

the NIH Record

FILE COPY

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

November 20, 1963
Vol. XV, No. 23

NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE

Drive Ending, NIH Within 5 Percent Of UGF Quota

At the end of the sixth week the UGF Campaign at NIH shows a total of \$89,192 donated by 8,725 of the approximately 10,000 NIH employees. This is an increase of almost \$9,000 over the final figure of last year's campaign.

With another week remaining at this writing, there is a possibility that NIH may still achieve 100 percent of quota if not 100 percent participation.

Only 4.5 Percent Needed

With the goal only about \$4,000 off, or within 4.5 percent of quota, Division and Institute keymen have been asked to check their lists and make certain everyone has been given an opportunity to share this civic responsibility in the American way.

According to available records, never before has NIH come so close to success in the annual effort to "Help 143 Ways."

(See *DRIVE ENDING*, Page 2)

NIAMD Scientists Isolate Toxic Principle Of Lethal Venom Secreted by Kokoi Frog

Scientists from the National Institute of Arthritis and Metabolic Diseases have isolated the toxic principle of the lethal venom secreted by the skin of the kokoi frog.

The unusually high potency of this poison merits special interest, and determination of its exact chemical nature may lead to new insight into structure-activity relationships.

The venom from *Phyllobates bicolor*, the Colombian kokoi frog, is used by the native Cholo Indians and is the strongest of all the known venoms.

Venom Kills Quickly

Previous attempts to isolate and identify its toxic principle, which paralyzes and kills within minutes, have been unsuccessful.

To learn the chemical nature of the venom, NIAMD investigators collected some 330 frogs in the

Collaborative Perinatal Project Brings Results; 15 Institutions Participating

The Collaborative Perinatal Research Project "has brought the pediatrician to the delivery room, and the obstetrician to the nursery."

This apt description of mutual cooperation, coined four years ago by Dr. Nicholson J. Eastman, then of Johns Hopkins University, is still true as the project nears the end of its fifth year of operation. It now includes 15 participating institutions, with the National Institute of Neurological Diseases and Blindness providing financial support and coordination.



Detailed examinations of each child are made after birth. Both mother and child are observed carefully during birth, and all offspring are examined periodically through the first year of school. Final examination is multidisciplinary.

First Case in 1959

Born of a suspicion that many neurological and sensory disorders, including cerebral palsy, mental retardation, epilepsy, and deafness, are associated with prenatal, natal and postnatal damage to the nervous system, the project enrolled its first case in January 1959.

A goal of 50,000 pregnant women was set for the project, they and their offspring to be studied until the children complete the first year of school.

By October 1, 1963, a total of 38,807 women had been enrolled. Of that number, 31,448 had delivered. Nearly 20,000 children have been examined at one year of age.

Results Enlightening

Results to date have been enlightening, and their value should increase as more data are collected and preliminary analyses lead the way to further analyses in depth.

Children found suffering from neurological disorders will have provided a massive body of data, from which relationships to antecedent biological, genetic or environmental factors may be established.

The project began bearing fruit almost from the start. One early

(See *PERINATAL*, Page 5)

Nirenberg Is NIH Lecturer

Dr. Marshall W. Nirenberg, of the National Heart Institute, will deliver the next National Institutes of Health Lecture, Wednesday, December 4, in the Clinical Center auditorium at 8:15 p.m. His subject: "On the Nature of the RNA Code."

Famous Scientists From 12 Nations Attend Symposium

A distinguished international group of scientists discussed problems of interest to the world-wide scientific community at the First NIH International Symposium on Biomedical Research, November 1-2, at the Washingtonian Moteles and Country Club, near Gaithersburg, Md.

Of the 85 who attended the meeting, 16 represented 11 foreign countries and 31 were Americans not connected with the Department of Health, Education, and Welfare.

On the preceding evening they were part of the audience in the



At the request of Dr. Colin MacLeod (left), Surgeon General Luther L. Terry scans the speech written by Dr. MacLeod after he learned he was to be guest speaker at the International Symposium dinner in place of Dr. Jerome B. Wiesner, Special Assistant to the President for Science and Technology, due to the latter's illness.

Clinical Center auditorium that heard Dr. Walsh McDermott's lecture on "The Role of Biomedical Research in International Development."

Countries represented at the symposium were Australia, Brazil, Canada, Colombia, England, India, Israel, Japan, Lebanon, Sweden, Switzerland, and the United States.

The symposium was opened by Dr. Martin M. Cummings, Chief of the Office of International Research and NIH Associate Director for Research Grants.

The initial discussion subject was "Biomedical Research—Its International Role and Posture as Seen

(See *SYMPOSIUM*, Page 4)

the NIH Record

Published bi-weekly at Bethesda, Md., by the Press Activities Section, Office of Research Information, for the information of employees of the National Institutes of Health, principal research center of the Public Health Service, U. S. Department of Health, Education, and Welfare.

NIH Record Office.....Bldg. 31, Rm. 4B13. Phone: 49-62125

Editor E. Kenneth Stabler

Assistant Editor George J. Mannina

Staff Correspondents

Junith Van Deusen, NCI; Tony Anastasi, NHI; Bryson Fleer, NIAID; Mary Anne Gates, NIAMD; Bob Callahan, NIDR; Bill Kleven, NIMH; Joseph Harrington, NINDB; Elsie Fahrenthold, CC; Faye Heil, DBS; Mike Canning, NIGMS; Herbert Nichols, DRFR; Dick Turlington, DRG; Bob Walters, DRS; Marianne Scoville, OAM; Dorothy Jeanne Davis, NICHD.

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

SCIENTIFIC EMPLOYMENT

Dr. Charles V. Kidd, Associate Director for Training and NIH member of the Committee on Scientific Personnel of the Federal Council for Science and Technology, reports that the committee is now investigating the need for better methods for the assessment of changes and trends in the Federal scientific employment pattern.

Particular attention is being given to the development of a systematic procedure for measuring the success of the Government's efforts to recruit and retain outstanding scientists and engineers.

The results of this investigation will be used in future efforts to improve the Federal scientific personnel system, including recruitment programs, pay systems and working conditions in Government laboratories.

Dr. Astin Is Chairman

Dr. Allen V. Astin, Director of the National Bureau of Standards, is chairman of the committee.

Other members, in addition to Dr. Kidd, include Dr. George W. Irving, Deputy Administrator for Utilization Research and Development, Agricultural Research Service; Dr. Orr E. Reynolds, Director of Bioscience Programs, National Aeronautics and Space Administration, and Dr. F. Joachim Weyl, Deputy Chief and Chief Scientist, Office of Naval Research.

CONDUCT OF PERSONNEL

The DHEW has asked Personnel Management Branch to remind NIH personnel of the Department's requirements with respect to conduct. These requirements relate to

Over 6,000 Attend Annual Research Exhibit-Symposium

More than 6,000 persons attended the 13th Annual Research Equipment Exhibit and Instrument Symposium held here October 7-10, an attendance analysis prepared by the Supply Management Branch reveals.

