

the



Record

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NATIONAL INSTITUTES OF HEALTH

Dr. E. MacNichol Joins Marine Biological Lab

After 4 years as Director of the National Institute of Neurological Diseases and Stroke, Dr. Edward F. MacNichol, Jr., is leaving his job to resume research on the neurophysiology of vision.

He will join the staff of the Marine Biological Laboratory, Woods Hole, Mass., when a replacement for the Directorship is found.

At Woods Hole, Dr. MacNichol will devote most of his time to independent research; he has agreed to spend one-quarter of his time assisting with administrative duties.

Dr. Robert Q. Marston, NIH Director, said he appreciated most—among Dr. MacNichol's many accomplishments here—"his contribution to developing the relationship between basic and applied research in neurology; and the smooth transition achieved when the Eye Institute was formed."

Dr. MacNichol's decision to join MBL coincides with the Laboratory's effort to expand its research program to attract year-round investigators of international stature. Presently, most scientists study at MBL only during the summer months.

The Laboratory also hopes to
(See DR. MACNICHOL, Page 4)



At the Bay State lab, Dr. MacNichol, who termed research "... my first love ..." will resume studies on the neurophysiology of vision.

Dr. Lapin, Soviet Scientist, Visits NCI; Discusses Advance in Leukemia Research



Dr. Lapin (l) and Dr. Moloney answered reporters' questions concerning the Soviet scientist's research and U.S. visit.

Dr. Boris Lapin, Director of the Institute of Experimental Pathology and Therapy, Sukhumi, Georgia, U.S.S.R., met with reporters Aug. 30 and discussed various aspects of his research involving baboons and monkeys inoculated with human leukemic material.

Dr. Lapin is searching for evidence of a viral cause of human leukemia by examining cancers observed in the animals after inoculation.

From these studies, he has reported the isolation of a type-C RNA virus resembling known animal leukemia viruses.

Dr. Lapin's next efforts will be to determine if the isolate is a natural leukemia virus specific for each type of non-human primate in the study; a dormant virus in the baboon or monkey which was activated or "turned on" by the human material, or the long-sought human leukemia virus.

"There is no question that this is a highly important finding . . .," said Dr. John B. Moloney, NCI's associate scientific director for Viral Oncology, Division of Cancer Cause and Prevention, who served as Dr. Lapin's host during his stay.

The press briefing concluded the Soviet scientist's 5-day visit to the National Cancer Institute during which he conferred on plans for cooperative research on cancer viruses between his Institute and NCI.

Dr. Lapin also toured the Advanced Systems Laboratory at NCI's Frederick Cancer Research Center, visited laboratories where studies of cancer in non-human

(See DR. LAPIN, Page 3)

Research Team Pinpoints Defect in Biochemistry Of Hurler's Syndrome

Dr. Elizabeth F. Neufeld and a research team have pinpointed the biochemical defect in Hurler's syndrome, an inherited metabolic disorder marked by skeletal deformities ("gargoylism"), mental retardation, and early death.

Dr. Neufeld is a biochemist in the National Institute of Arthritis, Metabolism, and Digestive Diseases.

The implications of their finding are far-reaching and include the possibility that the early correction of the flaw might prevent, or at least ameliorate, the disorder's bizarre clinical manifestations.

In earlier studies, the researchers had shown that patients with Hurler's syndrome lack a protein, found in normal blood plasma and certain cellular extracts, which the scientists originally termed "Hurler corrective factor."

Test tube studies revealed that the basic biochemical flaw could be corrected by replacing the missing protein in cells cultured from affected individuals. Hence the name "Hurler corrective factor."

The present study has shown
(See HURLER'S SYNDROME, Page 4)

3-Week Marston Tour Includes Moscow Stop

Dr. Robert Q. Marston, NIH Director, returned last week from a 3-week tour in support of various Departmental and NIH international activities.

On the first leg of his journey in Honolulu, he dedicated a new NIAID facility, the Pacific Research Center of the Laboratory of Parasitic Diseases.

After attending a joint meeting of the U.S.-Japan Cooperative Medical Sciences Program in Tokyo, Dr. Marston flew to Moscow.

Sees Russian Scientists

There he discussed with Russian scientists NIH preparations for implementation of the Heart, Cancer, and Environmental Health portions of the U.S.-USSR Agreement for Cooperation in the Field of Medical Science and Health.

