

# The NIH Record

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## NIEHS Director Awarded Toxicology Society Prize

Dr. David P. Rall, Director of the National Institute of Environmental Health Sciences, was presented the Arnold J. Lehman Award by the Society of Toxicology at its 22nd annual meeting recently held in Las Vegas, Nev.

The award, one of the society's highest, is presented annually to an individual who has made major contributions to the regulation of chemical agents based on sound scientific principles.

The award presentation cites Dr. Rall for contributions in toxicology beyond the area of regulation.

Through his positions as Director of both the NIEHS and the National Toxicology Program (NTP), the citation indicated, he has aggressively supported research and research training in toxicology, and has made significant contributions in risk extrapolation methodology and the use of animal toxicology data to predict human risk.

(See PRIZE, Page 4)

## Special Handling of AIDS Suspects' Blood Recommended to Blood and Plasma Centers

Dr. Edward N. Brandt, Jr., HHS Assistant Secretary for Health, has recommended that U.S. plasma centers and blood banks begin procedures to reduce the risk of transmitting acquired immune deficiency syndrome (AIDS) through plasma, blood and blood products.

"These measures are necessary to help prevent the spread of this lethal disease while at the same time ensuring a constant supply of lifesaving blood products," he said.

"The guidelines which we are recommending are intended to serve as interim measures to protect recipients of plasma, blood and blood products until specific laboratory tests are developed to screen blood for AIDS," Dr. Brandt added.

The new guidelines recommend that plasma center and blood banks should:

- Set up educational programs to inform persons with increased risk of AIDS that they refrain from donating plasma or blood;
- Train plasma and blood bank personnel how to use medical history questions to uncover early symptoms of AIDS—such as

night sweats, unexplained fever and sudden, unexplained weight loss, or exposure to AIDS;

- Establish procedures for handling and disposing of plasma and blood collected from known or suspected AIDS patients.

Plasma collected from donors suspected of having AIDS should not be fractionated into derivatives that have the potential for transmitting infectious diseases; for example, antihemophilic factor (a blood-clotting agent produced by pooling the blood of many donors).

The plasma may be used in manufacturing albumin, plasma protein fraction, globulin or noninjectable diagnostic products. Processing these products eliminates infectious agents.

Persons at increased risk of AIDS are defined as follows:

- Those with symptoms suggestive of AIDS;
- Sexually active homosexual or bisexual men with multiple partners;
- Recent Haitian immigrants;
- Present or past abusers of intravenous drugs;
- Sexual partners of individuals at increased risk of AIDS.

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## Vaccines Stymie Polio in U.S. But Not in the World — Yet



Panelists at the recent International Symposium on Poliomyelitis Control are shown during the session. (L to r) they are: Dr. Ralph Henderson, WHO; Dr. Frederick C. Robbins, National Academy of Sciences; Dr. Dorothy M. Horstmann, Yale University School of Medicine; and Dr. John P. Fox, University of Washington/Seattle.

Paralytic polio has been essentially eradicated in the United States but not in 65 percent of the other nations in the world.

In the U.S., polio has been controlled mainly through the use of vaccines, most notably those perfected by Dr. Jonas Salk and Dr. Albert Sabin, both of whom attended and presented papers at the recent International Symposium on Poliomyelitis Control. The symposium was sponsored by the Fogarty International Center in collaboration with several Institutes at NIH, the World Health Organization and other groups.

At the meeting, it was concluded that polio can be controlled worldwide with the use of the Sabin and Salk vaccines, but that eradication of polio (elimination of the viruses) is not feasible at this time. However, this remains a distant though achievable goal.

At present, 1 of every 200 children born will suffer paralytic polio.

The immediate prospect for developing countries is more—not less—polio, unless and until they adopt effective control programs, it was noted. This was the pattern in developed countries prior to the widespread use of vaccines.

The symposium concluded that "the problems facing control of polio in warm countries are administrative rather than technical . . . The overriding need is for political commitment to polio control."

It was recommended that countries in

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# The NIH Record

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## Blades Repeat as Basketball Champs for the 1983 Regular Season



The Blades team (l to r, front row): Jeff Fernandez, Dave Hubbard, Bob Lutz and Tony Shephard; (back row): Wes Thorne, Bill Gibbs, Paul Manning, and Zac McQueen. Not pictured: Wayne Jackson and Bob Bonow.

## TIPS

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

Communication Skills	Course Starts	Deadline
Intermediate Editing	6/1	5/13
Stress Management for Increased Productivity	6/7	5/20
Office Skills		
Letterwriting for Secretaries	5/18	5/2
Travel Orders and Vouchers	5/16	5/9
Executive, Management and Supervisory		
Effective Supervision	4/13	4/1
White House Workshop	6/22	5/27
Federal Budget Process	5/24	5/9
Manage Your Meetings	6/7	5/23
Project/Program Management Workshop	6/1	5/13
Career Development		
Self Assessment and Career Options	5/9	4/29

To learn about these and other courses, contact the Development and Training Operations Branch, DPM, 496-6371

### Integral Hatha Yoga Course Offered

A course consisting of six integral hatha yoga classes will be given on Tuesdays from 5:30 to 7 p.m., Apr. 19 to May 24th. All classes will meet in Bldg. 31, Rm. 4A04. Classes will be led by a qualified integral yoga instructor.

To register, please leave your name, telephone number and \$10 at the R&W Activities Desk in Bldg. 31. □

The Blades have successfully defended their NIH R&W basketball crown this year with a 13-1 regular season record. The Invaders were runnersup with a record of 9-5.

The Blades have won the regular season championship 3 years in a row, compiling an overall record of 44-4.

The Blades were upset in this year's tournament semifinals by the Falcons' team led

by Steve Mason and Gil Spottswood. The Falcons were later nipped by the Invaders in the finals of the tournament by one point.

The NIH R&W Basketball League consists of eight teams which play on Tuesdays and Thursdays from October to March in the 14th floor gym of the Clinical Center. Mike Hart serves as league commissioner. Come out next year and watch some of the action. □

## Parklawn Classic Race and Walk Participants Must Register

NIH employees are being invited to participate in the Parklawn Classic—a 5-mile race on Apr. 29, at noon, at the Parklawn Bldg., in Rockville. For the first time this year, the race is open to all PHS employees and will feature a 2-mile walk.

Buses will be provided to NIH employees (from Bldg. 31/A Wing) who wish to participate. All finishers will receive a special Parklawn Classic T-shirt, and prizes will be given to division winners.

### Register at Parklawn

NIH employees can send their registration forms to Parklawn R&W which must be accompanied by a \$5 fee. Registration forms can be obtained at the NIH R&W Desk, Bldg. 31/A Wing.

Wilford J. Forbush, Deputy Assistant Secretary for Health Operations, PHS, has distributed a memo stating that "supervisors are encouraged to permit employees to participate in this event."

Carole Rivera, organizer of the race and the president of the Parklawn R&W Association, said the event has been planned to encourage physical fitness and promote health at the workplace. PHS entrants are expected from the HHS Bldg., St. Elizabeths Hospital, Prince George's Plaza, Parklawn

Bldg., as well as from NIH.

The same day, the 2-mile walk will also take place at the Parklawn Bldg., with all entrants receiving a ribbon. Registration for the walk is free. There will be refreshments.

The walk and run are part of PHS' continuing program to encourage health maintenance at the workplace. For more information about other programs available at the Parklawn Bldg., call the Parklawn Training Center, 443-6790, or the Parklawn Recreation and Welfare Association, 443-1949.

The bus leaves NIH for Parklawn at 11 a.m. and will return about 2 p.m. after the awards ceremony. □

## Historical Medical Tools Sought for ACRF Museum

Several historical items sought for display in the museum in the lobby of the Ambulatory Care Research Facility have not been located.

Among them are a Warburg respirometer, a Thunberg tube and a basal metabolism machine.

If you have these or any other classic research tools to contribute, contact Dr. DeWitt Stetten, Jr., 496-1932. □

# First Meeting Held to Exchange Information Among Federal Human Nutrition Research Units

The First Annual Conference of Federally Supported Human Nutrition Research Units was held recently at the National Academy of Sciences.

The conference was sponsored by the Joint Subcommittee on Human Nutrition Research of the Committee on Health and Medicine and the Committee on Agriculture, Food and Forestry Research, both of which are part of the Federal Coordinating Council on Science, Engineering, and Technology Policy, Executive Office of the President.