The Instrument Symposium sessions were held in the Clinical Center auditorium. The Research Equipment Exhibit, showing the latest products of 76 leading American manufacturers, was displayed in Building 22. Special instrumentation sessions to complement the exhibit were held in Building 16.

Breakdown Given

The symposium was attended by 2,207 persons; 3,712 visited the exhibit; and 161 participated in the instrumentation sessions, bringing the total attendance to 6,080.

A breakdown of the exhibit attendance showed 347 representatives from hospitals, 396 from colleges and universities, 32 from foreign institutions, 1,217 from NIH, 890 from other Government agencies, 14 from publications, and 816 miscellaneous.

conflict of interest, political activity, financial responsibility, conduct on the job, and certain other types of activities.

Each employee is reminded that he is responsible for complying with all commonly accepted rules of conduct, the Department's specific provisions, and with any special rules of conduct issued by the NIH.

Any questions in this area should be discussed with supervisor or Institute/Division Personnel Officer.

Liberal Arts Colleges Would Strengthen Undergraduate Science Education Role

The role of the liberal arts college in undergraduate science education was the topic of discussion at the Great Lakes Colleges Association (GLCA) conference, October 23, 24, and 25, at Antioch College, Yellow Springs, Ohio.

Planned jointly by NIH and the National Science Foundation as the first of a series of conferences, the program was sponsored and supported by the National Institute of General Medical Sciences, with Dr. Vincent Price of the Research Training Grants Branch, NIGMS, serving as the Institute's representative to the planning committee.

Dixon Takes Initiative

Initiative for the series came from Dr. James P. Dixon, President of Antioch College. Subsequent conferences in this series will be held at other colleges in the Association.

Delegates from the science and mathematics departments of the 12 member colleges of the GLCA came to Yellow Springs to determine how small liberal arts colleges which lack the large science faculty and extensive research programs of an university can, through a college association, meet the challenge of modern science education.

Liberal arts colleges have relatively small staffs with heavy teaching responsibilities and generally lack the impressive research facilities of major institutions. These schools find it difficult, therefore, to attract and hold on to their staffs young, forward-looking researchers who fear isolation from the stimulating contact with scientists working in related areas.

High school graduates are also being attracted by the big name faculty and exciting programs of the large universities, so that in

many small colleges the number of science majors has not risen in proportion to the general increase in enrollment.

By banding together, the colleges of the GLCA hope that it may be possible to give their students greater breadth and depth of experience in science than any one school could provide. Among the forms of mutual assistance which the delegates are considering are the exchange of students and faculty between member colleges and ways of giving faculty and students research opportunities in various research organizations. A critical joint examination of science curricula and active cooperative recruitment of teachers were also urged.

The Great Lakes Colleges Association, which has been active for two years, has member colleges in three states—Ohio, Michigan, and Indiana.

DRIVE ENDING

(Continued from Page 1)

A breakdown by Institutes and Divisions shows:

| | Percent of Quota | Total Collected |
|--------|------------------|-----------------|
| NICHD | 177.0 | \$ 956.00 |
| OD | 133.0 | 2,911.70 |
| NIDR | 124.8 | 2,982.95 |
| NIAMD | 115.0 | 7,765.75 |
| DRG | 111.1 | 5,776.45 |
| NIGMS | 104.8 | 1,498.15 |
| DRFR | 102.5 | 1,210.00 |
| DRS | 101.7 | 10,867.00 |
| NIMH | 100.9 | 10,974.81 |
| NCI | 96.8 | 12,779.25 |
| DBS | 90.8 | 1,947.80 |
| OAM | 90.0 | 8,297.55 |
| NHI | 81.9 | 4,858.35 |
| NIAID | 80.6 | 3,690.20 |
| NINDB | 80.2 | 4,543.65 |
| CC | 72.1 | 8,332.88 |
| Totals | 95.5 | \$89,192.49 |

The Public Health Service as a whole is likewise approaching the home stretch and is within less than one percent of its \$141,350 goal. Total PHS pledges and cash donations stand at \$140,126.54 or 99.1 percent of quota.

In a final appeal Dr. Frederick L. Stone, NIH Campaign Chairman, congratulated NIH givers for their generous response this year and urged everyone to try to give just a little bit more.

"Even if you've already given," he said, "consider handing your keyman another 50 cents or a dollar—the equivalent of lunch money. It will help a great deal in these final campaign days. As one keyman who has been exceptionally active, expressed it, 'The United Givers Fund is the Golden Rule with its sleeves rolled up.'"



Six-point elk antlers, displayed by Frank Nolan, NINDB Laboratory of Neuroanatomical Sciences technician, are result of his recent Idaho hunting trip. He accepted an invitation tendered 11 years ago, when he and a friend were Marines in Korea, "to go hunting sometime at my place in Idaho." Mr. Nolan reports "I also trimmed a couple of points off my waistline."—Photo by Ed Hubbard.

Dr. Charles C. Shepard, CDC Medical Director, Receives Gorgas Medal

Dr. Charles C. Shepard, Medical Director of the Communicable Disease Center, Atlanta, Ga., received the Gorgas Medal for outstanding performance in preventive medicine research at the 70th Annual Meeting of the Association of Military Surgeons, held November 3-6, at the Statler Hilton Hotel in Washington, D.C.

The award which consists of a silver medal, a scroll, and an honorarium of \$500 was established in 1942 by Wyeth Laboratories, Philadelphia, in memory of Maj. Gen. William Crawford Gorgas whose work in preventive medicine made possible the construction of the Panama Canal.

Dr. Shepard

Internationally Recognized

Dr. Shepard has achieved national and international recognition for his research work in preventive medicine. The award cites his success in culturing the leprosy bacillus in 1957.

This scientific breakthrough has been followed by substantial progress in the development of an effective vaccine and the evaluation of chemotherapeutic agents against leprosy, a disease which afflicts 150 million persons in the world today. Born in Ord, Neb., in 1914, Dr. Shepard is a graduate of Northwestern University Medical School. He entered the Public Health Service in 1941 and joined the staff of the then National Institute of Health in 1942.

Spends Year at Uppsala

He spent a year at the Biochemical Institute in Uppsala, Sweden, from 1948 to 1949, and was assigned to the Rocky Mountain Laboratory in Hamilton, Mont., from 1950 to 1953.

Dr. Shepard has been at the Communicable Disease Center since 1953 having served in its Special Projects Unit and Virology Section before becoming Medical Director.

He is Deputy Director of the Commission on Rickettsial Diseases and of the Armed Forces Epidemiological Board and a foreign corresponding member of the Belgian Society for Tropical Medicine.

He is also a member of the American Association for the Advancement of Science, the American Association of Immunologists, the American Association of Microbiologists, and the Society for Experimental Biology and Medicine.

