

The NIH Record

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National
Institutes
of
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Patient Emergency Fund To Receive \$225,000

The National Cancer Institute has donated \$200,000 and the National Heart, Lung, and Blood Institute \$25,000 to the Clinical Center's Patient Emergency Fund (PEF) over the next 3 years from their unconditional gift funds.



"Patients are an integral part of the research we do at NIH, and their welfare and that of their families is a foremost consideration," said Dr. Vincent T. DeVita, NCI Director (r), as he gives a check to Dr. Mortimer B. Lipsett, CC Director. "We are pleased to make a contribution for this part of the research effort."

The PEF provides support for financially distressed patients and their immediate family members. Funds are authorized to provide basic necessities for patients and travel and lodging expenses for relatives of patients.

"On one hand, supporting the Patient Emergency Fund is a humane way of assisting patients and their families—people

(See FUND, Page 6)



The pollination season is here. Over 23 million Americans could be affected as the pollen count climbs in various areas of the country. See Page 9.

NIH Research Chemist Discovers Total Synthesis Process of Opium Derivatives

A process for the total synthesis of medically important opium derivatives has been developed by Dr. Kenner C. Rice, research chemist in the section of medicinal chemistry, Laboratory of Chemistry, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases.

This synthesis is a significant advance toward the ultimate large-scale manufacture of these drugs.

The Rice process makes possible the first practical and relatively simple total synthesis of three important opioid substances, dihydrothebainone, dihydrocodeine, and nordihydrocodeine, in both their natural and unnatural forms.

These compounds can be transformed readily into natural morphine, codeine, thebaine, and all other medically valuable opiates, and their unnatural isomers, using existing practical methods.

The future development of the synthesis may provide independence from foreign sources of opium and poppy straw, the raw materials now used for production of medical opiates in this country.

The synthetic route is currently being scaled up by Drs. Frank I. Carroll, George A. Brine and Anita H. Lewin at Research Triangle Institute to prepare a number of important unnatural opium derivatives required for study of the opiate receptor-en-

dorphin system, and other neuronal pathways. Synthesis of these research tools is funded by the National Institute on Drug Abuse.

In other areas of his work on CNS agents and their antagonists, Dr. Rice synthesized the first irreversible inhibitors of the benzodiazepine receptor and the high affinity binding site for tricyclic antidepressants, in a collaborative program with Drs. Phil Skolnick, NIADDK, and Steven Paul and Moshe Rehavi, NIMH.

Dr. Rice earned a Ph.D. in organic chemistry at the Georgia Institute of Technology in 1965. Prior to joining NIADDK in 1972, he worked on the development of agricultural chemicals and compounds of medicinal interest at Ciba-Geigy, and on the synthesis of new antimalarial drugs at the Walter Reed Army Institute of Research.

Dr. Rice first worked with Dr. Ulrich Weiss from 1972 to 1974 in the Laboratory of Chemical Physics, NIADDK, and in 1974 joined the section on medicinal chemistry, then directed by Dr. Everett May.

For his work, Dr. Rice won second prize in the government division of the 9th Annual World Fair for Technology Exchange in 1981.

He presented his work at the American Chemical Society meeting in Las Vegas, Nev., Mar. 29 - Apr. 2. □

Genentech and NCI Clone Human Gamma Interferon

National Cancer Institute and Genentech Inc. scientists have reported the first successful cloning of human gamma (immune) interferon in the February 11-17 issue of *Nature*.

The NCI scientists are Drs. Shelby L. Berger and Donald M. Wallace of the Laboratory of Pathophysiology. Dr. Berger and colleagues were the first to isolate, from human lymphocytes, the messenger RNA needed to produce human gamma interferon with recombinant DNA techniques. He reported the successful isolation of messenger RNA at the DNA Recombinant Interferon Cloning Workshop held at the NIH in September 1980.

The successful cloning of gamma interferon was first reported at the 2nd Annual International Congress for Interferon Re-

search in San Francisco in October 1981.

Interferon is secreted in small amounts by most vertebrate cells when they are properly stimulated. Nearly all interferons are made up of relatively small proteins attached to carbohydrate.

When the carbohydrate portion of the molecule is removed, the protein usually retains the biologic activity characteristic of interferon.

Several types of natural interferon exist, characterized by their specific immunologic and physical differences. Interferons made in bacteria with recombinant DNA technology do not contain the carbohydrate portion of the molecule.

The gamma, or immune, interferons are distinguished from other interferons by

(See INTERFERON, Page 11)

The NIH Record

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NIH Record Office
Bldg. 31 Room 2B-03, Phone 496-2125

Editor
Jerry Gordon

Staff Writers
William B. Reinckens
Joyce F. McCarthy

Staff Correspondents

CC, Barbara Smakula; DCRT, William Hall; DPM, Judy Fouché; DRG, Sue Meadows; DRR, Barbara Menick; DRS, Jim Doherty; FIC, Susan P. Stark; NCI, Patricia A. Newman; NEI, Marsha Corbett; NHLBI, Bill Sanders; NIA, Ann Dieffenbach; NIADDK, Jeanne Winnick; NIADDK, Barbara Weldon; NICHD, Pamela Driscoll; NIDR, Sally Wilberding; NIEHS, Hugh J. Lee; NIGMS, Wanda Wardell; NIMH, Harry Bell; NINCDS, Diane Striar; NLM, Roger L. Gilkeson.

NIH Flyers Club Off the Ground

The organizational meeting of the contemplated NIH Flyers Club will be held on Apr. 15 at 5:15 p.m. in the FAES Bldg., corner of Cedar Lane and Old Georgetown Rd.

Anyone who is a pilot or is interested in flying can call Dr. Fred Bruner at 496-9223 for further information. □

Training Tips

The following courses, sponsored by the Division of Personnel Management, are given in Bldg. 31.

Communication Skills	Course Starts	Deadline
Interpersonal Problem Solving	4/14	3/31
Human Relations Workshop	5/12	4/26
Writing Workshop	5/24	5/6
Report Writing Workshop	6/1	5/3
Office Skills		
Effective English Workshop	4/19	4/2
Letterwriting for Secretaries	5/19	4/21

To learn more about these and other courses in office and communications skills, contact the Training Assistance Branch, DPM, 496-2146.

Correction

The telephone number for registration information on the Gene Transfer and Cancer workshop to be held at the Frederick Cancer Research Facility on Apr. 16-18 was incorrectly printed in the last issue. The correct number is (301) 663-7359. □



Fourteen members of NIADDK's Digestive Diseases Clearinghouse were presented certificates of appreciation from the Institute for their outstanding services over the past 2 years. The group serves as an advisory body to the Clearinghouse, which coordinates a national effort to educate Americans about the prevention and management of digestive diseases.

Left to right, back row: Susan Sweeny, Louis Raffio, Dr. John Papp (for Dr. Warren Nugent), Barbara Giloth, Dr. R. Scott Jones, Dr. Lawrence Johnson, and Dr. Frank Brooks, who received a special plaque for his contributions to the Clearinghouse.

Left to right, front row: Dr. Timothy Lipman, Suzanne Rosenthal, Maxine Turon, Thelma King Thiel, Bonnie Bolinger, Elaine Hartsook and Dr. Robert Beall. Others receiving awards but not pictured were: Anita Garrow, Edward Morrison, Dr. Martel Dailey, Richard Sessions, and Dr. Frederic Daum.

Benzodiazepine Pharmacology To Be Discussed Apr. 12-14

The first meeting devoted entirely to the pharmacology of the benzodiazepines since the discovery of the receptor for this class of drugs in 1977 will be held at Masur Auditorium Apr. 12 to 14.

The benzodiazepines are used as anticonvulsants, anxiolytics (antianxiety), sedative-hypnotics, and muscle relaxants. Because of their diverse action, they are the most widely prescribed drugs in current therapeutic use.

The first commercially available benzodiazepine, Librium, was introduced into clinical practice in 1960. It was soon followed by Valium and Serax. Today there are approximately 12 benzodiazepines on the world market.

Earn Credit Through Exam

NIH employees can participate in the College-Level Examination Program (CLEP) when it is conducted on Thursday, Apr. 29. CLEP is a nationally recognized testing program where individuals can receive college credit for knowledge they have obtained outside of school. Deadline for test registration is Friday, Apr. 9.

Information about the CLEP tests can be obtained from Carol Daniels, Career Education Center, Bldg. 31, Rm. 4B-03, or by calling 496-5025. □

Don't Harass Me!

