institute of Health.

Dr. Miles has been the NIH Historian since 1962. He received the B.S. degree in chemistry from the Philadelphia College of Pharmacy and Science, the M.S. degree in chemistry at Pennsylvania State University, and the Ph.D. degree in History of Science from Harvard University.

He has worked as a research chemist, taught chemistry at Penn State, written history for the Army Chemical Corps, the Polaris Project, and NIH. He is the author of

NIDR Investigators Note Immune Response Site In Periodontal Disease

Immunological reactions to bacteria living in diseased gum tissues are suspected of playing a significant part in periodontal disease which causes loss of teeth in older people.

Fresh evidence for this theory and clues to where more evidence may be found have been uncovered in studies by the National Institute of Dental Research.

In certain bacteria, lipopolysaccharides in the cell walls provoke allergic and other immune responses. An extract of this cell wall material from *Escherichia coli* was tested in rabbits.

Extract Injected

NIDR investigators, Drs. S. E. Berglund, A. A. Rizzo, and S. E. Mergenhausen, injected very small amounts of the extract into the mucous membrane of the mouths of some animals, whereas in others, they injected the extract directly into the veins.

In both instances the animals gave an immune response, but it was found in different parts of the body.

When the body is challenged with larger doses of bacterial endotoxin, localized responses are obscured. Ordinary doses of extract entering through veins stimulate both an increase in the number of antibody-forming cells in spleen and bone marrow and the appearance of antibody in the blood stream.

Antibody Reaction Varies

Similar amounts of extract entering through the membrane not only affect these tissues, but also stimulate production of large numbers of antibody-forming cells in regional lymph nodes, which increases the level of antibody in the serum.

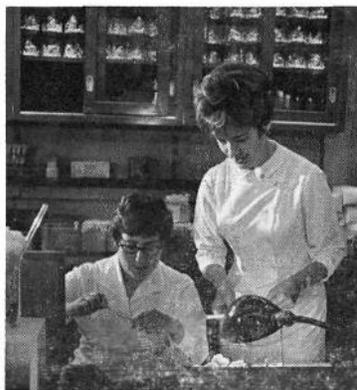
In contrast, a small amount of extract injected via veins stimulates an increase in antibody-forming cells in the spleen only, whereas when the same small dose is injected into the lining of the mouth, antibody-forming cells are found only in the regional lymph nodes.

The investigators believe that very small amounts of bacterial products entering the body through sores or breaks in the gums are quite capable of stimulating local antibody production in regional lymph nodes and perhaps at the actual site of inflammation.

55 historical articles and one book.

He is a member of the American Chemical Society and the American Historical Association, and is currently chairman of the Chemical Society of Washington's History of Chemistry Committee.

CC Brochure Describes Career Opportunities in Medical Technology



Diane McDonough (standing) is one of five staff medical technologists featured in a new Clinical Center brochure. She watches Sylvia Gersch plant a throat culture.—Photo by Roy Perry.

An illustrated brochure for medical technologists, "The Frontier of Clinical Pathology," was published recently by the Clinical Center.

In the brochure five technologists and a former technician (now a microbiologist) discuss the satisfactions and opportunities in working at the CC's Clinical Pathology Department.

Those interviewed for the booklet were Strother (Pat) Dixon, Suzanne Garges, Carol Huber, Diane McDonough, Diane Mizelle, and Dr. Charles Zierdt.

Copies of the publication may be obtained from the CC Information Office, Bldg. 10, Rm. IN-248, Ext. 62563.

Dr. Kurt Salomon, NCI, Accepts Post in Nigeria

Dr. Kurt Salomon has resigned his position with the National Cancer Institute to accept an appointment in Nigeria.

He will serve as professor and head of a new Department of Radiation Biology and Radiotherapeutics at the Medical College of the University of Lagos, Nigeria.

Dr. Salomon, scientific specialist, Awards Review and Technical Administration Branch, joined NCI in 1964. He is no stranger to Africa, having spent 2 years at the NCI-supported West Africa Research Unit in Ghana, studying the relationship between schistosomiasis and bladder cancer.

