

The NIH Record

80th Birthday Symposium

Dr. Albert Sabin Cited As Giant of Science

Dr. Albert B. Sabin's 80th birthday on Aug. 26 was a memorable occasion as his scientific colleagues and friends gathered at the Lister Hill Center Auditorium for a scientific symposium to salute this great man who has contributed so much to scientific knowledge and to the health of people all over the world.



Dr. Albert Sabin and his wife, Eloise, chat at an August 26 symposium marking his 80th birthday.

The symposium was sponsored by the National Institute of Allergy and Infectious Diseases and the Fogarty International Center and cosponsored by numerous private sector organizations, institutions and industrial concerns.

During the course of the day, distinguished scientists from all over the world reviewed a remarkable scientific career which has spanned more than half a century.

Though Dr. Sabin is best known for the oral polio vaccine which bears his name, he was clearly a giant in biomedical research many years before that momentous discovery, having been elected to the National Academy of Sciences in 1951.

The name of Albert Sabin is preeminent in the medical literature in many areas of research. As a medical student his strong desire for research was clearly evident and resulted in numerous important scientific publications at this early stage in his career.

Speakers at the symposium included Drs. Anthony Fauci, Craig Wallace, Thomas Weller, Igor Tamm, Jorgen Siim, Walter Schlesinger, Frank Fenner, Frederick Robbins, John Fox, Dorothy Horstmann, Robert Chanock, Charles Cockburn, Charles Stuart-Harris, Fakhry Assaad, Saul Krugman, James Hogle, David Baltimore and Geoffrey Schild.

Presentations reviewed Dr. Sabin's involvement in the discovery of herpes B virus, his delineation of toxoplasmosis as a human disease

(See DR. SABIN, Page 8)

Dr. Wm. F. Raub Named NIH Deputy Director; Replaces Dr. Thomas E. Malone Who Retired

Dr. William F. Raub has been named NIH Deputy Director by Dr. James B. Wyngaarden, NIH Director. He succeeds Dr. Thomas E. Malone who has retired.

Dr. Raub, who has served for 3 years as NIH Deputy Director for Extramural Research and Training, has coordinated the development and implementation of policies affecting the extramural programs of NIH, the nation's major health research agency.

Prior to June 1983, he worked for 5 years as the NIH Associate Director for Extramural Research and Training. His NIH service began in 1966. He has also been associate director of the National Eye Institute and chief, Biotechnology Resources Branch of the Division of Research Resources.

Dr. Wyngaarden characterized Dr. Raub as "particularly well-qualified to meet the challenges and opportunities of NIH's second highest-ranked position."

A 1961 graduate of Wilkes College in Wilkes-Barre, Pa., he was honored in 1983 with the college's Eugene S. Farley Memorial Alumni Award. In 1982, he received the HHS Distinguished Service Award and the SES Meritorious Executive Rank Award. He received the SES Outstanding Performance Award in 1983 and 1985. In 1983, he also won the Toastmasters International Communications



Dr. Raub

Achievement Award from the NIH Toastmasters Club.

From 1966 to 1978, Dr. Raub led the effort to develop PROPHET, a computer system for pharmacologists and others who study chemical/biological interactions. PROPHET is the most comprehensive set of information-handling tools for this area of science ever to be presented in a unified system and offered as a national resource to the biomedical research community. □

Dr. Richard Davey: Man of Medicine and Mountains

Combining his love of mountaineering with his professional medical skills, Dr. Richard Davey, assistant chief of the Clinical Center's Department of Transfusion Medicine, has just returned from climbing Mt. McKinley, the highest peak in North America at 20,310 ft. At the same time, he served as trip physician, treating the 13 other Americans during their 3-week expedition in the Alaska Range.

Mountaineering can be a tough, demanding sport. Not only does one have to be in strong physical shape to handle the demands of climbing, but also be able to withstand altitude changes that can cause sickness, anorexia, insomnia, lightheadedness and disorientation, and most severely, pulmonary and cerebral edema. And that's not counting tropical diseases and exposure to the elements.

Dr. Davey, an expert in blood storage and preservation, trained in emergency medicine 6 months prior to his departure for climbs in Nepal in the fall of 1977. He learned emergency techniques to be used in falls, avalanches, frostbite, traumatic injuries such as



Dr. Davey

lacerations and fractures, and in specific medical problems arising from mountain and altitude sicknesses.

Trip physicians must be in top physical shape and send a written outline of their climbing experience to the travel organization. On

(See MOUNTAIN MAN, Page 7)

TRAINING TIPS

The following courses are sponsored by the Division of Personnel Management, the NIH Training Center.

<i>Executive, Management, and Supervisory</i> 496-6371	<i>Course Starts</i>	<i>Deadline</i>
Introduction to Supervision	10/20	9/26
Supervising in the Federal Wage System	10/6	9/12
MBTI I	10/28	9/15
Interpersonal Relationships in the Work Environment	10/14	9/19
 <i>Office Skills Career Development Program</i>	 496-6371	
 <i>Support Staff Training</i> 496-6211		
Basic IBM Displaywriter	10/7	9/16
Career Strategies	9/23	9/9
Delpro	9/15	8/26
Proofreading & Editing	10/6	9/12
Improving Voice & Diction	10/6	9/12
Advanced Typing	10/14	9/26
Introduction to Working at NIH	10/15	10/6
Time & Attendance	10/15	9/26
Travel Orders & Vouchers	10/20	9/26
Transfer from IBM Displaywriter to Displaywrite	10/3	9/12
Introduction to Displaywrite III	10/6	9/10
Introduction to Basic Microcomputers for Professionals	10/27	10/3

SHARE TRAINING. For first-time users enter: x fr &agslugL.@@share(setup) on file37

Adult Education Program ongoing, 496-6211.