The *Work Place Hustle*, a film about sexual harassment, will be presented by the Occupational Medical Service on the following dates:

Monday, Apr. 5, noon-1 p.m., Bldg. 31, Conf. Rm. 8, C wing
Monday, Apr. 12, noon-1 p.m., Bldg. 31, Conf. Rm. 4, A wing
Monday, Apr. 19, 1-2 p.m., Bldg. 10, 12th fl., Rm. 401, new wing

Rachelle Selzer, Employee Assistance Program and Barbara Iba, Federal Women's Program, will conduct a question-and-answer session afterwards.

Men are invited to attend. □

The biochemistry, neurophysiology, and pharmacology of the benzodiazepine receptor, the use of benzodiazepines in treatment of anxiety, depression and insomnia, and new drug development will be discussed at this international meeting.

The meeting was organized by Drs. Steven M. Paul, John Tallman and Earl Usdin of the National Institute of Mental Health; Dr. Phil Skolnick, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases; and Dr. David Greenblatt, Tufts University.

Fees and registration are not required. Additional information is available from Dr. Paul, 496-2141. □

FY '82 Training Calendar Updated

A bulletin updating the FY '82 NIH Training Calendar will be distributed desk-to-desk to employees during the latter part of March. This Calendar update, prepared by the Training Assistance Branch, DPM, contains class dates, locations, costs, and nomination deadlines for training scheduled at NIH from April through September 1982.

Follows Another Document

A companion document, *The 1982 Training and Career Development Catalog*, was issued to personnel and administrative offices, supervisors and managers, and EEO counselors and coordinators in early March. Additional copies of the Catalog update are available from TAB, Bldg. 31, Rm. B2C-23. □

Recognizing the many highs and lows encountered through life, it helps to remember that success is never final, and failure is never fatal . . . but courage and perseverance can be everlasting.

—Unknown □

Harvey Society Honors Dr. Vaughan



An invitation to speak before the Harvey Society is considered a distinct honor. It also automatically confers membership on Dr. Vaughan, the invited speaker.

Dr. Martha Vaughan, chief of NHLBI's Laboratory of Cellular Metabolism, was the honored lecturer for the Harvey Society at Rockefeller University early this year.

The society, founded in 1905 and named for Dr. William Harvey who first described the closed system of blood circulation in humans, consists of scientists who have made significant contributions to the medical and biological sciences.

Dr. Vaughan delivered a lecture on Choleragen, Adenylate Cyclase and ADP-Ribosylation, a subject that has been of continuing interest to her and her coworkers since they successfully demonstrated the enzymatic activity of choleragen (cholera toxin) a few years ago.

The toxin is capable of catalyzing the ADP ribosylation of a membrane protein which activates the enzyme adenylate cyclase.

She and her colleagues have shown that ADP-ribosyltransferases similar in some ways to choleragen are present in many animal tissues. It is thought that this family of enzymes may be involved in the control of cellular processes that are as yet unidentified.

In addition, Dr. Vaughan and her coworkers have studied characteristics and regulatory properties of enzymes involved in the biosynthesis and metabolism of cyclic nucleotides and have defined several kinds of effects, both acute and chronic, of hormones and cyclic AMP on the activity of specific phosphodiesterases—enzymes responsible for the degradation of cyclic AMP and cyclic GMP.

She received her M.D. degree from Yale University and began her career at NIH in 1952 as a research fellow in the Laboratory of Cellular Physiology.

In 1968, Dr. Vaughan was chosen to head the section on metabolism in the Molecular Disease Branch of the National Heart and Lung Institute. In 1974, when the Laboratory of Cellular Metabolism was established, she was appointed its chief. □

NIH Task Force Formed To Identify, Explore and Plan Staffing Action on A-76

In the last few years, the attention of many NIH employees and managers has focused on OMB Circular A-76. This circular recognizes the general policy of the government to rely on competitive private enterprise to supply the products and services it needs.

The circular prescribes procedures which government agencies, including NIH, must use to determine the most cost-effective method (either by in-house government personnel or through the use of private contractors) of performing commercial-industrial activities.

Procedures Outlined

This policy is being given considerable emphasis by the Office of Management and Budget. While the circular does not favor either method of performance, it does prescribe extensive cost analysis procedures that agencies must follow to ensure selection of the most economical method.

At NIH, an A-76 advisory group was established in January 1980 to oversee the coordination and implementation of A-76 activities. This group receives technical leadership, guidance, and staff support from the Division of Management Policy.

For the last several years, NIH has concentrated on negotiating with PHS and HHS to determine the appropriate in-house commercial-industrial activities which must be subjected to cost analysis.

There are now 12, all of which have been scheduled for review over the next 15 months. Decisions about whether to contract out an individual activity will not be made until review of that activity has been completed.

Because NIH has consistently been concerned about the direct and indirect effect of A-76 on its employees, Acting NIH Director Dr. Thomas E. Malone recently established an A-76 staffing task force.

Staffing Matters Considered

Unlike the A-76 advisory group, the task force will concentrate only on staffing matters. Its overall objectives are to:

(1) identify relevant staffing issues; (2) explore possible solutions/approaches to assist NIH personnel who may be displaced through the implementation of A-76; and (3) develop a staffing action plan that will recommend strategies for dealing with method of performance decisions.

Additionally, the task force will work with the A-76 advisory group to assure that NIH employees are informed about important A-76 developments.

Task force members were carefully chosen to represent appropriate segments of the NIH community, and include representatives from the Division of Personnel Management, Division of Equal Opportunity, Division of Management Policy, and the BID's. □

EEO Work Group Approves 12 Data Recommendations

Members of the Working Group to Review Recommendations of the NIH EEO Data Systems Committee have approved 12 of 16 recommendations, deferred one for further study, rejected one, and added one on the basis of comments received from the BID's.

The NIH Director established the committee in August 1980. Headed by Dr. William C. Mohler, associate director, Division of Computer Research and Technology, the committee was charged with conducting a review of NIH policies and procedures pertaining to minority data and making recommendations for improvement in existing capabilities.

The committee completed its task in March 1981 and the NIH Deputy Director established a working group to review the recommendations, receive comments from the BID's, recommend action, and designate action officers.

Dr. Cooper To Address STEP Forum Session

The STEP Forum series will continue with a presentation on Apr. 15 by Dr. Theodore Cooper, who will discuss Industry's Role in Biomedical Science.

Dr. Cooper is executive vice president of Upjohn Company, a former Assistant Secretary of Health, HEW, and former NHLBI

Eight of the actions to be undertaken deal with data systems that support internal NIH EEO and affirmative action programs, five address data systems to support NIH civil rights concerns among grantees and contractors, and two concern the general procedures for requesting data.

Together, they should provide the continuing basis for improvements in data systems to yield more timely, accurate, and relevant data to meet the needs of all NIH staff requiring EEO-related data.

A document summarizing the committee recommendations, BID comments, and working group decisions has been sent to members of the committee, to BID staff, and to others who submitted their views to the group.

Those interested in reading the document may obtain a copy from the Office of the Deputy Director, Bldg. 1, Rm. 132. □

Director.

The forum will be held in Bldg. 1, Wilson Hall, from 2 to 4 p.m. The presentation and discussion to follow are open to all NIH employees.

For further information, call Arlene Bowles, 496-1493. □

Lisuride Added to Daily Drug Regimen Helps Parkinson's Patients on Levodopa

Some Parkinson's disease patients treated with levodopa (L-dopa) for a long time experience a return of disabling symptoms.

Research by the National Institute of Neurological and Communicative Disorders and Stroke shows that these patients may be helped by adding the experimental drug "lisuride" to their daily drug regimen.

Dr. Peter LeWitt and others of the Experimental Therapeutics Branch compared lisuride, a drug originally used to treat migraine headache, with bromocriptine, a drug already proven effective against parkinsonism. Both drugs are derived from ergot—a mold which grows on rye.

Bromocriptine and lisuride are dopamine agonists. The two drugs mimic the action of dopamine, a brain chemical involved in movement control. Dopamine is deficient in Parkinson's disease patients. The commonly used drug, L-dopa, is converted to dopamine in the patient's body through a chain of chemical reactions.

Many of the 28 patients participating in the lisuride vs. bromocriptine double-blind crossover study were problem cases who had begun experiencing side effects from L-dopa after using it for several years.

In the new regimen, the patients were given either lisuride or bromocriptine for 7 to 10 weeks; during the next 10-week period, they were switched to the other drug. Throughout, the patients continued to take conventional antiparkinsonian

medications that had been prescribed prior to the study such as L-dopa.