Born in Frankfort-on-Main, Germany, in 1898, he became a naturalized citizen in 1943.

Dr. Salomon will establish the department with the aid of two young Nigerian scientists and an Australian technician, and will supervise the design of a facility to house the radiation unit.

Dr. Keresztesy Retires; Research Contributions Cited at Farewell Fete

Friends and associates of Dr. John C. Keresztesy bade him an official farewell at a retirement party held March 27, but many hope to remain in touch.

Dr. Keresztesy, who retired March 31 after more than 20 years with the National Institute of Arthritis and Metabolic Diseases, will continue to reside at nearby Rossmore, Md., where he and his wife moved recently.

At the party, NIAMD Director G. Donald Whedon spoke briefly about Dr. Keresztesy and his work, and read a sampling of telegrams and letters sent to him by former colleagues and well-wishers around the country.



Dr. John C. Keresztesy and his wife, Marion, stand before decorated cake expressing the thoughts of coworkers at the recent retirement party in his honor.—Photo by Ed Hubbard.

Dr. Keresztesy's studies at NIH on the nature of folic acid, Dr. Whedon said, led to the first isolation and characterization of a coenzyme form of this vitamin, 5-formyl tetrahydrofolic acid, from a natural source.

His extensive investigations on the unknown forms of folic acid in biological materials culminated in the discovery of 5-methyltetrahydrofolic acid.

Mechanism Explained

The isolation, chemical characterization, and synthesis of this key cofactor in folate metabolism by Dr. Keresztesy and Dr. Kenneth Donaldson, formerly of NIAMD, led not only to the explanation of the mechanism of methionine biosynthesis but also to an understanding of the obscure relationship between folic acid and vitamin B₁₂.

Dr. Keresztesy's studies have continued in this area, Dr. Whedon added, and more recently the nature of the most elusive forms of folic acid, the polyglutamates, are being investigated. This work will be actively pursued by his coworkers.

CC Blood Donations Noted, 4 Join 'Gallon Donor Club'

The Clinical Center Blood Bank reports that 205 units of blood were received from NIH donors in March. During the same period, CC patients received 1,836 units of blood.

Four NIH staff members have joined the "Gallon Donor Club." They are: Ralph A. Bredland, DRS; Dr. James D. MacLowry, CC; Paul W. O'Briant, SMB; and Howard W. Spence, CC.

Prior to joining NIAMD in 1947, Dr. Keresztesy was with the Cancer Research Laboratory at Mt. Sinai Hospital in New York City, studying the role of folic acid in cancer chemotherapy.

From 1934 to 1945 he was head of the Nutritional Research Laboratory at Merck and Company, Inc., Rahway, N. J. He worked there on the isolation and chemistry of various B vitamins, thiamine, pyridoxine, pantothenic acid, biotin and rhizopterin, a form of folic acid.

Investigated Thiamine

While graduate student at Columbia University, he and his wife, Marion, were associated with Dr. R. R. Williams in developing the first large-scale isolation of thiamine and in chemical studies leading to the elucidation of its structure. Dr. Keresztesy received the Ph.D. degree in 1935.

Dr. Keresztesy had been chief of the Laboratory of Nutrition and Endocrinology, NIAMD, since 1963. Prior to that he had served as chief of the Laboratory's Section on Fractionation and Isolation.

Retirement, said Dr. Keresztesy, will enable him to pursue his study of organ music more intensely. He also plans to travel, take advan-

CONSTRUCTION

(Continued from Page 3)

it isn't. According to Chris A. Hansen, DRS Director, there are many new projects that may be moving from the design stage into construction this year and next.

Two projects that will be especially welcome are the multilevel parking structures now being designed. One is for the west side of the campus, to park 825 cars, and the other, on the east side near Building 31, to park 650 cars.

