The NIH Record

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Molecular Messengers' Role To Be Explored May 16-18

What do a swarm of bees attacking a disturber of their hive, the rigid stance adopted by a sow in estrus after being sprayed by her mate's saliva, and the formation of a slime mold slug by the aggregation of hundreds of amoeboid individuals have in common?

They all exemplify behaviors elicited by small organic molecules serving as intraspecific molecular messengers (pheromones).

Chemical messengers serve similarly important roles between members of different species as well. Some plants attract pollinating insects with chemical lures; others avoid predation by producing antifeedants that render insects' taste sensilla inactive.

The Fogarty International Center will host a workshop on "Molecular Messengers in Nature," May 16-18, with the purpose of bringing together a group of outstanding biologists, biochemists, and chemists in this rapidly developing research area.

The program is being planned by Dr. Jerrold Meinwald, Fogarty Scholar-in-Residence from Cornell University, along with an organizing committee consisting of Drs. Thomas Eisner (Cornell), Henry M. Fales (NHLBI), Leo Levenbook (NIADDK), Richard L. Ridgway (USDA), and Dr. Jesse Roth (NIADDK).

The isolation and characterization of new messengers, their synthesis and biosynthesis, how they are recognized by receptors, and how these chemical signals are translated into behavioral or developmental responses will be among the main subjects of the conference.

To prepare for this conference, a series of special, preconference lectures will be held.

The first of these, "Better Living Through Chemistry—Insect Style," will be presented by Dr. Eisner (whose PBS TV special program on *Nature* attracted great attention last November) at 4 p.m., Thursday, Feb. 2 in the Lister Hill Center Auditorium, NLM.

The second lecture, "Strategies of Bacterial Chemotaxis: How a Cell Copes With Being Small," will be given by Dr. Howard C. Berg (California Institute of Technology) at 4 p.m. on Thursday, Feb. 23, in the Conference Room at Stone House.

Anyone who would like to present a brief account of original research in the field of chemical communication should send a brief abstract to Dr. Meinwald at the Fogarty International Center, NIH, Bldg. 16, Rm. 214, Bethesda, MD 20205. □

How to Diagnose and Treat Alzheimer's Disease Studied by Neurological, Psychiatric Experts

Alzheimer's disease is a brain disorder which causes serious forgetfulness and confusion in some 1.5 to 2.5 million Americans and contributes to the institutionalization of some 500,000 older people. Yet medical science has no set of tools to diagnose the disorder accurately in living patients.

Over the past decade, scientists have made major advances in their studies of Alzheimer's disease, but most of what we know about the disease comes from studies of severely ill individuals.

Understanding the basic mechanisms of the disease and developing a means to cure or prevent it requires finding a way to diagnose the disease accurately when it first strikes.

In December 1983, the American Association of Retired Persons, the National Institute on Aging, the National Institute of Neurological and Communicative Disorders and Stroke, and the National Institute of Mental Health sponsored a research workshop on the diagnosis of Alzheimer's disease.

The meeting brought together practicing physicians and research scientists who have taken leading roles relevant to Alzheimer's disease in six diverse fields: neuropsychology, psychiatry, neurology, neuropathology, neurochemistry and neuroradiology.

Because various conditions can cause dementia—and because of the nature of the disease and its symptoms—specialists in these fields are frequently consulted by patients and their families when they become concerned about Alzheimer-like changes.

For the general practioner who sees minor problems and suspects Alzheimer's disease, there are currently no specific tests that can be recommended to use for diagnosis.

At the close of the 2½ day meeting, the participants concluded that each specialty

(See ALZHEIMER'S, Page 8)

Immunity to Oral and Genital Herpes Still Elusive But Basic Research Shows Promise for Future

The cause and treatment of oral and genital herpes was recently discussed in a Medicine for the Layman lecture at the Clinical Center. It was presented by Dr. Stephen Straus, senior investigator, Medical Virology Section, Laboratory of Clinical Invesitigation, NIAID.

Dr. Straus explained that the condition involves two viruses, herpes simplex I (oral) and II (genital), which are closely related.

Symptoms

Both are contracted by intimate contact, Dr. Straus said.

Oral herpes is usually spread by kissing and is usually contracted in early childhood, although it often goes unrecognized.

It results in infection inside and outside the mouth and can include painful sores, fever, malaise, and swollen glands. These symptoms can last for 2 to 3 weeks and can be quite severe.

Genital herpes is caused by intimate contact with the infected area and generally occurs in sexually active adolescents and young adults.