Washington Free Clinic Needs NIH Volunteers

The Washington Free Clinic, a nonprofit volunteer organization which provides free health care for those who can't afford to pay, needs more doctors to volunteer.

Doctors in internal medicine, family practice and ambulatory health care are particularly needed.

Some volunteers from NIH already contribute their services to the clinic but more are needed.

The clinic is located at St. Stephen's Church, 1525 Newton St., NW. (16th and Newton Sts.) in Washington.

Services include general medical care, prenatal care, sexually transmitted diseases screening and treatment, family planning services, gynecology, problems of the male genitourinary tract, plus physicals for jobs and schools.

The clinic is open only in the evening, Tuesdays and Thursdays, 7 to 10 p.m.

To volunteer or to obtain more information, call 667-1106 between 9 a.m. and 4 p.m.

CENTENNIAL Down Memory Lane at NIH



Are any of our *Record* readers pictured here with the "NIH Hamsters?" The only one we can identify is the "hobo" on the table and that's Sam Silverman, a former NIH photographer!

The "NIH Hamsters" as some might remember, put on comedy skits for the then small NIH community. This particular play was produced in 1952, the heyday for the Hamsters group.

We thank Sam for supplying this photo along with a number of others that will be seen in future *Record* issues. If you would like to

identify yourself or others, call Susan Gerhold, at 496-1776 or drop by Bldg. 10, Rm. B1C218.

Back to "Top Cottage." In an earlier *Record* we asked if our readers remembered what happened to that lovely cottage that played host to numerous parties on the reservation. Many called and said the building was destroyed after Bldg. 31 was completed, some remembered that it was supposed to be moved to the Eastern Shore; but the general consensus is that it fell apart before making it to the Chesapeake Bay! □



Dr. Michael A. Polis (r), an epidemiologist staff fellow at NIAID, and Vivian McFarland, a chemist with NCI, are two NIH staffers who serve on the board of the Washington Free Clinic.

Sweet News

Since the FDA approved aspartame (Nutra-Sweet) for use in soft drinks, there have been several reports of allergic reactions to it.

A controlled study to determine types of adverse reactions is being conducted and volunteers are needed.

If you believe you might be sensitive to aspartame (Nutra-Sweet), are between the ages of 18 and 50, and are interested in participating in the study, call Dr. Margarita Garriga, 496-8999, Mon.-Wed.-Fri. 1-4 p.m. □

The NIH Record

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Intramural Research Day Final Agenda Announced

The final agenda for NIH Intramural Research Day has been announced. Scheduled to take place on the NIH campus Thursday, Sept. 25, intramural scientists from all of the NIH will be able to meet other scientists from around the campus, exchange ideas, and discover areas of mutual scientific interest.

It will be a day filled with workshops, poster sessions and symposia focusing on emerging fields and on topics under active investigation in more than one Institute.

"It's an exciting idea, and I think all the sci-

entists will have great fun—listening to talks, talking to people in front of their posters and going to the workshops. It's going to be great!" said Dr. Joseph E. Rall, NIH Deputy Director for Intramural Research and Research Day Committee member.

Close to 100 posters will be on display from 8:30 a.m. to 5 p.m. in the Information Center, ACRF, Bldg. 10. Senior authors will be in front of their posters to explain their work from 11 a.m. to 1 p.m. Coffee will be served from 10:30 a.m. to 1:30 p.m. in the poster session

area.

Twenty workshops will be held from 2 to 5 p.m. in conference rooms throughout NIH. Anyone who would like to present their research at a workshop is asked to contact the workshop chairman (list below). After the workshops, a picnic will be held and jazz can be heard on the terrace and west lawn of Bldg. 35 beginning at 5:15 p.m.

A more detailed program will soon be distributed and available at the ACRF Visitor's Information Desk. NIH Research Day is supported in part by funds from the Foundation for Advanced Education in the Sciences and a gift from Beckman Instruments, Inc.

SYMPOSIA

I) Prospects in Gene Therapy

8:30	Welcome to NIH Research Day	James Wyngaarden, Director, NIH
8:35	Introduction to Symposium	French Anderson (NHLBI), Chairman
8:45	Mechanism of Eukaryotic Gene Regulation	George Khoury (NCI)
9:10	Transfer and Expression of Genes in Hematopoietic Cells Using Retroviral Vectors	Arthur Nienhuis (NHLBI)
9:35	Molecular Biology of Gaucher Disease and Potential for Gene Therapy	Eduard Ginns (NIMH)
10:00	Potential for Gene Therapy in ADA Deficiency	French Anderson (NHLBI)

II) Oncogenes and Growth Factors (Masur Auditorium)

8:30	Welcome to NIH Research Day	J.E. Rall, Deputy Director for Intramural Research, NIH
8:35	Introduction to Symposium	Stuart Aaronson (NCI), Chairman
8:45	Intercellular Communication in Perspective	Jesse Roth (NIDDK)
9:10	Subversion of Normal Pathways of Growth	Stuart Aaronson (NCI)
9:35	Oncogenes and Growth Factors in Human Cancer	John Minna (NCI)
10:00	Growth Factors, Receptors, and Human T Cell Leukemia	Warner Greene (NCI)

WORKSHOPS

(2-5 p.m.)