Patients' Welfare Fund Needs Additional Financial Support



Joel J. Vernick, staff member of the Clinical Center Social Work Department, enjoys a game of monopoly with five young CC patients whose interest is obvious. The monopoly set is but a small part of the many games and activities paid for by the Patients' Welfare Fund.—Photo by Jerry Hecht.

By George J. Mannina

Each year the Clinical Center Social Work Department, which administers the Patients' Welfare Fund, receives literally thousands of requests for various types of assistance for CC patients and their families which cannot be met by government expenditures. These urgent needs are paid for through the Patients' Welfare Fund.

Many of these requests, unfortunately, are now in danger of being sharply curtailed or eliminated because the Welfare Fund is in dire financial straits.

In the interest of furthering the medical research conducted at the Clinical Center, a function it has performed since 1953, the Fund urgently needs voluntary contributions to supplement its only source of assured income—from the Recreation and Welfare Association of NIH.

R&W Gives \$8,000

R&W contributes 35 percent of its profits from all vending machines to the Fund, currently almost \$8,000 a year. This amount, while augmented by voluntary contributions from families and friends of former patients and NIH employees, is not sufficient to cover the Fund's rising expenditures—now approaching \$18,000 annually.

This increase results from intensified research efforts at the Clinical Center, which now handles about 4,000 patients a year, 25 percent of whom are personally helped by the Fund.

"The situation," said Dr. Clifton K. Himmelsbach, CC Associate Director, "calls for understanding and compassion on the part of the more fortunate, and offers NIH personnel an opportunity to support some of the personal needs of

patients and members of their families who may be staying in this area.

"The Patients' Welfare Fund helps our clinical investigations," he noted, "because it meets the human needs of patients and their families—the kind of needs that appropriated funds cannot be used for. Many are young children, lonely and frightened, far from home and loved ones."

The Welfare Fund is used to meet these real and often critical needs of patients, many of whom have exhausted their funds prior to coming here, and whose presence is essential to current research.

Of the five PWF spending categories, the "Allowance for Relatives," and "Patient Miscellaneous" are by far the greatest, since many patients are very young and it is deemed necessary to have one

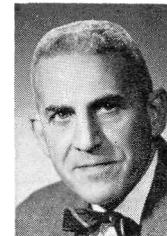
(See WELFARE FUND, Page 6)

2nd Flu Shot Scheduled by EHS for Monday, Dec. 2

The Employee Health Service reports that the second influenza immunization inoculation will be given Monday, December 2, in the following EHS Units: Building 10, Rm. B2A06, from 9 a.m. to 4:30 p.m., and in the Westwood Building, Rm. 30, from 9 a.m. to 11 a.m.

Dr. Leon Jacobs Wins Henry B. Ward Medal And \$1,000 Prize

Dr. Leon Jacobs, Chief of the Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, was awarded the Henry Baldwin Ward medal and prize of \$1,000 by the American Society of Parasitologists at its annual meeting in Chicago November 7.



Dr. Jacobs

The Society awards the medal and prize to a member who has attained leadership by means of his own investigation in some phase of parasitological research within 15 years after completion of his scholastic training.

Dr. Jacobs received the award in recognition of his distinction as a world authority on the biology, epidemiology, and laboratory diagnosis of toxoplasmosis.

Scores a 'First'

He was the first to isolate Toxoplasma from the diseased eye of a patient and to determine that the organism could exist in the eye without stimulating high levels of antibody. The latter fact is an important consideration in diagnosis.

Additional investigations conducted by Dr. Jacobs indicate that ocular toxoplasmosis accounts for about one-third of all human chorioretinitis. He also appraised the usefulness of various drugs in controlling the ocular infection.

In detecting the presence of Toxoplasma in certain meats, Dr. Jacobs indicated one of the means by which the disease may be transmitted.

One of Dr. Jacobs' more important contributions is the development of a hemagglutination test, a diagnostic procedure which may be used in addition to the dye test, currently the main serological tool.

Background Cited

Beneficiary of Fulbright and Guggenheim fellowships in 1960-1961, Dr. Jacobs studied toxoplasmic abortion in sheep in New Zealand. He recently served as chairman of five sessions on toxoplasmosis at the Seventh International Congresses on Tropical Medicine and Malaria in Rio de Janeiro.

A native of Brooklyn, N.Y., Dr. Jacobs earned his B.A. degree at Brooklyn College and his M.A. and Ph.D. at George Washington University.

The medal honors Dr. Henry Baldwin Ward, considered to be the father of parasitology in America, and is provided annually by Parke, Davis & Company.

SYMPOSIUM

(Continued from Page 1)

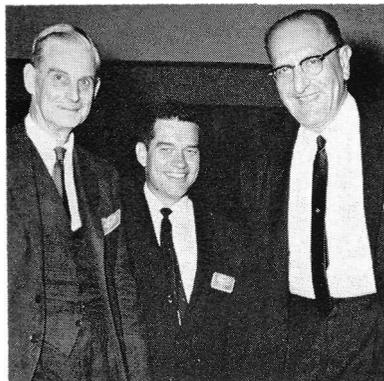
by the Scientist (The State of the Art)." This discussion was moderated by Dr. Colin M. MacLeod, Professor of Medicine, New York University School of Medicine and Deputy Special Assistant to the President for Science and Technology.

The principal speakers were Dr. Theodore E. Woodward, Professor of Medicine, University of Maryland School of Medicine, and Dr. Tomizo Yoshida, Director of the Tokyo Cancer Institute. The discussant was Dr. Bror Rexed, Secretary of the Science Advisory Council to the Government of Sweden.

Dr. Morison Is Moderator

Dr. Robert Morison, Director of Medical and Natural Sciences, the Rockefeller Foundation, was moderator of "The Educational Base for Medical Research."

The principal speakers were Dr. Moshe Prywes, Associate Dean, Hadassah Medical School, The Hebrew University, Jerusalem, and Dr. Sydney Sunderland, Dean of the Faculty of Medicine, University of Melbourne, Victoria, Australia.



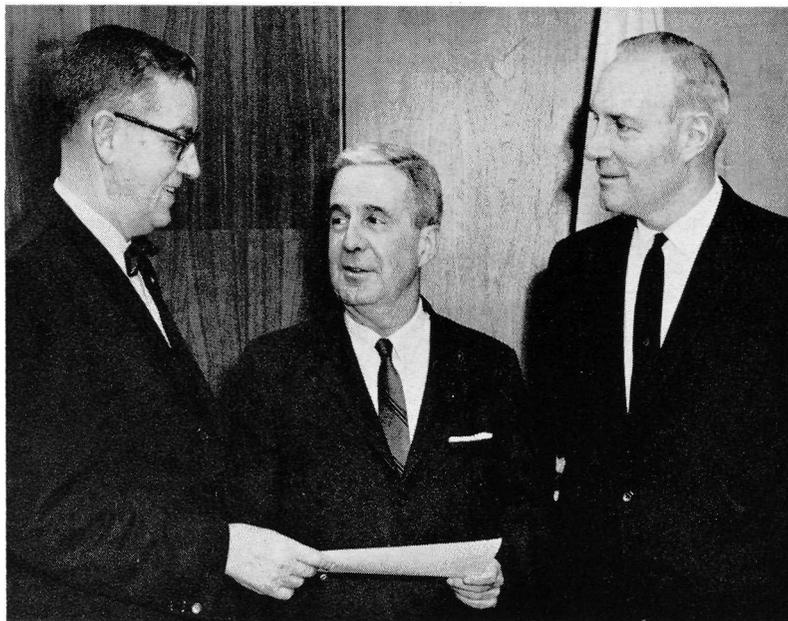
En route to the International Symposium dinner, left to right, are Sir Robert Aitken, Vice-chancellor of the University of Birmingham, England; Dr. Stuart M. Sessoms, Deputy Director of NIH, and Dr. Jack Masur, Director of the NIH Clinical Center.