The first episode can be severe and lasts 2 to 3 weeks. Symptoms include itching, tingling, burning, swollen glands and red swollen lesions which become blisters or open shallow sores. Fever, headache, and a form of meningitis may also occur.

"A form of immunity does develop," said Dr. Straus, "but it is incomplete. It is not effective enough to prevent recurrence, but it renders recurrences milder and shorter than first outbreaks."

(See HERPES, Page 5)

The NIH Record

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Club officers of the NIH Toastmasters Club #3421 were recently installed by area governor Leonard Jakubczak, NIA, (seated at r). Dr. Jakubczak presents the club's gavel to new president Gil Wright, NHLBI, (seated at l) as the other new officers look on. Officers (from l to r) are: Sarah Friedman, sergeant at arms; Helen Kodman, treasurer; Neal Meyerson, administrative vice president; Diane Rose, educational vice president; and Betty Pierce, secretary. Officers not present were Susan Gordon, bulletin editor, and Henrietta Hyatt-Knorr, past president. Club officers will serve a 6-month term from January to July 1984.

TRAINING TIPS

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

Technical	*Course Dates*	*Deadline*
Scientific Terminology	2/7	1/17
Effective Oral Communication	2/27	1/23
Contract Freedom of Information Workshop	3/3	1/27
Effective Listening	3/15	2/22
Job Element Examining	3/26	2/22
Effective English Workshop	4/5	3/16
Medical Terminology II	4/3	3/13
Human Relations Workshop	4/23	3/23
Labor Relations for Personnel Specialists	4/10	3/23
Advanced Assessment	3/5	1/30
Preparing Major Documents Voice and Diction	3/19	2/20
*Proofreading	5/30	5/18
Administrative Systems		
**Files Maintenance Disposal	—	—
DELPRO (Delegated Procurement)	2/27	2/13
For new Delpro users only Stock Requisition	2/10	1/22
Executive, Management and Supervisory		
Dynamic Listening	3/1	2/14
Understanding and Managing Stress	2/22	2/6
Time Management	3/19	3/2

*Proofreading date rescheduled.
**Files Maintenance and Disposal cancelled until further notice.

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

Private Grants, Fellowships Subject of STEP Forum, Feb. 7

A STEP forum will be held on Feb. 7 from 2 to 4 p.m. in Wilson Hall, Bldg. 1.

The forum entitled, "Alternate Sources of Research and Fellowship Support: Grants from Private Foundations and Corporations," is intended to enable extramural staff to become familiar with grant programs of some private organizations that support health-related research.

The overall missions and goals of selected foundations, their proposal writing requirements and review process will be discussed.

Potential cooperative efforts between private and public grant makers and how to use the Foundation Center to identify organizations that support biomedical research will also be discussed.

Featured speakers will be Drs. R. Scott Pyron, Research Corporation; Robert J. Beall, National Cystic Fibrosis Foundation; Cedric Chernick, Searle Scholars Program, and Mr. Zeke Kilbride, the Foundation Center. The forum is open to all NIH professional and support staff. □

Medical Computer Applications Featured in AAMSI Congress

The American Association for Medical Systems and Informatics (AAMSI) will hold its 1984 National Congress in San Francisco from May 21–23. NIH program sponsors include DCRT, NINCDS, and the Lister Hill Center.

The primary theme of this year's AAMSI Congress is computer applications for medical care. Topics will include computer technology, information science, medical systems, medical education, and research.

A number of special sessions covering artificial intelligence, database management systems, microcomputers in medicine, clinical decisionmaking, and medical imaging will also be presented.

Because NIH is one of the program sponsors of the AAMSI Congress 84, anyone from NIH attending the Congress is eligible for a sponsor discount.

For further information about the AAMSI Congress 84 and registration procedures, contact Karlin I. Richardson at 496-4677. □

Hypertensives, Healthy Volunteers Sought for High Blood Pressure Study

The Hypertension-Endocrine Branch of the National Heart, Lung, and Blood Institute is seeking patients with *high blood pressure and healthy volunteers* to participate in outpatient protocols being conducted at the Clinical Center.

People in the following categories are wanted:

- Healthy, over 40, and under 55 years old;
- Healthy, under 40, with a strong family history of high blood pressure; and
- Hypertensive and under 40 years old, especially with a rapid pulse rate.

A free medical history, physical examination and routine laboratory testing will be done before acceptance into clinical protocols. Protocol rules require that persons with high blood pressure must have been off antihypertensive medicines for 2 weeks before testing, thus excluding persons with severe hypertension.