Computer-assisted measurements of movement time, reaction time, and gait were recorded by the scientists, who found both drugs fairly similar in controlling tremor, rigidity and dyskinesia—uninvoluntary and uncontrollable movements. Most patients receiving lisuride or bromocriptine experienced a dose-related improvement in parkinsonian symptoms.

However, the NINCDS scientists found considerable individual differences in patient drug preference. After the study's completion, 15 patients chose to continue on lisuride compared to 11 who chose to take bromocriptine (2 patients dropped out of the study). Each patient's drug preference was based on perceived benefits and reduced side effects from the particular drug chosen.

An 18-month followup of the 15 lisuride-therapy patients found that most were experiencing the same degree of benefit seen during the study without any additional adverse reactions or toxicity from long-term treatment.

Adverse reactions occurring during the initial treatment phase included disturbances in the patients' mental states. Certain individuals experienced these and other side effects to a greater extent on one drug than on the other.

Lisuride appeared to produce more hallucinations, though for many patients this was a minor and well-tolerated side

effect. Other effects included a marked decrease in the frequency and severity of migraine headaches in two patients with a history of frequent migraines. Also, five patients found their sense of smell was improved when they took lisuride compared to when they were on bromocriptine.

As the study progressed, the adverse reactions to the two drugs were tolerated better. According to Dr. LeWitt, the study also found a cross-tolerance effect between lisuride and bromocriptine. When patients were switched from one drug to the other during the second phase of the study, they experienced fewer adverse reactions than when they began the study.

The significance of lisuride's satisfactory performance and its popularity with patients extends beyond the therapeutic realm and into the pocketbook. One of the problems that has threatened bromocriptine's ultimate acceptance as a practical solution for use in parkinsonian drug therapy has been its staggering cost.

The expense is related to the drug's complex chemical nature which increases the cost of synthesis. Lisuride, which has a simpler chemical structure, is likely to be less expensive to manufacture.

Dr. LeWitt suspects that long-term therapy with lisuride or other similar drugs may help to reduce problems with long-term L-dopa therapy, but says that this has not yet been proven. Therefore, NINCDS plans to test other types of medications including a related drug, pergolide.

In the future, a promising (and still nameless) drug chemically different from L-dopa and the ergot derivatives will be tested in a few patients. This drug, in animal studies, has shown potential in its safety and effectiveness. □

NIADDK Advisory Council Names Five New Members

Five new members have been appointed to 4-year terms on the National Arthritis, Diabetes, and Digestive and Kidney Diseases Advisory Council. The new members are Sarah S. Austin, Dr. Harold J. Fallon, Dr. Robert E. Olson, Harold D. Schwartz, and Dr. John H. Walsh.

Ms. Austin is a professor of urban studies at Cleveland State University. She is also secretary, board of overseers, School of Medicine, Morehouse College, and a member of the board of trustees, Case Western Reserve University. She has served in several executive positions with the National Urban Coalition, Washington, D.C., from 1972 to 1980, including appointments as executive vice president from 1978 to 1980. In addition, she served for 2 years as special assistant to the HEW Secretary.

Dr. Fallon is an outstanding authority in the cause, treatment and prevention of digestive and liver diseases, and is the chairman, department of medicine, Medical College of Virginia. He is currently a governing board member of the American Gastroenterology Association and a former president of the American Association for the Study of Liver Diseases. He is on the editorial boards of leading scientific journals, and from 1977 to 1979, served on the National Commission on Digestive Dis-

eases.

Dr. Olson, a national authority on the diagnosis and management of nutritional disorders and normal nutrition, is the chairman, department of biochemistry, St. Louis University School of Medicine. He is president of the American Society of Clinical Nutrition, a member of the Food and Nutrition Board of the National Academy of Science, director of the National Nutrition Consortium, and editor of *Nutrition Reviews*.

Mr. Schwartz, an active leader in the lay nephrology community for over 20 years, is the director of marketing and sales for the Capitol Companies, Arlington Heights, Ill. He is past chairman of the National Kidney Foundation and past president of the National Kidney Foundation of Illinois. For the past 8 years, he has served on the Illinois Department of Public Health Renal Disease Advisory Committee.

Dr. Walsh, a leader in the digestive diseases field, is acting director, Center for Ulcer Research and Education, and professor of medicine at the University of California, Los Angeles. He is a member of the American Gastroenterological Association, American Society for Clinical Investigation, the Endocrine Society, and the American Physiological Society. □



Stanley J. Phillips is the new executive officer for the National Library of Medicine. Mr. Phillips was formerly chief, resources management branch, Health Resources Administration. His professional experience includes grants management, financial management, contracts management, general administration, management analysis, and planning. Between 1967 and 1970, Mr. Phillips was a special assistant to the executive office, NLM, and administrative officer for the Division of Specialized Information Services. In addition, he has served on the President's Committee on Mental Retardation.

Drs. E. Neufeld, R. Brady Share 1982 Passano Foundation Award

Drs. Elizabeth Neufeld and Roscoe O. Brady recently shared the 1982 Passano Foundation Award. Dr. Neufeld is chief of the Genetics and Biochemistry Branch, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases. Dr. Brady is chief, Developmental and Metabolic Neurology Branch, National Institute of Neurological and Communicative Disorders and Stroke.

The Passano Foundation's sole purpose is to encourage medical science and research—particularly research that has a clinical application. Every year since 1945, the foundation has presented an award to the person or persons who have made an outstanding contribution to the advancement of medical science and whose work was done in the United States. The award is accompanied by a tax-free honorarium of \$15,000 and was presented Mar. 1 in Baltimore.

DR. NEUFELD

Dr. Neufeld was recognized for her contribution to the biochemistry of carbohydrates, and in particular, to understanding the molecular basis of inborn errors responsible for mucopolysaccharide storage diseases.

The mucopolysaccharide storage diseases are a group of genetic conditions in which large quantities of complex carbohydrates, the mucopolysaccharides, accumulate within lysosomes (specialized cellular organelles) due to an enzyme deficiency. Patients can suffer mental retardation, blindness, deafness and skeletal abnormalities. The diseases are usually fatal.

Dr. Neufeld and her colleagues discovered that when cells from patients with two different mucopolysaccharide storage diseases, Hurler and Hunter syndromes, were mixed in cell culture, the mixture behaved in an almost normal fashion.

This finding indicated the presence of "corrective factors." The biochemical definition of the corrective factors led to the development of enzyme assays to be used in patient diagnosis and genetic counseling. It also led to the finding that lysosomal enzymes require recognition by a specific receptor in order to be transported to lysosomes.

Drs. Neufeld and Brady are the first NIH scientists to receive the award in the senior category. Last year, Dr. Joel E. Moss of the National Heart, Lung, and Blood Institute was one of two junior laureate winners.

Ten Passano Foundation laureates have subsequently received the Nobel Prize, including the 1973 award winner, Dr. Roger W. Sperry of the California Institute of Technology. □

Volunteers Needed for Allergic Reaction Study

The allergic diseases section of the National Institute of Allergy and Infectious Diseases is currently interested in studying otherwise healthy adults between the ages of 18 and 56 years who have reproducible allergic reactions within minutes to hours after eating a specific food.

Allergic reactions to foods may consist

DR. BRADY

Dr. Brady was honored for his "highly original contributions to our understanding of the molecular basis of the inborn errors of lipid storage diseases known as the sphingolipidoses."

Lipid storage diseases such as Gaucher's, Niemann-Pick, and Fabry's are caused by an abnormal buildup of fatty compounds in tissues. This accumulation of fats results from a genetically determined deficiency of enzymes that normally split the lipids apart.

Dr. Brady discovered the specific enzyme deficiencies responsible for several of these illnesses. His discoveries provided the basis for controlling the incidence of lipid storage diseases through diagnostic assays, carrier detection procedures, and the ability to monitor pregnancies at risk for these conditions.

Dr. Brady is now developing a promising new treatment, enzyme replacement therapy, that reduces lipid accumulation by administering enzymes in somewhat the same way that diabetics are treated to overcome insulin shortages.

He has received many honors and awards. In 1970, he delivered the NIH G. Burroughs Mider Lecture, outlining treatment potentialities and future research directions.

of rapid onset of hives, nausea and vomiting, diarrhea, difficulty in breathing, flushing, low blood pressure, severe itching or any combination of these symptoms.