Bg/Room	Workshop	Chairman
10/11th flr. Solarium	1. Transgenic mice and molecular biology of development	H. Westphal (NICHD)
30/117	2. Growth factors and oncogenes	I. Dawid (NICHD)
5/427	3. Activation of differentiation of thymus-derived (T) lymphocytes	M. Sporn (NCI)
10/12C103	4. Molecular virology	R. Schwartz (NIAID)
41/Conf. Rm.	5. Transcription and protein-DNA interaction	P. Howley (NCI)
10 ACRF/12C401	6. Regulatory mechanisms—bacteria and yeast	G. Felsenfeld (NIDDK)
10/BUNIM 9S237	7. Invasion and metastasis	G. Khoury (NCI)
10/4B36	8. Curative intervention in advanced malignancies (1:30-3:30)	M. Yarmolinsky (NCI)
10/4B36	9. Multidrug resistance: molecular and clinical aspects (3:30-5:30)	L. Liotta (NCI)
10/14th flr.	10. AIDS	B. Chabner (NCI)
31/2A52	11. The molecular biology of the immune response	M. Gottesman (NCI)
31/5A16	12. Autoimmunity	F. Wong-Staal (NCI)
10/7N228	13. Transplantation	W.J. Leonard (NICHD)
10/7C101	14. Cell motility	A. Steinberg (NIAMS)
10/3C401	15. Calcium as an intracellular messenger	D. Sachs (NCI)
10/5C101	16. Ecocytosis, exocytosis and organelle biology	R. Adelstein (NHLBI)
31/11A10	17. Neuropeptides and neuromodulators	C. Klee (NCI)
31/8A28	18. Current strategies in cellular neurobiology	R. Klausner (NICHD)
37/6B23	19. Molecular approaches to human neurologic disease	S. Paul (NIMH)
Stone House 1st floor Conf. Room	20. Future direction of biomedical science	J. Barker (NINCDS)
		E. Ginns (NIMH)
		H. Stetten (FIC)

Research Day Program

8:30 a.m.—10:30 a.m.

I) SYMPOSIA

A) Prospects in Gene Therapy—ACRF Auditorium

B) Oncogenes and Growth Factors—Masur Auditorium

8:30 a.m.—5:00 p.m.

II) POSTERS

95 Posters—Information Center, ACRF Bldg. 10. Senior authors will be in front of their posters from 11 a.m. until 1 p.m.

2:00 p.m.—5:00 p.m.

III) WORKSHOPS

20 workshops in different locations throughout NIH

5:15 p.m.—8:00 p.m.

IV) PICNIC AND JAZZ

Terrace and west lawn of Bldg. 35

NLM Publishes DIRLINE Guide

DIRLINE (Director of Information Resources Online) is a MEDLARS database available through the National Library of Medicine. It contains records describing organizations (principally health-related) which function as information resources, that furnish information in their area of special knowledge, usually at no charge, and serve members and nonmembers.

NLM's Division of Specialized Information Services has just revised two publications about DIRLINE. The first is a 1-page fact sheet, which provides an overview of the file, availability, search capabilities, and sample records. The second publication is a self-instructional guide which provides basic user training in the file. The guide assumes familiarity with ELHILL, the search software which operates on DIRLINE. Copies of both publications are available free from Specialized Information Services (Attn: K. Collins), NLM, Bldg. 38A, Rm. 3N314, Bethesda, MD 20894; (301) 496-1131. □

Dr. Judith E. Fradkin Gets PHS Commendation Medal

Dr. Judith E. Fradkin, chief of the Endocrine and Metabolic Diseases Programs Branch of NIDDK's Division of Diabetes, Endocrinology and Metabolic Diseases, has received the Public Health Service (PHS) Commissioned Officers' Commendation Medal in recognition of her outstanding contributions in coordinating the PHS response to reports of Creutzfeldt-Jakob disease in human growth hormone (hGH) recipients.

Dr. Fradkin was cited for her leadership in planning and coordinating this effort in response to the deaths of three patients between February and April 1985 who had previously been treated with human growth hormone distributed by the National Hormone and Pituitary Program (NHPP), a component of NIDDK.

Creutzfeldt-Jakob disease (CJD) is a nervous system disease that is transmitted by a particle similar to a virus, which has not yet been isolated and characterized. Unlike most viruses, the CJD agent may cause illness many years after the person is exposed to the agent.

To facilitate the scientific review of this issue, the Acting Assistant Secretary for Health established the Interagency Coordinating Committee on Human Growth Hormone and Creutzfeldt-Jakob Disease, and he appointed the late Dr. Mortimer Lipsett as chairman. The committee includes representatives from the NIDDK, NICHD, NINCDs, FDA, and CDC.