Attending were representatives from the National Institutes of Health, Food and Drug Administration, Department of Agriculture, Department of Defense, Veterans Administration, and the Agency for International Development.

Congressman George E. Brown, Jr., chairman of the Subcommittee on Department Operations, Research, and Foreign Agriculture—the keynote speaker—called for “a nutrition research plan developed and accepted by representatives of the broad range of disciplines which encompass the science and application of nutrition.

“This plan should serve as a guide for directing and motivating research which would achieve comprehensive nutrition goals as defined by the leaders of the numerous disciplines which encompass the science and application of nutrition. The plan must be sufficiently flexible to tap the creativity of individuals, maintain the integrity of the scientific process, and encourage centers of excellence,” he said.

An overview of the DHHS nutrition research program included presentations by the directors of the seven NIH-supported Clinical Nutrition Research Units:

- The CNRU at the University of Alabama in Birmingham investigates hospital malnutrition and its prevention; the role of nutrition in the etiology and prevention of cancer; feeding problems including obesity, anorexia, bulimia, short bowel syndromes, and home parenteral nutrition; multiphasic screening for vitamin status assessment; and folic acid biochemistry and metabolism.
- At the Medical College of Georgia, the CNRU's primary research includes investigation of nutrition's role in the causation of major diseases, primarily cardiovascular disease.
- CNRU research activities at Vanderbilt University's School of Medicine include studies on development of a rapid screen



NIH Deputy Director Dr. Thomas E. Malone (l), welcomes Congressman Brown as keynote speaker at the JSHNR's first annual conference. Dr. Simopoulos (c), is the JSHNR cochairperson and executive secretary, as well as chairman, NIH Nutrition Coordinating Committee.

for malnutrition of hospitalized patients, the use of nasogastric feedings at home in oat cell cancer patients, the effect of essential fatty acid deficiency on micronutrient metabolism, the incidence of zinc and copper deficiency in patients with chronic renal failure.

- The CNRU of Memorial Sloan-Kettering Cancer Center, New York Hospital-Cornell Medical Center and Rockefeller University, has seven major areas of nutrition research: cancer and nutrition, metabolism and diabetes, nutrition and immunology, nutrition and burns, nutrition and pharmacology, lipids, nutrition and brain research.

- The University of Wisconsin's CNRU is actively engaged in research on carnitine, the effects of nutrients on serum lipids especially total and HDL cholesterol and adverse effects of total parenteral nutrition.

- The CNRU at the Columbia University College of Physicians and Surgeons focuses on the pediatric patient with research directed toward providing adequate nourishment to the fetus, the premature or term infant, child, or adolescent.

Dr. Artemis P. Simopoulos, cochairperson and executive secretary of the JSHNR and chairman of the NIH Nutrition Coordinating Committee, presented highlights of the NIH Intramural Nutrition Program.

The INP includes studies of the relationship between nutrition and cancer, lipid metabolism and atherosclerosis disorders, investigation of the mechanisms of food allergy, the nutritional, biochemical and metabolic roles of various nutrients considered to be essential to the diet.

FDA's nutrition program includes research on nutritional value, and safety of the food supply, as well as the means to protect against misleading food label information.

Directors of the USDA nutrition centers presented highlights of USDA programs in human nutrition research, including:

- The USDA Human Nutrition Research

Center on Aging at Tufts University, Boston, examines ways in which diet and nutrition influence the onset and progress of aging through studies with experimental animals, tissue cultures, and human subjects.

- The USDA Children's Nutrition Research Center at Baylor College of Medicine, Houston, emphasizes the development of precise methods for investigating normal nutrient needs, for determining relationships between nutrition and normal growth and development, and for defining biochemical and physiological standards for normal growth and nutritional status in pregnant and lactating women and in children.

Three other USDA programs are under way at the Western Human Nutrition Research Center, San Francisco; Beltsville, Md. Human Nutrition Research Center; and Grand Forks Human Nutrition Research Center, N.D.

DOD's nutrition research program includes projects to improve the nutritional regimens of the military, develop more effective nutrition information delivery systems suited to needs of the military, and detailed procedural guides for national, international, and military nutrition assessment studies.

The VA's nutrition research programs are directed against diseases affecting substantial segments of the veteran population. Five special interest areas supported by the VA are aging, alcoholism, chronic ischemic heart disease, diabetes mellitus, and tissue regeneration.

AID supports human nutrition research as part of its programs to assist less-developed countries in improving the nutritional status of their populations.

A discussion of the strengths and gaps of the various nutrition programs and the need for further coordination and planning by the JSHNR, other professional scientific organizations, and individual scientists to develop a national nutrition research plan concluded the conference. □



James R. Wehling has been named budget officer for National Heart, Lung, and Blood Institute and chief of the Institute's Financial Management Branch. He comes to NHLBI from the National Institute on Aging where he was a program analyst.

## POLIO

(Continued from Page 1)

which polio is a major problem be assisted in developing programs adapted to their needs and that these programs be started now.

It was also recommended that further support be given to the goal of incorporating vaccination programs into routine health services.

However, such services are not adequate in many parts of the world at present, and consideration should be given to special programs where major changes can be made in a short period of time.

Great interest in the impact of poliomyelitis vaccines has arisen as a result of significant scientific advances that were discussed at the symposium.

These include development of an extraordinarily potent and effective inactivated polio vaccine (IPV), and the encouraging results arising from recombinant DNA technology, as reported by Nobel Laureate Dr. David Baltimore and other speakers.

Concern had been expressed regarding the mutation of attenuated (live) poliovirus and the rare occurrence of vaccine-associated cases of paralytic poliomyelitis.

It now appears possible to produce an attenuated vaccine that could not revert to virulence because of deletion of the virulence genes.

The potential use of such a vaccine remains problematic at this time because of ethical and practical difficulties in view of the availability of the safe, effective, and widely used Sabin and Salk vaccines.

Clear evidence was presented that the Sabin oral polio vaccine (OPV) has controlled poliomyelitis in the tropical world, but—in certain situations—OPV has not proved as effective as in temperate climates. The reasons are still not well understood.

Practical results from recent research in molecular biology were reported at the symposium. For example, it is now possible to trace epidemiologic links between polio cases through oligonucleotide fingerprinting.

That is, during epidemics the poliovirus isolates can be traced geographically, and vaccine-associated strains can be distinguished from wild poliovirus strains which, in turn, can be distinguished from one another. However, the evolutionary range is very short, and only very similar viruses can be related.

Although there are scheduling problems with a combined DPT (diphtheria-tetanus-pertussis)—poliomyelitis vaccine, it is believed that these can be worked out satisfactorily to achieve the necessary protective immunity.

Currently there is major variation in the performance and results of neutralizing antibody tests in different laboratories. It was recommended that international cooperation in standardization be encouraged. Increasing the stability of poliovirus vaccines was considered a problem that also merits resolution.

In the concluding session, it was suggested that the new science of "vaccinology"—the development of new vaccines—be pursued vigorously.

The use of recombinant DNA techniques

## Dr. Sanford Rosenthal: Age Has Not Dampened His Creative Thinking

Dr. Sanford M. Rosenthal, scientist emeritus at the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases and former chief of its Laboratory of Pharmacology and Toxicology, recently published a paper entitled Effect of Sodium Chloride on Longevity in Mice in the *American Journal of Physiology*.

What makes this remarkable is the fact that Dr. Rosenthal, now 86 years old, first published in the *American Journal of Physiology* 60 years ago. That paper, The Inadequacy of Our Present Blood Volume Methods, was one of the first in his six-decade career.

The impetus for his latest paper came from previous studies that showed a large decrease in the movement of transvascular fluid (the fluid between capillaries and cells) in mice as they age.

A similar situation has been found in the plant kingdom. Plants lose their "sap pressure" as they age and some theorists suggest this starts the death process.

Dr. Rosenthal believed that salt might be a key in maintaining the transvascular fluid and that limiting salt intake in individuals without known kidney disease or high blood pressure might, under certain conditions, be detrimental.

In a 3-year experiment designed to test this hypothesis, he fed groups of a particular short-lived mouse strain differing amounts of salt over their lifetimes. The long-awaited results showed no increase in length of life, but no decrease either.

Dr. Rosenthal is still convinced that salt plays a role in longevity, and believes that salt restriction in the absence of hypertension or kidney disease is not required.

He officially retired from the USPHS Commissioned Officers Corps in 1961, but didn't stop working. He became special consultant to former Institute Director, Dr. G. Donald Whedon, and was assigned to supervise the Institute's burn shock project in Lima, Peru, for 3 years.