For further information, contact Dr. David Goldstein, senior investigator, NHLBI, at 496-4042, 496-1955, or 496-1518, or Joan Folio at 496-3244. □

Diabetes Dictionary Defines Medical Terms Clearly

An important aspect of the treatment of diabetes is the enlightened participation of patients in their own health care. A new publication prepared by the National Diabetes Information Clearinghouse (NDIC) can help people with diabetes and their families understand the terms and tools involved in the diagnosis and treatment of diabetes.

Diabetes is a disease that affects the body's ability to use sugar in the blood for energy. The condition affects an estimated 11 million people in the United States, and it is associated with a number of potentially serious short- and long-term complications.

The *Diabetes Dictionary* defines over 300 terms, including the names of many of these complications, in clear, non-technical language.

For example, the dictionary defines diabetic ketoacidosis as "severe, out of control diabetes (high blood sugar) that needs emergency treatment." The definition explains why diabetic ketoacidosis develops and describes the signs of this complication.

Insulin is defined as "a hormone that helps the body use glucose (sugar) for energy. The beta cells of the pancreas (in areas called islets of Langerhans) make the insulin.

When the body cannot make enough insulin on its own, a person with diabetes must inject beef or pork insulin." The dictionary has a table of the insulins and their duration of effect.

Technical terms such as euglycemia (normal blood sugar), glycosuria (sugar in the urine), and polyphagia (extreme hunger—a sign of diabetes) are explained in simple language for the layperson.

The *Diabetes Dictionary* was prepared by the Clearinghouse in cooperation with the American Association of Diabetes Educators, the American Diabetes Association, and the Juvenile Diabetes Foundation International. Eli Lilly and Company underwrote the printing of the blooklet.

The National Diabetes Information Clearinghouse was established by the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases in 1978 to help increase knowledge and understanding about diabetes among patients, professionals, and the public. The NDIC works closely with the diabetes community to provide information about diabetes and its care.

Copies of the *Diabetes Dictionary* can be obtained from the Clearinghouse, Box NDIC/HL, Bethesda, MD 20205. For single copy requests, enclose $.25 for postage and a self-addressed mailing label (no envelopes please). □

R&W Singers To Present Recital on February 13

The NIH/R&W Singers will present a recital on Monday, Feb. 13, at 8 p.m. in the Patient Auditorium, 14th Fl., Bldg. 10. Many of the trained vocalists in the group will be performing solos or duets.

Tickets will be $2.50 at the R&W Activities Desk or $3 at the door. □

Use and Safety of Diagnostic Ultrasound Imaging In Pregnancy To Be Assessed at NIH Conference

The use and safety of ultrasound as an imaging technique during pregnancy will be the subject of a Consensus Development Conference at NIH on Feb. 6, 7 and 8.

The meeting, open to the public, will be held in the Clinical Center's Masur Auditorium from 9 a.m. until 5 p.m., Feb. 6; 9 a.m. to 1 p.m. on Feb. 7; and 9 a.m. to 11 a.m. on Feb. 8. A press conference wil be held at 11:30 a.m. on Feb. 8.

It is estimated that between one-third and one-half of all pregnant women in the U.S. today receive ultrasound evaluation at some point. This procedure uses soundwaves to produce images of the fetus and tissues of the mother.

Ultrasound is being used to assess gestational age and fetal growth, to detect abnormalities in the mother or fetus, to determine the position of the fetus in the uterus, to recognize multiple pregnancies; and for many other purposes.

The conferees will address two main points: the safety of the procedure and indications for its use. Although there is no evidence that current levels of fetal exposure produce harm, prudence dictates that any possible risk must be assessed and that a careful examination of all the data is warranted.

The NIH Consensus Development Conference is jointly sponsored by The National Institute of Child Health and Human Development, FDA's National Center for Devices and Radiological Health, the Division of Research Resources, and the NIH Office of Medical Applications of Research.

The meeting will bring together biomedical investigators, medical specialists in the fields of obstetrics, neonatology, family practice, epidemiology and radiology, other health professionals, consumers and the public.

A panel headed by Dr. Fred Frigoletto, professor of obstetrics and gynecology at Brigham and Women's Hospital in Boston, has been working during the past year to review the scientific literature and research relating to diagnostic ultrasound use in pregnancy, and to develop a draft report and preliminary consensus statement.

During the final session of the conference on the morning of Feb. 8, Dr. Frigoletto will present the consensus statement. The press conference will follow at 11:30 a.m.