Dr. Lipsett invited Dr. Fradkin to serve as executive secretary to the committee, and to assist him on matters related to the issue. In the wake of Dr. Lipsett's long illness, Dr. Fradkin became instrumental in developing the response to this crisis by the Public Health Service. Several studies are now under way as a result of this coordinated effort.

As chief of the NIDDK Endocrinology and Metabolic Diseases Programs Branch, Dr. Fradkin is responsible for providing scientific leadership and administrative direction of three programs: the Endocrinology Research Program, the Metabolic Diseases Research Program, and the Cystic Fibrosis Research Program. She also serves as co-chair of the NIH Cystic Fibrosis Coordinating Committee.

Dr. Fradkin received her B.A. degree magna cum laude in biochemistry from Radcliffe College, Cambridge, Mass. in 1971. She received her M.D. degree from the University of California, San Francisco, in 1975.

Before coming to NIH, Dr. Fradkin was a fellow in endocrinology at Yale University School of Medicine in New Haven, Conn. She joined NIH in 1979 as a clinical associate in the clinical endocrinology branch of NIDDK.



Dr. Fradkin (l) was presented the PHS Commissioned Officer's Commendation Medal by Dr. Pierre F. Renault, NIDDK Deputy Director.

(formerly NIADDK). In addition to serving in her current position since 1984, Dr. Fradkin holds the rank of senior surgeon in the Commissioned Corps. □

International Symposium Set On Intermediate Filaments

The structure, regulation and function of intermediate filaments will be the subject of an international symposium sponsored by the Fogarty International Center, National Institute of Diabetes and Digestive and Kidney Diseases and National Cancer Institute, Sept. 24-26.

The symposium will be held in the Lister Hill Center Auditorium, Bldg. 38A, and those interested in registering should contact Suzanne Lirette, HCR, 955-6073.

Intermediate filaments are protein polymers that are important components of virtually all animal cells. They are called "intermediate" because of their size: their diameters are intermediate between those of the other two major types of intracellular filaments—actin filaments and microtubules.

This symposium will bring together leading investigators in this field to discuss questions of structure, gene expression and regulation, and possible functions. These questions have important implications in many aspects of basic and clinical biomedical research.

The symposium has been organized by Drs. R.D.B. Fraser, Fogarty Scholar-in-Residence, FIC; A.C. Steven, Laboratory of Cellular and Developmental Biology, NIDDK, and P.M. Steinert, Dermatology Branch, NCI. □

Health's Angels Anniversary Run Scheduled for Sept. 21

Sunday, Sept. 21, is the date for the running of the 11th Annual Health's Angels Anniversary 10 Mile Run. The D.C. Road Runners Club will cosponsor the event, and it will be the "10-miler" in the DCRRC Championship Series. DCRRC will provide medals to the top three finishers in each age group for both sexes. Health's Angels will have awards for the fastest NIH runners male and female, and the world famous UNBODY award will again be presented to the fastest runner whose weight equals or exceeds 2.5 times his/her height in inches.

The 10 miler will be run on the bike path in Rock Creek Park, starting and finishing at the Ken-Gar Recreation Center in Kensington. This is a nationally certified 10 mile course, so runners who want to record official times for this distance can do so in this race.

Race time is 9:45 a.m. sharp for the 10 Mile Run but a 1-mile fun run for kids 12 and under will begin at 9 a.m. followed by a 2-mile Run For Your Life at 9:15 a.m. Entry fees of \$1 for club members (Health's Angels or DCRRC) and \$2 for nonmembers will be collected for both the 10 miler and the 2 mile run. There is no entry fee for the 1-mile fun run. Preregistration is not required. □

Mental Health Association Needs 'Dads Advising Dads' Volunteers

Adult fathers are needed to volunteer in a one-to-one relationship with teenage fathers as role models, advocates, and supporters. DADS (Dads Advising Dads), a project of the Mental Health Association of Montgomery County, has been developed to encourage teenage fathers to become involved in their child's growth.

A DADS training session will be held on Sept. 20. For more information, call 949-1255. □

Coffee Drinkers Needed

Coffee drinkers are needed for a study on the effects of coffee and other beverages on mood, reaction time, and task performance being conducted at the department of medical psychology at the Uniformed Services University of the Health Sciences.

Subjects must be nonsmokers between 18 and 45 years old, in good health, and drink at least four cups of coffee per day. Eligible subjects will be paid \$25 for participation if they are not military or retired from the military.

If interested, call Jeff Crain or Mary O'Keeffe at 295-3278 between 9 a.m. and 5 p.m., or leave a message. □

STEP Announces Forums and Training Modules

The Staff Training in Extramural Programs (STEP) Committee will offer a group of five training modules and eight forums during the 1986-87 season.

Developed primarily for extramural staff, the STEP program has been part of a continuing education program sponsored by NIH for 20 years. It operates as a function of the Office of Extramural Research and Training (OERT) under the auspices of the NIH Associate Director for Extramural Affairs, Dr. George J. Galasso. Arlene M. Bowles, OERT, is program coordinator.