Dr. Rosenthal continued as consultant to the Institute Director until 1974 when he became scientist emeritus. He still spends 2 or 3 days of every week in the lab.

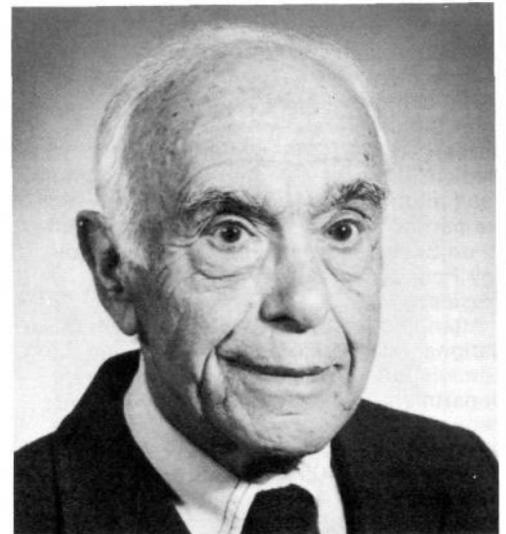
### R&W Goes to Atlantic City

R&W will once again travel to the Tropicana Hotel and Casino in Atlantic City, N.J., on Apr. 21. The fee of \$16.75 per person includes round trip motor coach transportation and \$15 cash rebate. Buses will depart from Bldg. 31C at 11 a.m. and leave Atlantic City for the return trip at approximately 8 p.m. Payment in full is due at the time of booking. No refunds will be given.

Sign up now at the R&W Activities Office, Bldg. 31, Rm. B1W30. □

in producing these new vaccines offers great promise in terms of benefitting other disease areas and moving science ahead.

Proceedings of the symposium will appear as a supplement in a forthcoming issue of the *Reviews of Infectious Diseases*. □



Dr. Sanford M. Rosenthal

Dr. Rosenthal is well-known for his extensive studies on the treatment and cause of traumatic shock and burns, including both animal and clinical studies.

His work led to an increased understanding of the role of electrolyte disturbances in burn disorders, and to the use of large quantities of isotonic saline (salt) for their treatment. In 1973 he was awarded the Harvey S. Allen prize from the American Burn Association in recognition of his work.

In addition, Dr. Rosenthal has contributed significantly to other scientific areas. His first research in 1922-1925 resulted in the development of the bromsulfalein (BSP) liver function test.

This test has been the most widely used liver function test in clinical chemistry. Although other tests define liver function, the BSP is still used in clinical practice today.

His work with heavy metals included studies on the action mechanism of arsenicals as well as the development of an antidote for mercury poisoning that was the only feasible treatment until recently.

Dr. Rosenthal has also shown that the naturally occurring amines—putrescine and spermidine—can produce striking kidney toxicity, even in minute doses. He developed methods to analyze these substances in various animal and bacterial tissues, and participated in a number of biochemical studies on their biosynthesis and metabolism.—Linda Stalvey □

### PRIZE

(Continued from Page 1)

Further, the award presentation notes Dr. Rall's efforts to ensure that the recently created NTP is based on good science and sound toxicology principles.

It also cited his promotion of more interaction between academic, industrial and governmental toxicologists which, it noted, will enhance the credibility not only of the NTP but of toxicology as a scientific discipline. □

## Computer Technologies Change NIEHS Library

Computer technology has transformed the way the library at the National Institute of Environmental Health Sciences in Research Triangle Park, N.C., fulfills its mission.

Librarian Day Robertson provides a first-rate technical library for a staff of about 700 scientists and support personnel, all in limited floor space.

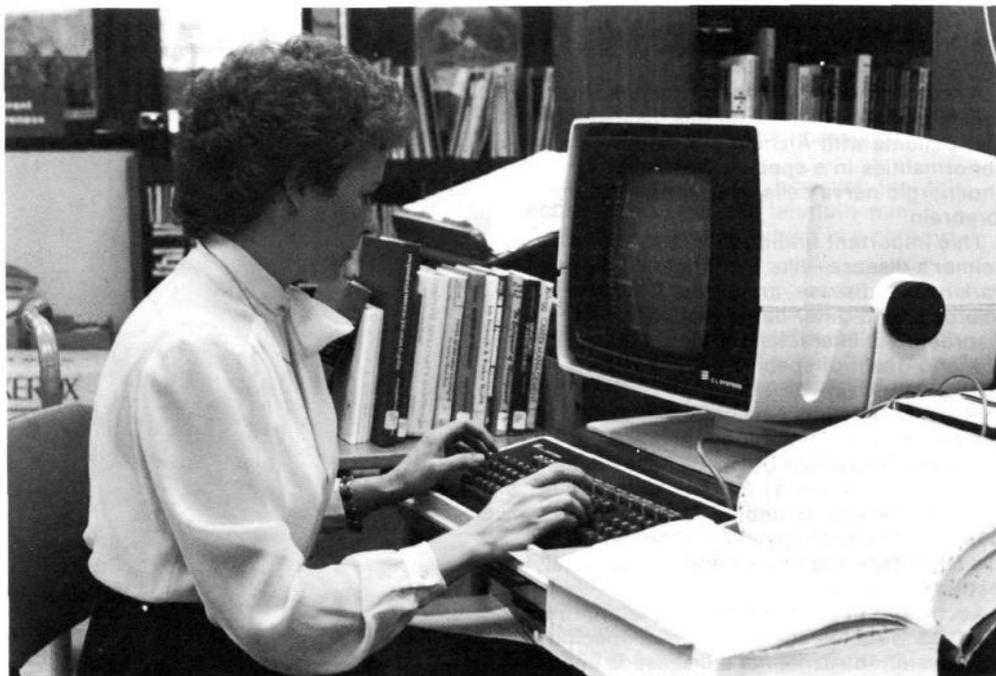
Although interlibrary loan agreements with a number of major university libraries in the area—University of North Carolina at Chapel Hill, Duke University at Durham, and N.C. State in Raleigh—make his task easier, Mr. Robertson uses current technology to make sure that appropriate reference materials are at hand, or their whereabouts quickly known.

### Bar Codes and Laser Pens

The library has started using bar code stickers with lines of varying widths fixed to the binding of books, similar to the price and inventory code markings on grocery store goods. The sticker is read by a laser pen to automatically record when the book is being checked in or out.

This bar code is only one facet of the new electronic system. The system will tell anyone checking the online catalog whether a particular book is available on the shelves. It will also produce overdue notices and keep track of statistics on usage for management purposes.

The library is also in the process of computerizing its catalog. Now a library user can get an up-to-the-minute account of what items are available and whether or not



Christine Chastain of the NIEHS library transfers entries from the catalog printout to the online catalog.

they have been checked out rather than relying on a periodic printout of library holdings or a card catalog.

In addition, NIEHS employees can telephone the library and use their office or laboratory computer terminal to search the library's online catalog. They can search the catalog by subject, author, or title, and combine any two search terms for a more selective group of books.

### No Special Training Needed

"No special training is required to use the new system," Mr. Robertson explained.

"Library staff can quickly demonstrate use of the online catalog either at the library or at any computer terminal around campus."

At the present time, 10,000 books are online, and soon technical reports, microfiche material and journals will also be included.

How do scientists like the system?

Dr. Robert A. Goyer, NIEHS deputy director and an internationally recognized investigator into the biological effects of heavy metals exposures, said: "Our library staff is as ambitious to make the library modern and efficient as our scientists are to make use of the references they need for research.

"The library staff is not just performing a job; it has incorporated these new innovations to provide quick and accurate information for bench scientists, saving them valuable time. The scientific staff appreciates the library's efforts to make the availability of materials instantly known, and the speedy checkout system."

The NIEHS library's computer system is compatible with the new system being installed at the National Institutes of Health Library in Bethesda, Md.