Before returning to this country, Dr. Marston also spoke in Pristina, Yugoslavia, at the opening session of the Conference on Host Environment Interactions in the Etiology of Cancer in Man.

Mrs. Marston accompanied him on the trip.

Business Session to Precede History of Medicine Program

A brief business meeting will precede the program of the Washington Society for the History of Medicine on Thursday, Sept. 21, at 8 p.m., NLM Billings Auditorium.

The agenda includes a discussion on the recommendation to raise the annual dues.

Dr. Karl B. Absolon will discuss Theodor Billroth: Teacher, Surgeon, and Artist, on the program following the business session. Dr. Absolon is chief, Department of Surgery, Washington Hospital Center.

Dr. Glenn W. Geelhoed, NCI Surgery Branch, will talk on Benvenuto Cellini and his Syphilis: Malevolent Mercurial Cure. The meeting and program are open to visitors.

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Minor Changes Announced In Two Shuttle Schedules

Minor changes took place last week in two shuttle schedules — between the NIH-DHEW and the NIH-Westwood Buildings.

The shuttle to the Westwood Building was revised to provide service between the NIH Reservation, the Landow Building, and other local buildings in the area.

B/I/D administrative officers have the new schedules, or copies may be obtained by calling the NIH Motor Pool, Ext. 63426.

The new shuttle schedules are published in the September issue of the *NIH Telephone and Service Directory*.

Four Posters Released by DDH

To aid the fight against periodontal disease, the Division of Dental Health has released four new posters stressing perio-prevention.

Single free copies are available from the Office of Communication Services, DDH, Federal Bldg., Bethesda, Md. 20014.

American Indian Students Encouraged to Participate In Health Professions

The Association of American Indian Physicians will conduct a program to recruit Indians into the health professions under a \$63,000 contract awarded to the group by the Office of Health Manpower Opportunity, BHME.

According to Dr. George Blue Spruce, Jr., director of that office, the Association will undertake projects to identify health professions students among the Indian population and try to help them begin or complete their professional education. Dr. Blue Spruce is a dentist and a San Juan Pueblo Indian.

The projects include a program using American Indian physicians and other health professionals to counsel and encourage Indian students to participate in health professions meetings.

Another project is a symposium to publicize the problems of the American Indian student and identify ways to encourage their enrollment in health professions schools.

NIH Television, Radio Program Schedule

Radio

DISCUSSION: NIH

WGMS, AM-570—FM Stereo 103.5—Friday about 9:15 p.m.

September 15

Dr. Lionel M. Bernstein, NIAMDD

Subject: Gastroenterology (R)

September 22

Dr. John P. Adams, GWU (NIH Fellowship—NIGMS)

Subject: Trauma (R)

Interview takes place during intermission of *Music Room*.

Student Nurses Take Part In Cancer Nursing Program

Eighteen student nurses assigned to the Clinical Center for the summer recently completed a work-study program sponsored by the American Cancer Society headquartered in New York.

During the 10-12 week program, they worked in the Cancer Nursing Service. Their tasks included taking care of patients, and attending weekly seminars on nursing care and hospital administration.

The students, recruited by the American Cancer Society, were en-

tering their senior year at university nursing schools along the East Coast.

Other groups participated in similar programs at the M. D. Anderson Hospital and Tumor Institute in Houston, Roswell Park Memorial Institute in Buffalo, and Memorial Hospital for Cancer and Allied Diseases in New York City.

The students' salaries were paid by the participating hospitals; their transportation was taken care of by the American Cancer Society.



Kathryn A. Gedeon, a secretary in the Central Travel Section, Travel and Administrative Services Branch, receives an award for her suggestion that NIH process passport applications for employees and their families who are going abroad on official business. Donald Cushing, assistant director, General Services Management, congratulates Mrs. Gedeon and hands her a check for \$400.

Pamphlet Describes Veterinary Med. Careers; Lists Loan Aid

The job opportunities, qualifications, and financial aid requirements for men and women considering a career in veterinary medicine is described in a booklet with that title.

The pamphlet, issued by the Division of Physician and Health Professions Education, BHME, also lists universities with colleges of veterinary medicine.

The booklet is free on request from the BHME Information Office, NIH, Bethesda, Md. 20014.