Dr. Fred P. Heydrick, chief, Contracts, Clinical Trials and Research Training Section, National Heart, Lung, and Blood Institute, has been appointed chairman of the STEP committee for 1986-87 and Dr. Donna J. Dean, Division of Research Grants, is vice chairman.

The forum series will cover various current issues such as funding decisions, IPAS Phase II and Florida Experiments, issues in genetic research, implementation of the Health Research Extension Act, emerging medical practice issues, drug and AIDS screening issues, research funding as an investment and the legislative process.

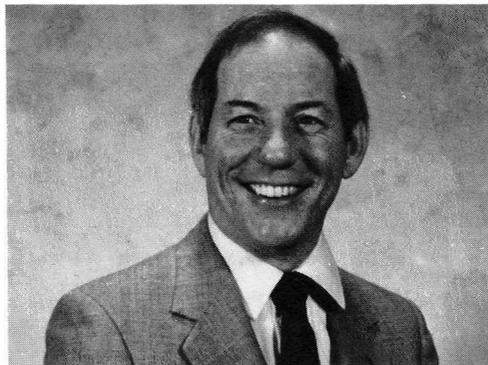
The first forum, "Funding Decisions in Tough Times," will be held Sept. 30, Bldg. 1, Wilson Hall, from 1:30 to 4 p.m. This forum will explore ways in which various agencies that support biomedical research deal with budgetary constraints.

Module 1, "Research Dollars: Competition for a Piece of the Budget Pie," will examine factors that come into play in executing NIH budgets, emphasizing constraints on allocation of funds to individual programs and limitations on flexibility for BID Directors. The module will be held on Dec. 4.

Module 2, "The Summary Statement: Use, Misuse, Abuse," will explore issues surrounding the summary statement and the internal pressures that, currently or in the future, are reflected in this evolving document. This module is scheduled for Jan. 14 to 15, 1987.

Module 3, "Leadership and Power: Delegation, Motivation and Accommodation," will take place Feb. 5, 1987. It will explore specific ways in which NIH extramural managers can hone their leadership skills to maximize their productivity and that of their coworkers.

Module 4, "In the Beginning There Were R01's . . .," will consider the multiple mechanisms used by NIH to fund research and training. Emphasis will be on the problems, policies and politics related to multiplicity of funding mechanisms. This module is scheduled for Mar. 19, 1987.



Dr. Heydrick

Module 5, "Creative Problem Solving," will instruct participants in the integration of intuitive and rational approaches to creative problem-solving. This module will be held on Apr. 27-29, 1987.

Modules are given at no cost to the participant. However, application form NIH 2245 must be submitted. This form is available from the BID personnel offices, or Drs. Andrew Chiarodo (Blair), Carol Letendre (Federal), David Monsees (Landow), Fred Heydrick (Westwood), and Bettie Graham (Lister Hill).

Applications can also be obtained from the STEP Program Office in Bldg. 31, Rm. 1B63, (496-1493).

Application deadline for the first three modules is Oct. 10, 1986; for the last two, Dec. 19, 1986. No application is needed for the STEP Forum series. It is open to all NIH employees. □

Dr. Francis Pitlick Named NHLBI Division Director

Dr. Frances Pitlick has been named director of the Division of Extramural Affairs for the NHLBI. A native of Pasadena, Calif., Dr. Pitlick received her A.B. degree from the University of California, Berkeley, and her Ph.D. from the University of Washington, Seattle. She then taught and conducted research at the Yale University School of Medicine.

Her research interests centered on thrombosis and hemostasis, including the role of the blood vessel wall in initiating coagulation and platelet aggregation.

Dr. Pitlick began her career at NIH in 1978, as a health scientist administrator in NHLBI's Devices and Technology Branch, and was most recently deputy director of the Division of Blood Diseases and Resources, NHLBI. She is a recipient of the NIH Director's Award. □

NHLBI and Smithsonian Sponsor Lectures on Heart

The Smithsonian Resident Associate Program, in collaboration with NHLBI, will present a five-part lecture series entitled "The Human Heart: On the Cutting Edge of Scientific Discovery." Dr. Stephen Weiss, chief of NHLBI's Behavioral Medicine Branch, is the coordinator/moderator for the series.

All the lectures are on Tuesday evenings and begin at 8 p.m. Cost of the lectures for Smithsonian resident associates and for NIH employees is \$46. For further information or to enroll for the lectures call the Resident Associate Program on 357-3030 and identify yourself as an NIH employee to get the lower rate.

This lecture series is part of the NHLBI activities commemorating the NIH Centennial.

The lectures will begin on Sept. 30 with a discussion of "The Heart: An Inside Look," in which Dr. Stephen Epstein, chief of NHLBI's Cardiology Branch, will present the basic anatomy and physiology of the heart and discuss the new developments in diagnostic technology.

On Oct. 7, Dr. Myron Weisfeldt, director of the Johns Hopkins University Specialized Center for Research on Ischemic Heart Disease, will lecture on "The Heart: Attack and Counterattack," centering on the current treatment for heart attacks as well as new interventions and drugs under development.

Dr. William Castelli, director of the Framingham Heart Study, will lecture on "The Heart and Lifestyle: Pioneer Research," on Oct. 14. Dr. Castelli will discuss the contribution to knowledge that the Framingham Heart Study has made over several decades and will explore future trends.