The discussant was Dr. Calvin H. Plimpton, President of Amherst College.

The third topic, "Special Problems—International Medical Research and Training," was moderated by Dr. Charles V. Kidd, NIH Associate Director for Training.

Principal speakers were Dr. Steven Dedijer of the Institute of Theoretical Physics, University of Lund, Sweden, whose subject was "The Migration of Scientists: As a Worldwide Problem," and Dr. Kelly M. West, Professor of Continuing Education, University of Oklahoma Medical Center, who spoke on "Research Training of Foreign Nationals in the United States: International Implications."

The discussants were Dr. Gabriel Velazquez Palau, Dean of the Fac-



Dr. James A. Shannon, Director of NIH (left), presents to Dr. Walsh McDermott, Chairman of the Department of Health, Cornell University College of Medicine, a certificate commemorating his delivery of the First NIH International Lecture. At right is Harlan Cleveland, Assistant Secretary of State for International Organization Affairs.—Photos by Bob Pumphrey.

ulty of Medicine, Universidad del Valle, Cali, Colombia, and Dr. J. Auer, Secretary, Medical Research Council, Ottawa, Canada.

The evening of the first day's meeting was the occasion of a reception and dinner attended by 82 people. Surgeon General Luther L. Terry acted as host and master of ceremonies.

Because of illness, the scheduled afterdinner speaker, Dr. Jerome B. Wiesner, Special Assistant to the President for Science and Technology, was unable to attend. His deputy, Dr. Colin M. MacLeod, substituted for him.

Robert L. Garner, President of the Japan Fund, Inc., was moderator of the first session on Saturday, "The Social and Economic Base for Medical Sciences."

Sir Robert, Dr. Paul Speak

The principal speakers were Sir Robert Aitken, Vice-chancellor, University of Birmingham, England, and Dr. Benjamin D. Paul, Professor of Anthropology, Stanford University.

The discussants were Dr. Irving Swerdlow, Professor of Economics, the Maxwell Graduate School of Citizenship and Public Affairs, Syracuse University, and Prof. M. S. Thacker of the Planning Commission, New Delhi, India.

Topic of the final symposium session was "The Support of Medical Research Through International Organizations," moderated by Dr. James Watt, Director, Office of International Health, PHS.

The principal speakers were Dr. Simon Btash, Director, Research Planning and Coordination, WHO, Geneva, Switzerland, and Dr. Robert B. Watson of the Rockefeller Foundation.

NIMH Issues Booklet on Mental Health Planning Proposals by States

The NIMH National Clearinghouse for Mental Health Information has issued its first publication, Digest of State Mental Health Planning Grant Proposals, 1963.

To assure proper development of comprehensive community mental health programs, Congress last year appropriated \$4.2 million to help support planning by the States. Each State submitted a detailed proposal of its plans to develop a comprehensive program.

Proposals Summarized

This publication contains a brief digest of each State's proposal and reports such aspects as a State's individual situation, staffing, organization for planning, contracts and consultants, and promising innovations.

The last section of the booklet includes guidelines used by the States to present their proposals as well as some analyses of the ways in which Federal funds were budgeted. Planning staff members and task forces in special areas are also listed according to State.

The discussants were Dr. Thomas M. Carroll, President, George Washington University, and Dr. L. Uchoa Junqueira, University of Sao Paulo, Brazil.

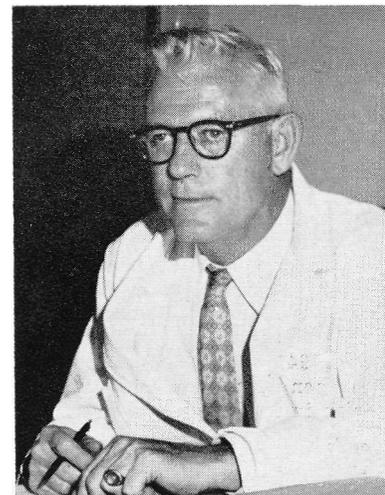
Dr. James A. Shannon, NIH Director, closed the meeting with a short speech thanking the guests for their attendance and emphasizing the value of such gatherings to the advancement of world health and medical research.

Dr. Beye, MARU Head, Reports Recent Results Of Fever Investigation

Dr. Henry K. Beye, Director of the Middle America Research Unit of the National Institute of Allergy and Infectious Diseases and leader of the research team investigating hemorrhagic fever in Bolivia, reported recent results during a visit here October 28-November 1.

He said the team has succeeded in isolating six strains of virus from human patients, has prepared clinical descriptions of 75 cases hospitalized in San Joaquin, and collected impressive numbers of local mammals which may prove to be reservoir hosts and large quantities of native arthropods which may be vectors of the infection.

Although a number of species of mammals show evidence of specific antibodies by the complement fixation test, and although some pools of arthropods have displayed some indication of virus content, Dr. Beye said that at the present time no conclusive evidence on identification of a vector or of a reservoir has been established in the ap-



Dr. Henry K. Beye, Director of MARU, in his office in the Canal Zone.

proximately 2,000 isolates collected.

Examination of the reservoir and the vector-suspected material continues at the Canal Zone base of MARU, which provides optimum working facilities.

A study of the strains of viruses, including comparison with other viruses, is under way both in the MARU laboratory and in the Laboratory of Tropical Virology here.

Dr. Beye said high hopes are entertained that an immunizing antigen may be produced.

The eyes of the Western hemisphere have been focused on this perplexing medical problem in Bolivia during the past year.

Hemorrhagic fever not only exacts a large toll in human misery and mortality but also threatens

(See MARU, Page 8)

PERINATAL

(Continued from Page 1)

finding a study of 7500 mothers—showed that heavy smokers had a much higher rate of low birth-weight than non-smokers, and that incidence of low birth-weight varied directly with amount of cigarette smoking.

Another finding was that lack of oxygen during birth was not only a factor in abnormal development among children, but that it was correlated with birth findings at the age of eight months, by means of psychological examination.

Out of related studies have come more than 400 publications. Motion pictures, demonstrating neurological examination of the newborn and the one-year-old, have been produced in the project. They have attracted international notice and are used widely in this country as demonstration devices.

