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PUBLIC HEALTH SERVICE

Clinton C. Powell Retires Friday as NIGMS Director

The retirement of Dr. Clinton C. Powell, Director of the National Institute of General Medical Sciences, has been announced by Surgeon General Luther L. Terry of the Public Health Service, effective Friday, July 31.

Dr. Powell is retiring to accept appointment as Associate Coordinator of Medical and Health Sciences at the University of California. He will assume his new duties on August 15.



Dr. Powell

As the first Director of the National Institute of General Medical Sciences, authorized by Congress in 1962 to supply recognition and support for basic research, Dr. Powell played a key role in formulating national programs for strengthening biomedical research on a broad front.

One of the most recent of these is a new program for supporting

(See DR. POWELL, Page 6)

Contracts Awarded to Support Studies Of Cigarettes' Effect on Living Tissue

Dr. Luther L. Terry, Surgeon General of the Public Health Service, recently announced the award of three contracts totaling more than \$300,000, to support research on the properties of cigarette smoke and its effect on living tissues.

These studies, a part of the National Cancer Institute's rapidly expanding program of investigations on environmental carcinogens (cancer-causing agents), are in those areas of research where members of the Surgeon General's Advisory Committee on Smoking and Health indicated they felt more information was needed.

A contract in the amount of \$107,535 has been awarded scientists at the New York University Medical Center who will attempt to isolate and identify chemical components in tobacco extracts and tobacco smoke which may act as co-carcinogens. Such substances do

Cuban Refugees Aided By Office of Education

The United States is lending a financial helping hand to 370 Cuban refugees to help them qualify as physicians, teachers, and librarians in this country.

The U. S. Office of Education, Department of Health, Education, and Welfare, made available grants of \$581,970 to seven colleges and universities under terms of the Migration and Refugee Assistance Act of 1962 to help the refugees.

The Cubans were selected by the institutions from registration lists at the Cuban Refugee Center in Miami, Fla. All are Cuban nationals opposed to the Castro regime in their homeland.

Terry Appears Today on WETA-TV Interview

Dr. Luther L. Terry, Surgeon General of the Public Health Service, will be interviewed today at 6:30 p.m. on the Youth Wants To Know program, WETA-TV, Channel 26, by a panel of area high school students.

This Washington area educational TV station has won a number of citations, including the George Foster Peabody TV Award.

not cause cancer but their presence is necessary for the cancer-causing effect to take place.

"The search for co-carcinogenic agents in tobacco smoke is of great importance," said Dr. Hans Falk, Chief of NCI's Carcinogenesis Studies Branch. "Known carcinogens present in tobacco smoke cannot account for the observed carcinogenic potency of the smoke. Identification and isolation of co-carcinogens might lead to the preparation of co-carcinogen-free tobacco possessing less risk to the smoker."

A second contract, in the amount

(See CIGARETTES, Page 6)

Mass Vaccination in Upper Volta Scores Dramatic Reduction in Measles Incidence

A dramatic reduction in the incidence of measles occurred this spring in Upper Volta, West Africa, as a result of the mass vaccination campaign conducted under supervision of National Institutes of Health scientists (*NIH Record*, April 23 and May 7, 1963).

Measles is an extremely serious disease in this new African republic, on occasion killing up to 50 percent of the children in villages struck by epidemics.

Tennessee Plane Crash Takes Lives of Three Former NIH Scientists

Three former NIH scientists, Drs. Robert H. Levin, Philip H. Geisler, and Alfred Leitner, were killed in a plane crash near Newport, Tenn., July 9, which took the lives of all 39 persons aboard.

Dr. Levin, a 30-year-old Clinical Investigator assigned to the Na-



Dr. Levin



Dr. Geisler

tional Cancer Institute until last month, was traveling from his home in Orange, Conn., to deliver a paper at the Platelet Conference at the Biology Division of the Oak Ridge Institute of Nuclear Studies in Oak Ridge, Tenn.

Dr. Levin had been with NCI's Medicine Branch since July 1961, engaged in research in the fields of leukemia and platelet and leukocyte physiology.

Transfers to Yale

Maintaining his status in the Public Health Service Commissioned Officers Corps, he transferred June 23 to Yale University's Department of Internal Medicine for a year of specialized training in hematology.

Dr. Emil Frei III, Associate Scientific Director for Experimental Therapeutics, described Dr. Levin as "an extremely promising young scientist who had done excellent work at NCI." Earlier he had ob-

(See PLANE CRASH, Page 8)

Since completion of the campaign in March 1963, measles cases and deaths reported from Upper Volta show 5,370 cases and 166 deaths among the unvaccinated (children who either were missed during the campaign or who were born too late to participate) as compared with 133 cases and no deaths among the vaccinated.

Reports at Paris Meeting

These figures were presented by Dr. Harry M. Meyer, Jr., of the Laboratory of Virology and Rickettsiology, Division of Biologics Standards, at a recent international conference on measles in Paris. Dr. Meyer's report summarized the results of a series of research studies carried out in West Africa during the past three years by DBS.

Dr. Meyer headed the 3-member medical team conducting the studies. The other team members were Barbara C. Bernheim and Dr. Daniel D. Hostetler, Jr.

The first of these NIH measles field studies was initiated in November 1961, after an urgent request from the Minister of Health of Upper Volta.

Vaccine Safe for Africans

This study established that live measles vaccine, which was being used experimentally in this country at the time, was equally safe and efficacious for African children, despite the various infectious and parasitic diseases as well as nutritional deficiencies which commonly afflict them.

The success of the study led to two additional projects carried out in Upper Volta during the winter of 1962-63 under the joint sponsorship of NIH and the Agency for International Development.

The first of these was designed

(See UPPER VOLTA, Page 4)

the NIH Record

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The NIH Record reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policy of the paper and the Department of Health, Education, and Welfare.

NEWS from PERSONNEL

POLITICAL ACTIVITY REMINDER

With the general elections approaching, the Civil Service Commission has reissued its political activity poster as a reminder to employees about the kinds of activities that are authorized or restricted under the Hatch Act.

Employees are encouraged to register and vote. They may participate by expressing their opinions, attending rallies, wearing political badges, and engaging in activities that do not constitute active participation in partisan political campaigns.

Prohibited Activities Cited

Among the prohibited activities are: serving on political committees, soliciting contributions, organizing or addressing meetings, distributing literature, becoming a candidate, and other involvements.