On Oct. 21, Dr. Margaret Chesney of the Stanford Research Institute International of Stanford University will address the "Intangible Dimensions: Personality and Behavior," including stress and type A and type B behavior patterns, their influence on heart disease morbidity and mortality, and future potential.

The final lecture, to be presented on Oct. 28, will feature Dr. John Watson, chief of NHLBI's Devices and Technology Branch, who will lecture on "Ethics, Science and Technology: A Replaceable Heart." Dr. Watson will discuss congestive heart failure and the technology available at present to assist or replace the ailing heart, and future potential devices. □

Assert your right to make a few mistakes. If people can't accept your imperfections that's their fault.—Dr. David Burns

NICHD Scientist Wins Drug Metabolism Prize: Work May Yield Tests for Cancer, Other Risks

By Leslie Fink

For some people a single aspirin will cure a headache, for others it might take three. For still others, the drug may not work at all. Scientists studying drug effects have long recognized that individuals respond differently to drugs and other chemicals. But only in the past decade, with help from geneticists, have they begun to understand why.

So for the first time, the American Society of Pharmacology and Experimental Therapeutics (ASPET) awarded its coveted Bernard B. Brodie Award in Drug Metabolism not to a pharmacologist but to a geneticist.

Dr. Daniel Nebert, chief of the Laboratory of Developmental Pharmacology of the National Institute of Child Health and Human Development, received this year's award at the fall ASPET meeting in Baltimore on Aug. 18. Dr. Nebert has spent the past two decades discovering how drugs, carcinogens, and other foreign compounds interact with genes.

"The selection committee was greatly impressed not only by the volume of Dr. Nebert's scientific contributions, but also by their quality and the impact he has made on the field of drug metabolism and disposition," said Dr. John Schenkman of the University of Connecticut who chaired the award selection committee.

Because a person's genetic makeup is as unique as his thumbprint, genetic differences among individuals seem to account for the various ways drugs and foreign chemicals affect them. Indeed, the genetic mechanisms that control drug metabolism may account for some of medicine's most perplexing questions such as how chemicals cause cancer in some people but not in others, how they cause occupational diseases, and how they may produce birth defects in some infants.

Dr. Nebert and his coworkers are studying a group of genes that make up the aromatic hydrocarbon [A_b] gene battery, which controls the metabolic processes that break down drugs, chemicals, and pollutants, especially a class of compounds called hydrocarbons. When a hydrocarbon enters a cell, it binds to the Ah receptor that carries it into the cell nucleus. Once inside the nucleus, the hydrocarbon locked into its receptor interacts with DNA, turning on the [A_b] gene battery, which includes several members that encode breakdown enzymes such as the cytochrome P450s.

"Dr. Nebert has been and continues to be a pioneer in the study of P450 genes and their regulation," said Dr. Elliot Vesell, a pharmacologist at Pennsylvania State University, who nominated Dr. Nebert for the \$2,000 cash



Dr. Nebert

award. These studies have "contributed markedly to the thinking and process" in many drug- and chemical-related fields, said Dr. Vesell, including metabolism, cancer, toxicity, birth defects, and evolution.

Dr. Nebert suggests that early in evolution—long before the dinosaur—genetic material already contained genes that encoded P450 enzymes "perhaps to help prehistoric animals deal with plant toxins and combustion products" from smoldering primordial earth. Today though, our P450 systems must handle 2,000–3,000 new chemicals produced by industry each year. "From an evolutionary standpoint, it is comforting to know that, when a new compound enters the ecosystem, organisms from bacteria and plants to earthworms and man are able to mobilize enzymes in order to survive such chemical adversity," he says.

But the P450s may be "a double-edged sword," says Dr. Nebert, because they can metabolize hydrocarbons into harmless byproducts the body can easily get rid of, or into harmful molecules that can damage, mutate, or kill cells. Which path they take depends on the molecular structure of the P450-encoding genes, which appears to vary widely among individuals.

Studying mouse genes, for example, Dr. Nebert and his coworkers found two strains of mice that differ in the makeup of their [A_b] gene battery and in only a few of their many P450 genes. The scientists' showed that one strain developed bone marrow and liver damage, as well as cancer, after exposure to a hydrocarbon. Mice of the other strain, however, were resistant to hydrocarbon damage.

"It appears," says Dr. Nebert, "that the same genetic system is associated with an increased risk of lung cancer among cigarette smokers." Cigarette smoke, he says, contains over 1,000 different hydrocarbons. In individuals with cer-

tain variations of the Ah receptor and P450 genes, the hydrocarbons may be broken down into harmful, cancer-causing byproducts.

Dr. Nebert and his coworkers have isolated and cloned several mouse and human P450 genes. Using portions of the human genes to probe DNA from human cells, the team is trying to determine which genetic arrangements account for harmful responses to foreign substances.

Based on these studies, "we may be able to design highly sensitive molecular tests to predict clinically who is at increased risk for developing certain types of chemically induced cancer," says Dr. Nebert, "or who will suffer harmful effects from a certain drug because of an underlying problem with interactions between drugs and genes."