Further information for interested individuals can be obtained from Drs. Dean Metcalfe or Dan Atkins by calling 496-2165. □

STRIDE Nursing Program Opens for Ten Positions

Ten eligible employees will soon be selected to enter the NIH Stride Nursing Career Development Program. The training program combines work experience as a nursing assistant in the Clinical Center with full-time coursework at Georgetown University School of Nursing. The program requires a minimum of 2 years to complete.

To apply employees must:

- Have been employed in a nonprofessional career or career-conditional position (GS-3 to 9, or wage-grade equivalent) at NIH or NIMH/IRP for at least 1 year immediately prior to the closing date of the announcement.
- Be willing to accept a full-time position during training and upon program completion; or
- Have a high school diploma or GED certificate and less than a bachelor's degree.

Those applying for the program should obtain up-to-date high school and college transcripts. Unofficial (student) copies are acceptable. Applicants above GS-5 must be willing to accept a downgrade to GS-5 if selected, but may be eligible for salary retention benefits.

Official announcement of the program will be in the NIH Merit Promotion Plan Vacancy Listing on Apr. 12, and open for 3 weeks. Complete application procedures will be outlined on the listing.

Employees interested in applying should attend one of two information sessions to learn about the program. The sessions will be held in Bldg. 31, Conf. Rm. 4 on Friday, Apr. 16, at 11:30 a.m., and Thursday, Apr. 22, at 4 p.m.

Call the Career Development Branch, DPM, 496-6211 for additional information. □



Dr. C. David Wise, an NIH grants associate, recently joined the office of program planning and evaluation, National Institute of Allergy and Infectious Diseases. In his new position, he will be coordinating and developing an evaluation plan for the Institute that will ultimately be included in the overall NIH evaluation plan. A native of Ohio, Dr. Wise has served 4 years as a research chemist with the National Institute of Mental Health. His research interests include neurochemistry, enzymology and neuropharmacology of the brain's monoamine systems, on which he has published extensively. He is also a member of Sigma Xi and the American College of Neuropsychopharmacology.

FUND

(Continued from Page 1)

who mean a great deal to us at NIH," said Dr. Peter L. Frommer, Acting Director of NHLBI.

"On the other hand, it represents a contribution to our own research program, since the participation of the patients is obviously so critical to the advances that result from our research. For either reason, the fund deserves the support of all of us."

The money has been deposited into an account which will provide an investment base. The principal will be invested in U.S. Treasury notes and the incomes from that investment will be used to support the PEF. The principal will remain for as long as the need for the PEF exists as an investment base.

Many Have Given

The fund is financed by a variety of sources including donations from patients, friends and relatives of patients, NIH employees, and the R&W, according to Susanne Stoiber, CC executive officer.

"Many of our patients and their families are in desperate financial circumstances due to prolonged illness, and it has been difficult for contributions to keep up with the needs of the fund," she said. "Contributions are often received in cycles that coordinate with such activities as the Christmas drive. Unfortunately, the contribution cycles rarely synchronize with the patients' needs."

In an effort to stabilize the fund and to meet year-round demands, the CC has encouraged contributions from the Institutes out of their unconditional gift funds.

Some of the basic necessities provided by the PEF include a cash allowance for the purchase of newspapers, stamps, cigarettes, soft drinks, and other comfort items. It also provides for clothing and personal need items. These small care allowances have been very beneficial in improving patient morale and self-respect.

An allowance can help relatives visit or remain near patients when their presence is considered necessary for patient support. This cost is generally undertaken only on a short-term basis.

The fund also includes transportation costs and for special events such as birthday parties, group work programs, and beauty and barber shop services. □

Membrane Transport Expert Arrives From Taiwan

Dr. Mao-Hsiung Yen, associate professor at the National Defense Medical Center, Taipei, Taiwan, arrived in March to begin an international research fellowship of the Fogarty International Center in the National Cancer Institute under the preceptorship of Dr. Joseph D. Fenstermacher in the Laboratory of Chemical Pharmacology. His research will be in the field of membrane transport. □

Ski Club Ends Season With Medals and Party



Test Internationale silver medalists are (l to r): Mr. Bingaman, Dr. Kanaya, and Mr. Garrett.

The NIH Ski Club will end its 16th season as the members hold their annual party on Friday, Apr. 2, from 8 until 11:30 p.m., in the FAES Social and Academic Center, 9100 Old Georgetown Rd., in Bethesda.

Over the past year, club membership has doubled to 80 members and include all types of skiers from the expert to the beginner. This year more beginners took advantage of skiing tips and instruction given by more experienced club members.

In February, the club sponsored its

week-long annual ski holiday in Mont Tremblant, Canada. Nine NIH Ski Club members distinguished themselves by taking home bronze medals for the best times in downhill events. The winners were: Kay Raymond, Dr. Robert Scow, Dr. Shigenori Kanaya, Dr. Kenneth Malas, Bill Garrett, Michael Richards, Dr. Ken Thibodeau, Anthony Deutsch, and Bob Bingaman.

Besides being judged against the clock, three members also took silver medals in an event recently introduced into the United States from Europe. Test Internationale rates a skier's overall performance in how turns are negotiated and how well they sit in their skis.

At the party, a photography contest will be held with prizes being given for first- and second-place winners. Entrants are asked to bring their best slides and/or prints taken during the 1981-82 ski season.

Additionally, a shop talk session will be held on How To Put Your Ski Equipment To Rest for the Summer. A planning session for possible trips for next year is also on the agenda.

A \$2 admission fee is being charged at the party to cover the cost of refreshments. For more information contact Robert Bingaman, 496-5151. □

Nobelist Among 3 Named to Eye Advisory Council

Nobel Prize laureate Dr. Torsten N. Wiesel, is one of three new members recently appointed to the National Eye Institute's National Advisory Eye Council. Also named to the Council were industrialist William C. Conner and retinal expert Dr. Stephen J. Ryan, Jr.

Dr. Wiesel, who is an expert in the neurobiology of the visual system, received the 1981 Nobel Prize for Medicine or Physiology. The Prize was awarded to Dr. Wiesel and his longtime collaborator, Dr. David Hubel, for research which led to an understanding of how the visual cortex of the brain processes information sent to it by the retina of the eye.

Dr. Wiesel has been on the faculty of Harvard Medical School, Boston, since 1959, and is chairman of the department of neurobiology there. He is a graduate of the Karolinska Institute, Sweden, where he received his M.D.

Mr. Conner, a leader in the pharmaceutical industry and supporter of eye research, is a founding partner of Alcon Laboratories, Inc., of Fort Worth, Tex. He served as chairman of the company's board of direc-

tors from 1947 to 1979. During this time, he built Alcon into a multimillion-dollar enterprise manufacturing ophthalmic drugs and devices.

In addition, he has served on the governing councils of three of the major voluntary organizations devoted to eye research—National Society to Prevent Blindness; Research to Prevent Blindness, Inc.; and Friends of Eye Research.

Dr. Ryan has been chairman of the department of ophthalmology at the University of Southern California since 1974 and medical director of the Estelle Doheny Eye Foundation since 1977.

A clinician and investigator with wide experience in retinal disease, he is now active in developing and improving experimental models of retinal and vitreous disorders.

Dr. Ryan is well versed in clinical trials, having participated in such NEI-supported trials as the Branch Vein Occlusion Study, the Diabetic Retinopathy Vitrectomy Study and, most recently, the Early Treatment Diabetic Retinopathy Study. □

Camelot and Gilbert & Sullivan Tickets Are Now Available

R&W has tickets for the following musical events:

Camelot, starring Richard Harris, at the Warner Theatre, Wednesday, Apr. 14. Ticket cost is \$27.50 (includes service charge).

The Pirates of Penzance (Gilbert and Sullivan), at the National Theatre; Wednesday, Apr. 28. Tickets are \$28 (plus service charge).

Reservations accepted at the Activities Desk, Bldg. 31, Rm. 1A-18. □

Phones, Planes, Trucks, Vans and People Handle Outgoing Shipments

Like the TV commercial says—when it has to be there overnight—NIH scientists and other staffers for almost the last quarter of a century have turned to the man who knows how to get a parcel to its destination on time.

Alton C. Powell, shipping officer, shipping and receiving section, Division of Administrative Services, and the dedicated people who work with him, are the ones who make sure that each shipping request is filled out correctly and that each box is properly crated before shipment. They are also the ones who ensure that the correct package gets to the correct destination—and on time.



"Shipping, Powell" is the typical greeting everyone gets from the NIH shipping officer when phoning in to make requests or get advice. He's been doing this for nearly 25 years.