Detailed listings appear on the poster, copies of which are displayed on the bulletin boards at NIH. Additional information is included in the leaflet, Federal Employee Facts No. 2, given to each employee when he was employed here. Copies are available in Rm. 31, Bldg. 1, Ext. 64851.

Because severe penalties can result from violation of the Hatch Act, employees should be sure they understand what is permitted and prohibited under the Act. Their I/D Personnel Officers are prepared to answer questions.

SELECTIVE PLACEMENT SUCCESS

The latest Federal statistics show that ninety-two specially trained, mentally retarded persons were placed in Government jobs of a routine, repetitive nature between February 18 and June 15. Of this number, the NIH has em-

Children of 6 Scientists Are Orchestra Members

As members of the Montgomery County Youth Orchestra, the children of six NIH scientists are contributing their talents to the advancement of symphonic music in this populous area. The orchestra's 113 young members were selected from 10 high schools, nine junior high schools and two private schools in the county.

The six students and their NIH parents are Karen Whedon, violin (Dr. G. Donald Whedon, Director, NIAMD); Margo Anfinen, violin (Dr. Christian B. Anfinen, Chief of the Laboratory of Chemical Biology, NIAMD); Alice Robbins, cello (Dr. Jacob Robbins, Chief of the Clinical Endocrinology Branch, NIAMD); Connie Witkop, violin (Dr. Bernhard Witkop, Chief of the Laboratory of Chemistry, NIAMD); Guido Ajmone-Marsan, clarinet (Dr. Cosimo Ajmone-Marsan, Chief of the Electroencephalography Branch, NINDB); and Alice Berliner, flute (Dr. Robert W. Berliner, Director of Intramural Research, NHI).

ployed four—the best placement record in DHEW thus far.

Employment under this selective placement program, initiated in February under the leadership of the President's Committee on Employment of the Handicapped, is limited to persons who are educable and who are certified by the appropriate State vocational rehabilitation agency as qualified satisfactorily to perform the full duties of the position for which they are being hired.

In nearly every instance the employees' supervisors have voiced high praise of the way these employees are performing. The NIH reports similar gratifying results.

CU Votes Long-Term, Low-Cost Loans Up to \$10,000 for College Educations

At its July 9 meeting the Board of Directors of the NIH Federal Credit Union voted to institute immediately a new low-cost, long-term college tuition loan program for Credit Union members.

Under this program two loan plans are available enabling members to borrow up to \$10,000 to cover educational costs at any college or university, at an interest rate of three-quarters of one percent per month on the unpaid balance.

Both plans include life insurance and total and permanent disability

insurance coverage at no extra cost.

Under College Tuition Plan I, a member may borrow the total sum necessary to meet anticipated costs, repayable in monthly installments over a period up to five years.

The amount of the loan not immediately needed is then placed in the member's savings or share account, enabling it to draw annual dividends. Thereafter, needed funds will be disbursed at the beginning of each semester.

Plan II Described

Plan II provides for repayment over a period of up to eight and one-half years. Under this plan, a member may borrow on a semester-to-semester basis.

At the start of the last semester, the loan may be renegotiated and repayment on whatever balance remains from previous loans may be extended for an additional 60 months.

Thus, a member may apply for a new loan every August and January for three and one-half years, and then make repayment on the last loan plus the earlier balance over a 5-year period.

Brochure Available Aug. 3

Those eligible to become CU members include employees of NIH in the Washington Metropolitan Area, NIH employees stationed abroad, and employees of the National Library of Medicine and the Recreation and Welfare Association of NIH.

Complete information on the college tuition loan program will be included in a brochure to be available at the Credit Union office, Rm. 1A08, Bldg. 31, next Monday, August 3. Additional information may be obtained by calling Ext. 62331.

Deluge of Personal Mail Hampers Operation of Central Mail Room

The Central Mail Room in Building 31, where all NIH incoming mail is received, reports that it is increasingly deluged by personal mail addressed to NIH employees.

Horace H. Thomas, Head of the Mail and Messenger Unit, Communications Section, OSB, said this non-official mail consists largely of monthly statements from department stores and public utilities.

He points out that under Chapter 12-00-40 of the Communications Services Manual, employees are requested not to use their official (office) address in conducting personal correspondence, except in emergencies.

"To facilitate the flow of official mail here and to insure its proper handling," Mr. Thomas said, "all NIH employees are urged to have all personal mail sent to their home addresses."

HERE'S A MYSTERY



Can you identify this woman? This picture was printed from a roll of film in a camera found in the ladies' washroom, 4th floor, B wing, Building 31. Owner may claim camera by describing it to the finder, Mrs. Rose Marie Taylor, Ext. 65375.

NIH Library Issues Index Of 5,000 Translations

A 354-page index to articles translated by or for the NIH Library's translating service between 1954 and the end of 1963 has been issued by the NIH Library.

Entitled NIH Library Translations Index 1954-1963, the publication indexes by author the Library's collection of 5,000 translations. In addition to NIH translations, those received as gifts from other organizations during this period are included. Annual supplements to the Index also will be prepared.

Distribution is being made to NIH staff who are on the mailing list for Recent Translations. Copies of the Index may be obtained by calling the Translating Unit, Readers Services Section, Ext. 62257.

Cancer Institute Creates An Immunology Branch, Names Dr. Fahey Chief

Dr. Kenneth M. Endicott, Director of the National Cancer Institute, has announced the establishment of an Immunology Branch in the intramural research area, and the appointment of Dr. John L. Fahey as Branch Chief.



Dr. Fahey

The creation of the new branch, Dr. Endicott said, emphasizes the growing importance of immunologic approaches to the cancer problem. The branch will serve as a focal point for an expanding program of Institute research on immunology.

It will conduct and support fundamental research in immunology as applied to neoplastic diseases, including the investigation of the function of immune mechanisms in cancer patients. It will also provide consultative and collaborative assistance to investigators in other areas of the Institute.

Berlin Supervises Branch

Under the supervision of Dr. Nathaniel I. Berlin, Clinical Director, the branch consists of an Office of the Chief and an Immunochemistry Section which is being transferred from the Diagnostics Research Branch. Dr. Herbert J. Rapp will remain Head of the section following its transfer.

Dr. Fahey, a 1951 graduate of the Harvard University Medical School and a native of Ohio, has been a member of the NCI staff since his appointment as a Clinical Associate in 1952. In 1954 he became a senior investigator of the General Medicine Branch and since 1956 he has been head of a group of investigators conducting studies in immunology within the Metabolism Service.