The tests may help to decide whether a person is at high risk from smoking cigarettes or from taking a particular drug, he says. In certain occupations, these tests might be used to screen genetically susceptible individuals to protect them from chemical hazards and to protect their infants from birth defects. □

Conference on Alzheimer Disease

The American Association of Retired Persons and the National Institute on Aging will jointly sponsor a research conference to evaluate the state of knowledge on "Trace Metals, Aging, and Alzheimer Disease." The conference will be held on Sept. 23–24 from 8 a.m. to 6 p.m. in Masur Auditorium, and is free to anyone interested.

During the past decade, it has become increasingly evident that heavy metals play a role—and may even cause—several neurological disorders. Although initially the role of aluminum as a cause of Alzheimer disease was viewed with skepticism, this hypothesis has survived, leaving many questions still unanswered.

For registration information call Ila Wagner, 496-9350. □

Symposium on Immunotechnology

The National Institute of Allergy and Infectious Diseases and the National Science Foundation's Engineering Directorate are cosponsoring a symposium, "Immunotechnology, A Current View and Future Prospects."

This symposium will be held on Sept. 15 from 8:30 a.m. to 5:30 p.m. and on Sept. 16 from 8:30 a.m. to 12:30 p.m. at the National Academy of Sciences, 2100 C St. NW., Washington, D.C.

Registration and further information can be obtained by contacting the registrar at Social and Scientific Systems Inc. at 986-4886. Program brochures can be obtained by calling NIAID, 496-5598. □

MOUNTAIN MAN

(Continued from Page 1)

these trips, Dr. Davey carries a small medical bag and porters carry a field kit with I.V. solutions, sutures, dental needs, etc. He stays in shape by running about 40 miles a week and rowing.

Dr. Davey has climbed several international peaks since becoming interested in mountaineering while a student attending Dartmouth



Dr. Davey stands atop the summit of Mt. McKinley.

College in the 1960s. Other peaks he has climbed—ranging up to 21,000 ft.—include Mt. Ranier in Washington State; three peaks in Nepal—including Thorong Tse (21,100 ft.) and the Mt. Everest base camp at 18,900 ft. (Mt. Everest in the Himalayas, has the highest summit in the world at 29,028 ft.); Nevada Copa in Peru; several volcanoes in Ecuador and Mexico, and seven peaks in the Alps of France and Switzerland, including Mt. Blanc.

The trip to Mt. McKinley started with a flight in a bush pilot's ski plane that dropped the climbers on the Kahiltna Glacier southwest of Mt. McKinley between Fairbanks and Anchorage.

"At the lower altitudes during the day, the temperature was 50°F. with bright sun. We had to worry about sunburn and exposure, so we traveled at night between midnight and 8 a.m. when it was cooler, about 20°F.," Dr. Davey said. Climbing at night is no problem because it's light 24 hours a day in July.

"As we got higher and the temperature got colder, we climbed during the day. This was above 14,000 ft. and the temperature was between 10° to 20°F. during the day and -10° to -20°F. at night," he said. The climbers made seven camps on the ascent, the last one at 17,000 ft. They relayed loads between camps and buried marked caches of food for pickup on their way down. It took them 14 days to reach the summit and 4 days to descend.

"On the first day, three climbers fell into crevasses (splits in glacial ice that are often of some width and considerable depth). Climbers

are attached by rope at about 40-ft. intervals. If a climber falls, he yells as loud as possible, and the others assume the 'arrest' position, burying the ice axe and crampons from their boots into the snow in a sort of arched and anchored position onto the ice," he said. One of the three climbers who fell into a crevasse was hurt enough that he had to be evacuated by air.

"Farther up the mountain, we encountered mild frostbite, mild acute mountain sickness, and fatigue. We were only 1,000 feet from the summit, when we had to leave one climber in an ice cave because he was so tired," Dr. Davey said.

It took the climbers 9 hours to reach the summit of Mt. McKinley from their last camp at 17,000 ft. "McKinley was incredibly exhilarating. It's like being in an airplane or being suspended in the clouds. The views all around are incredible," Dr. Davey said.

The weather was deteriorating on the climbers' descent. "The winds that night were 60 m.p.h. and it was only -20°F. The tents were almost blown away; we thought we would have to dig snow caves." The next morning, the guide recommended the hikers move to a lower altitude to get away from the ferocious weather.

"We had to walk along a ridge on the west buttress of McKinley where you couldn't see the person in front of you and your glasses iced up. That was scary. We had to jettison food to get rid of some weight. We got down to 14,000 ft. where the weather was better and established a camp there," he said.

What's next? Dr. Davey says he'd like to go



The climbers are ascending the slopes of Annapurna (18,000 ft.) in the Himalayas of Nepal. In the background is the peak of Dhaulagiri (26,800 ft.) rising above the deepest valley on earth, Kali Ghandaki, which is a 3½-mile deep gorge.

back to Nepal and the Himalayas for his next trip. "Climbing in the Himalayas and dealing with the medical problems of the Nepalese are especially rewarding," he said.—Joyce McCarthy □



Dr. Davey holds "sick call" in a Nepalese village. Usually lasting for about 3 hrs., he can examine up to 40 people. Here he's doing a pulmonary exam on one of the porters. One of the Sherpa guides (bottom r), famous for their leadership and mountaineering skills, sits and waits.