Procedure Described

A pregnant woman enrolled in the project receives careful attention, close observation, and detailed care. She may have a series of special tests repeatedly done during her pregnancy, while her medical history is carefully compiled. She and her baby are carefully observed throughout the birth process.

Then follow examination and history compilations of each child. These are done in the hospital nursery, and later at the ages of four months, eight months, one year, 18 months, two years, three years, and four years.

A final detailed examination will be made of each child at seven years, by members of the neurology, pediatrics, psychology, speech pathology, and audiology disciplines.

The impact of the project has already been felt in many circles. Itssee office at Silver Spring, Md., receives a constant stream of inquiries and visits from American and foreign scientists, asking about its protocol and methodology.

Benefits Apparent

Reports and comments flowing into NINDB reveal that some tangential benefits are already emanating from the project.

Patient care, particularly in the obstetrical and nursery areas, as well as in the pediatric follow-up, is being improved as complete and systematic data are gathered meticulously on every patient.

Interdepartmental research has been engendered at medical schools, and medical teaching in general enhanced through provision of adequate case material and records.

Future physicians are learning the value of systematically documenting medical information, of exchanging information among institutions and disciplines, and of longitudinal studies in unravelling the natural history of diseases.

It is expected that the goal of

Dr. Underwood Honored By AAPHP Award for Distinguished Service

Dr. Bruce Underwood, Assistant Chief of the Career Development Review Branch, Division of Research Grants, was honored by the American Association of Public Health Physicians November 11 when he became the first recipient of the Association's Distinguished Service Award. The award was presented at the AAPHP annual meeting in Kansas City, Mo.



Dr. Underwood

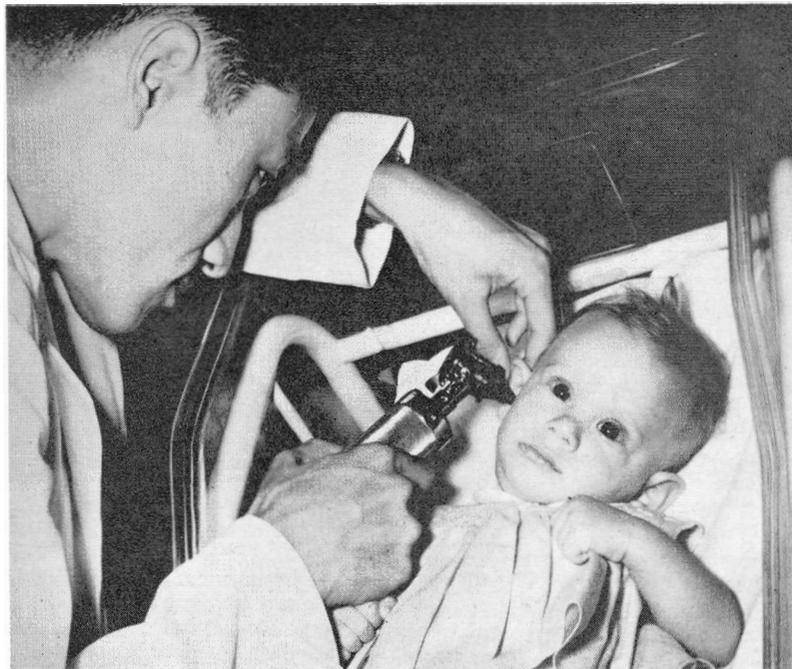
Dr. Underwood was honored earlier this year when he received the American Nursing Home Association's Plaque for dedicated service to the Nursing Homes of America.

A PHS Commissioned Officer since 1956, Dr. Underwood was Chief of the Nursing Home Service Section, Division of Chronic Diseases from 1957 until 1961.

He joined the DRG staff in 1961 as Executive Secretary of the Cell Biology Review Panel, CDRB, and was appointed to his present position in July 1963.

50,000 enrollees will be reached on schedule by December 31, 1965. By 1972 most of the children will have received their detailed 7-years examination.

By that time enrolled mothers, who are told at the outset that "You and your baby are making medical history," ought to have ample proof of this statement's correctness.



Baby's hearing is checked. Data compiled from the child's and mother's examinations is added to a mountain of information flowing into NINDB from 15 collaborating institutions.

Adelyn Breeskin to Discuss Modern Art Here Tonight

"Understanding Modern Art" will be the subject tonight of the third in a series of programs concerned with Criticism and the Arts sponsored by the Foundation for Advanced Education in the Sciences.

The guest speaker, Adelyn D. Breeskin, Director of the Washington Gallery of Modern Art, will illustrate her discussion with slides.

The program will be presented at 8:30 this evening, November 20, in the Clinical Center auditorium. Admission is free. NIH personnel and their friends in the community are cordially invited to attend.

List of Latest Arrivals Of Visiting Scientists

10/28—Dr. Wacław M. Lawa, Poland, Brain-Behavior Research. Sponsor: Dr. H. E. Rosvold, NIMH, Bldg. 9, Rm. 126.

10/28—Dr. Moise Derechin, Argentina, Studies on the Coagulation of Human Blood. Sponsor: Dr. D. L. Aronson, DBS, Bldg. 29, Rm. 107.

11/1—Dr. Arthur S. Fowle, Great Britain, Research in the Field of Pulmonary Physiology. Sponsor: Dr. Eugene Braunwald, NHI, Bldg. 10, Rm. 8N216.

11/7—Dr. James I. Davies, Great Britain, Laboratory of Chemical Pharmacology. Sponsor: Dr. Bernard Brodie, NHI, Bldg. 10, Rm. 7N117.

Dr. Schwartz Appointed To DRG Grants Branch As Assistant Chief

Dr. Edward Schwartz, who recently completed a year's training in the NIH Grants Associates Program, has been appointed Assistant Chief of the Grants Management Branch, Division of Research Grants.



Dr. Schwartz

Dr. Schwartz was formerly supervisory research psychologist at the Veterans Administration Hospital in Hines, Ill., where he was actively engaged in electrophysiological and psychopharmacological research.

Earlier in his career Dr. Schwartz was a counseling psychologist for the VA. During this period he became certified as a psychologist by the Board of Examiners of the Illinois Psychological Association.

Conducts Research at UCLA

After completing work for his doctorate at Northwestern University, Dr. Schwartz accepted a 2-year postdoctoral research fellowship with the University of California at Los Angeles. At UCLA he conducted a series of investigations in the relationship between human brain waves, as recorded by the electroencephalograph, and the perception of visual patterns.

Dr. Schwartz is also a Certified Public Accountant. He received his Certificate in 1948 from the University of Illinois where he was for five years a member of the faculty and lecturer in accounting.

Dr. Geisser Elected to Fellowship in the ASA

Dr. Seymour Geisser, Chief of the Biometry Section of the Epidemiology and Biometry Branch, National Institute of Arthritis and Metabolic Diseases, was elected to fellowship in the American Statistical Association at the Association's recent annual meeting in Cleveland.