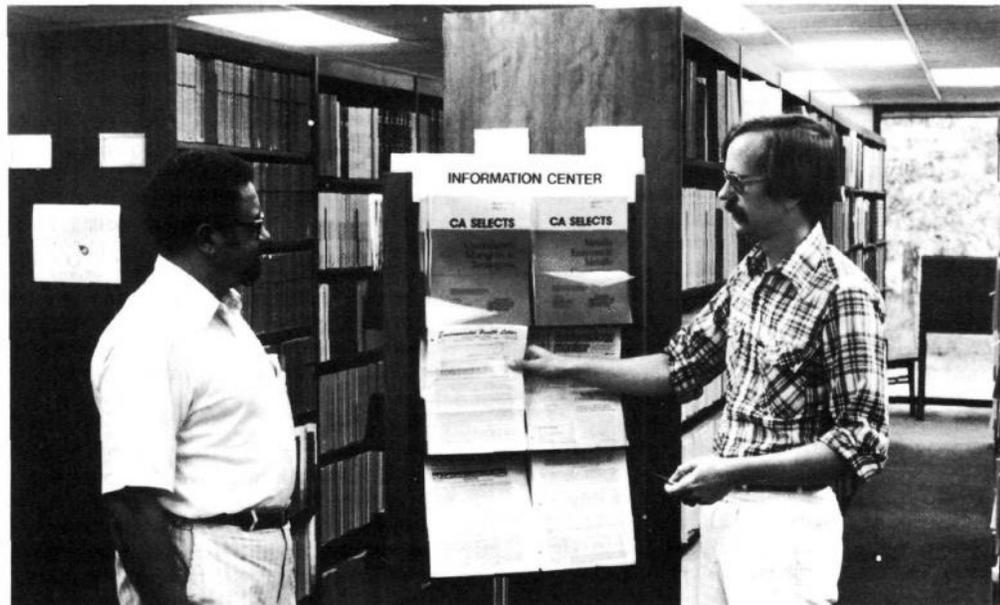
## Mrs. Margaret Lewis, NCI Secretary, Dies

Margaret Lewis, 60, a secretary in the Administrative Office of the NCI Division of Cancer Treatment, died Feb. 21 of leukemia. She had worked for DCT for 10 years.

Born in Fredericksburg, Ind., Mrs. Lewis attended high school in Salem, Ind. She began her Federal service in 1942 in Jeffersonville, Ind., working as a clerk-typist at the Department of the Army Quartermaster Depot. She moved to Washington, D.C., in 1945 to become a clerk-stenographer and later, a statistical clerk, in the Office of the Quartermaster General, which developed plans for troop mobilization, civil defense, and special missions. She left that position in 1952 to raise a family, and later joined NIH in 1967 as a secretary for NIGMS.

"Mrs. Lewis was an extremely dedicated, hard-working employee," said Michael Goldrich, DCT administrative officer. "She willingly accepted increased responsibilities and was well respected and liked by everyone in the division."

Discussion is an exchange of knowledge; argument an exchange of ignorance.—  
*Robert Quillen* □



NIEHS librarian Mr. Robertson (r) and Ralph Hester of the library staff look over an exhibit of publications.

# Alzheimer's Disease Linked to Basal Forebrain

A research team at Johns Hopkins University School of Medicine has discovered that patients with Alzheimer's disease show abnormalities in a specific population of cholinergic nerve cells deep in the basal forebrain.

This important finding indicates that Alzheimer's disease—like Huntington's disease, Parkinson's disease, amyotrophic lateral sclerosis, and other degenerative disorders—is characterized by the dysfunction and death of specific groups of nerve cells in the brain.

The research was carried out in the university's neuropathology laboratory under the leadership of Dr. Donald Price, professor of pathology and neurology.

The study was funded by the National Institute of Neurological and Communicative Disorders and Stroke and the National Institute on Aging.

According to Dr. Murray Goldstein, NINCDS Director, the finding of a specific brain lesion in Alzheimer's disease is important in shaping a more accurate perception of the disease. "This finding provides meaningful evidence that Alzheimer's disease is an organic brain disease, not primarily a psychiatric or psychosocial problem," Dr. Goldstein said.

## No Immediate Treatment

Describing the findings at a meeting of the NINCDS Advisory Council in January, Dr. Price cautioned that the discovery will not lead to an immediate treatment for Alzheimer's disease.

"It would be premature to attempt to devise a rational therapy for Alzheimer's disease, because we do not yet know enough about the disease or the various neuronal systems involved in the disorder," he said.

However, he pointed out that there is increasing evidence that therapies may be possible at early stages of the disease. "There appears to be a prolonged period during which brain cells are functioning abnormally," Dr. Price told the council. "At that stage, the disease may be potentially reversible."

Dr. Price said he believes that his team's new findings will stimulate work designed to clarify the functions of the involved brain region. "I predict that in the next 10 years we will know a great deal more about the neurobiology of the basal forebrain cholinergic system, its functional organization, and its role in memory and cognition."

Alzheimer's disease is a disabling neurological illness that affects approximately 5 percent of all persons over the age of 65 and a lesser number of younger people. It is characterized by abnormalities of memory, thought, orientation, and behavior.

With demographers predicting a large increase in the elderly population over the next 20 years, it is clear that Alzheimer's disease will become an increasingly important cause of chronic illness.

The condition was first described in 1907 by the German physician Alois Alzheimer who recognized the clinical syndrome and two of the neuropathological features that remain the disease's hallmarks: neurofibril-



Dr. Price points to the brain area in which he and his research team identified damage to cholinergic neurons in patients with Alzheimer's disease.

lary tangles and neuritic plaques.

Neurofibrillary tangles are accumulations of paired helical filaments within nerve cell bodies. Neuritic plaques are commonly seen in the cerebral cortex, and consist of clusters of nerve endings surrounding a core of extracellular amyloid, an abnormal, complex substance.

As individual plaques evolve, there appears to be a loss of nerve endings thought to represent degeneration of nerve fibers.

In the mid-1970s, several groups of neurochemists, including Drs. Peter Davies (Albert Einstein College of Medicine) and David Bowen (Queen Square Hospital) discovered that the brains of Alzheimer's disease patients showed a selective loss of enzymes important in the metabolism of the neurotransmitter acetylcholine (ACh).

The enzyme that synthesizes ACh and the enzyme that degrades ACh were both reduced in the cerebral cortex of Alzheimer's disease patients.

Because ACh carries messages from one nerve cell to another, investigators suspected that loss of cholinergic transmission might be implicated in the clinical symptom of dementia.

## Forebrain Hypothesis

Based on observations from animal studies conducted by many investigators over the years, Dr. Price and his colleagues suspected that the cholinergic deficits in Alzheimer's disease might result from abnormalities of the basal forebrain system. They hypothesized that the nucleus basalis of Meynert might be the source of cholinergic innervation in the cortex.

If this hypothesis were true, autopsy studies of the nucleus basalis of persons who died with Alzheimer's disease might show a loss of nerve cells in this region. Autopsies showed such nerve cell loss.

In 1980, Drs. Peter Whitehouse, Price, and coworkers in the neuropathology laboratory at Johns Hopkins examined the basal forebrain of a 74-year-old man who had died after a 14-year history of progressive dementia. He also had a strong family history of Alzheimer's disease.

When sections of this man's brain were compared with brain sections from patients who had died of other causes, it was found that the brain of the demented patient was very different.

Loss of nerve cells in the basal forebrain was so severe, said Dr. Price, "we could see the differences with the naked eye." Precise measurements revealed that 95 percent of neurons in the nucleus basalis of Meynert had degenerated.

The Johns Hopkins team is now examining the brains of Alzheimer's patients who did not have a family history of disease; they too have a substantial loss of cholinergic neurons in the basal forebrain.

## Coup for Basic Neuroscience

Dr. Price emphasized that "the clues to understanding Alzheimer's disease have come from basic neuroscience."

"When we started this research, it was not even known that the nucleus basalis was cholinergic," he said. "Without the knowledge gained by other investigators studying the basal forebrain in animals, it's not likely that this brain region would have been investigated in humans."

# Degeneration by NIH-Funded Science Team

He pointed out that several investigators, including Drs. Michael Johnstone, Michael McKinney, Joseph Coyle, and John Lehmann at Johns Hopkins, had shown that lesions in the rodent ventral forebrain have cholinergic deficits in cortex.

"The similarities of these neurochemical changes to those in the brains of Alzheimer's disease patients were another clue to the possible role of this system in this type of dementia," Dr. Price said.

**"This finding provides meaningful evidence that Alzheimer's disease is an organic brain disease, not primarily a psychiatric or psychosocial problem."**

More recently, investigators in the Johns Hopkins neuropathology laboratory have extended these findings to investigate the possible role of the nucleus basalis of Meynert in the development of neuritic plaques.

Knowing that aged monkeys developed neuritic plaques, Drs. Robert Struble and Linda Cork began a systematic study of the brains of aged monkeys who had been untreated controls in a long-term experiment on the radiation effects in primates.

When the scientists looked at the brains in these animals, they found three stages of neuritic plaques. In the earliest type of plaque, there were enlarged nerve terminals and only a little amyloid.