In August of 1960 he was detailed to the National Institute of Medical Research, London, England, for a year's intensive period of research and study.

Authors Numerous Papers

A member of the American Physiological Society, American Society for Clinical Investigation and the American Association for Cancer Research, Dr. Fahey is the author or co-author of more than 75 scientific papers.

His identification and characterization of abnormal gamma globulins in the blood and other tissue are widely recognized as important contributions to the general field of protein immunology, with special significance for a rare blood disease, macroglobulinemia, and multiple myeloma, a form of cancer.

Program Launches COSTEP Students on A Summer Session of Special Training



Dr. David E. Price, PHS Deputy Surgeon General (center), talks with COSTEP students at the Commissioned Officers Club, Cedar Lane and Old Georgetown Road, Bethesda.—Photos by Bob Pumphrey.

More than 50 students from colleges and universities throughout the country, who comprise the latest group to receive special training under the PHS Commissioned Officer Student Training and Extern Program (COSTEP), began their summer tour of duty with the Public Health Service this month.

Together with more than 25 other students who are Civil Service summer employees and potential COSTEP applicants, they attended a special orientation program in the Clinical Center auditorium July 7, beginning at 1 p.m.

Principal Speakers Listed

Principal speakers were Dr. Murray A. Diamond, Chief of the Office of Personnel, PHS; Dr. James T. Lovett, Chief, Health Professions Student Loan Program, Bureau of State Services; Dr. Willis R. Boss, Chief, Career Development Review Branch, Division of Research Grants, NIH; and Dr. G. Robert Coatney, Chief of the Laboratory of Parasite Chemotherapy, National Institute of Allergy and Infectious Diseases.

The program was arranged by Joseph A. Staton, staff member of the Personnel Management Branch, serving as Director of the COSTEP



Frank Bell, Program Director of Engineer Career Development, Office of the Surgeon General, counsels engineering students on opportunities in the PHS at one of eight discussion groups conducted here July 7.

Heart Conference Is Rescheduled for November 22-24

Dr. Carleton B. Chapman, President Elect of the American Heart Association, and Dr. Ralph E. Knutti, Director of the National Heart Institute, recently announced that the Second National Conference on Cardiovascular Diseases, originally scheduled for next January 25-28, will be held on November 22-24 of this year at the Sheraton-Park Hotel in Washington, D.C.

The AHA and NHI are co-sponsoring the meeting with the Heart Disease Control Program of the Public Health Service.

Drs. Chapman and Knutti, the conference Chairmen, said the earlier date will permit the results of the conference to be coordinated with the recently announced President's Commission on Heart Disease, Cancer and Stroke, in preparing a report requested by President Johnson.

Rescheduling Explained

"Our purpose in rescheduling the conference," the two spokesmen declared, "is to facilitate the most fruitful possible exchange between the conference and the President's Commission."

According to Drs. Chapman and Knutti, more than 400 scientists have been at work for more than a year developing summaries and interpretations of developments in the cardiovascular field since 1950, when the First National Conference was held.

At the 3-day November meeting, approximately 500 invited experts will review and discuss these advance reports. Additional information and recommendations arising from these discussions will then be incorporated in the conference report.

500 Delegates Invited

It is hoped to make the final document the most complete and authoritative summary possible at this time of progress, opportunities and needs in the field of heart and blood vessel disease, the conference spokesmen said.

Among the 500 delegates invited to the November sessions are leaders in cardiovascular research, prevention, treatment, rehabilitation and education.

All disease entities in the cardiovascular field will be reviewed, including coronary heart disease, high blood pressure, stroke, rheumatic fever and rheumatic heart disease, inborn defects of the circulatory system, among others.

There's this much to be said about middle-aged spread—it sure brings people closer together.—Hot Shoppes Table Talk.



Boyd W. Stephenson, Chief, Commissioned Officers Section, PMB (right), and Dr. Walter F. Edmundson, Chief, Procurement and Placement Services Section, PHS Office of Personnel, answer questions and hand out publications to COSTEP students.

Orientation and Seminar Program at NIH. Mr. Staton also presided at the orientation program.

At 3:30 p. m. the students divided into eight discussion groups, each with its own discussion leader. At 4:15 p. m. students and program leaders visited the PHS Commissioned Officers Club at Old Georgetown Road and Cedar Lane, for a social hour sponsored by the D. C. Commissioned Officers Association of the PHS. Commissioned Officers Wives' Club members served as hostesses.

The COSTEP students are pursuing degrees in medicine, dentistry, veterinary medicine, psychology, nursing, chemistry, and engineering. Those selected for COSTEP are commissioned in grades equivalent to 2nd lieutenant in the

(See COSTEP, Page 4)

UPPER VOLTA

(Continued from Page 1)

to furnish information for use in planning mass vaccination campaigns in developing countries. About 550 children were inoculated with live measles, smallpox, and yellow fever vaccines, either singly or in combinations, using an automatic jet-injection apparatus.

The results indicated that "jet inoculation" of the vaccines, alone or in combination, was safe and effective and provided a much faster and cheaper way of immunizing the population than the usual method. During this period, the NIH team also taught these new techniques to native Volta nurses.

The second 1962-63 study was the mass campaign, in which live measles vaccine was made available to all measles-susceptible children between six months and five years of age.

First Mass Vaccination

This campaign was the first national attempt to control measles with the new vaccine developed in America through the pioneering efforts of Dr. John Enders and his colleagues at Harvard University.

Eight trained teams of native nurses, supported by the 3-member NIH team, traveled in jeeps through Volta, from the bush in the south to the desert in the north, and between November 1962 and March 1963 jet-inoculated 731,000 children with the vaccine.

Though it characteristically caused a mild febrile reaction in the recipients, the vaccine was enthusiastically accepted by Volta parents who know and fear natural measles as the single biggest killer of children in West Africa.

Dr. Meyer reported that it was not unusual for mothers to walk 10 miles carrying their babies, or to wait by the roadside until long after dark to make certain they would not miss the mobile teams as they canvassed the country.

Ministry Reports Success

The Health Ministry of Upper Volta reported the successful conclusion of the mass campaign in May 1963 at a Paris meeting of the OCCGE, a regional West African health organization.