Some of the other projects now being designed are the NICHD Research Facility, Building 33, to be located on the northwest corner of the reservation; the NIMH Child Research Center, Building 55, which will occupy the southwest corner; an extension to the Isotope Laboratory, Building 21; and a combined service facility. The latter consists of a warehouse, a fire department building, a vehicle repair building, a fuel dispensing area, and extension of the service tunnel.

DRS Coordinates Plans

Not all NIH building activity is confined to the reservation, however. DRS is also coordinating the design of such far-flung projects as: the NINDB/NICHD Research Facility at the Puerto Rico Medical Center, San Juan; and a facility at Sabana Seca, Puerto Rico, for housing laboratory primates.

Also, major improvements to plant facilities at NIAID's Rocky Mountain Laboratory, Hamilton, Mont., and the Middle Atlantic Research Unit in Panama; a master plan for the National Environmental Health Sciences Center at Research Triangle, N. C.; and continued expansion at the NIH Animal Center in Poolesville.

tage of the golf course at Rossmore, and practice pool in the hope of eventually beating his son at this game.



James B. Davis, chief, Supply Management Branch (right), presents sustained superior work performance award to the Administrative Unit, Research Contracts Section. They are from left (standing) Ted Dawson, Gina Caruso, Dorothy Johnson, Joan Fazenbaker, Mary Corbett, and Marguerite Dreyer. Seated are Linda Andrews, Millie Applestein, and Pat Scales. Jack Nance, Mary Newkirk, and Mary McHugh are not shown.—Photo by Ralph Fernandez.

Dr. Morris, Biochemist, To Retire From NCI, Joined Institute in '38

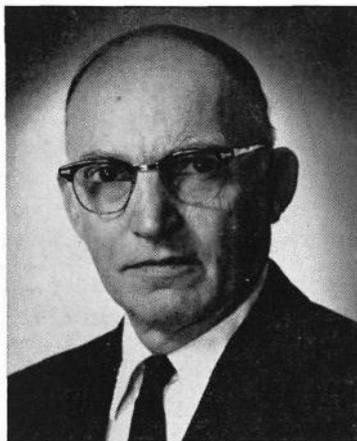
Dr. Harold P. Morris, a member of the research staff of the National Cancer Institute since its founding and authority in the field of cancer biochemistry, will retire this month from his post in the Laboratory of Biochemistry.

In recent years Dr. Morris has developed in the laboratory a large spectrum of transplantable liver tumors in inbred strains of rats. These tumors deviate much less from normal liver tissues than those previously produced in any laboratory.

This discovery has established a biological model in which minimal differences between the metabolism of normal liver and liver tumors can be determined.

Dr. Morris attended the University of Minnesota and Kansas State College where he received the B.S. and M.S. degrees in agricultural biochemistry and animal genetics. He returned to the University of Minnesota as an assistant in biochemistry and completed the requirements for the Ph.D. in agricultural biochemistry.

Dr. Morris began his Federal career in 1931 as a research asso-



Dr. Harold P. Morris won Washington Star award in 1950 for outstanding civic work in Montgomery County. He is still active in such work.

ciate in the U.S. Bureau of Fisheries investigating the nutritive properties of kelp meal. He worked for the Department of Agriculture from 1934 to 1938 studying the chemical and physical properties of eggs as related to cake making.

He was one of the first investigators selected in 1938 to conduct research in biochemistry at the newly created National Cancer Institute. For a number of years he investigated the role of vitamins and amino acids in the growth of mammary tumors in mice. Extensive research also was conducted on the nutritive requirements of normal mice. This work gained him



How's this for size? The part of the picnic table visible in the upper left hand corner offers a good comparison for judging the actual height of this pygmy goat.—Oregon Medical Center photos.

GOAT COLONY

(Continued from Page 1)

herd can be increased more rapidly. Superovulated female pygmies will be mated with selected pygmy sires and fertilized ova will be transferred to receptive female Nubian (full-size) goats.