This section handles all kinds of requests, from a small cardboard box filled with a researcher's notes destined for Milano, Italy, to transportation of 17 five-foot alligators to be shipped to a research facility in Colorado. They also routinely ship primates, mice, and other laboratory animals.

These requests, along with approximately 2,500 others, pour in every month keeping Mr. Powell and his two clerical assistants very busy. Resting on his desk are Mr. Powell's "bibles"—the telephone book-size official Worldwide and North America airline scheduling guides.

Besides being thoroughly familiar with the airline schedules, staffers have to know how Federal Express, Purolator, Burlington Northern Airborne, United Parcel Service, and even the U.S. Postal Service operate. Noting that many NIH employees call him asking about how much an item will cost to be shipped, Mr. Powell says, "we can only give them an estimate."

Like a giant magnet, the Bldg. 13 Platform B loading dock attracts a variety of large and small packages ranging from such items as heavy laboratory equipment to lighter, smaller packages containing medication for recently discharged Clinical Center patients.

By 9:30 a.m., Monday through Thursday packages are assembled for pickup (Fri-



This is part of the crew that gets NIH shipments to their destinations on time (l to r): Cheryl D. Bradley, Mr. Powell, Paula E. Chandler, Milton Gross, and Robert Turner. Absent from the photo is William H. Brown.

days are usually too late for shipping because rarely is there anyone at a long-distance address to receive a package over a weekend). Special items such as the 25 to 30 packages containing substances packed in dry ice arrive daily at Mr. Powell's office (Rm. G-760).

Sometimes, he is called upon to play the role of a shipping sleuth in tracking down packages sent from overseas at the request of an NIH researcher.

Mr. Powell advises that when an overseas shipment is sent to NIH, "they should send it to Dulles, not New York." Delays up to 10 days are frequent there.

Also, scientists at NIH should instruct colleagues to send an item collect so that when it arrives it can be converted into a Government Bill of Lading. The airlines will call Mr. Powell's office to notify him of the arrival.

Besides working with commercial carriers, Mr. Powell also must have contacts with the U.S. Customs Service, so that when questions come up about a particular experimental drug shipment, or about a specimen arriving from overseas, he can answer them.

Generally, most questions are answered from the Statement of Restricted Articles that is used when shipping biological or radioactive materials.

Recently, the shipping section received a letter of commendation for packing and shipping electronic equipment, spare parts, and complete technical libraries for five Egyptian universities, as part of an intergovernmental health agreement.

"All shipments of materials were made in a timely fashion and received in Egypt without loss or damage of a single item," read the commendation by the Biomedical Engineering and Instrumentation Branch. "Without the benefit of this excellent service, the recent completion of phase one of this project would have been most difficult, if not impossible."

Perhaps there are only two things that Mr. Powell fears about his operation. One might be an airline strike; and the other, if he should come to work and find his telephone is not working.

Mr. Powell uses this hand-held instrument to prod, cajole, and encourage people around the nation and the world to assist NIH in its research activities.

Regarding the airlines, he says, "I've never had one turn me down when we were in a bind. They know our needs and they know what we want. Any problems can be settled satisfactorily over the phone." □

Visiting Scientist Program Participants

Sponsored by Fogarty International Center

2/21 Dr. Carl Wu, Hong Kong, Laboratory of Biochemistry. Sponsor: Dr. Igor Dawid, NCI, Bg. 37, Rm. 4D06.

2/25 Dr. Philipp N. Huguenin, Switzerland, Laboratory of Medicinal Chemistry and Biology. Sponsor: Dr. James Kelley, NCI, Bg. 37, Rm. 6D23.

3/1 Dr. Minoru Kimura, Japan, Laboratory of Neurophysiology. Sponsor: Dr. Edward Evarts, NIMH, Bg. 36, Rm. 2D12.

3/1 Dr. Krzysztof Reszka, Poland, Environmental Biophysics Laboratory. Sponsor: Dr. Colin Chignell, NIEHS, Research Triangle Park, N.C.

3/1 Dr. Antony Shrimpton, England, Laboratory of Genetics. Sponsor: Dr. Charles Langley, NIEHS, Research Triangle Park, N.C.

3/1 Dr. Yukimasa Yasumoto, Japan, Laboratory of Neurochemistry. Sponsor: Dr. Janet Passonneau, NINCDS, Bg. 36, Rm. 4D16.

3/2 Dr. Eliyahu Loewenthal, Israel, Radiation Physics Section. Sponsor: Dr. Johannes van de Geijn, NCI, Bg. 10, Rm. B3B38.

3/5 Dr. Hidemitsu Nakagawa, Japan, Membrane Transport Section. Sponsor: Dr. Joseph Fenstermacher, NCI, Bg. 37, Rm. 5C23.

3/7 Dr. Guido Rossi, Italy, Arthritis and Rheumatism Branch. Sponsor: Dr. Henry Metzger, NIADDK, Bg. 10, Rm. 9N206.

Man-Made Brain Hormone Tested As Once-a-Month Contraceptive for Women

By Maureen Gardner

A man-made version of a hormone produced in the brain shows potential for becoming a once-a-month birth control drug for women, report scientists at the University of California at San Diego.

In a preliminary study, injections of the brain hormone induced a condition known to cause infertility in women. If further research brings more success, the hormone could be available in pill form in the coming years.

The hormone tested is a synthetic version of luteinizing hormone-releasing hormone (LHRH), a substance normally produced in the brains of both men and women. Natural LHRH indirectly regulates reproductive processes in both sexes and is essential for fertility.

The synthetic version—called an LHRH-agonist—is about 140 times as powerful as the native form. Scientists have found that this substance can have drastically different effects on the reproductive system, depending on the dosage given.

While low doses can correct certain types of infertility in women, higher doses can cause infertility in either sex and are therefore under study in the U.S. and abroad as contraceptives for men and women.

The UCSD researchers, supported in part by the National Institute of Child Health

and Human Development, devised a new way to apply LHRH as a contraceptive for women. They gave five women an LHRH-agonist injection each day for the first 3 days of a menstrual cycle. The women's hormone levels were then analyzed daily.

Throughout the treatment cycles, the LHRH-agonist disrupted the complex timing of the release of natural reproductive hormones. Before treatment the volunteers had average 28-day cycles consisting of two 14-day phases, with the cycle midpoint marked by release of an egg from the ovary, or ovulation.

The LHRH-agonist shifted the cycle timing, stretching the preovulatory phase to about 23 days and shortening the second half, called the luteal phase, to about 9 days. Although the cycles lengthened, they remained within normal limits.

For contraceptive purposes, the crucial change was the shortened luteal phase. During a normal 2-week luteal phase, an egg travels from an ovary through a fallopian tube to the uterus, where the lining is prepared to receive that egg, should it be fertilized en route.

If the time frame for these events is shortened, the uterine lining is not physically ready when the egg arrives. It is therefore unlikely that a fertilized egg will implant in the uterine wall.

This shift in cycle timing occurs naturally in some women; it is an uncommon condition, a cause of infertility called luteal phase defect. The UCSD scientists, led by Dr. Samuel Yen, are the first to use a drug to induce luteal phase defects in humans. Further study is needed to determine whether the LHRH-agonist will work consistently with extended use.

Dr. Yen points out that the UCSD findings are particularly exciting because they show an easy reference point for when to take the LHRH-agonist—the start of the menstrual period.

Thus, if the synthetic hormone proves to be an effective birth control drug, it will offer the convenience of a once-a-month dose with a natural reminder to take it.

Before LHRH-agonists can be marketed as a contraceptive, they must undergo large-scale clinical trials to evaluate their effectiveness and safety. In studies to date, they appear to confine their actions to the reproductive system alone.

Because of this, they are expected to be safer than present hormone-based contraceptives containing steroids, a type of hormone that can cause side effects in many systems of the body.

Dr. Yen predicts that LHRH-agonists will be ready for clinical trials in 2 to 3 years. "The whole world is waiting for a better birth control pill," he stated.

Dr. Yen's group is studying ways to produce LHRH-agonists in more convenient forms than the injections now used, such as capsules that can be absorbed under the tongue. □

Recombinant DNA Techniques Used To Study Mental Disorders

Families in which a psychiatric disorder appears generation after generation have led researchers to believe that the particular vulnerability may be inherited, yet researchers have been unable to identify the genetic mechanisms by which the disorders are transmitted.

The search for genetic marker(s)—inherited characteristics that may be linked to a gene for mental disorder—is proving challenging and complex. NIMH intramural researchers are employing newly developing technologies in efforts to solve the problem.