He was honored "for his contributions to the methodology of multivariate analysis and its application in the behavioral sciences; for his superior service as a consultant to scientists in medical, biological and chemical research."

Dr. Geisser joined the National Institute of Mental Health in 1955 after receiving his Ph.D. in Mathematical Statistics from the University of North Carolina. He transferred to NIAMD in 1961 to become Chief of the Biometry Section of the Epidemiology and Biometry Branch.

Common Cold Study Needs Donors With Winter Colds

Winter cold sufferers have an opportunity to actively participate in the comprehensive study of common cold infections being conducted by NIAID's Laboratory of Infectious Diseases.

The project, designed to isolate and identify unknown upper respiratory viruses through blood specimens and nasal washings, has been underway since November 1962.

Volunteers with winter colds, particularly those within the first three days of infection, are urgently needed for its continuation.

Participants are paid \$2 each for the two blood specimens required for the study. Anyone desiring to participate may call Hilda Kennedy, Ext. 65811, for additional information.

WELFARE FUND

(Continued from Page 3)

or both parents here as part of the patient's care and therapy.

According to Ellen J. Walsh, Chief of the CC Social Work Department, the average cost of lodging and food to maintain one parent is \$36 a week. Lack of sufficient funds, she said, is forcing the department to put strict limitations—up to four weeks at most—on this type of aid, regardless of the importance of participation of a particular patient in a research project.

The fund, she said, must obtain additional financing if it is to continue to function effectively.

Family of 8 Involved

One particularly poignant case now confronting the department is how to meet a request from an NIAMD scientist who wants to bring a local area mother and seven children into the CC each day for a month in order to conduct a research project of special significance.

The family is on relief and the Fund has been asked to pay for their lunches during this period of outpatient study. While this \$150 may appear to be a relatively small sum, the Fund's present financial condition makes it all but impossible to comply with the request.

The deficit now facing the Fund, Dr. Himmelsbach said, stems directly from the lack of a stable income. As of now only the R&W contribution can be depended upon, he observed, and even that varies.

If all NIH employees, so intimately associated with the research performed here, would voluntarily contribute as little as \$1 a year, he said, it would enable the Fund to meet its obligations.

Contributions may be sent any



NIAMD recipients of sustained superior performance awards are pictured after ceremony with Dr. G. Donald Whedon, Institute Director, and Dr. John F. Sherman, Associate Director for Extramural Programs. Standing (left to right) are Mariha Miner, Dr. Whedon, Dr. Sherman, and Carol Monday. Seated are Velma Edwards, Eileen Daly, and Zelda Federman.—Photo by Sam Silverman.

Dr. Baron Lectures at Communicable Diseases, Immunology Seminar

At a seminar on communicable diseases and immunology at the Walter Reed Army Institute of Research on November 6, Dr. Samuel Baron of the Laboratory of Biology of Viruses, NIAID, discussed the roles of interferon, temperature and antibody in viral infections.

He pointed out that at the present time interferon is a host's most rapid known defense against a viral infection, and that in the course of some viral infections a non-immune mechanism such as elevated temperature may be more significant than antibody in accounting for recovery.

Studies Are Extensive

Dr. Baron has conducted extensive studies on the role and mechanism of interferon in viral infections. A study conducted by Dr. Baron and Charles E. Buckler, also of the LBV, and Dr. Robert M. Friedman, National Cancer Institute, suggested that antibody may be unessential for recovery from fully developed influenza virus infections.

More recently Dr. Baron and Mr. Buckler showed that circulating interferon was detectable in mouse serum within one hour after the intravenous injection of various types of virus.

time to the Patients' Welfare Fund in Rm. 1N250, Building 10. It was pointed out that with the approach of the Christmas Season, contributions by members of the NIH staff would be especially appropriate at this time.

Five NIAMD Employees Win Sustained Superior Performance Awards

Five employees of the National Institute of Arthritis and Metabolic Diseases' Extramural Programs received sustained superior performance awards at a ceremony on October 29.

Dr. G. Donald Whedon, Institute Director, presented cash awards totalling \$587 to Eileen M. Daly, Grants supervisor in the Training Branch, and four members of the Data Processing Unit—Zelda Federman, supervisor; Velma Edwards, Martha Miner, and Carol Monday.

Mrs. Daly was cited for her efficiency in handling grants management functions, ability to develop independently new procedures, fine quality of leadership, and extensive knowledge of the functions and objectives of the Extramural Programs.

Dr. Whedon Commends Unit

Dr. Whedon commended the Data Processing Unit for its continuing superiority in serving the statistical needs of the Extramural Programs. He emphasized this group's value as a support mechanism for the whole Institute, because it provides detailed information on activities necessary to an understanding of NIAMD's overall program.

Mrs. Federman and her group are credited with having greatly expanded their statistical system to afford more detailed information to the professional staff. This expansion of data output, according to the citation, "can be compared to giving a person a complete library where he had only a reference book."

Dr. Herbert Seversmith Of NCI Retires; Served Government 28 Years

Dr. Herbert F. Seversmith, Head of the Program Analysis and Reporting Section, Operations Branch, National Cancer Institute, retired on November 2 after 28 years of Government service.

As Head of that section he developed detailed scientific information on grant research, fellowship and trainee applications, and on published results of cancer research.

Dr. Seversmith undertook in 1955 an ambitious project of summarizing and abstracting papers on research supported by NCI's extramural program from 1937 to 1962.

Research Topics Vary

The research topics range widely from such areas as morphology, physiology, and epidemiology, to host-tumor relations and carcinogenesis therapy.

This extensive work recently culminated in a volume entitled "Twenty-five Years Against Cancer—Research Supported by the National Cancer Institute." In it, Dr. Seversmith drew together some of the more important phases of grant-supported cancer research in an effort to demonstrate accomplishments over the years.

In 1951-52 he received support from NCI in the form of a Pre-Doctoral Fellowship and worked toward his Ph.D. degree at the University of Maryland in the area of embryology of the brook-lamprey. He joined the NCI staff in 1952 as a biologist in its grants program. Previously he had worked in the position classifier area at the Federal Security Agency, Public Health Service, and Patent Office.

Serves on 2 Faculties

He has held part-time teaching positions since 1948, including lecturer of human biology at University of Maryland, and lecturer and Adjunct Professor at American University in graduate courses on Comparative Vertebrate Anatomy, Anatomy of the Seed Plants, and Experimental Vertebrate Embryology.

A secondary interest of Dr. Seversmith's is genealogy, on which he has published many articles. He is considered an authority on the genealogy of the families originated on Long Island, New York. He is a Fellow in the American Society of Genealogists and has been President of the National Genealogical Society.

Dr. Seversmith earned B.S. and M.A. degrees from George Washington University. His Ph.D. in Zoology was received from the University of Maryland. He is a member of a number of professional societies and honorary organizations.