The seven other member nations—Ivory Coast, Dahomey, Niger, Mali, Guinea, Senegal, and Mauritania—proposed a measles vaccination training and demonstration project for the fall of 1963 in order that they might have an opportunity to evaluate the role of measles immunization in their own health program.

This program, financed by AID, was technically directed by Dr. Meyer and Mrs. Bernheim. During October 1963, nurses from each OCCGE member nation were trained in Bobo-Dioulasso, Upper Volta.

Felix Speaks at Opening Of Center for Research On Mental Retardation

Dr. Robert H. Felix, Director of the National Institute of Mental Health, was the principal speaker at dedication ceremonies for the new Research Center for Mental Retardation at Pacific State Hospital in Pomona, Calif., July 15.

The research center has received a research program-project grant of \$350,000 from NIMH for the first year of a proposed 7-year period for socio-behavioral research in mental retardation.

Calls for Collaboration

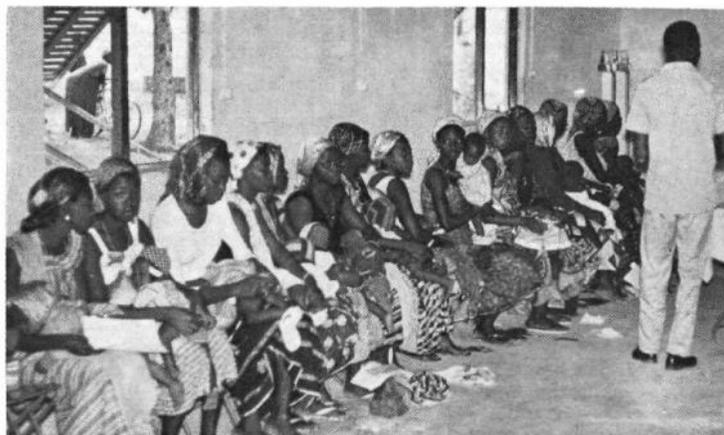
Dr. Felix called for collaboration of research efforts among "all those competent to work in the fields of both mental illness and mental retardation."

He cited the aims of the new research center project as analyzing hospital-community relationships, interpreting the social processes that direct the retardate to the hospital and return him to the community, observing the critical periods of the retardate's transition after his admission to the hospital and again after his release.

It will also compare the effectiveness of treatment in a large hospital with treatment in the local community clinic, the foster home and the day-care center.

After completion of the training, the NIH team and its Volta colleagues traveled overland by jeep to each of the member countries. The NIH team and the trained native nurses then conducted a demonstration measles vaccination campaign in an area designated by the Health Ministry of each country.

The project was completed in January 1964. The American and Volta teams had traveled approximately 20,000 miles and had vaccinated 100,000 children, about 15-



Mothers bring their small children for measles vaccination in the Republic of Upper Volta.—NIH Photo.



Dr. Murray A. Diamond, Chief, PHS Office of Personnel (right), is introduced to students at the COSTEP Orientation and Seminar Program here by Joseph A. Staton, staff member of PMB and director of the program.

COSTEP

(Continued from Page 3)

Army, and are placed on active duty for a period not to exceed 120 days in any one fiscal year.

The value of the program, according to Mr. Staton, is best demonstrated by the fact that many of the earlier participants who have returned to NIH for extended active duty are educating their younger colleagues to the career opportunities that exist at NIH and throughout the PHS.

Although the largest number of COSTEP participants serve during the summer months, the program is open the year-around. NIH staff or summer employees who wish additional information about the program may contact Boyd W. Stephenson, Chief, Commissioned Officers Section, PMB, Ext. 64212.

000 in each country.

The seven African nations that participated in these demonstration studies reported the results at a meeting of the OCCGE last April. It is against this background of developmental research that the U. S. Government is proceeding with an expanded measles control program in Africa.

DBS Scientists Report Inactivation of Phages By Contact With Metals

Scientists of the Division of Biological Standards have found that sensitive phages are inactivated by contact with aluminum, zinc, and magnesium through the electrolytic production of hydrogen peroxide.

The inactivation of viruses by metals was discovered during a study of photo-inactivation. Three strains of phage (RNA phages MS2 and f2, and DNA phage S13) placed in containers made of an aluminum alloy were found to lose their viability.

The inactivating factor could also be extracted from other common aluminum alloys such as aluminum foil and the aluminum caps on ultracentrifuge tubes. Of nine other metals tested, only zinc and magnesium were found to have inactivating properties.

Substance Appears in Liquid

The inactivating substance was shown to be a soluble, unstable, inorganic compound which appears in the liquid after contact with the metal surface.

Ionized salts of aluminum and other metals had no effect on the phage tested; neither did aluminum extracts treated with acid or base.

To test the hypothesis that the compound responsible for inactivation is electrolytically formed hydrogen peroxide, catalase, an enzyme which decomposes hydrogen peroxide, was added to the aluminum extracts. It prevented inactivation of the MS2 phage.

Direct exposure of the phage to hydrogen peroxide inactivated five phage strains tested.

Cupric ions appear necessary for catalyzing the inactivation process. When they are sequestered by the introduction of EDTA (ethylene diamine tetra acetic acid), a compound which complexes cations, inactivation is blocked.

May Prevent Errors

This new finding that viruses may be inactivated by metals may prevent error in results from work with phage using the ultracentrifuge, the aluminum parts of which can affect viability.

It will caution investigators working with other biological systems that may be sensitive to catalytic oxidation by hydrogen peroxide formed in this manner, not to assume inertness of all metallic equipment.

These findings were reported by Dr. Nobuto Yamamoto and Dr. C. W. Hiatt, DBS, and Wolfgang Haller, of the National Bureau of Standards, in *Biochimica et Biophysica Acta*.

Agnes Middleton Resigns Here, Will Accept Post At Univ. Medical Center

Agnes Middleton, Chief of the Clinical Center's Psychiatric Nursing Service, has resigned to accept an appointment with the University of California Medical Center in San Francisco.



Miss Middleton

At the associate professor level, Miss Middleton will serve the center's graduate nursing program as lecturer on the care of emotionally disturbed and mentally retarded children.

"She came to NIH to be head nurse on the first ward we opened," said Dr. Robert A. Cohen, Director of Clinical Research for NIMH. "She has played an increasingly significant role in organizing an unusually sensitive and responsive nursing service for the entire psychiatric program. We all feel she is a remarkably effective individual, and we shall miss her support."