Dr. Elliot Gershon, chief, section on psychogenetics, reports that his program is capitalizing on advances in recombinant DNA and tissue culture technology by trying to find what is different about the genes of patients and their ill relatives making them vulnerable to manic-depressive disorders.

"The beauty of DNA technology is the relative ease and speed with which it provides the abundance of genes required for research as contrasted with the difficulties of extracting and studying the minuscule amounts of chemical substances found in the blood," he said.

Actual genes will be examined for substances of psychobiologic interest by Dr. Prabhakara Choudary, who set up the NIMH DNA laboratory in November 1981.

His first studies will center on a large protein, pro-opiomelanocortin, which is the



Drs. Choudary (l) and Gershon are using newly developed recombinant DNA techniques to study genetic factors in manic-depressive illness.

precursor for beta endorphins and ACTH. These substances influence brain biochemistry and appear to be disordered in many manic-depressives.

Dr. Choudary, a microbiologist, is applying his DNA expertise to the neurosciences for the first time, noting that although the pro-opiomelanocortin gene has been isolated, virtually nothing is known about its role in mental illness.

"The illness may be a function of gene structure or gene product related to a neurotransmitter or receptor," he pointed out.

In other developments, Dr. Suzan Nadi is collecting skin and blood cells from patients, their ill relatives, and normal volunteers in studies under way in a recently formed tissue culture laboratory.

Dr. Nadi is currently testing fibroblasts to see if their surfaces contain receptors for many of the neurotransmitters found in both human and animal brains.

A finding of beta receptors by another laboratory has been replicated, but an exciting discovery in this lab is of muscarinic cholinergic receptors similar to those found in the brain and not previously known to exist in the fibroblast.

Past pharmacological studies suggest that muscarinic cholinergic receptors are overactive in depression, Dr. Gershon noted.

Comparisons are under way between the cells of normal individuals and those of manic-depressive patients.

"If differences are found, we will check to see if they also appear in the cells of ill relatives, in which case they may be a genetic marker for the illness," he added.

Finding a genetic marker or the gene itself would facilitate identification of people at risk and possibly lead to early interventions, reducing individual and family suffering, Dr. Gershon concluded. □

Pollen Allergy Culprit of Seasonal Misery, Ragweed Allergen Is Most Proliferous

Pollen allergy produces symptoms familiar to anyone afflicted. These include sneezing (the most common symptom); nasal discharge and congestion; itchy eyes, nose and throat; watery eyes; and even conjunctivitis (inflammation of the membrane lining of the eyelids).

Hay fever, rose fever, or even a common cold are a few of the misnomers given to pollen allergy, seasonal allergic rhinitis, or pollinosis. Actually, no fever is involved, and the illness is not a cold. In addition, neither hay nor roses are common causes of "hay" or "rose" fever.

In the pamphlet *Pollen Allergy*, the National Institute of Allergy and Infectious Diseases estimates that 14.6 million Americans have "hay fever" each year, and another 9 million are victims of asthma, which can be a serious condition in company with pollen allergy.

Trees pollinate earliest—generally from February or March until April or May. However, tree pollination may start as late as April in northern locales or as early as January in the South. Grasses come next, pollinating from May until mid-June.

Pollens Are Male Germ Cells

Weeds usually pollinate in late summer, except for a few like English plantain which pollinate approximately when grasses do. In general, tree, grass and weed pollens are the most frequent causes of pollen allergy.

Pollens are small, spherical or egg-shaped grains which, as the male germ cells of plants, are necessary for plant fertilization. While pollen allergy usually occurs originally during childhood or young adulthood, it can develop at any age. At least two seasons of exposure to a pollen are generally necessary.

The different symptoms develop after the allergenic pollen enters the nose. Protective mechanisms in the mucous membranes of the nose and upper respiratory passages prevent the pollen from reaching the lungs. The allergenic material is moved through the mucus to the throat where it is swallowed or coughed out.

Once the pollen is deposited on the mucous membranes of an allergic person, an immediate reaction occurs. Sensitizing antibodies in tissues directly under the membranes cause cells to release certain chemicals. One of these, histamine, dilates the many small blood vessels in the nose.

Fluid escaping through the expanded vessel walls leads to edema (swelling) of the nasal passages and nasal congestion. Most rhinitis symptoms result from this release of histamine in the affected tissues, but the activity of the mucous glands is also increased.

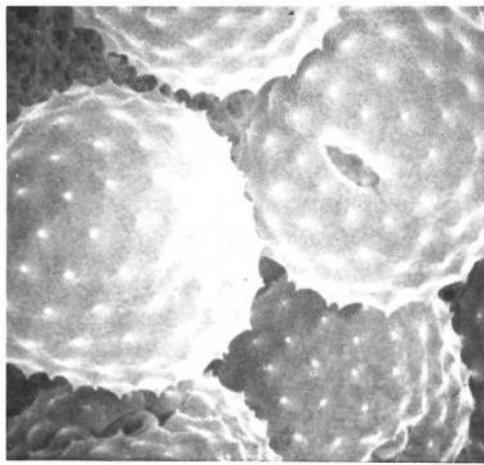
The allergic process is similar to the immune process which provides resistance to disease. During an allergic reaction, sensitizing antibodies, also known as immunoglobulin E (IgE), are formed during the first encounters with an allergen.

After further exposure to the allergen, IgE antibodies react with certain body cells to bring on the symptoms of an allergic reaction.

Pollens may be divided into types, those carried by insects and those dispersed by the wind. Most flowers have large waxy pollens which are carried from plant to plant by insects such as bees.

Wind Disperses Pollen

Trees, grasses, and weeds, however, are wind-pollinated. The small, light, dry pollens of these plants can be widely distributed by the wind currents. For instance, samples of ragweed pollen have been ga-



Ambrosia ragweed pollen grains are magnified 3,000 times in this scanning electron micrograph.

thered 400 miles at sea.

Two other factors contribute to a pollen's importance as an allergen. One factor is the ability of a common plant to reproduce pollen in large quantities. A single ragweed plant has been estimated to produce 1 million grains of pollen in 1 day. Ragweed is considered the most common cause of seasonal allergic rhinitis in North America.

Secondly, pollens must be allergenic in their chemical composition. Weeds are quite important causes of pollen allergy. Other than ragweed, those that are most significant are sagebrush, redroot pigweed, careless weed, spiny amaranth, Russian thistle (tumbleweed), burning bush, and English plantain.

Grasses Are Big Pollinators

Grasses are next to weeds in allergic importance. There are over 1,000 species of grass in North America. But only the pollens of a few—such as timothy grass, redtop grass, Bermuda grass, orchard grass, sweet vernal grass, and some blue-grasses—serve as notable allergens.

Trees significant in pollen allergy include the walnut, oak, elm, hickory (especially the pecan), box elder, and mountain cedar varieties.

Three methods are available for treating allergies. These are avoiding the allergen,

medications, and immunotherapy—sometimes called "allergy shots" by the general public. Usually these treatments will provide relief from the symptoms of allergy, although no actual cure has yet been found.

During pollinating periods, the allergic person should avoid exposure to respiratory infections and to nonspecific irritants such as dust, insect sprays, tobacco smoke, air pollution, and fresh paint or tar.

Any of these may aggravate the symptoms of pollen allergy. It is important to consult a physician about any respiratory illness lasting longer than a week, so that correct diagnosis can be made and appropriate therapy started.

A pollen count is a measure of the amount of pollen—of either a single type or a group—in the air of a certain area at a specific time. It is often expressed in grains of pollen per square centimeter, collected by one of several methods during a 24-hour period.

Pollen counts are useful in determining which pollens, known to be allergenic, are of numerical importance in an area and when. The counts also reflect the effect of weather on pollen dispersal during any certain day.

NIAID has established a network of Asthma and Allergic Disease Centers throughout the country in an effort to hasten the application of laboratory findings to the treatment of the allergic patient. At these centers, laboratory scientists work closely with clinical allergists to expand knowledge of allergic diseases.

For more information about pollen allergy or other allergies, contact the NIAID Office of Research Reporting and Public Response, 496-5717.

—Joyce McCarthy □

Ft. Detrick To Hold Run; Runners and Volunteers Sought

The Frederick Cancer Research Facility will hold its first annual 10-kilometer (6.2 miles) run on Sunday, May 2, at 1 p.m. There will also be a 1-mile fun run. All activities will be held at Ft. Detrick. Parking is available in the parking lot across from the Ft. Detrick Field House.