If the zygote transfer is successful, it could make possible multiple deliveries of newborn goats that had undergone prenatal development in available goats of different size. The offspring would still have the same genetic parents and approximately the same date of birth.

The studies planned seek to evaluate the effects of such a gestational "foster home" on the offspring in terms of physiological and behavioral development.

With the growth of the colony, animals will be made available to scientists interested in the use of this species in intrauterine and perinatal studies.

The pygmy goat has several distinct advantages as an experimental animal: it is herbivorous, can be easily trained, thrives in a temperate climate, and is easily handled by female laboratory technicians.

In addition, the fetus of the goat is large enough to undergo fetal surgery and other manipulations impossible on smaller laboratory animals.

Project Officer for the program is Dr. Eileen G. Hasselmeier, Director, Perinatal Biology and Infant Mortality Branch, NICHD.

international recognition.

Dr. Morris and his colleagues were the first to succeed in producing experimental cancers of the thyroid gland in animals—cancers which are also transplantable to normal animals.

Dr. Morris is the author or co-author of more than 230 scientific papers. Besides other honors, he

Dr. Gallelli to Receive APhA Award for Paper On Amphotericin B

Dr. Joseph F. Gallelli, chief of the Clinical Center Pharmacy Department's Pharmaceutical Development Section, has been named to receive the 1967 Military Section Literary Award from the American Pharmaceutical Association at its annual meeting in Miami May 6.

His paper, "Assay and Stability of Amphotericin B in Aqueous Solutions," was determined to be the best original contribution to pharmaceutical literature submitted by a member of APhA's Military Section during the past year. It was published in the March 1967 issue of *Drug Intelligence*.

Dr. Gallelli joined the CC staff in 1962. His research interests are drug stability and chemical kinetics of drugs.

Dr. Gallelli received the Bachelor of Science Degree in Pharmacy from Long Island University's Brooklyn College of Pharmacy, and the M.S. and Ph.D. degrees from Temple University.

He is past president of the District of Columbia Society of Hospital Pharmacists and is a member of the Academy of Pharmaceutical Sciences, APhA, and American Society of Hospital Pharmacists.

was awarded the Superior Service Award from the DHEW for "a superior series of scientific investigations of the mechanism of cancer causation."

Upon retirement, Dr. Morris plans to continue his hepatoma research on an NCI grant awarded



Dr. Gallelli

Dr. Whitford Appointed To NIAID Laboratory

The National Institute of Allergy and Infectious Diseases has announced the appointment of Dr. Howard W. Whitford to the research staff of its Rocky Mountain Laboratory in Hamilton, Mont.

Dr. Whitford attended Oklahoma State University and Texas A & M University, receiving the B.S. degree in animal science in 1963 and the D.V.M. degree in 1964.

Dr. Whitford joins the Laboratory's Comparative Pathology Section where he will assist Dr. William J. Hadlow investigate the development of viral infections marked by extensive time lapses between initial infection and clinical signs of disease.

Several "slow virus" diseases of animals are being studied because they may bear an important relationship to chronic degenerative diseases of man, such as multiple sclerosis.

Counterparts Possible in Man

Four of these diseases that may have biologic counterparts in man are scrapie (a disease that naturally affects sheep and, less frequently, goats), encephalopathy of mink, Aleutian disease of mink, and chronic interstitial pneumonitis of sheep.

In 1967 RML investigators reported on the pathogenesis of scrapie virus in mice. In these studies virus was evident in the spleen 4 weeks after it was injected into the animals; it slowly spread to other tissues and finally reached the central nervous system 12 weeks after inoculation.

Fatal progressive disease appeared following long continued presence of large amounts of virus in the central nervous system. The first sick mouse was observed 23 weeks after inoculation, the last two became affected at 57 weeks.

Daylight Saving Time Begins At 2 a.m. Sunday, April 28

On April 28 at 2 a.m., the Washington Metropolitan Area will go on Daylight Saving Time. Employees are reminded to set their clocks ahead one hour to compensate for the time change.