Dr. Ronald Ross Named Scientist Administrator On DRFR Branch Staff

Dr. Ronald B. Ross, Assistant Chief of the Drug Development Branch in the Cancer Chemotherapy National Service Center, National Cancer Institute, recently was appointed Scientist Administrator on the staff of the Health Research Facilities Branch, Division of Research Facilities and Resources.

The branch administers a \$50-million-a-year program of health research construction grants to institutions throughout the Nation.

As a senior member of the branch's scientific review staff, Dr. Ross will be primarily responsible for evaluating construction grant applications from the standpoint of the type and quality of research to be conducted in proposed facilities, with special responsibility for review of chemistry research.

Additional Duties Cited

He will be a consultant on chemistry facilities to the Division's Architectural and Engineering Office staff which reviews all construction plans submitted as part of health facility grant applications.

Dr. Ross will also be the staff resource specialist on chemistry research for the National Advisory Council on Health Research Facilities, providing advice on the merits of an institution's scientific program, and on specific facility problems.

He will also make studies in the field of chemical facility requirements, including the current uses of present facilities, as a basis for assisting institutions with their construction programs. A further responsibility will be that of developing broad, long-range plans for meeting research facility needs on a national scale.

Committee Will Advise On Medical Training

Establishment of a Medical Scientist Training Committee and appointment of its 11 members was announced recently by Dr. Clinton C. Powell, Director of the National Institute of General Medical Sciences.

This brings to 12 the number of active training committees of non-government scientists which advise NIGMS on research training in the basic medical and biological sciences and in certain clinical areas.

The Medical Scientist Training Program will encourage and assist medical schools in the development of special programs for the research training of medical scientists with a high level of competence in both the basic and clinical sciences.

Objective of the program will be to train investigators who can bring the fundamental concepts, techniques, and knowledge of the basic sciences into clinical research. The program will be under the immediate direction of Dr. Vincent E. Price of the Research Training Grants Branch.

Members of the committee are:

Dr. Carl A. Moyer (Chairman), Washington University School of Medicine; Dr. J. Garrott Allen, Stanford University School of Medicine; Dr. Donald G. Anderson, University of Rochester School of Medicine and Dentistry; Dr. Ludwig W. Eichna, State University of New York (Brooklyn); Dr. R. Clinton Fuller, Dartmouth Medical School; Dr. George B. Miller, University of Illinois; Dr. Gerald C. Mueller, University of Wisconsin; Dr. George Nichols, Jr., Harvard Medical School; Dr. John D. Porterfield, University of California; Dr. Douglas S. Riggs, State University of New York at Buffalo; and Dr. Raymond E. Zirkle, University of Chicago School of Medicine.

PHS Traces Growth in Federal Grants To Medical Research in Postwar Years

Federal agencies will provide about \$1.3 billion in 1964 for medical and health-related research—covering outlays for research performance and investment in research facilities—according to a report released recently by the Public Health Service.

Based upon data provided by Federal agencies to the National Institutes of Health, the publication "Federal Support for Medical and Health-Related Research, 1947-64," presents an analysis of the developments underlying the growth in Federal medical research in the postwar period.

Highlights of the report show that:

- Increased support for the conduct of medical research from all sources—government, industry, foundations, voluntary health agencies—characterizes the postwar period; non-Federal sources in 1963 will provide almost two-fifths of the national expenditure of \$1.5 billion for the conduct of medical and health-related research.

- Federal support for medical research has increased at about 25 percent a year since 1947, roughly consistent with the growth since 1957 in Federal support of civilian research activities exclusive of research and development oriented to defense or space objectives. Currently seven cents of the Federal research and development dollar are spent for medical research.

Support From 12 Agencies

- All major Federal research and development programs contain components that contribute to the advancement of knowledge leading to the conquest of disease. Support for medical research is currently provided by 12 Federal agencies.

- In the aggregate these agencies provided \$5 billion for medical research in the 1947-1963 period, or about six percent of the \$80 billion spent by the Federal Government for all research and development in this period.

- About four-fifths of the total spent by Federal agencies for the conduct of medical and health-related research is budgeted and justified as such. About 20 percent represents outlays for research directly related to health but supported as germane to agency missions other than health.

- Federal agencies with general health objectives as their primary mission provide three-fourths of all Federal funds in the current period for the conduct of medical research; agencies with defense and space objectives about one-fifth, and agencies with other civilian objectives the remaining twentieth.

In the early postwar period support for medical research was about equally divided between agencies with health research as their primary research mission, and agencies with other objectives.

- The distribution of total Federal expenditures for medical research contrasts sharply with the distribution of Federal funds for all other research and development. In 1963 educational institutions received about one-half of Federal funds for medical research as compared with one-tenth of total Federal expenditures for other research and development. Industrial firms received about eight percent of medical research funds but more than two-thirds of Federal funds for research and development in all other fields.

Increased Participation Noted

- The growth of the Nation's research resources and capabilities, and the success of the research grant program in the postwar period have brought about increased participation in medical research by the Nation's scientists in universities, medical schools, hospitals, research institutes and industry.

Currently, these scientists conduct about 75 percent of all Federally financed medical research while only 25 percent of the total is performed in Federal installations. In the immediate postwar period, however, almost two-thirds of all Federally supported medical research was performed by investigators working in Federal laboratories.

- Of the 12 Federal agencies supporting medical research, only two, PHS and Veterans Administration, devote their entire research programs to health problems. Other major agencies such as the Atomic Energy Commission, Department of Defense, National Aeronautics and Space Administration, and the Department of Agriculture, provide support for medical research essential to their missions.

Postwar Expansion

- All Federal agencies supporting medical research have expanded their activities in the postwar period. Since 1957 NIH has provided approximately three-fifths of all Federal funds devoted to this purpose.

The report is the fourth in a series of publications designed to present timely information on significant measures of the Nation's resources devoted to medical and health-related research.

Copies (PHS Publication No. 1068) are available at 40 cents each from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.



Participating in the session on the parasitology of malaria at the VIIth International Congresses on Tropical Medicine and Malaria in Rio de Janeiro, Brazil, on September 3, are (left to right): Dr. Justin M. Andrews, Director of the National Institute of Allergy and Infectious Diseases; Dr. William Trager of the Rockefeller Institute for Medical Research, New York; the late Dr. Don E. Eyles of the Laboratory of Parasite Chemotherapy, National Institutes of Health, Kuala Lumpur, Malaya; and Dr. Martin D. Young, Associate Director, National Institute of Allergy and Infectious Diseases.

Dr. Randall L. Thompson Named Special Assistant To Dr. James Colbert

Dr. Justin M. Andrews, Director of the National Institute of Allergy and Infectious Diseases, recently announced the appointment of Dr. Randall L. Thompson as at Special



Dr. Thompson

Assistant to Dr. James W. Colbert, the Institute's Associate Director for Collaborative Research.

Before joining NIAID Dr. Thompson was engaged in the development of a program in tumor virus chemotherapy with the National Cancer Institute. He came to NIH in 1962 as a medical officer.