The "marathon" is open to all NIH, FCRF, and Ft. Detrick employees and their families. Prizes will be awarded in several categories.

No entry fee is required, but all entrants must fill out a registration form and sign a legal waiver. Prior to each race, Dr. Robert K. Oldham, director, Biological Response Modifiers Program, Division of Cancer Treatment, NCI, will brief runners on safety and health tips. Ft. Detrick personnel will assist by marking routes and providing security.

Volunteers are needed to help with check-ins, directing traffic, timekeeping, distributing prizes and serving refreshments.

Anyone wanting to assist or requiring registration forms may call Linda Davis, (301) 663-7359. Advance registration is required. □

Diabetes Nursing Conference Provides Current Information on Patient Management

Atypical Diabetes: Life in the Present, Hope for the Future, was the subject of a recent nursing care conference sponsored jointly by the Arthritis-Metabolic and Eye Nursing Services of the Clinical Center.

More than 300 participants were provided current information on the nursing management of patients with insulin resistant diabetes and/or diabetic retinopathy during the 1-day program.

The expanding functions of the nurse, not only in the traditional role of patient comfort and support, but also as health care provider and teacher were highlighted. These functions are vital in the management of chronic disorders where patient education and self-help are critical to the quality of life.

Dr. Judith Oehler, assistant professor of psychiatric nursing at the University of Wisconsin—and a blind diabetic—opened the conference with a discussion of psychosocial issues related to chronic disease. She outlined several key factors to be considered by the nurse in helping a patient adjust to long-term illness or handicap.

These include the stage of lifecycle at onset of chronic disease, the individual's character type and psychological reactions such as anxiety or denial, and the personal meaning that the disease holds for the patient. Development of this type of patient profile is invaluable to the nurse in choosing the correct method of intervention.

Dr. Oehler stressed that a patient can be more disabled by depression than by a handicap. She put this theory to the test as codirector of Project Pelion, a climbing expedition to the peak of Mt. Rainier in 1981 in which half of the 24 participants had significant disabilities.

Barbara Johansen, RN MSN, Arthritis and Metabolic Nursing Service, presented an overview of normal and abnormal physiology in insulin resistance. She discussed the growth in knowledge of insulin action from the hormone's discovery in 1921, to the current level of research sophistication concerning the role of insulin receptors in triggering biological activity.

Ms. Johansen noted that insulin resistance exists whenever normal concentrations of insulin (the pancreas secretes 20 to 60 units per day) produce a less than normal biological response.

The establishment of a nursing care plan, comprised of several key elements, is necessary for managing insulin resistant patients. These elements include nursing diagnosis—identification of a specific patient problem that the nurse may influence or resolve; expected outcome; nursing actions taken to achieve stated outcome; chart progress; and a deadline, the date the expected outcome should be realized, or date of discharge for problems unlikely to be resolved during hospitalization.

This type of plan is particularly critical in cases of extreme insulin resistance with acanthosis nigricans, a disfiguring derma-



Dr. Oehler, accompanied by her seeing-eye dog, opened the diabetes nursing conference with a discussion of the psychosocial issues presented to patients with chronic disease.

logical disorder.

Donna H. Howes, RN BSN, of the CC's eye nursing service, presented a detailed overview of diabetic retinopathy, the deterioration of the small blood vessels that nourish the retina.

The leading cause of blindness in the United States today, retinopathy affects 50 percent of diabetics who have had the disease for at least 7 years, and 90 percent of those with diabetes of 20 years' duration.

Ms. Howes cautioned that unless better methods of prevention are utilized, the number of persons with diabetic retinopathy is expected to increase by 150 percent over the next 50 years.

Sight-saving techniques, such as photocoagulation and vitrectomy for treatment of retinopathy, are currently available, but lack of patient and professional awareness of the procedures—and even of the basic relationship between diabetes and visual loss—could hamper efforts to reduce the rising toll of blindness from diabetic retinopathy.

Ms. Howes stressed that the nursing message to diabetic patients is clear: diabetes affects the eyes; pregnancy, hypertension and smoking can worsen retinopathy; treatment is available to decrease the risk of blindness; and, an ophthalmologist should be seen yearly.

As an integral part of the health care team, the nurse as teacher plays a vital role in reducing morbidity from diabetes through development of creative education techniques. □

Waverly Orchestra Presents A 'Welcome to Spring' Concert

The Waverly High School orchestra, Lansing, Mich., will give a Welcome To Spring concert on Tuesday, Apr. 6, at noon, in Maser Auditorium. Director Karen O'Brien will conduct the orchestra in a program consisting of classical and popular music. The event is planned as a tribute to spring. Admission is free. □

BID Suggestions Aid Library

Do you have a question or suggestion about the operations of the NIH Library?

The Library Advisory Committee, whose members represent the BID's, welcome constructive criticism and suggestions from the NIH staff about ways in which the library can improve its services.

Members are appointed by their scientific directors or division directors only after expressing interest in the operation of the library with final approval by the NIH Deputy Director for Science. Dr. Eugene C. Weinbach, NIAID research biochemist, is chairman of the committee.

The full committee meets four times a year with the Director, Division of Research Services; the chief, Library Branch, DRS; and key library staff.

Much of its work is done through subcommittees dealing with specific topics such as journal retention.

Computerized bibliographic searches, photocopying services, and the use of library space are among the other topics on which committee members advise the library management.

A list of the current NIH Library Advisory Committee members and their location follows. These are the individuals who should be contacted about library operations:

BID's	Bldg./Rm.
BOB	29/300
CC	10/1B37A
DCRT	12A/3018
DRG	WB/A19
DRR	31/5B05
DRS	12A/4007
NCI	10/1L-25F
NEI	LAN/4C14
NHLBI	6/22B
NIA	10/7N262
NIADDK	GRC/4-103
NIAID	10/8N312
NICHD	5/124
NIDR	10/10B09
NIGMS	Park Five/451
NIMH	WB/905
NINCDS	10/3D-41
NLM	10/3D-16
	38/M138



Marian Kirley has retired after more than 23 years of Federal service, 12 of those with the National Institute of Child Health and Human Development. Ms. Kirley worked as a secretary in the Office of Research Reporting for the past 11 years where she handled the Institute's publication storage and dissemination activities. She was honored at a farewell party recently where she spoke of plans to visit friends and family out west and spend more time with her granddaughter.

INTERFERON

(Continued from Page 1)

their immunologic properties and their sensitivity to acid.

They can be produced by T-lymphocytes, a type of white blood cell, after stimulation by antigens or other agents, called mitogens, that trigger cell division and enable cells of the immune system to inactivate or destroy foreign substances.

Early tests with animal interferons suggested that the gamma interferons act indirectly on cancer cells by helping to regulate the cells of the immune system. Studies of human immune interferon have been hampered, however, by low production levels in cell cultures.

The Genentech and NCI scientists synthesized human gamma interferon with recombinant DNA techniques in bacteria. Drs. Berger and Wallace extracted messenger RNA's for gamma interferon from human lymphocytes and confirmed the ability of the RNA to make functional immune interferon in cell cultures.

The Genentech scientists are Drs. Patrick W. Gray, David V. Goeddel, Arthur D. Levinson, David W. Leung, Diane Pennica, Elizabeth Yelverton, Richard Najarian, Christian C. Simonsen, Rik Deryck, and Pamela J. Sherwood.

Messenger RNA has been difficult to isolate from human lymphocytes because of its scarcity and because of the presence in the cells of high levels of enzymes that degrade RNA.

Dr. Berger and colleagues developed their new method for isolating it by using chemical complexes that inhibit the destructive enzymes. These complexes are now available commercially and are used in a wide variety of research.

Using enzymes, the Genentech scientists produced DNA copies of the messenger RNA. These copies (cDNA's) were inserted into rings, or plasmids, and used to infect *E. coli* bacteria, which then grew in colonies on laboratory culture plates. Plates of bacteria producing interferon were identified and grown in larger quantities.

To retrieve the interferon product, the bacterial cells were chemically degraded so the solid remnants from the cells were precipitated out of solution.

The human interferon was then isolated from the remaining liquid, or supernatant, and tested for immunologic properties characteristic of gamma interferon.

Finally, Genentech scientists identified in sequence each chemical base in the cDNA responsible for making the interferons.

Whether the recombinant and natural gamma interferons from human lymphocytes are identical in all respects, or even whether natural gamma interferons are all alike, has yet to be determined.

At present, the NCI scientists are using the cloned gamma interferon to study the control of natural interferon production in human lymphocytes.