Intermediate-stage plaques contained moderate amounts of both nerve endings and amyloid. The more advanced or "burned-out" plaques contained only a few nerve fibers and a great deal of amyloid.

Special staining techniques disclosed changes in acetylcholinesterase (AChE) activity in plaques as they evolve. AChE is the enzyme that causes ACh to break down,



Specific brain changes associated with Alzheimer's disease are visible under the microscope. One of the most prominent neurofibrillary tangles is shown here. The tangles are pairs of fine nerve fibers twisted around each other and lying in the cell bodies of neurons.

and is a useful marker for studying the distribution of nerve terminals coming from the nucleus basalis of Meynert.

Immature plaques were rich in AChE, while "burned-out" plaques showed lesser amounts of enzyme activity. This finding suggests that the axons and nerve terminals derived from the nucleus basalis of Meynert are at least one population of nerve terminals in the plaque and that these nerve terminals gradually disappear as the plaque evolves.

According to Dr. Price, "These observations may be explained by a slow degeneration of axons and nerve terminals derived from the nucleus basalis."

Dr. Price said he believes that this is just the beginning of the story. Investigators at Johns Hopkins are actively pursuing this research. Drs. Mahlon R. DeLong, Susan J. Mitchell, and John Lehmann have destroyed

basal forebrain cells in monkeys and begun to look at chemical and anatomical alterations in cortex.

Dr. Price cautioned, however, that this acute lesion does not faithfully mimic Alzheimer's disease, which is a chronic, progressive illness.

## Not Like Polio

"Alzheimer's disease is not like polio," he explained. "In polio, a virus gets into the nerve cells and kills it within 24 to 48 hours. We believe this acute process does not occur in Alzheimer's disease—nor in Huntington's disease, amyotrophic lateral sclerosis, or the other chronically progressive degenerative disorders."

So Dr. Price and his coworkers are searching for ways to produce more chronic pathology in the basal forebrain in order to simulate more closely the course of brain damage in Alzheimer's disease.

It may take some time before these advances are translated into effective therapies. Although Dr. Price agreed that "selected clinical trials are important," he proposed that "money, time, and effort would be well invested in studies designed to obtain basic information about the systems implicated in Alzheimer's disease so that more rational therapies can be designed."

"There has been an extraordinary resurgence of research interest in Alzheimer's disease," Dr. Price told the NINCDS Advisory Council. "One of the most important components of this resurgence has been the commitment of a number of bright, young investigators to this field."

"With adequate support, I think we can be certain that over the next few years these talented young physicians and scientists will make important advances in our understanding of Alzheimer's disease."

The research on the cholinergic system in Alzheimer's disease was reported in the Mar. 11 issue of *Science*. □

## Gene Transfer Research Nets Award for Young Scientists

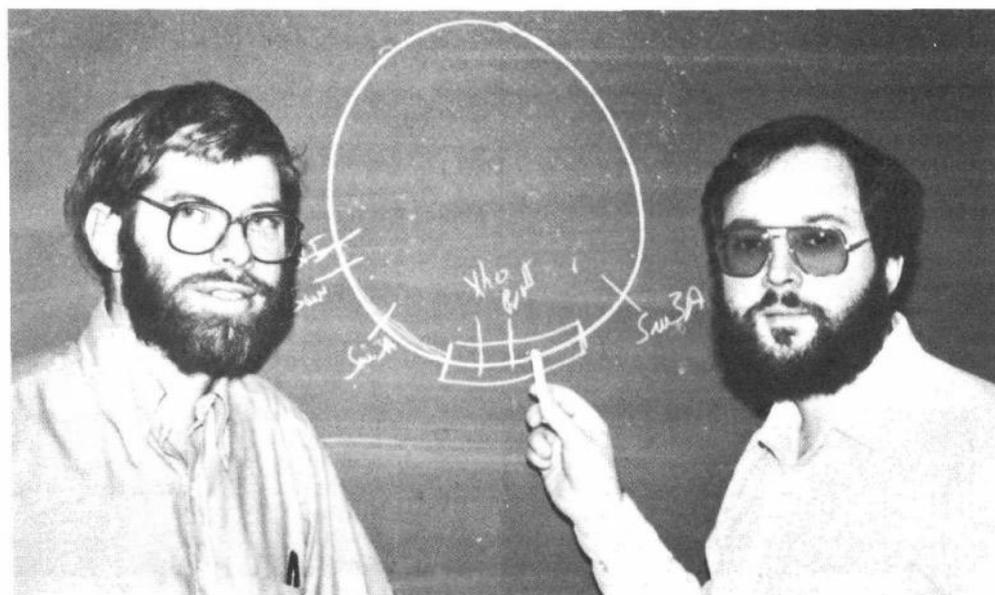
Drs. Allan C. Spradling and Gerald M. Rubin, grantees of the National Institute of General Medical Sciences working at the Carnegie Institute of Washington, recently received the 1983 Young Scientists Award of the Passano Foundation.

The two biologists were cited for their development of a gene transfer method in the fruit fly, *Drosophila melanogaster*.

This technique employs movable pieces of genetic material, called transposable elements, to carry a gene for red eyes into brown-eyed fly embryos which then develop and pass the gene on to their offspring.

The method provides a powerful tool for scientists working to understand how genes function and are regulated during development.

The Passano Foundation has, since 1945, honored 54 scientists with either senior or junior awards that carry tax-free honoraria. Nine winners of the Passano Award have subsequently received Nobel Prizes.



Drs. Spradling [l] and Rubin, winners of the 1983 Young Scientist Award of the Passano Foundation.

## 20 Winners of Westinghouse Science Talent Search Elected to Spend Their Prime Time at NIH

Twenty of the top 40 winners in the 1983 Science Talent Search sponsored by Westinghouse elected to spend their prime time in Washington at NIH.

The top 40 were picked to attend the Science Talent Institute in Washington, D.C., from among 300 STS entrants who won special recognition by being named to the honors group.

More than 13,000 seniors from U.S., Puerto Rican and overseas American secondary schools initially entered the talent search. Of these 824 completed all entry requirements. Each of the 20 students coming to the NIH campus spent from 3 to 6 hours participating in programs individually tailored to their scientific interests.

The awards dinner of the 42nd Annual Science Talent Search was held Mar. 7 in the grand ballroom of the Mayflower Hotel.



The students and their hosts at a buffet luncheon held at the Clinical Center. The guest speaker was Dr. Joseph E. Rall, director, Division of Intramural Research, NIADDK.

## CC Blood Bank Requests AIDS Risks Not Donate

While no final conclusions have been reached regarding the cause and transmission of acquired immune deficiency syndrome (AIDS), the staff of the Clinical Center Blood Bank is requesting that those identified in high risk groups for the disease refrain from donating blood at this time.

AIDS is a condition in which the body's normal defense mechanisms against certain conditions are reduced. As a result, patients often develop unusual infections, such as pneumocystis pneumonia or Kaposi's sarcoma, a rare form of skin cancer, according to Dr. Paul Holland, Blood Bank chief.

People at high risk include: those with symptoms and signs suggestive of AIDS, such as night sweats, unexplained weight loss, or enlarged lymph glands; sexual partners of AIDS patients; sexually active homosexual or bisexual men with multiple partners; Haitian entrants into the U.S.; present or past users of intravenous drugs; patients with hemophilia; and sexual partners of individuals at increased risk of AIDS.

The majority of members of these groups are not carriers. However, since there is presently no means of detection and thus no mechanism to identify those few who may be at risk, precautionary measures concerning blood donations are being taken.

"We appreciate the time and effort involved in donating blood and hope that all donors recognize the necessity of the voluntary screening procedures which have been instituted," said Dr. Holland. □

### Assert Yourself!

The Employee Assistance Program, Occupational Medical Service, is offering a 4-week assertiveness training course on Apr. 25, May 2, 9, and 16, from 11 a.m. to noon, in Bldg. 31, Rm. B2C02A.

For a brief pregroup interview, call Rachelle Selzer, 496-3164. □

## Affirmative Action

Eleven job categories will be the object of special recruitment and monitoring under NIH's Affirmative Action Plan during the next 3 years (1983 to 1986). The goal is to improve the number of women and ethnic minorities in such positions.

The 11 job series which will be monitored are: clerk/assistant, GS-303; secretary, GS-318; clerk typist, GS-322; computer specialist, GS-334; biologist, GS-401; biological laboratory technician, GS-404; health scientist administrator, GS-601; nurse, GS-610; contract/procurement specialist, GS-1102; and chemist, GS-1320.