Born in Vicksburg, Miss., Miss Middleton took her first nursing education at the St. Louis (Mo.) City Hospital, where she was awarded her R.N. certificate in 1929. She received her B.S. degree at St. Augustine College in Raleigh, N.C., in 1938 and her M.S.P.H. at the University of Michigan in 1942.

Receives NIMH Grant

In 1947, under an NIMH grant, she studied clinical psychiatry and psychiatric nursing at the Catholic University of America. Her academic education has been consistently supplemented with evening courses at the Washington School of Psychiatry and elsewhere. Prior to her tenure here, she served for six years with the Bureau of Mental Hygiene and the Child Guidance Clinic of the District of Columbia Health Department.

"During her 11 years on the nursing staff here, Miss Middleton has won the greatest admiration from her colleagues," according to Louise C. Anderson, Director of the CC Nursing Department.

In addition to her accomplishments at NIH, Miss Middleton has made important contributions to the Washington community through her membership on the Board of Directors of the Montgomery County Mental Health Association, the Board of Directors of the Washington Area Council on Alcoholism, and the Public Health Advisory Council to the Commissioners of the District of Columbia—for which she received a Meritorious Public Service Award in 1959.



Signing the agreement transferring the research facility in St. Petersburg, Fla., from the PHS Division of Accident Prevention to the National Institute of Child Health and Human Development are (left to right): Dr. Paul V. Joliet, Division Chief; Dr. Alfred H. Lawton, who will be Director of the newly established Human Development Study Center; Dr. Robert A. Aldrich, NICHD Director; and Dr. James E. Birren, NICHD Aging Program Director.—DHEW Photo.

Mouse Milker, Developed Here, May Aid Scientists in Study of Breast Cancer

The laboratory mouse has long been an important tool for the study of breast cancer, and for many years it has been known that a virus is involved in the initiation of this prevalent type of cancer.

Recent advances in virology, including increased knowledge of cancer-causing viruses, can now be applied to the further understanding of breast cancer.

One important aspect of this research is the study of milk, but it has been difficult to obtain sufficient amounts from mice. This difficulty may now be alleviated by planned production of an increased yield of milk by means of a new instrument.

Prior Yields Limited

Yields of one cc of milk per animal have in the past required 15 to 20 minutes of individual manipulation. This time-consuming procedure has produced inadequate amounts of virus for study, even from a high cancer mouse strain such as C3H.

An instrument designed to extract the same quantity of milk from each of 8 to 10 mice in the same period of time has now been developed for the National Cancer Institute by the Division of Re-

"The climate and the charm of San Francisco have something to do with my decision to accept this opportunity," Miss Middleton said. But the prospect of teaching has a strong appeal for her.

"It's going to be very satisfying to share what I have been able to learn along the way—both in the classroom and in writing," she explained.



This close-up of the new mouse milk extractor in operation shows the molded plastic teat cup. Water is swabbed on the breasts of the mouse to help seal the rim of the teat cup. The milk is collected in the small bottle at right. The other tube connects with the alternating high-low vacuum pressure system.—Photo by Jerry Hecht.

search Services.

The project was begun in 1962 when Dr. William F. Feller of NCI's Laboratory of Viral Oncology approached the DRS Instrument Engineering and Development Branch for design assistance.

The most difficult problem in developing the device was the teat cup design. After trying different shapes and types of plastics, John Boretos, Head of the IEDB Plastics Unit, devised a silicone rubber cup that proved successful.

These cups deform and inflate under a gently alternating high-low vacuum action that draws the milk into small collection bottles immersed in ice.

The complete device, the third in a series of designs, is a com-

Research Facility Opened in Florida By New Institute

The establishment in St. Petersburg, Fla., of the first direct research facility of the National Institute of Child Health and Human Development, was announced recently by Surgeon General Luther L. Terry of the Public Health Service.

To be called the Human Development Study Center, the unit evolved from a prior Public Health Service research activity in St. Petersburg known as the Study Group on Accidents and Aging. Dr. Alfred H. Lawton, who directed the study group, will also direct the center.

According to Dr. Robert A. Aldrich, Director of the National Institute of Child Health and Human Development, the new study center initially will endeavor to determine changes in physiological and psychological capacities of older persons. Future research at the center will be broadened to include study of other aspects of the life cycle.

To Use Area Volunteers

Subjects chosen to participate in center studies will be volunteers from the St. Petersburg area.

Dr. Lawton has had both medical training in the aging field and extensive research experience in physiology. He received his M.D. and Ph.D. degrees from Northwestern University. He is Past Chairman of the Tampa Bay Area Council on Research in Aging and President Elect of the Florida Council on Aging.

Dr. Lawton had worked closely with the Florida State Health Department, the Pinellas County Health Department, and with local and county medical societies in St. Petersburg and vicinity.

Navy Band to Entertain At CC Tuesday, Aug. 4

The fourth in this season's series of outdoor band concerts for Clinical Center patients will be presented next Tuesday, August 4, at 7:30 p.m. by the United States Navy Band on the first floor patio, east of the CC auditorium. In event of rain, the concert will be given in the auditorium.

NIH employees, their families and friends are invited to attend. Patients will have priority in seating. Arrangements for this event were made by the CC Patient Activities Section through the courtesy of the U. S. Navy Band.

Each plastic unit with demountable parts, all produced by the IEDB Plastics Laboratory.

DR. POWELL

(Continued from Page 1)

broader and more intensive preparation of medical scientists for research careers by combining graduate training in mathematics and the biological and physical sciences with medical training.

In announcing Dr. Powell's retirement, Dr. Terry said:

"Without adequate support for such programs, aimed at acquiring fundamental knowledge rather than curing disease, medical science would lose its momentum and creativity.

"The progeny we call 'practical advances' are the natural offspring of basic research. We must understand this relationship if science is to continue to improve our lot and elevate our standards of life."

Budget Now \$113 Million

In establishing the Institute following Congressional authorization in 1962, the Public Health Service created the first Institute at NIH with primary responsibility for fostering basic research in the medical and health-related sciences. The budget it presented to Congress to support the program in the present fiscal year totals \$113,395,000.

Before becoming Director of NIGMS, Dr. Powell served in areas of general program development and grants management at NIH. He was Assistant Director of the National Institute of Allergy and Infectious Diseases in 1961-62 and held several posts in the Division of Research Grants from 1958 to 1961.