Information on interferon can be obtained from the Office of Communications, NCI, 496-5583. □

Dr. M. Ebert Appointed NIMH Intramural Director

Dr. Michael H. Ebert was recently appointed clinical director for Intramural Research Programs of the National Institute of Mental Health. Dr. Ebert has been acting in this capacity since Dr. Robert Cohen retired in December 1981.

As NIMH/IRP clinical director, Dr. Ebert serves on the medical board that administers the Clinical Center. He will, in addition, maintain his role as chief, section on experimental therapeutics, Laboratory of Clinical Science, and continue his research on the neurobiology of psychosomatic disorders, such as anorexia nervosa.



Dr. Ebert will continue to study neuropsychiatric syndromes, such as Korsakoff's psychosis, and the development of new techniques for investigating brain metabolism or neurotransmitters in humans.

He received his M.D. from Case-Western Reserve in 1966 and completed his internship the following year at University Hospitals of Cleveland. He did his psychiatric residency at Harvard Medical School.

Dr. Ebert joined NIMH in 1971 as an LCS staff associate, and in 1973 established an LCS unit on clinical pharmacology. In 1974, he became head of the section on experimental therapeutics, first as acting chief and then in 1976 as chief.

Because of his long-standing interest in medical education, he also served as an assistant clinical professor, department of psychiatry, Case-Western Reserve University of Medicine, and recently as associate clinical professor, department of psychiatry, Uniformed Services University of the Health Sciences.

In addition, Dr. Ebert developed and continues to coordinate the Clinical Center elective in psychopharmacology, an accredited program in which students from many medical schools around the country have taken part. □

Shoot the Rapids

On May 22, NIH'ers can shoot the rapids on the Cheat River in West Virginia. The \$45 cost includes raft trip and lunch on the river.

The Cheat offers the rafter a continuous stream of rapids, waterfalls, rock formations and interesting scenery.

For more information, contact the R&W Activities Desk, Bldg. 31, Rm. 1A-18. □

Dr. William Trager Wins Award for Tropical Medicine

Dr. William Trager, protozoologist and longtime NIAID grantee at Rockefeller University, has been awarded the first Rameshwaradas Birla Triennial International Award in tropical medicine.

The \$55,000 award, sponsored by the Medical Research Centre of the Bombay Hospital Trust, is in memory of R.D. Birla, an industrialist who dedicated his life to



Dr. Trager, professor of parasitology at Rockefeller University, is an authority on insect physiology and tropical medicine.

medical, social, cultural, educational and religious activities throughout India. The award was presented to Dr. Trager Mar. 20 by M. Hidayatullah, vice president of India, at a ceremony in Bombay.

In 1976, Dr. Trager's laboratory made a major breakthrough by establishing a method for the first continuous cultivation in a test tube of the parasite responsible for human malaria, a major step toward the development of a vaccine. □



Dr. Barrie Carter, geneticist, was recently appointed chief of the new macromolecular genetics section, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases. Dr. Carter joined the Institute in 1970 and formerly worked in the NIADDK Laboratory of Experimental Pathology. In his new position, he is studying the structure and expression of specific genes of several human viruses including herpes. Dr. Carter is on the editorial board of *Journal of Virology* and is president-elect, NIADDK assembly of scientists.

Dr. Elvin A. Kabat Honored For Immunochemistry Work

Dr. Elvin A. Kabat, an NIH expert consultant, received the Philip Levine Award Mar. 17 for his "contributions of quantitative immunochemistry to knowledge of some blood group antigens."

A plaque, bronze medal, and honorarium were presented to Dr. Kabat in New Orleans at the spring meeting of the American Society of Clinical Pathologists. The society established the award in 1969 to honor Dr. Levine for his many contributions to medicine especially related to immunology and hematology.

Dr. Kabat is an internationally recognized immunochemist and educator. His research has focused on the mechanisms of immune reactions, allergy, blood group substances, sequences of immunoglobulin heavy and light chains, and the three-dimensional structure of antibody combining sites.

He and Dr. T. T. Wu of Northwestern University Medical School described hypervariable regions of antibodies and predicted that the amino acids in these regions would be involved in determining antibody specificity and complementarity. This finding has been confirmed by X-ray crystallography.

Drs. Kabat and Wu, with Dr. Howard Bilofsky of a private contracting group, postulated the existence of minigenes from the independent assortment of framework and complementarity-determining segments of the amino acid sequences of antibody light and heavy chains.

Longtime NIH Consultant

Dr. Kabat has held prior appointments at NIH. He was a Fogarty scholar from 1974 to 1975 and an expert with the National Cancer Institute and the Division of Research Resources. He joined NIAID as a consultant last month. Dr. Kabat spends 2 days a week at NIH and the other days at Columbia University College of Physicians and Surgeons where he is professor of microbiology.

He has been a faculty member since 1941. While with NIAID, Dr. Kabat will act as consultant to the Director's office and will continue his research tracking immunoglobulin sequences.

Dr. Kabat's numerous honors include honorary fellowship in the American Academy of Allergy, Eli Lilly Award in bacteriology and immunology, Golden Hope Chest Award, Karl Landsteiner Memorial Award, City of Hope Annual Research Award, the R. E. Dyer lectureship and the Third Alexander S. Weiner lectureship. He has been a member of the National Academy of Sciences since 1966. □

Batter up!

R&W will sponsor several trips to Baltimore this summer to see the Orioles, and has also obtained two box seats for each home game in Memorial Stadium.

To obtain tickets, contact the R&W Activities Desk, Bldg. 31, Rm. 1A-18. □

Blades Win NIH 1982 Basketball Crown



Photo by Mary King

This year's NIH basketball championship team included (l to r): Bob Lutz (the Blades' player-coach for the past 10 years), Wes Thorne, Paul Manning, Gil Spottswood, Al Henry, Zac McQueen, Dave Hubbard, and Tony Shephard. Absent from the photo is Wayne Jackson.

This month the NIH basketball championship was decided when the season's two top teams met in the final game, sponsored by the R&W Association's intramural basketball league. Overcoming a 13 point first-half deficit, the Blades rallied against the Invaders to win their first league title in a decade with a final score of 69-63.

Play was dominated in the early part of the game, held in the gymnasium on the 14th floor of the Clinical Center, by accurate shooting of the Invaders. However, a tenacious defense led by Blades' Wayne Jackson and Dave "Magic" Hubbard

forced numerous turnovers, as steals by Wes Thorne and Gil Spottswood were converted into slam dunk fast breaks.

The scoring was kept close during the second half through the outside shooting of Blades' Zac McQueen, Tony Shephard, Ron Davis and Tom Caldwell of the Invaders. Al Henry and Paul Manning provided the Blades with additional margin of victory through their backboard play and rebounding.

This year, eight teams were in the league, whose season began in October and ended in March. □

NCI Seeks Career Development Candidates

The National Cancer Institute is now accepting applications until Apr. 9 from departmental employees for the recently reactivated Administrative Career Development Program.

Qualified applicants who are interested in developing a broad managerial background are sought to provide administrative support to NCI and NIH programs.

Selected individuals will enter the program at the GS-7 through GS-11 levels. Employees at the GS-12 level may request a change to a lower grade to enter. An employee cannot be promoted to enter this program. Satisfactory completion fully qualifies the participants for reassignment and/or promotion to a GS-12 or below target position providing they meet the basic requirements for education and experience specified in the qualifications standards.

Prior to selection by the NCI executive officer, a qualifications review board will evaluate all applicants in accordance with merit promotion principles.

To qualify, an applicant must be an HHS employee; have career or career-conditional status; have completed a minimum of 1 year of Federal service; and occupy or be willing to accept a full-time permanent

position.

In addition, applicants must have successfully completed a 4-year course in an accredited college or university leading to a bachelor's degree; or 3 years of experience in administrative, professional, technical, investigative or other responsible work which has provided a general background for the position; or any time-equivalent combination of such education and experience.

Besides the general experience described above, applicants must have additional education or experience appropriate for the GS-7 through GS-11 levels.

Detailed information about eligibility and the application process will be supplied at an information session scheduled for Thursday, Apr. 1, at 10 a.m., in Bldg. 31, Conf. Rm. 4.

Application materials may be obtained from the NCI Personnel Management Branch, Bldg. 31, Rm. 3A-27, or by calling Jan Maltbie, 496-6864. □

Life is easier to take than you'd think; all that is necessary is to accept the impossible, do without the indispensable, and bear the intolerable.—Kathleen Norris □

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