These occupational classifications were chosen because they contain relatively large numbers of employees (300 or more) and minorities and women are underrepresented in them.

Recruitment plans have been completed for each targeted occupational series and are included in the overall agency plan. Special recruitments will be conducted towards improving the number of Hispanics in such positions.

The NIH plan, completed in January 1983, covers all permanent GS employees in

grades 1 through 15. Also included in the plan are proposed agency actions to prevent sexual harassment.

In addition to the overall agency plan, each BID was required to complete an AAP/FEORP (Affirmative Action Plan/Federal Equal Opportunity Recruitment Program) and a specific plan for implementing it.

NIH Director Dr. James B. Wyngaarden has issued a policy statement on equal opportunity that has become a part of NIH's multiyear AAP/FEORP plan. He stated:

"It is the policy of the NIH that every employee of or applicant to the NIH be given equal access to employment, promotional and training opportunities without regard to their race, color, religion, sex, age, national origin, or physical or mental handicap."

In addition, Dr. Wyngaarden called "on all agency managers and supervisors to exercise aggressive and thoughtful leadership in carrying out these policies and implementing an effective and responsive affirmative action and Federal equal opportunity recruitment program." □

## Affinity Chromatography Symposium in June

The 1983 International Symposium on Affinity Chromatography and Biological Recognition is the fifth in a series of symposia devoted to affinity chromatography and related subjects, and the first of these to be held in the U.S. The symposium is being supported in part by the National Institutes of Health and the Fogarty International Center.

The symposium will be held at St. Johns' College in Annapolis, Md., June 13-17.

For information on program and registration, contact the Secretariat, 530-7010, or Dr. Irwin Chaiken, symposium chairman, Bldg. 10, Rm. 3N110. □

The greatest of faults is to be conscious of none.—Thomas Carlyle □

## Superwoman Presentation To Be Held Apr. 29

Coy A. Patrick, ACSE/LCSW, will give a 1-hour presentation/workshop on Superwoman, Apr. 29, at 12:30 p.m., in Conf. Rm. 6, Bldg. 31. The presentation is being sponsored by the Division of Contracts and Grants as part of the program for National Secretaries Week at NIH. Ms. Patrick will discuss the career woman's responsibilities in the workplace and at home.

Ms. Patrick, who has been affiliated with the Jewish Social Service Agency in Rockville for the past 17 years, also has her own private practice. She has dealt with all levels of problems involving families, adolescents, children, single parents, and remarriage.

The presentation/workshop is open to all interested persons at NIH. □

## Dr. Henry Bourne Speaks To PRAT Fellows in ACRF



Dr. Henry R. Bourne, professor of medicine and head of clinical pharmacology at the University of California, San Francisco, spoke recently to the staff fellows of the Pharmacology Research Associate Training (PRAT) program in the ACRF amphitheater on trends in membrane signaling by a family of GTP-binding proteins.

Dr. Bourne is a former PRAT fellow (1966 to 1968) in the then National Heart Institute's Laboratory of Chemical Pharmacology.

The PRAT program, sponsored by NIGMS, enables outstanding young scientists to acquire postdoctoral training in pharmacological research with NIH intramural scientists and the Alcohol, Drug Abuse and Mental Health Administration. □

## Visiting Scientist Program Participants

3-10 **Dr. Susanna Scarpa**, Italy, Laboratory of Pathology. Sponsor: Dr. Timothy Triche, NCI, Bg. 10, Rm. 2A10.

3-11 **Dr. Yukio Hiyama**, Japan, Laboratory of Biochemistry. Sponsor: Dr. Dennis Torchia, NIDR, Bg. 30, Rm. 221.

3-11 **Dr. Wolfgang Klinger**, Germany, Laboratory of Pharmacology. Sponsor: Dr. J. R. Fouts, NIEHS, Research Triangle Park, N.C.

3-11 **Dr. Hiroyuki Kotani**, Japan, Laboratory of Clinical Investigation. Sponsor: Dr. Warren Strober, NIAID, Bg. 10, Rm. 11N250.

3-11 **Dr. Arun Kumar Seth**, India, Laboratory of Molecular Oncology. Sponsor: Dr. George Vande Woude, NCI, Bg. 41, Rm. 100.

3-15 **Dr. Anil K. Balapure**, India, Laboratory of Environmental Chemistry. Sponsor: Dr. James McKinney, NIEHS, Research Triangle Park, N.C.

3-15 **Dr. Pramod Sutrave**, India, Laboratory of Viral Carcinogenesis. Sponsor: Dr. Ulf Rapp, NCI, FCRF, Bg. 560, Rm. 21-77.

3-16 **Dr. Miguel Sanchez-Perez**, Spain, Immunology Branch. Sponsor: Dr. J. Stephen Shaw, NCI, Bg. 10, Rm. 3N109.

3-23 **Dr. Doris Ogrowsky**, Germany, Laboratory of Oral Biology and Physiology. Sponsor: Dr. Constance Oliver, NIDR, Bg. 30, Rm. 212.

3-28 **Dr. Kumiko Asakawa**, Japan, Diabetes Branch. Sponsor: Dr. Jesse Roth, NIADDK, Bg. 10, Rm. 8S243.

3-28 **Dr. Keiji Mikami**, Japan, Endocrinology and Reproduction Research Branch. Sponsor: Dr. Charles Strott, NICHD, Bg. 10, Rm. 8C410.

3-28 **Dr. Taishin Takuma**, Japan, Clinical Investigation and Patient Care Branch. Sponsor: Dr. Bruce Baum, NIDR, Bg. 10, Rm. 2B01.

## Expert on Streptococcal Infections Dies Unexpectedly at Age 59

Dr. Lewis W. Wannamaker, a longtime grantee of the National Institute of Allergy and Infectious Diseases and professor of pediatrics and microbiology at the University of Minnesota, Minneapolis, died unexpectedly on Mar. 24 while visiting his hometown of St. Matthews, S.C. He was 59.

An expert in streptococcal infections, Dr. Wannamaker had been most recently at NIH on Mar. 23 to chair an NIAID-sponsored Workshop on the Development of Group B Streptococcus Candidate Vaccine.

"He will be remembered as the person who defined how rheumatic fever can be prevented," said Dr. Paul Quie, chief of staff at the University of Minnesota Hospitals and Wannamaker's first postdoctoral fellow.

In the early 1950s, Dr. Wannamaker and a team of investigators at Warren Air Force Base in Wyoming proved beyond any scientific doubt that treatment of streptococcal infections with penicillin could prevent rheumatic fever.

"The significance of his work," continued Dr. Quie, "is that it saved millions of people from suffering heart disease from rheumatic fever. He saved literally hundreds of thousands of lives throughout the world."

Dr. Wannamaker was a member of the department of preventive medicine at Case-Western Reserve University (then Western



Dr. Lewis W. Wannamaker

Reserve University) from 1948 to 1950. After his work at Warren AFB, he joined the faculty of the University of Minnesota Medical School in 1952 where he continued his work on the origins and development of streptococcal infections.

He was also a member of the hospital's clinical staff and chief of the division of infectious diseases in the department of pediatrics.

"Dr. Wannamaker's 30-year career at the University of Minnesota Medical School provided one-of-a-kind scholarship in infectious diseases that is recognized nationally and internationally," said Dr. N.L. Gault, Jr., medical school dean. "He will be deeply missed and the loss of his unique skills will leave a permanent void."

Dr. Richard M. Krause, NIAID Director, reaffirmed the statements of Dr. Wannamaker's colleagues. He recalled that they had worked together at Warren AFB on the prevention of streptococcal infections.

Dr. Krause said "my respect for Dr. Wannamaker grew throughout the years as I followed the progress of his creative and skillful epidemiological investigations on the association between streptococcal impetigo and acute glomerulonephritis."

In 1958 the American Heart Association named Wannamaker a Career Investigator—a distinction given to only seven American scientists. In 1980 he received the prestigious Robert Koch Medal in Bonn, West Germany, in recognition of his work in the prevention of rheumatic fever.

Dr. Wannamaker did his undergraduate studies at Emory University in Atlanta and earned his medical degree from Duke University in North Carolina in 1946.

## DCG Holds Research and Development Contract Seminar

The Division of Contracts and Grants (DCG) held the first of a series of seminars in R&D contracting at the Lister Hill Center on Mar. 7 and 8. The seminar was attended by 170 business representatives, scientific staff from various universities and commercial organizations throughout the country, and representatives from the NIH R&D contracting community.