This meeting is one of a series of NIH Consensus Development Conferences held to bring together biomedical investigators, practioners, consumers, and representatives of public interest groups to provide scientific assessments of drugs, devices, and procedures and to evaluate their safety and effectiveness. □

Volunteers for Demonstration Medical Assistance Teams Sought To Aid National Disaster Medical System

Physically fit NIH volunteers—either Civil Service employees or PHS Commisioned Corps—are invited to serve as members of U.S. Public Health Service Demonstration Disaster Medical Assistance Teams (DMATS) for the National Disaster Medical System (NDMS).

Coordinated National Response

NDMS is a coordinated national response to provide medical care for victims of a disaster. It will include medical assistance teams to serve the disaster area, an evacuation system to move victims to definitive care, and a system of 100,000 hospital beds in receptor areas throughout the country.

The Public Health Service is coordinating two "demonstration" teams so that the initial team concepts, composition, mission, and organization may be evaluated before medical response units are established nationwide.

Each unit will consist of 102 persons—all volunteers—who must be ready, willing and able to respond at short notice to a disaster area, and to remain there for a period of up to 2 weeks.

Their regular salary will continue during their absence on emegency duty.

Training in field disaster medical care will be provided.

Volunteers needed are:

Unit Command (with support staff)—one general surgeon or emergency physician; one executive officer (health administrator); one supply and contracts officer (requires knowledge of medical supplies and equipment); one administrative assistant; one clerk; one supply clerk; one senior supply technician; two equipment operators/repairmen (combined); six food service personnel (one supervisor, one chief cook, four assistant cooks/helpers).

Three Disaster Medical Assistance Teams of 29 people each, consisting of:

Professional Staff—two medical officers (MDs), one supervising nurse clinician, two staff nurses;

Technical Staff—four LPNs (licensed practical nurses), two lab technicians, two surgical technicians, three emergency medical technicians, one pharmacy technician (or pharmacist);

Non-Technical Staff—two medical records clerks, one supply clerk, and nine ward attendants/litter bearers.

This team operates clearing stations in the disaster area to triage, stabilize, and maintain about 250 victims, or alternatively, operates an aeromedical staging facility in a disaster or receptor area to receive patients and redistribute them to other facilities.

Attend Briefings

To volunteer or for more information, attend either of two briefing meetings to be held at 3:30 and 4:30 p.m. in the ACRF Amphitheater on Friday, Feb. 17, or call Ralph Stork, NIH Emergency Coordinator, Division of Safety, 496-4328, or Corwin Strong, CC Environmental Safety Officer, 496-5281. □

Monoclonal Mouse Antibodies Help Find, Diagnose and Kill Cancer Cells

Human immune cells, called macrophages, can be stimulated to kill cancer cells in the test tube when mixed with specific antibodies derived from mice, according to investigators at the Wistar Institute of Anatomy and Biology in Philadelphia.

The Wistar scientists suggested that the mouse antibodies may be effective in the immunotherapy of human cancer.

Drs. Zenon Steplewski, Michael D. Lubeck, and Hilary Koprowski reported on their mouse antibody research in a recent issue of *Science*. The Wistar study was supported by grants from NIH's National Cancer Institute, the National Institute of Allergy and Infectious Diseases, the Division of Research Resources, and the W. W. Smith Foundation.

Dr. Koprowski, who is director of the Wistar Institute, is a member of the American Association of Pathologists and the American Association of Immunologists, both constituents of the Federation of American Societies for Experimental Biology.

Special mouse antibodies, called monoclonal because they are produced by a clone of genetically identical cells, have been used successfully in human cancer diagnosis and in locating tumors in cancer patients.

Scientists have also found that one particular type of mouse monoclonal antibody—immunoglobulin G2a—can destroy human tumors grafted onto experimental mice.

Because tumor-specific monoclonal antibodies derived from humans are not yet available for cancer immunotherapy, the Wistar investigators tested the possibility that mouse immunoglobulin G2a might work against human cancers *in vitro* (in a culture rather than in a whole, intact animal).

They examined two basic phenomena: the ability of human monocytes and macrophages (immunologically active cells) to cross-react with mouse immunoglobulins and the capacity of human monocytes and macrophages to destroy human tumor cells in the presence of mouse monoclonal antibodies.

The Wistar group found that both macrophages isolated from tumor-bearing patients and cultured human monocytes cross-react strongly with mouse immunoglobulin G2a. They react only slightly or not at all with other proteins belonging to the immunoglobulin G subclass.

The Philadelphia researchers also found that an immunoglobulin G2a monoclonal antibody stimulated the tumor cell killing ability of cultured monocytes and macrophages from human donors. Monocytes and macrophages mixed with other immunoglobulin G proteins showed some tumor cell destruction, but the effect was much weaker.