After a summer of clinical experience, the student nurses are preparing for a return to their classrooms. Much of their counseling was given by Louise Anderson, chief, CC Nursing Department (front row, second from right); Virginia Barkley, national nursing consultant, American Cancer Society (second from left); Louise Lunceford, instructor, Education and Training, CC Nursing Department (far left), and Mary Louise Burgess, chief, Cancer Nursing Service (far right).

Drs. John and Helen Koo To Discuss Their Tour Of the Chinese Mainland

Drs. John K. and Helen Y. Koo, husband and wife biomedical scientists, who recently returned from a 2-month visit to the People's Republic of China, will describe their tour and show slides on Friday, Sept. 22, at 4 p.m. in Bldg. 1, Wilson Hall.

The Koo's, the first scientists invited to that country for such a prolonged stay in the past 23 years, will lecture on A New Look at Public Health and Biomedical Research Development in China: Observations From A Recent Tour.

During their tour they visited several research institutions and pharmaceutical centers never before seen by Americans.

Dr. John Koo first joined NIH in 1950 as a special research fellow in the National Cancer Institute. Later, he served for several years as a group leader in pharmaceutical research laboratories.

He returned to NIH in 1965 as a senior staff member, National Institute of Arthritis and Metabolic Diseases. Subsequently, he became a visiting professor at several uni-



Dr. Koo has published a book on Chinese medicine and its practice of using natural drugs.

versities in the Far East.

On his return to the U.S. he rejoined NCI's Microbiological Research Program. He left the Institute last year and is now a research consultant.

Dr. Koo has been concerned with drug studies in the cancer, heart, and mental-disease fields and has published a number of papers based on his research results.

He also published a book and several papers on Chinese medicine and its use of natural drugs. His wife, Dr. Helen Yen Koo, is chief of FDA's Psychoneuropharmacology Laboratories.

The lecture, sponsored by the Laboratory of Chemistry, NHLI, is open to employees.

Five Librarians Starting NLM Associate Program



The librarians start a busy year of training which includes lectures, seminars, and practical experience in areas of special interests. L to r: Nancy Stiles, Lillian Kozuma, Gary Byrd, Susan Kirkbride, and Becky Lyon.

Five young librarians are taking part in the National Library of Medicine's 1972-73 Associate Program.

The program, which offers training in medical library science, is divided into two phases. The first part gives an introduction to NLM through lectures, seminars, demonstrations, and practical experience.

Phase two offers assignments in the areas of each associate's special interests. Participants may also visit area medical and research libraries and attend local meetings and conferences of professional organizations.

Degrees Listed

The librarians are Susan Kirkbride, Gary Byrd, Becky Lyon, Lillian Kozuma, and Nancy Stiles.

Miss Kirkbride received a B.A. degree from Westminster College and an M.L.S. from the University of Pittsburgh Graduate School of Library and Information Sciences. She has worked as a biologist and research assistant.

Mr. Byrd earned two degrees in English—a B.A. from Rutgers University and an M.A. from the University of Virginia.

A year later he received his M.L.S. from the University of Minnesota Library School.

Serves in Peace Corps

Mr. Byrd had served in Tunisia with the Peace Corps, and worked during part of that period as a volunteer interpreter on the Hospital Ship HOPE.

Miss Lyon attended Central Missouri State College, where she was awarded a B.S. in Biology Education.

The University of Illinois Graduate School of Library Science, where she held an NLM Fellowship in Biomedical Library Training, awarded her an M.S.L.S.

Miss Kozuma received a B.A. in Political Science from Drew Uni-

versity. During her senior year, she spent 5 months at the London School of Economics. After earning an M.P.A. from Syracuse University, she held a management internship with the General Services Administration in Washington, and later worked for EEO. She also held a traineeship from NLM at the University of Southern California. She received an M.S.L.S. from USC.

Miss Stiles earned a B.A. in English from Barnard College and an M.L.S. from the Columbia University School of Library Service.

Dr. Van Dyke Represents U.S. in Olympic Kayak Competition; He Is 1 of 4-Man Crew

Within the space of a few short weeks, Dr. John L. Van Dyke, a National Institute of Mental Health clinical psychologist, received his Ph.D. from George Washington University and won a place on the U.S. Olympic four-man kayak team.

Just before he left for Munich, where the summer Olympics were held, Dr. Van Dyke was given a reception by his friends and fellow workers at the Clinical Center.