The session gave the participants an opportunity to meet all the chief contracting officers from the various BIDs at the NIH as

well as key staff from the Office of the Director, DCG.

Among the topics discussed were: common misconceptions about R&D contracts and update on contract; overview of R&D contract process; request for contract to release request for proposal; and the competitive process: selection of offerors for award.

Future seminars in this continuing series will be announced in the NIH Guide for Grants and Contracts.



In his introductory remarks about National Eye Institute extramural programs, Dr. Ronald Geller, associate director for Extramural and Collaborative Programs, NEI, gave an update on mechanisms of grant funding.

# Tick-Borne Bacterial Spirochetes Confirmed as Cause of Lyme Disease

Two groups of investigators have confirmed that spiral-shaped bacteria carried by ticks cause Lyme disease, an inflammatory ailment first recognized in 1975 in Lyme, Conn. These bacteria, called spirochetes, were isolated from patients with Lyme disease and are identical to those previously isolated from *Ixodes dammini* ticks by scientists at the National Institute of Allergy and Infectious Diseases.

Since 1975, Lyme disease has been found in 14 states, in Europe, and Australia. It usually begins with a skin lesion called erythema chronicum migrans (ECM) accompanied by flu-like symptoms.

Weeks to months later, neurologic or heart abnormalities and various forms of arthritis may occur and then recur intermittently. Penicillin or tetracycline given early in the illness can speed healing of the skin lesions as well as prevent or lessen the severity of subsequent arthritis.

Outbreaks of Lyme disease are generally clustered in particular geographic areas, and investigators have suspected that it was caused by an infectious agent transmitted by a tick. In 1982, scientists, led by Dr. Willy Burgdorfer from NIAID's Rocky Mountain Laboratories, isolated a previously unrecognized spirochete from *I. dammini* ticks collected on Shelter Island, N.Y., an area where Lyme disease is endemic.

## Two Different Groups

Working with two different investigative groups, Dr. Burgdorfer and other NIAID scientists have now isolated spirochetes from patients with the same morphologic and immunologic features as the one isolated earlier.

One group of scientists, headed by Dr. Jorge L. Benach of the State of New York Department of Health and the State University of New York at Stony Brook, tested blood samples from 36 patients with the symptoms of Lyme disease. They isolated spirochetes from the blood of two of the patients.

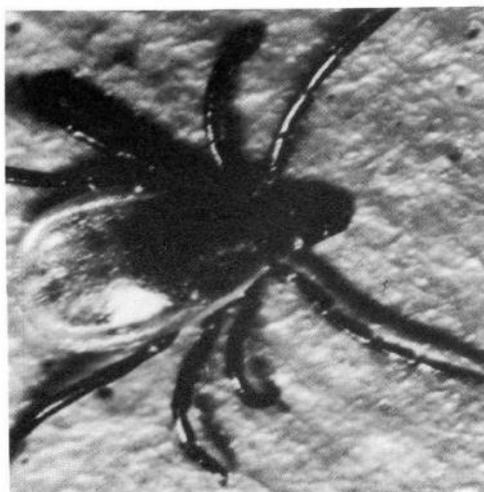
The second group was led by Dr. Allen C. Steere from Yale University School of Medicine. These investigators examined 142 specimens (from blood, skin lesions, cerebrospinal fluid, lymph nodes, and urine) from 56 patients with Lyme disease. Spirochetes were recovered from three patients—from the blood of one patient, the skin lesion of another, and the cerebrospinal fluid of the third.

## Number Small

Results of these two studies indicate that the number of spirochetes in affected tissues is small and that isolation of the organism is probably not a good basis for diagnosis.

However, the studies also show that measuring levels of antibodies that react specifically against spirochetes is very helpful in establishing an accurate diagnosis of Lyme disease.

Dr. Steere and his colleagues measured antibody levels in patients with Lyme disease and in 80 control subjects without the



Ticks of the genus *Ixodes* carry the spirochetes that cause Lyme disease.

disease. Control subjects included healthy persons and persons with illnesses that might be confused with Lyme disease, such as acute infectious mononucleosis and various types of active inflammatory arthritis.

Among 40 patients with early symptoms of Lyme disease, 90 percent had an elevated IgM level between the appearance of ECM (lesion) and recovery.

Ninety-five patients with later manifestations of the disease were tested, and 94 percent had elevated IgG levels. In contrast, none of the 80 control subjects had elevated IgG, and only three control patients with infectious mononucleosis had elevated IgM.

Reports of both studies appeared in the Mar. 31 *New England Journal of Medicine*.



A scanning electron micrograph shows *I. dammini* spirochetes, the Lyme disease bacteria, that first causes a skin lesion followed by flu-like symptoms.

An estimated 60 million Americans have hypertension. People between the ages of 45 and 74 who have hypertension are seven times more likely to have a stroke and three times more likely to have a heart attack than those with normal blood pressure. Hypertension is linked to atherosclerosis, kidney failure and eye damage. □

## AIDS

(Continued from Page 1)

AIDS is a newly recognized condition that leads to a breakdown of the body's immune system and decreased resistance to serious fungus and viral infections.

The disease has primarily affected homosexual males with multiple sexual partners, abusers of intravenous drugs, and Haitians who entered the United States within the past few years.

The disease has also been observed in hemophilia patients requiring routine injections of antihemophilic factor.

Although the cause of AIDS is not known, scientists believe it is transmitted by an infectious agent. More than 1,200 cases of the syndrome have been reported since June 1981, with more than 400 deaths. □

## Virologists Review Possible AIDS Causes

A scientific workshop attended by about 70 virologists and infectious disease specialists reviewed possible causative agents of acquired immune deficiency syndrome at NIH on April 5 and 6.

Sponsored by National Institute of Allergy and Infectious Diseases, the workshop included detailed discussions on the possible role each type of virus—such as cytomegalovirus or hepatitis virus—might play in AIDS.

There also were reports on current efforts to recover potential agents from patients with AIDS and a general discussion of future areas of investigation.

Following the workshop on Apr. 6, a briefing was held for science writers to summarize results of the workshop and answer questions about the disease.

Several noted scientists, including Dr. Albert Sabin, were available for the briefing.

## Breast Cancer Featured In OMS Program

Breast cancer, which will be the leading cause of cancer death among women in 1983, will be highlighted during April—Cancer Crusade Month.

The Occupational Medical Service and the Division of Safety will present *Breast Cancer: We're Making Progress Every Day*, a 16-minute slide-tape developed by the Office of Cancer Communications, National Cancer Institute.

The latest information on breast cancer detection, diagnosis, and treatment are discussed in the film. Step-by-step instructions on how to perform breast self-examination are also included.

Dates and locations of presentations are as follows:

Wednesday, Apr. 13, Bldg. 13, Rm. G313, 3 p.m.

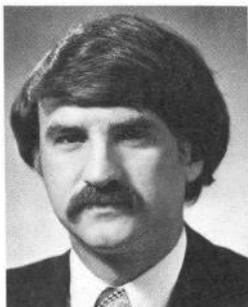
Thursday, Apr. 14, NLM, Bldg. 38A, Rm. B1N30B, 11:30 a.m., 12:15 p.m.

Tuesday, Apr. 19, Shannon Bldg., Wilson Hall, 11:30 a.m., 12:15 p.m.

Thursday, Apr. 29, Westwood Bldg., Rm. 428, 11:30 a.m., 12:15 p.m. □

## Former NIH Diabetes Researcher Honored With First Young Investigator Award

Dr. C. Ronald Kahn, former senior scientist in the Diabetes Branch, National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases and a current member of the National Diabetes Advisory Board, will be the first recipient of the "Young Investigator Award" to be presented by the American Federation for Clinical Research (AFCR) at their annual meeting in Washington, D.C. on Apr. 30. The award includes a \$15,000 honorarium.



Dr. Kahn

An internationally renowned investigator in the field of diabetes, Dr. Kahn is presently director of research at the Joslin Diabetes Center, chief of diabetes and metabolism at the Brigham and Women's Hospital in Boston, Mass., and associate professor of medicine at Harvard Medical School.

Among research achievements for which he was recognized by the AFCR was his investigation of genetic obesity in mice which led to the first description of a receptor disorder.

Since then, many disorders of the insulin receptors and of many other receptors have been demonstrated. The insulin receptor defects and their relationship to insulin concentrations were demonstrated in a series of papers by Dr. Kahn and his colleagues.