1986 Stetten Lecture on Heat Shock Genes

Dr. Mary Lou Pardue, professor of biology at the Massachusetts Institute of Technology and current president of the American Society for Cell Biology, will deliver the fifth annual DeWitt Stetten Jr. Lecture on Wednesday, Oct. 8.

The lecture, "Heat Shock, Cellular Response to Environmental Stresses," is sponsored by the National Institute of General Medical Sciences. It will be held in Masur Auditorium at the Clinical Center, starting at 3:30 p.m.

Scientists have known since 1962 that short-term exposure to elevated temperature causes cells from organisms as diverse as bacteria, fruit flies, plants, and humans to stop making most of the proteins they normally produce and instead make a small group of "heat shock" proteins. The structure of the genes that code for these proteins is remarkably similar from species to species, indicating that the genes play an important role in the organisms. Several investigators have suggested that the production of heat shock proteins may represent a generalized response to stress, since the proteins are elicited by a variety of other environmental stimuli such as ethyl alcohol and oxygen deprivation.

Dr. Pardue is examining the structure and function of fruit fly heat shock genes, which have features that make them desirable for study, to learn more about the control of gene expression. She is particularly interested in a gene that is activated by heat shock and transcribed into a substance with many characteristics of the substance that usually directs protein synthesis. In this case, however, no protein appears to be produced. Dr. Pardue is working to determine the role of this unusual heat shock gene.

The lecture series was established in 1982 to honor Dr. DeWitt Stetten Jr., the third NIGMS Director, for his strong commitment to basic research and his special encouragement of fundamental studies in genetics and cellular and molecular biology.

NIGMS is regarded as the "basic science institute" of NIH because it focuses its grant sup-

port on fundamental, nondisease-targeted investigations in the biomedical sciences. Such basic research contributes new information and concepts that may ultimately prove important for understanding human disease. NIGMS' programs cover the cellular and molecular basis of disease, genetics, pharmacological sciences, biophysics, physiology, and minority access to research careers. □

DR. SABIN

(Continued from Page 1)

problem and critical contributions dealing with the etiology and pathogenesis of arthropod-borne viruses. Much of the program dealt with poliomyelitis and with the remarkable story of the development of the oral polio vaccine by Dr. Sabin, including the important role that international collaboration played.

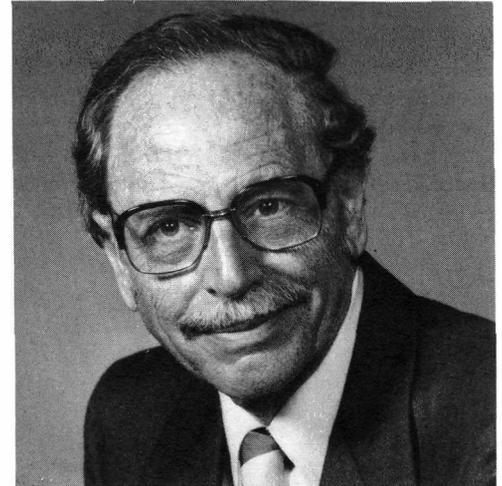
The program also included a glimpse towards future scientific discoveries based upon understanding of the three-dimensional structure of poliovirus, its molecular biology and genetics and the molecular basis of attenuation. Dr. Sabin's colleagues noted how much remains to be done to rid the entire world not only of such dreaded childhood diseases as polio and measles, citing the critical leadership role still being played by Dr. Sabin in his work with the Pan American Health Organization to help achieve this goal.

Now that he's 80, Dr. Sabin intends to "slow down," but he will retain his association with the NIH as a senior medical science advisor at the Fogarty International Center. □

Lecture on Terminally Ill Care

A minilecture on the care of terminally ill patients, sponsored by the Clinical Center's Educational Services Office (496-1618), will be given in the ACRF Amphitheater, from noon to 1 p.m., Sept. 11. Louise Meister, clinical social worker, will be the speaker. □

Dr. Irwin D. Mandel NIDR Kreshover Lecturer



Dr. Irwin D. Mandel from Columbia University's School of Dental and Oral Surgery, will present NIDR's Kreshover Lecture on Sept. 24.

The function of saliva in maintaining the health of teeth and the mouth is the topic of NIDR's third annual Seymour J. Kreshover Lecture, Wednesday, Sept. 24, at 3:30 p.m. in the ACRF Amphitheater, Bldg. 10.

Dr. Irwin D. Mandel, director of the Center for Clinical Research in Dentistry, School of Dental and Oral Surgery, Columbia University in New York, will speak about the "The Role of Saliva in Maintaining Oral Homeostasis."

The NIDR lecture series was named for Dr. Seymour J. Kreshover who served as NIDR Director from 1966 to 1975. The series was established to recognize outstanding scientific accomplishments in basic and clinical research and to honor distinguished scientists who have made important contributions in fields directly related to the research interests of the NIDR.

Dr. Mandel's lecture will focus on the protection saliva offers and its role in maintaining the ecological balance in the oral cavity; pH levels in plaque; and tooth integrity. He also will discuss his own research in xerostomia (dry mouth), caries (tooth decay) resistance, and lipids. □

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