In the busy week prior to his departure, Dr. Van Dyke and other members of the U.S. teams continued their practice sessions, were outfitted with uniforms, and attended a banquet with President Nixon.

The Olympic kayak competition took place Sept. 5-8 on the 1,000-meter man-made flat water course in the German city. The boat used barely clears the water when the 4-man crew is in place.

It is 36 feet long, made of mahogany, and weighs 88 pounds. Dr. Van Dyke, who occupied the stroke or front position in the kayak, had the dual responsibility of setting the rhythm for the oarsmen and steering through rudder controls with his feet.

During his 12 years in the Psy-

DR. LAPIN

(Continued from Page 1)

primates are currently underway, and presented a seminar on his work for NIH scientists.

He said he was especially impressed with the research facilities at Fort Detrick, terming them "excellent" for studying his and other potential cancer viruses.

Discussions on collaborative cancer research with the Soviets will continue. Dr. Frank J. Rauscher, Jr., NCI Director, leaves today (Sept. 14) for the U.S.S.R.

Dr. Moloney and associates will go to Moscow in October to visit facilities there and exchange viruses to be used in research.

Day Care Exhibit Next Week Will Explain Best Program

An exhibit describing proper day care and assisting parents to choose the best program for their children will be on display next week.

On Sept. 19-20 the display may be seen in the lobby of Bldg. 31; on Sept. 21-22 the exhibit may be viewed in the CC lobby.

On these dates, between 10:30 a.m. and 2 p.m., members of the Montgomery County Department of Social Services who helped with the exhibit will be there to answer questions.



Dr. David Rosenthal, chief, Laboratory of Psychology, observes the delicate operation of Dr. Van Dyke cutting an impressive looking cake at a party celebrating the two events.

chology Lab, Dr. Van Dyke, on off-duty hours, has set his sights on a doctorate and in competing successfully in amateur rowing.

Training ground for rowing was the Potomac River near Key Bridge.

Dr. Lipkin, Head of Image Processing Unit, Foresees Computer Role in Drug Care

Dr. Lewis Lipkin, who recently joined the National Cancer Institute's Division of Cancer Treatment, predicts that computers will play an increasing role in drug treatment of cancer patients.

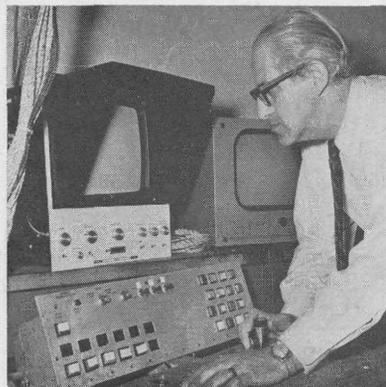
These computers, he foresees, will help physicians decide when a patient needs such treatment, how much he needs, and whether the disease is under control.

This type of care may be available in a matter of years, according to Dr. Lipkin, who is head of the new Image Processing Unit.

He comes to NCI from the National Institute of Neurological Diseases and Stroke, where since 1962 he headed the Section on Pathology, Perinatal Research Branch.

Dr. Lipkin, who received his M.D. degree in 1949 from the Long Island College of Medicine, trained as a neuropathologist. He has long been interested in the application of computer science to the study of cells.

Since 1966, NCI has supported Dr. Lipkin in his efforts to develop



Dr. Lipkin checks the operating panel of his computer-controlled microscope, which relays an image to the screen.

a computer-controlled microscope. He anticipates that, within the next year, the microscope will be ready for pilot study.

The immediate purpose of this instrument, Dr. Lipkin explains, is not to replace human skills with a machine but to provide highly trained, experienced pathologists and technicians with a tool that will expand their research capabilities.

In developing this instrument with the help of Peter Lemkin and George Carman, both of NINDS, Dr. Lipkin utilized image processing techniques.

A complex computerized optics system automatically scans and analyzes various materials, such as a printed page or, in the case of cancer research, tissue fixed on a slide.

The instrument can make all the required changes in microscope focus and wavelength, "remember" the location of an important section of a slide for later reference, and measure certain biological properties of cells, thereby saving many hours of tedious work.

Initially, the computer-controlled microscope will be used to count grains—tiny clumps of silver on film exposed to radioactive cells on a slide.

The number of grains produced on the film represents the amount of radioactive material taken up by the cells while they were growing and is a measure of the degree of their biological activity.