NIH employees working from 12 midnight to 8 a.m. will work one hour less that day as a result of the change and will be charged one hour's annual leave. With the change back to Eastern Standard Time in the fall, employees working this tour will be compensated for one hour's overtime.

to the Howard University School of Medicine. He will also lecture to medical students in the field of cancer biochemistry.

AWARDS

(Continued from Page 1)

Howard F. Brubach, a biologist with NIAMD's Laboratory of Physical Biology, and Guerry R. Smith, chief of the Grants Management Branch, Division of Research Grants, received 40-year Length of Service Awards at the ceremony.

Dr. Nirenberg, chief, Laboratory of Biochemical Genetics, NHI, was cited for his work in "clarifying the genetic code by showing the way information is coded into nucleic acids and used to direct the incorporation of specific amino acids into proteins."

Code Essentially Unchanged

The results of his and other investigations have suggested that most forms of life on this planet use essentially the same genetic language and that few changes in this language have occurred during the last 500 million years.

Dr. Rall, Director of Intramural Research, NIAMD, was honored "for distinguished leadership in administration of an extensive program of clinical and laboratory medical research and for personal achievements in the field of thyroid physiology."

Mr. Brubach has been with NIH since 1942 and with NIAMD since



Dr. Nirenberg



Dr. Rall



Mr. Brubach



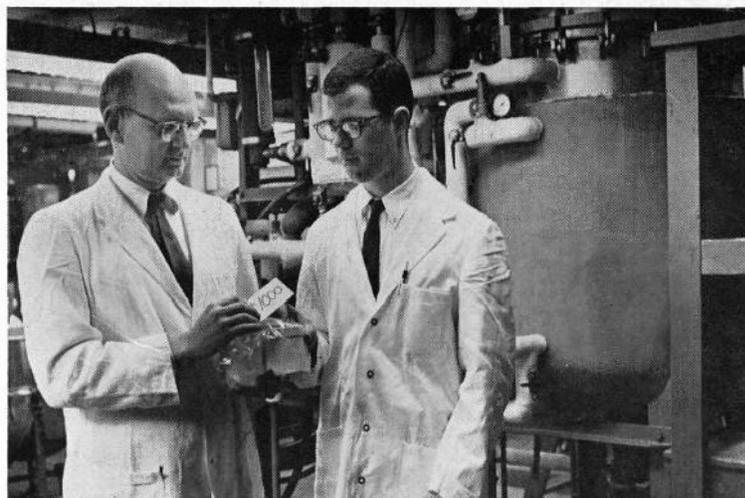
Mr. Smith

its inception in 1948 when it was known as the Experimental Biology and Medicine Institute.

Mr. Smith was appointed to the DRG staff in 1963. He joined DRG after serving as deputy assistant administrator for management of the Foreign Agriculture Service of the Department of Agriculture for 11 years.

He has also held administrative posts with the Departments of State and Commerce, the War Assets Administration, and the Office of Inter-American Affairs (now the Agency for International Development).

NIAMD Basement Laboratory Ferments 1,000th Batch of Bacteria for Research



David L. Rogerson (left) gives the 1,000th batch of bacteria grown in his unit to Dr. Reed Wickner of the Laboratory of Biochemical Pharmacology, NIAMD. Behind them is the 100-gallon fermentor in which the bacteria were grown.—Photo by Ralph Fernandez.

Since 1959, the Laboratory of Nutrition and Endocrinology, National Institute of Arthritis and Metabolic Diseases, has been growing bacteria at the rate of up to four batches a week for use in research projects at NIH and other local institutions.

The lot that emerged from one of the big fermenting tanks in the basement of Building 3 on March 21 was basically no different from all the others, except that it was the 1,000th batch.

Service Organized in '59

This fact prompted David L. Rogerson, who heads the Large Scale Unit of the Section on Vitamin Metabolism, to record the event pictorially and stop for a bit of reminiscing. The service was organized in 1959 by Dr. John C. Keresztesy, former chief of the Laboratory of Nutrition and Endocrinology.