In his studies in man, Dr. Kahn described two new diseases related to extreme insulin resistance, now known as "type A and type B."

Type A appears to be a genetic disorder of insulin receptors. In type B patients, autoantibodies directed against the insulin receptor appear to cause the disease process.

Dr. Kahn's work opened this area of research so that many disorders have now been described, some genetic and some acquired.

After recognition that insulin resistance in type B patients was due to circulating antibodies directed against the insulin receptor, Dr. Kahn went on to characterize these antibodies in many ways.

These include the demonstration of their insulin-like properties, the receptor blocking effect of the monovalent form of the antibody, the effect of the antibody on the affinity of the receptor for insulin, and the importance of the bivalence of ligands (molecules that bind with other substances) in producing the hormone-like effect.

Dr. Kahn's recognition of the importance of bivalence (a combining power equal to two atoms of hydrogen) for substances that mimic insulin is a new emerging concept—as yet, not totally explained. The basic question is how ligands bound to receptors generate biological signals to the target cell.

According to Dr. Jesse Roth, chief of the Diabetes Branch, NIADDK, "The achievements of Ronald Kahn stand very high as a model for young investigators throughout the world."

He added: "One of the most remarkable features of Ron Kahn's research, which has been so consistently excellent, has been the synergism between studies of science and disease."

"Advances in science were rapidly applied to advances in our understanding of disease, and conversely, new observations about disease states were applied broadly to science."

"The impact of all this work has been extensive, not only in fields relating to glucose and insulin but to a wide range of other areas as well."

The Diabetes Branch has served as a spawning ground for a new generation of young scientists, many of whom, like Dr. Kahn, have established their own internationally recognized research careers.

In 1981, Dr. Kahn received the Eli Lilly Award for research from the American Diabetes Association and the CIBA-Geigy/Drew Award for Biomedical Research for his studies of receptor and insulin mechanisms.

In 1980, he was invited to present his work at the Laurentian Hormone Conference, and in 1977, he received the David Rumbough Memorial Award for Scientific Achievement from the Juvenile Diabetes Foundation.

He received a B.A. degree in chemistry from the University of Louisville, and his M.D. degree from the University of Louisville School of Medicine.

Dr. Kahn joined NIH in 1970 as a clinical associate in NIADDK's Clinical Endocrinology Branch. He later was senior investigator in the Diabetes Branch, and became chief of the section on cellular and molecular physiology in 1979.

Dr. Kahn will be the speaker at the Solomon A. Berson Memorial Lecture on Friday, Apr. 29, at 1:30 p.m. in the Bldg. 10, ACRF amphitheater. □

## Dr. George Eaves Named Deputy Director For Stroke and Trauma Program, NINCDS

Dr. George N. Eaves has joined the National Institute of Neurological and Communicative Disorders and Stroke as deputy director of the Stroke and Trauma Program.

Announcing the appointment, Dr. Michael D. Walker, program director, noted that a rare combination of scientific expertise, grantsmanship, and biomedical communications skills "uniquely qualifies Dr. Eaves for his new position."

Dr. Walker said that Dr. Eaves will be directly involved in the day-to-day operation of the STP and will also assist with long-range planning and program development.

The mission of the Stroke and Trauma Program is to plan, support and monitor national research initiatives on stroke, head and spinal injuries, central nervous system regeneration, brain tumors, and pain.

Dr. Eaves has spent virtually his entire Federal career at NIH. From 1976 until assuming his present position at NINCDS, he was deputy director of the Division of Blood Diseases and Resources, National Heart, Lung, and Blood Institute. Before that he was executive secretary of the Institute's Advisory Council.

He has also served as associate staff director of the President's Biomedical Research Panel (1974-1976).



Dr. Eaves served as associate staff director of the President's Biomedical Research Panel from 1974-1976.

Dr. Eaves' initiation into grants activities began in 1965 with his appointment to the NIH Grants Associate Program. After completing his training, he joined the Division of Research Grants to serve as executive secretary of the Molecular Biology Study Section.

While at DRG, he won a national competition to become a guest investigator and postdoctoral fellow in the Rockefeller Uni-

versity editor training program. This program prepared scientists and physicians to edit professional journals and teach biomedical writing.

Subsequently Dr. Eaves has gained recognition for his publication on the peer review system and the preparation of grant applications. His writings are particularly sensitive to the guidance needed by young investigators who are applying for research grants.

His most recent efforts to assist new investigators in preparing grant applications include presentations at workshops sponsored by the American Thoracic Society, Harvard University, and American Nurses Association. He will deliver the plenary lecture at the International Conference on Technical Communication in July.

Dr. Eaves has been an active participant in the Division of Research Resources' Minority Biomedical Support Program.

His honors include the NIH Director's Award; three Sustained High Quality Performance Awards; the Academic Achievement Award of the Group on Business Affairs, Association of American Medical Colleges, and a special citation from the Cooley's Anemia Foundation for "uncommon personal dedication and . . . contribution to the condition of Man." □

# Dr. Harold P. Roth Appointed Director Of Division of Digestive Diseases, Nutrition

Dr. Harold P. Roth has been named director of the Division of Digestive Diseases and Nutrition at the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases.

These programs were recently raised to division level by the HHS Secretary. Dr. Roth's appointment was made by Dr. Lester B. Salans, NIADDK Director.

In his new position, he will oversee the division's program of research grants, research training and career development, and contract-supported research. He also will provide leadership for national Federal research undertaken by other NIH components and other agencies.



Dr. Roth has been with NIADDK since 1974 and was recently promoted to division director.

The Division of Digestive Diseases and Nutrition has lead responsibility for the nationwide program of research into the causes, treatment, diagnosis, and prevention of digestive diseases such as peptic ulcer, diverticulitis, infectious diarrhea, inflammatory bowel disease, gallstones, cirrhosis, esophagitis, and malabsorption syndromes.

The division also has several nutrition priorities such as:

- detecting and treating clinical malnutrition in hospitalized patients,
- basic studies on the effects of dietary fiber,
- human nutritional requirements and the factors that influence them,
- desirable nutritional levels and the role of certain trace minerals,
- fundamental studies of nutrients as they relate to health and disease, and
- iron deficiency and studies on the interactions of nutrients and drugs.

Dr. Roth has been with NIADDK since 1974. He came to NIH from the Veterans Administration Hospital in Cleveland where he served as chief of the gastroenterology service.

Under his leadership many recommendations suggested in 1979 by the National Commission on Digestive Diseases were implemented. Examples include:

- the National Digestive Diseases Infor-

mation and Education Clearinghouse;

- the Digestive Diseases Interagency Coordinating Committee;
- the National Digestive Diseases Advisory Board, an appointed group of nationally known leaders in digestive disorders and the lay community, authorized by law to make recommendations to Congress and to the HHS Secretary about the needs and accomplishments of the national effort to combat digestive diseases.

An experienced clinical and research gastroenterologist, Dr. Roth received both his B.A. and M.D. degrees from Case Western Reserve University in Cleveland. He later earned a master's degree in hygiene, biostatistics and epidemiology at Harvard University.

Besides his duties as chief of the VA gastroenterology service, Dr. Roth also directed the gastroenterology training program at the VA and University Hospitals, and served as associate professor in the departments of medicine and community health at Case Western Reserve University.

He is a member of several professional medical societies, including the American Gastroenterological Association, the American Association for the Study of Liver Disease, and the American College of Physicians. He is one of the founders and first president of the Society for Clinical Trials.

Dr. Roth has published extensively in the field of gastroenterology, and is certified by the American Board of Internal Medicine. He has served on several national committees relating to postgraduate and continuing education for gastroenterologists. □

## Former NCI Scientist Dies in Arizona

Dr. Mark M. Woods, a research biologist and cytologist formerly at NCI, died in early March in Sun City, Ariz. He was 74.

He was a recipient of the Gerhard Damagk prize for cancer research in 1965 for his work showing the importance of glucose metabolism in the development and growth of hepatomas. Dr. Wood continued research in this field until his retirement from NCI in 1973.

He was one of the first American scientists to stress the importance of mitochondria and viruses in cancer research, as well as their roles in plant and animal heredity, metabolism and growth.

Dr. Woods began his government career after 3 years active duty in the Navy and 10 years at the University of Maryland as a plant pathologist. He was research biologist in the cytochemistry section of the Laboratory of Biochemistry here at the time of his retirement.

There are seventy million books in American libraries, but the one you want to read is always out.—Tom Masson □

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