Dr. Powell was born in Hartford, Conn., in 1918. He received the B.S. degree from the Massachusetts Institute of Technology in 1940 and the M.D. degree from Boston University in 1944.

Interns in Boston

He served his internship at the U. S. Marine Hospital, Boston, from 1944 to 1945, and was a medical officer in the U. S. Navy from 1945 to 1946. He was commissioned in the U. S. Public Health Service in 1946.

He was a resident in radiology at the U. S. Public Health Service Hospital, Baltimore, from 1951 to 1952. From 1952 to 1954, he was a fellow in radiology at the University of Pennsylvania Hospital. He returned to NIH in 1954 as staff physician in the Clinical Center's Radiation Therapy Branch.

Colleagues and friends honored Dr. Powell, his wife and three daughters at a reception in the Executive Dining Room in Building 31, on Thursday, July 16. Dr. Jack Masur, Director of the Clinical Center, served as Master of Ceremonies and presented a Polaroid 100 camera to Dr. Powell and a crystal necklace to Mrs. Powell.



A group award for sustained superior performance in providing "vital statistical data and invaluable program planning assistance" to the National Heart Institute staff and advisory groups was presented recently to 12 members of NHI's Analysis and Reports Section, Operations Branch, Extramural Programs, by Dr. Ralph E. Knutti, Institute Director. They are, left to right, seated: Margaret Schork, Claire Wehr, Janet Welsh, Supervisor; and Rose Shreiber. Standing: Donald Spencer, Operations Branch Chief; Nancy Cherry, Loretta Prince, Molly Schlonsky, James Pike, Alan Hough, Sylvia Mazique, Dr. J. Franklin Yeager, NHI Associate Director for Extramural Programs; and Dr. Knutti. Two of the award winners, Ellen McCloskey and Florence Ober, were not present when the picture was taken.—Photo by Bob Pumphrey.

Dr. Jenerick Appointed DRFR Branch Chief

Dr. Frederick L. Stone, Chief of the Division of Research Facilities and Resources, recently named Dr. Howard Jenerick as Chief of the Special Research Resources Branch, succeeding Dr. Herbert B. Pahl, recently appointed Chief of the Division's General Research Support Branch.

Since 1960 Dr. Jenerick has been Associate Professor of Physiology and Biophysics at Emory University, Atlanta, Ga.

In his new position he will administer a grants program for large-scale research resources, such as computer and biomedical engineering centers which serve many scientific disciplines in an institution, a region, or a national segment of biomedical science.

Teaches at MIT

Dr. Jenerick is not new to NIH having served from 1958 to 1960 as Executive Secretary of the Physiology Training Committee in what is now the National Institute of General Medical Sciences. From 1951 to 1958, he was Assistant Professor of General Physiology at the Massachusetts Institute of Technology, Cambridge, Mass.

A native of Chicago, Ill., Dr. Jenerick attended the University of Chicago where he received his B.S. and Ph.B. with honors, and in 1951 his Ph.D.

He was a Frederick Holbrook Rawson, Jr., Fellow in 1950, a Helen Kimmins Van Liere Fellow, and a U. S. Public Health Service Fellow in 1951.

CIGARETTES

(Continued from Page 1)

of \$103,575, was awarded Food and Drug Research Laboratories in New York City. Studies in these laboratories will investigate changes taking place in the trachea of laboratory animals exposed to cigarette smoke.

This research is planned to determine how cigarette smoke alters the physical properties of mucus, slows down the flow of mucus in the tracheo-bronchial tree and how it affects the mucus-secreting cells.

Alterations in the timing of the mucus flow and the sweeping movements of the cilia—small hair-like cells lining the bronchus—will also be studied. Such changes as these are known to interfere with the ability of bronchial tissue to trap small particles of foreign matter and move them up and out of the lungs.

Contract With Hazleton

The third contract, totaling \$104,446, is with Hazleton Laboratories, Falls Church, Va. Experiments in these laboratories will be set up to help evaluate the role of multiple factors in the causation of lung cancer.

Rats known to be resistant to respiratory infection will be divided into four groups. In each group half the animals will have been treated with a chemical which damages the lungs but is not cancer-causing.

Three of the groups will be exposed daily to air contaminated by one of three agents implicated in the causation of lung cancer: tobacco smoke, nickel dust, and ozonized hydrocarbons.

One group will not be exposed to contaminated air and will serve as a control. Incidence and cause of death among animals in the four

Swerdlow Directs New Dental Services Branch; Gamble Named Deputy

Dr. Francis A. Arnold, Jr., Director of the National Institute of Dental Research, recently announced the appointment of Dr. Herbert Swerdlow as Chief of the newly established Dental Services Branch, and Dr. Jack W. Gamble as Deputy Branch Chief.

The new branch will be responsible for providing dental services for patients of all the Institutes. These services heretofore were provided by the Dental Department of the Clinical Center.

The Dental Services Branch will use the space formerly occupied by the Dental Department. It will not only provide patient dental care but will serve as the clinical arm of the Dental Institute and conduct



Dr. Swerdlow



Dr. Gamble

a number of clinical research programs.

In addition, clinical research projects will be expanded in coordination with the Institute's Oral Medicine and Surgery Branch, under the supervision of Dr. Edward J. Driscoll, Clinical Director.

Dr. Swerdlow came to NIH in 1953, and has been Assistant Chief of the Clinical Center Dental Department. He has been with the Public Health Service since 1951, serving his internship and residency in PHS hospitals in Baltimore and Seattle. He completed two years of graduate study in prosthodontics at the University of Washington in Seattle, Wash.

Joins PHS in 1955

Dr. Jack W. Gamble has been with the PHS since 1955, serving as an intern at the PHS Hospital in Seattle and as a staff dentist in an outpatient clinic in Houston, Tex. With NIH since 1957, he was with the Clinical Center Dental Department for a year. He completed his residency in Oral Surgery at the Armed Forces Institute of Pathology and the Medical College of Virginia. Dr. Gamble returned to NIH in 1961 as a Senior Dental Surgeon in the Oral Medicine and Surgery Branch, NIDR.

groups will be compared.

The investigations will be coordinated by National Cancer Institute scientists who will serve as project officers.

New Method for 'Matching' DNA Shows Extent of Relationship in Vertebrates

Biologists have long been aware that vertebrate animals, which include all backboneed creatures, are related, but the degree and the nature of the relationship have not been determined.