Batch number one, Mr. Rogerson said, was made for Drs. Herbert Tabor and Celia Tabor of NIAMD's Laboratory of Biochemical Pharmacology on February 9, 1959.

Significantly, the organism produced then was E. coli, the same species of bacteria as batch 1,000—ordered by Dr. Reed Wickner of the same laboratory.

Many Strains Grown

Dr. Wickner is using the bacteria to purify an enzyme needed for his studies of enzyme structure and spermidine biosynthesis.

Many different strains of non-pathogenic bacteria and mutants have proliferated in the original 100-gallon fermentor and a similar one added in 1962. A third tank is now being installed which has a capacity of 300 gallons.

Mr. Rogerson explained that the making of batch No. 1,000 began about one o'clock on the afternoon of March 20, when chemical nu-

trients such as mineral salts, nitrogen, carbon sources, vitamins, and other things on which bacteria flourish were put into the tank, along with distilled water.

This solution was then sterilized at about 125 degrees centigrade for 30 minutes, after which the tank was cooled to 37 degrees C., the optimum growth temperature for this particular bacterium, and additional ingredients that had been autoclaved separately were added aseptically to complete the medium.

Medium Inoculated

The medium was then inoculated with a pure culture of E. coli (two liters) that had been supplied by Dr. Wickner. While the microorganisms multiplied that night, automatic devices on the fermentor controlled foaming and assured that the culture would be maintained at the proper growth temperature.

Since the particular bacterium being grown is aerobic, that is, it requires air to thrive, sterilized air was injected into the tank through another device called the Sparger at the rate of eight cubic feet per minute.

Final Steps Described

On the following morning, the culture's growth was checked photometrically for optimum growth and then the culture was cooled to prevent lysis (to keep the cell walls from breaking down).

In the next step, the bacteria were recovered from the tank in a large Sharpless refrigerated centrifuge. After the bacterial cells

DR. SPIEGELMAN

(Continued from Page 1)

ologists to study the evolution of molecules.

It may also make possible new weapons for control of viral diseases through knowledge of the differences between the replication of viruses and that of body cells.

Lecture Established in '50

The Dyer Lectureship was established in 1950 to honor Dr. Rolla E. Dyer on his retirement as Director of the National Institutes of Health. The lectureship is administered by NIH and awarded annually to a scientist who has made an outstanding contribution to medical and biomedical research.

A graduate in mathematics and physics of the City College of New York, Dr. Spiegelman did graduate study in cellular physiology at Columbia University and received the Ph.D. degree in biology from Washington University.

He was a faculty member there until 1948, when he received a Public Health Service Fellowship at the University of Minnesota Medical School.

Wins Pasteur Award

Dr. Spiegelman won the Pasteur Award of the Illinois Society for Microbiology in 1963, was elected to the National Academy of Sciences in 1966, and this year received the Bertner Foundation Award from the University of Texas M. D. Anderson Hospital and Tumor Institute.

Previous Dyer Lecturers have been Dr. George W. Beadle, Sir F. MacFarlane Burnet, Dr. Rene J. Dubos, Dr. John Franklin Enders, Dr. Louis Pillemer, Dr. Karl F. Meyer, Dr. Richard E. Shope, Dr. Walsh McDermott, Dr. Albert H. Coons, Dr. George MacDonald, Dr. Rollin D. Hotchkiss, Dr. Salvador E. Luria, Dr. Harry Rubin, Dr. Alexander D. Langmuir, Dr. Karl Habel, and Dr. Robert A. Good.

were spun out in the centrifuge rotor, the liquid in which they grew was collected, disinfected, and discarded. The bacteria were then removed from the rotor, weighed, and frozen.

Since Dr. Wickner needed a particular enzyme found inside the E. coli cell, the frozen cells were thawed, suspended in buffer solution in large Waring blenders, and then passed through a Gaulin laboratory homogenizer to crack the cell walls and release the enzyme.