Grain counting may therefore prove useful for indicating which drugs are most effective against the activity of human cancer cells and at which point in the life cycle of the cells the drugs are most effective.

According to Dr. Lipkin, image processing may also become a valuable diagnostic tool. Although image processing instrumentation may be able to quickly pinpoint cells that may be cancerous, for the foreseeable future, the final diagnosis of cancer will depend on the judgment of a qualified physician.

HURLER'S SYNDROME

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that cells cultured from patients with either Hurler's or Scheie's syndrome, a closely related disorder, have a deficiency of the enzyme, α -L-iduronidase, which corresponds precisely with their deficiency of "Hurler corrective factor."

The Hurler and Scheie syndromes now may be classified as α -L-iduronidase deficiency diseases.

The metabolism of mucopolysaccharides, substances belonging to the carbohydrate family, is deranged in both the Hurler and Scheie syndromes.

This derangement leads to an accumulation of certain of these chemicals in various parts of the body and results in the characteristic clinical manifestations of these syndromes.

The enzyme, α -L-iduronidase, is essential to the normal metabolism of mucopolysaccharides.

While patients with either syndrome have a cellular deficiency, normal healthy individuals have a cellular excess of this enzyme.

It was discovered, however, that only a fraction of the normal cellular level of the enzyme is required to correct excessive intracellular accumulation of mucopolysaccharide.

Thus, future attempts at either activating or replacing the missing enzyme in affected persons might be beneficial even if only low enzymatic levels are achieved.



Dr. Matthew Kinnard (second from left), who is graduating from the Grants Associates Program, joins other Associates in welcoming newcomer Dr. Henry G. Roscoe. L to r are: Dr. Watson Alberts, Dr. Kinnard, Dr. Roscoe, Dr. Ronald Geller, Dr. Julius Allen Currie, Dr. Luigi Giacometti, and Dr. Morton Reitman, executive secretary of the program.

DRG Marks Tenth Year Of Training Program For Grants Associates

DRG's "grand experiment" of a decade ago—the Grants Associates Program—marks its 10th year of operation this month.

Designed to fill a continuous need for well-trained scientists to administer NIH research and training support, the program was launched in 1962 to attract research scientists, physicians, and dentists for a broad and varied training experience in grants administration.

The first class of eight associates commenced their 12-month training period in September 1962. Today, five of them hold key executive positions in the Department; three of them at NIH.

In 10 years the program has graduated 85 trainees. A number of these graduates have become directors and associate directors of NIH and HSMHA institutes and divisions.

Others have pursued careers with the National Science Foundation and other health-related Federal agencies, and a few have joined hospitals and educational institutions as administrators and deans.

On the average, the program receives 150 applications each year. Some six to 10 are accepted for training in science administration.

This finding might also explain why infusions of normal human plasma, which has very little "Hurler corrective factor" or α -L-iduronidase activity, have been found recently to result in significant clinical and biochemical improvement in patients with Hurler's syndrome.

Dr. Neufeld's research team included Dr. Bernard Weissmann and his student, R. Friedman, both of the University of Illinois. Their research was supported in part by

DR. MACNICHOL

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expand its electronics and special instrumentation services, areas of special interest to Dr. MacNichol.

The MBL, established in 1888 on Cape Cod, is a private institution owned by a corporation of over 600 leading scientists and scholars.

It is maintained for the study of all areas of biomedical research. Over the years, more than 30 Nobel Laureates have worked at the Laboratory.

Dr. MacNichol was the leader of the research team that first produced experimental proof that color discrimination is accomplished by three different kinds of receptor cells called cones, each one containing a different light-absorbing pigment.

The eminent scientist graduated from Princeton University in 1941, majoring in physics. During World War II he conducted radar research at MIT.

In 1952 he received his doctorate in biophysics from the Johns Hopkins University.

Dr. MacNichol continued his research on the physiology of the visual system at Johns Hopkins until he became NINDS Director in 1968.

During Dr. MacNichol's tenure and under his leadership, a major reorganization took place in the Institute's Collaborative and Field Research Program, and a vigorous EEO program was begun.

"The last four years have been tremendously interesting and challenging," Dr. MacNichol said. "However," he added, "research is my first love and I am eager to be able to spend most of my time in the laboratory."

a grant from NIAMDD. The findings were reported in the August issue of the *Proceedings of the National Academy of Sciences*.