In the May 22 issue of *Science*, the official publication of the American Association for the Advancement of Science, Dr. B. H. Hoyer of the Laboratory of the Biology of Viruses, National Institute of Allergy and Infectious Diseases, currently a Research Associate of the Carnegie Institution, and Drs. Brian J. McCarthy and Ellis T. Bolton, staff members of the Institution, disclosed a new technique for "matching" the inheritance-carrying deoxyribonucleic acid (DNA) of the cells of vertebrates in such a way as to reveal the extent of this relationship.

The new technique was developed by the Biophysics group at the Carnegie Institution's Department of Terrestrial Magnetism, Washington, D. C.

Characteristics Shared

The technique shows that men and mice, for example, share from 20 to 25 percent of their hereditary characteristics; salmon and man, about five percent.

All vertebrates so far, studied by the method, including monkeys, rats, hamsters, guinea pigs, rabbits, and cattle, show definite relationships. No genetic relationship has been found to date between human beings and bacteria or other single-celled forms.

"The caliber of these preliminary results merits an optimistic outlook in which future developments will provide a fruitful addition to our criteria for classification of living forms," the authors cautiously asserted in their paper on the new technique.

"It is clear from the results that there exist homologies among polynucleotide sequences in the DNA's of such diverse forms as fish and men. These sequences represent genes which have been conserved with relatively little change throughout the long history of vertebrate evolution.

Technique Outlined

"Although we have no means yet to relate such genes to particular phenotypic body form expressions, it is conceivable that they are the determinants of the fundamental conservative characteristics of the vertebrate form, as, for example, bilateral symmetry, establishment of a notochord, and the presence of hemoglobin."

Drs. Hoyer, McCarthy, and Bolton outlined in detail the new technique which, they said, "depends on the idea that the total genetic potential of an organism is represented in DNA, and that the polynucleotide sequence held in common between species are indicative of similar genes."

The technique is to allow frag-

ments of single-stranded DNA from one species to attach themselves to homologous sections of single-stranded DNA from the other species.

It consists of the following steps:

1. The two-stranded helix of DNA in the cells of a test species are heated in order to separate the individual strands, and the hot solution is cooled quickly so that the individual strands will remain separated.

2. The separated strands are then entrapped, in the single state, in jelly-like agar, and when cooled the agar is mechanically broken into small bits.

3. Separately prepared DNA



Dr. Livingston makes a point.



Florida high school students listen attentively as Dr. Robert B. Livingston lectures at Miami University on "How Man Looks at His Own Brain."—University of Miami Photos.

from the same or another species, artificially made radioactive for "labeling" purposes, is broken into short fragments by mechanical shearing. These in turn are heated to separate the strands and are quickly cooled to keep them from recombining into double strands—the form which DNA "prefers," and to which it normally seeks to return.

4. The short strands of radioactively labeled DNA are then allowed to diffuse through the agar containing the long single strands of the test species, and the mixed DNAs are "incubated" for several hours at normal temperature. During this period bits of the short strands combine with portions of

the longer strands, where a sequence of similar genes permits such recombination.

5. The amount of such recombination indicates the degree of homology, or relationship, between the species under test.

The method is still so new that its full usefulness in exploring the relationships and differences among various life forms cannot as yet be fully predicted.

"It is now possible to measure the extent of genetic relatedness within higher taxonomic categories," the authors said, "and it should also prove possible to arrive at an estimate of the relative genetic diversities in equivalent taxa of different groups.

Livingston Lectures on Brain Function Relation To Potential of Man

Four hundred students from high schools throughout Florida recently attended a series of five lectures on "How Man Looks at His Own Brain," presented at the University of Miami by Dr. Robert B. Livingston, Associate Chief of the Division of Research Facilities and Resources.

Through his lectures and demonstrations, Dr. Livingston gave the students insights into the function of the brain and its relation to the physiological, psychological, and sociological potentialities of man.

The students, chosen for their excellence in science studies, came from urban and rural schools from all the counties in Florida.

Sponsored by the American Association for the Advancement of Science under a National Science Foundation grant, the lectures were part of the Annual Holiday Science Lecture Program and the first to be given during an early summer holiday period.

Lectures Begin in 1826

Previously the holiday science lectures were given during Christmas holidays, as were the Christmas lectures initiated by the Royal Institution of Great Britain in 1826.

The American series began in 1959 with lectures by Rene Dubos, and subsequent lectures by Paul Weiss, Lyman Craig, Theodosius Dobzhansky, and other eminent scientists.

Dr. Livingston's lectures explored the indispensable biological foundations of creativity as observed in cellular, individual, and social organizations, as well as the mechanisms of consciousness, wakefulness, sleep, and dreaming; of emotional experience and expression; of perception, sensorimotor coordination and commitment; and of reorientation from previously committed perceptual and sensorimotor habits.

"In this connection it has already been suggested that genetic diversity among families of bacteria is relatively greater than among all the major vertebrate classes."

In addition to DNA relationships, the new method makes it possible to study the interactions of DNA and ribonucleic acid (RNA), the chemical substance by means of which DNA in the cell directs and controls the production of proteins and other organic compounds necessary to life or cell-functioning.

The biggest trouble with political promises is that they go in one year and out the other.—The Washington Post.

PLANE CRASH

(Continued from Page 1)

served, "Dr. Levin is slated for a very productive career in clinical research."

His paper, titled "Separation and Transfer of Platelets Aggregated by Adenosine Diphosphate," was read at the conference by Dr. Emil J. Freireich of NCI's Medicine Branch.

Dr. Levin leaves a wife and two children.

Dr. Geisler, a former pathology resident in NCI's Pathologic Anatomy Branch from July 1956 to July 1958, continued his training in the Clinical Pathology Department of the Clinical Center until 1961.

After leaving NIH he was a member of the staff of the Charlotte Drake Cardeza Foundation for Hematologic Research, Philadelphia, Pa., where his principal research studies concerned the study of platelets in hemophilia.

Serves on Board

In addition to his official appointments at the Foundation and Jefferson Medical School, Dr. Geisler was a member of the Medical Advisory Board of the Delaware Valley Chapter of the National Hemophilia Foundation.

Dr. Alfred Leitner, 31, a former Clinical Associate at the National Institute of Arthritis and Metabolic Diseases, had worked under Dr. N. Raphael Shulman in NIAMD's Clinical Hematology Branch. He was one of the co-authors of a 1960 paper by Dr. Shulman which reported the finding of several different types of human blood platelets.