Once again the substance was centrifuged to remove cell debris. The end product, five liters (about five quarts) of a solution containing the desired enzyme, was returned to Dr. Wickner.

A major goal of tuberculosis control is to break the infection chain from older to younger generations.

New Brochure Describes Nursing Education Aid For Needy Students

A new financial assistance provision to encourage needy, capable high school students to become professional nurses is now part of the Nurse Training Act.

The Division of Nursing, Bureau of Health Manpower, which is responsible for the aid programs authorized by this Act, has issued a brochure, "Nursing Educational Opportunity Grants—Information for Schools," describing the new program. Helen Koutroulis, Education Specialist, has been chosen to work with schools to recruit needy students and retain them in nursing education programs.

Requirements Stated

As stated in the brochure, scholarships of up to \$800 a year are available to qualified high school graduates of exceptional financial need who have been admitted to nursing education programs and make satisfactory progress.

All types of public and nonprofit private nursing education programs—diploma, associate degree, and baccalaureate degree—are eligible to receive Nursing Educational Opportunity Grants for disbursement to students if they meet the accreditation requirements; continue to maintain their own student aid programs at established levels; and work with secondary schools to motivate students toward professional nursing education.

Schools Judge Needs

Each school which receives such a grant selects the students it will aid and determines the amount of aid each student will receive beyond a minimum of \$200.

For information about the five other programs authorized by the Nurse Training Act to aid students and schools of nursing, write to the Division of Nursing.

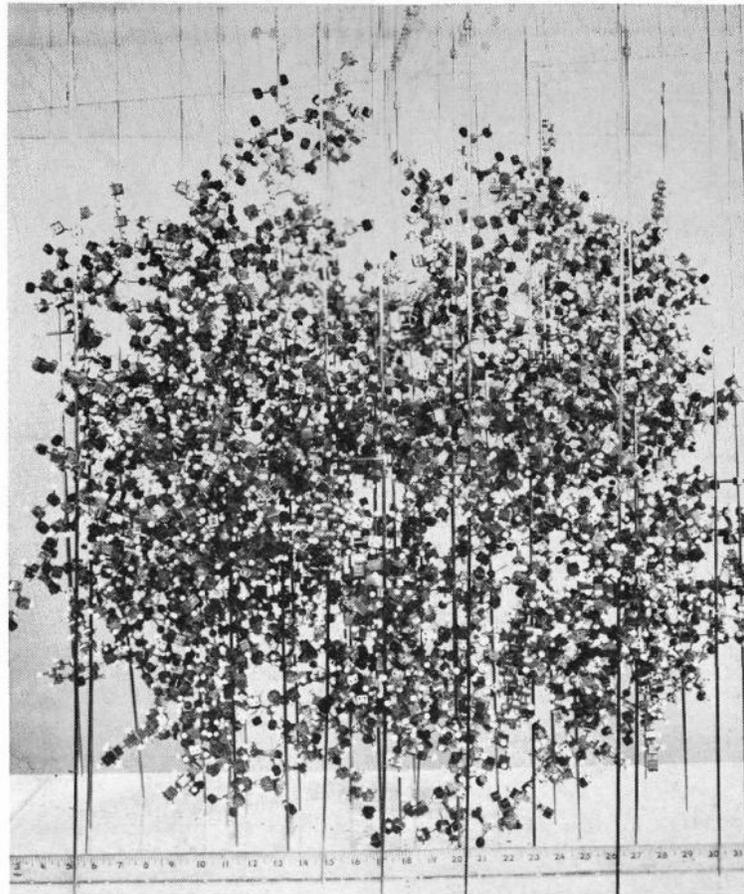
Brochures concerning each of these programs and the new brochure, "Nursing Educational Opportunity Grants—Information for Schools," are available from the Bureau of Health Manpower, 800 North Quincy Street, Arlington, Va. 22203.