He was Professor and Chairman of the Department of Microbiology at Indiana University Medical Center from 1947 to 1953. From 1953 until he came to NIH, Dr. Thompson headed the Microbiological Section at the Sterling-Winthrop Research Institute in Rensselaer, N.Y.

Research Noted

He is the author or co-author of numerous scientific papers. While at Sterling-Winthrop he was responsible for a chemotherapy screening program for therapeutic agents for bacterial and viral infections, development of a measles vaccine, and evaluation of disinfectants.

Since 1949 he has served as Chairman of the Viral and Rickettsial Registry Committee of the American Type Culture Collection.

Dr. Thompson, a native of Utica, Mo., attended New Mexico Highlands University, the University of Denver and received both his B.S. and M.S. degrees in bacteriology from the University of Washington. He received his Sc.D. degree from Johns Hopkins University and an M.D. from the University of Chicago.

R&W Presents Awards To Winners of First NIH Golf Tournament

Larry Ring, General Manager of the Recreation and Welfare Association of NIH, presented trophies and other awards to the five top scorers of the first NIH Golf Tournament on October 30.

The tournament proved so popular and successful, Mr. Ring said, that R&W plans to make it an annual event.

Winner of the tournament playoff round was Harry K. Thompson of NINDB, with a score of 73.

The initial, qualifying round was held on September 18 at the Falls Road Golf Course, with nearly 120 NIH golfers participating.

NCI Medical Technician, Gebhard Gsell, Receives Performance Award

Gebhard Gsell, medical technician (histology) in the Laboratory of Pathology, National Cancer Institute, received a cash award November 1 for sustained superior work performance.

Skilled in proper staining for photomicrography in the Pathological Technology Section, Mr. Gsell was recognized for the superior quality of his completed work, the speed and accuracy with which it is performed, and the time- and labor-saving devices he has introduced.

In presenting the award, Dr. Harold L. Stewart, Chief of the Laboratory, said, "Every photomicrograph that Mr. Gsell takes is a special work of art. He has shown much ingenuity in design and im-



Dr. Harold L. Stewart, Chief of NCI's Laboratory of Pathology (left), presents performance award to Gebhard Gsell.—Photo by Sam Silverman.

provement of apparatus that increases accuracy and saves time in photography.

"All of his work bears the stamp of an expert. Many scientists in this country and abroad have written, praising his illustrations in the material published by the National Cancer Institute."

Mr. Gsell trained under the aegis of the late renowned Dr. J. H. Globus in the Neuropathology Laboratory of the Mt. Sinai Hospital, New York City. He is a member of the Biological Photographic Association, from which he won a prize for photomicrograph color transparencies.

The top 23 scorers were invited to play the second and final round several weeks later. On the basis of the scores of this round the winners were chosen.

Jesse Rowland, DRS, was second-place winner, and W. G. Fiscus, NCI; Clyde A. McKinney, SMB-OD; and L. V. Jacobs, NCI, were additional high scorers.

Nathaniel White, CC, high scorer in the qualifying round, received a medallion.

MARU

(Continued from Page 4)

the economic exploitation of the fertile province of Beni.

The Bolivian Government has been striving to encourage the migration of the inhabitants of the arid Alti Plano to Beni's more favorable climate, but the incidence and high mortality rate of BHF could well obstruct these plans. And the possibility of extension of the disease to more densely populated areas of Eastern Bolivia is omnipresent.

Disease Acute in Man

The disease in man is an acute infection characterized by fever, generalized myalgia, gastrointestinal and intradermal bleeding, leukopenia, albuminuria, and tremor of the tongue and hands in severe cases. Epidemiological studies indicate that approximately 750 people in the epidemic area have had the infection in the last four years; about 200 have died.

The MARU staff began investigations of this disease in May 1962 and continued extensive studies in 1963.

In cooperation with the Bolivian Ministry of Health and under sponsorship of the Pan American Health Organization, a joint commission was established.

Members included Dr. Beyer, Ronald B. Mackenzie, M.D., Karl M. Johnson, M.D., and Merle L. Kuns, Ph.D., two Bolivian physicians and two MARU technicians.

Conrad Yunker, Ph.D., an acarologist based at NIAID's Rocky Mountain Laboratory, joined the group to identify the extensive collection of mites and ticks.

Peace Corps Aids

Miss Rose Navarro, a Peace Corps nurse, helped provide nursing care to the San Joaquin hospital patients; and several San Joaquin townspeople, for whom a prerequisite of employment was a natural immunity to BHF, assisted in the collection of specimens.

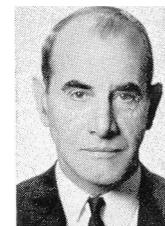
The U.S. Army mission to Bolivia (Civil Action Program) provided essential air transportation of material and personnel and, during July and August, assigned technicians and two Army medical officers to the epidemic area of Sant Joaquin to provide medical assistance.

During this latter period, five commission members acquired the disease and were evacuated to the Gorgas Hospital in the Canal Zone. Although hemorrhagic fever immune gamma-globulin had been administered prophylactically, two patients had stormy courses and all were seriously ill. Fortunately, all recovered.

Dr. Norman McCullough Discusses Brucellosis Cause, Cure, Incidence

By Mary Batchelor

Renowned for his knowledge of brucellosis, Dr. Norman B. McCullough, Chief of the Laboratory of Bacterial Diseases, National Institute of Allergy and Infectious Diseases, discussed his specialty at the NIAID Grand Rounds on October 9.



Dr. McCullough

Brucellosis is an infection of animals caused by three species and 15 biotypes of *Brucella*. All but one of the biotypes is pathogenic for man.

The disease is transmitted to humans by unpasteurized milk products, but direct contact with animals as experienced by farmers, dairymen, slaughter-house employees, and veterinarians, is the chief cause of infection in humans.

Organism Penetrates Skin

The organism penetrates the mucous membranes, unbroken skin, and even the respiratory tract via aerosols.

Blood cultures, when obtained at the height of fever, are usually positive. In the absence of cultural proof, the agglutination test is a valuable aid in diagnosis.

However, this technique was erratic until, in 1951, Dr. McCullough standardized *Brucella* antigen. He continues to provide dependable cultures for distribution to State laboratories, private hospitals and clinics, where antigens are prepared according to Dr. McCullough's techniques.

When administered for three weeks, the combined therapy of streptomycin and tetracycline will bring about clinical cure in most patients, Dr. McCullough said.

Symptoms Recur

However, this treatment is less effective and symptoms recur in those suffering from localized lesions or in those treated after many years of infection. If the lesions can be located, surgical removal often evokes a remarkable recovery.

Dr. McCullough described the brucellosis voluntary control plan as the biggest disease eradication program in the world.

The so-called "vaccinate, test, and slaughter plan" adopted by ranchers and farmers has been responsible for a 90 percent reduction in human infections.

In 1947, 6,321 human cases of brucellosis were reported in the United States; undoubtedly, three times that many infections actually occurred.