Dr. Leitner left NIAMD in June 1961, to study in England for a year on a National Foundation Fellowship before going to the Massachusetts General Hospital in Boston.

A native of Allentown, Pa., Dr. Leitner is survived by his wife, the former Sandra Polsky, who was an information writer with NCI in 1960-61, and one child.

NCI Publishes Second in Research Report Series

A new publication, "Virus-Cancer Research," was issued recently by the Public Health Service as the second pamphlet in the National Cancer Institute's Research Report series.

"Virus-Cancer Research" describes and explains some of the approaches currently being utilized in virus-cancer work. It discusses the basic nature of viruses, their existence in our modern environment, and their implication in leukemias and lymphomas. The 27-page pamphlet describes current research efforts to find a possible virus-cancer path from animals to

Dr. J. Frederick Bell of NIAID Reports Rabies Not Necessarily Fatal

Rabies is not necessarily a fatal disease, according to a report by a scientist of the National Institute of Allergy and Infectious Diseases.

It is well known that bats can survive rabies infection and even develop a healthy carrier state, but this is generally believed to be a remarkable peculiarity and one that is atypical of other host-vectors. Increasing evidence now shows that other animals can recover spontaneously from the disease.

In the June issue of the Journal of Infectious Diseases, Dr. J. Frederick Bell, of NIAID's Rocky Mountain Laboratory, has reported studies in which untreated white mice survived experimental infection with rabies virus.

After intraperitoneal injection of "Street" viruses of diverse origin, a varying and sometimes large proportion of mice developed typical symptoms of rabies and recovered despite persistent, severe sequelae.

Uses Three Criteria

Dr. Bell used three criteria to determine rabies infection in the mice: first, development of the characteristic signs of illness after the appropriate incubation period; second, recovery of virus; and third, development of a high degree of immunity to intracerebral challenge with doses of virus ordinarily fatal to control mice.

In his report, Dr. Bell said, "The evidence from others as well as our own studies of rabies in mice is that survival is a common, reproducible, and expected occurrence. It is a phenomenon which affords a greater measure of optimism for patient prognosis and for scientific inquiry than does the present fatalism."

"The fact that raging virus infection in the central nervous system may be suddenly and spontaneously aborted carries the hope that the mechanism involved can be enhanced or supplemented to make it more effective. Reproducibility of the phenomenon in the laboratory implies that it can be studied at will."

man, and reports on the prospects for prevention and therapy in the area of viral diseases.

"Virus-Cancer Research" (PHS Publication No. 1130) is available in single free copies from the Research Information Branch, National Cancer Institute, Bethesda, Md. 20014. Additional copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, at 15 cents each.

Schachter Joins DRFR As OPA Ass't Chief

Joseph Schachter has joined the Division of Research Facilities and Resources as Assistant Chief of the Office of Program Analysis.

In this recently established position he will assist Dr. Deward Waggoner, Chief of that office, in developing procedures for analyzing and evaluating the current status of the Division's five, large-scale grants programs which, in Fiscal Year 1964, totaled \$129.4 million in apportioned funds.

Mr. Schachter comes to DRFR from the National Heart Institute where he has been Chief Statistician of the National Diet Heart Study in the Biometrics Research Branch since 1962.

Begins Federal Career

He began his government career in 1941 as a statistician with what was then the War Department. In 1944 he transferred to the Social Security Administration, serving there as an economist until 1949.

Joining the Public Health Service that year, he served in the National Vital Statistics Division and held increasingly responsible positions including that of Chief of the Natality Statistics Branch to which he was appointed in 1959.

Mr. Schachter is a graduate of the College of the City of New York, and has taken postgraduate work in statistics and economics at American University.

Studies Show CI-501 Is Effective Against Falciparum Malaria

Clinical testing by scientists of the National Institute of Allergy and Infectious Diseases indicates that a single injection of the drug compound, CI-501 (Parke, Davis & Co.), is effective against induced falciparum malaria.

The testing revealed that complete eradication of falciparum malaria may be possible when everyone in an infected area is medicated and when the strains of falciparum parasite are chloroquine-sensitive.

CI-501, although still an experimental drug, is known to be effective also against the Chesson strain of vivax malaria.

The tests concerning CI-501's efficacy against falciparum malaria were conducted in 28 volunteers, divided into two equal groups. One group received single intramuscular injections and the remaining 14 served as controls.

Twelve of the control group were observed in order to prove the infectivity of challenges and two to prove either chloroquine sensitiv-

Cummings Names Karel Chief of Bibliographic Services Division, NLM

The appointment of Dr. Leonard Karel as Chief of the Bibliographic Services Division of the National Library of Medicine has been announced by Dr. Martin M. Cummings, NLM Director.

The Bibliographic Services Division produces Index Medicus, a comprehensive monthly guide to medical and related literature of the National Library of Medicine.

In addition, the Division maintains a medical subject heading authority list (Medical Subject Headings) from which the descriptors for journal articles in Index Medicus are selected.

It also prepares recurring and individual demand bibliographies and indexes literature for the NLM Medical Literature Analysis and Retrieval System (MEDLARS), which is the computer-based mechanism for the storage and retrieval of bibliographic citations from the world's biomedical literature.

Prior Experience Noted

Prior to his appointment, Dr. Karel was with the National Science Foundation where he served first as Special Assistant to the Associate Director for Research, and later as Associate Head of the Science Resources Planning Office.

Dr. Karel went to NSF from NIH where he had been Chief of the Extramural Programs Branch of NIAID from 1951 to 1961.

A native of Baltimore, Dr. Karel attended Baltimore City College, received his A.B. degree from Johns Hopkins University, and his Ph.D. from the University of Maryland. He is a Fellow of the American Public Health Association and the American Association for the Advancement of Science.

ity or resistance.

Volunteers received challenges by intravenous inoculation of parasitized blood and/or by bites of heavily infected mosquitoes. The results showed that CI-501 did not protect against infection when challenged by trophozoites—parasitized blood—but it did provide protection when challenged by the bites of heavily infected mosquitoes.

The report of this study, by Dr. Peter G. Contacos, Dr. G. Robert Coatney, Dr. Joseph S. Lunn and John W. Kilpatrick of the Laboratory of Parasite Chemotherapy, NIAID, appeared in the American Journal of Tropical Medicine and Hygiene.



Dr. Karel