Latest Participants in NIH Visiting Scientists Program Listed Here

3/19—Dr. Christian Beckers, Belgium, Epidemiology Unit. Sponsor: Dr. Robert L. Vought, NIAMD, Building 31, Room 10A52.

4/1—Dr. Heiner Greten, Germany, Section on Lipoproteins. Sponsor: Dr. Robert I. Levy, NHI, Building 10, Room 7N220.

Dr. Makio Murayama's Hemoglobin Model Aids Research on Sickle Cell Anemia



Designed and built by NIAMD scientist Dr. Makio Murayama, this model of a human hemoglobin molecule consists of 10 thousand metal pieces, illustrating a single molecule magnified 127 million times.

A three dimensional model of the human hemoglobin molecule—the size of a footlocker—is being used to further understanding of the molecular mechanism of "sickling" in sickle cell anemia.

Built by Dr. Makio Murayama of the National Institute of Arthritis and Metabolic Diseases, the model consists of 10 thousand precision units of colored metal.

Model Designed to Scale

The model is designed to a scale of one-half inch to the Angstrom. The original model took Dr. Murayama 6 "night" years to build. However 2 years later, Dr. Murayama's research findings led him to make changes in the original model. The reconstructed model took 6 months to assemble.

Sickle cell anemia, a hereditary disorder striking Negroes almost exclusively, is the result of abnormal hemoglobin—the oxygen-carrying element in the red blood cells.

Upon deoxygenation these cells which are normally doughnut shaped, assume an abnormal "sickle" shape and clog up small blood vessels, blocking circulation.

The subsequent lack of oxygen may cause local pain and dysfunction, severe pain in the joints, infections, and may damage vital organs eventually leading to jaundice, heart or kidney failure.

Affected individuals are subject to recurring crises requiring hospitalization and usually die before age forty.

Insight into the sickling mechanism of sickle cell anemia came primarily from studies of this scale model and was followed by other experiments to verify the chemical processes involved.

Vivaldi Festival Rescheduled

The second part of the Vivaldi Festival, originally scheduled for April 7, has been rescheduled for Sunday, April 28, at 4 p.m. in the Clinical Center auditorium.

For details of the performance, see the *NIH Record* of April 2, page 4.

COMPONENTS

(Continued from Page 1)

The Bureau of Health Manpower has five divisions. Two of these, Dental Health and Nursing, were transferred intact from the former Bureau of State Services (Community Health) of the Public Health Service.

The other three—Physician Manpower, Allied Health Manpower, and Health Manpower Educational Services—were created from units dispersed throughout the PHS.

Mission Summarized

Dr. Leonard D. Fenninger, Director of the Bureau, has described the Bureau's mission as "to assure that skilled and dedicated people will be prepared to serve the health needs of the people of this Nation."

Broad health legislation enacted by Congress in the past several years provides for:

Construction grants to colleges and universities to create more and better teaching facilities; grants to improve teaching in schools for the training of health personnel; grants for long-term and short-term training or retraining of health personnel; and scholarship and loan programs for students to enable them to begin education for health careers.

Aids Curricula Development

Funds for research administered by the Bureau of Health Manpower are used for curricula development and experimental activities in institutions now teaching health profession students.

The BHM has its own National Advisory Health Manpower Council, composed of persons in health, education, and industry.

Bureau headquarters are in the Ballston Center Tower #1, 800 North Quincy Street, Arlington, Va. It also has offices in the Woodmont Building, Woodmont Avenue and Rugby Street, Bethesda, Md.

Its 1968 appropriated budget is \$367,663,000.

Dr. Cummings Is Director

The other new NIH component, the National Library of Medicine, with 349 employees, is better known to NIH employees, since it is located on the southeast corner of the reservation.

Dr. Martin M. Cummings is Director of the Library, the largest research library in a single scientific and professional field.

The NLM collects, organizes, and makes available biomedical information to investigators, educators, and practitioners, and carries out extramural programs designed to strengthen existing and develop new medical library services in the United States.