An immunoglobulin G2a antibody that did not bind to colorectal cancer cells (the type of cancer suffered by one patient who donated macrophages for this part of the study) did not mediate tumor cell destruction. So it looks as if to be effective, the immunoglobulin G2a used must be tumor specific.

While it appears that certain mouse monoclonal antibodies can stimulate tumor cell killing by human immune cells under carefully controlled culture conditions, it remains to be seen what will happen in human cancer patients. □

Visiting Scientists

1/1—**Dr. Mark A. Cochran,** Canada. Sponsor: Dr. Bernard Moss, Laboratory of Biology of Viruses, NIAID, Bg. 5, Rm. 318.

1/1—**Dr. Kanghwa Kim,** Japan. Sponsor: Dr. E.R. Stadtman, Laboratory of Biochemistry, NHLBI, Bg. 3, Rm. 222.

1/1—**Dr. Patrick J. Parsons,** U.K. Sponsor: Dr. Andre LeRoy, Biomedical Engineering and Instrumentation Branch, DRS, Bg. 13, Rm. 3E66.

1/1—**Dr. Ahmad R. Safa,** Iran. Sponsor: Dr. Ronald Felsted, Laboratory of Medicinal Chemistry and Pharmacology, NCI:DCT, Bg. 37, Rm. 6D28.

1/1—**Dr. Yu-Jui Yvonne Wan,** Taiwan. Sponsor: Dr. Keiko Ozato, Laboratory of Developmental and Molecular Immunity, NICHD, Bg. 6, Rm. 1A03.

1/1—**Dr. Heather Yeowell,** U.K. Sponsor: Dr. Joyce Goldstein, Systematic Toxicology Branch, NIEHS, Research Triangle Park, NC.

1/5—**Dr. Elaine Evans,** U.K. Sponsor: Dr. Gerald Crabtree, Laboratory of Pathology, NCI:DCBD, Bg. 10, Rm. 2N113.

1/5—**Dr. Vincenzo Guardabasso,** Italy. Sponsor: Dr. David Rodbard, Laboratory of Theoretical and Physical Biology, NICHD, Bg. 10, Rm. 8C312.

1/5—**Dr. Genevieve Rougon,** France. Sponsor: Dr. Michael Brownstein, Laboratory of Cell Biology, NIMH, Bg. 10, Rm. 4N320.

1/5—**Dr. Vincenzo Zimarino,** Italy. Sponsor: Dr. Janice Chou, Human Genetics Branch, NICHD, Bg. 6, Rm. 128.

1/6—**Dr. Jean Luc Guerquin-Kern,** France. Sponsor: Dr. Eli Glatstein, Radiation Oncology Branch, NCI:DCT, Bg. 13, Rm. 3W13.

1/8—**Dr. K. Elina Hemminki,** Finland. Sponsor: Mr. Howard J. Hoffman, Biometry Branch, NICHD, Landow Bg., Rm. 7C08.

1/8—**Dr. Minoru Kanehisa,** Japan. Sponsor: Dr. Charles DeLisi, Laboratory of Mathematical Biology, NCI:DCBD, Bg. 10, Rm. 4B56.

1/8—**Dr. Hiroko Satoh,** Japan. Sponsor: Dr. James Gillette, Laboratory of Chemical Pharmacology, NHLBI, Bg. 10, Rm. 8N117.

George Duvall Says Goodbye to NINCDS Animal "Buddies"

A new year always brings a lot of changes. The biggest change in the life of George R. Duvall, a biological laboratory technician with the National Institute of Neurological and Communicative Disorders and Stroke, will be adjusting to his retirement after 35 years at NIH.

"In a sense I regret giving up my work, but I hear wild geese calling," Mr. Duvall said.

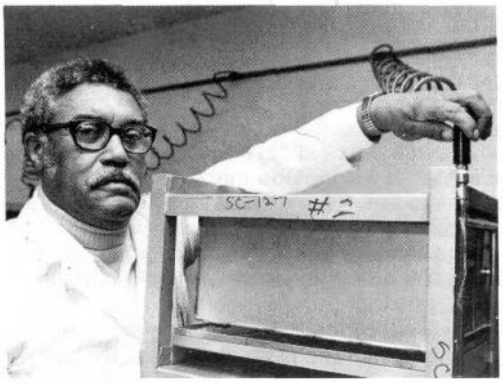
Wild geese may be new to Mr. Duvall, but other animals are not. He began his NIH career in 1948 working with NIH landscape architects, but after 2 years transferred to the NIH Animal Production Unit and has been involved in animal care since then. Nearly 30 years ago, in May 1954, he transferred to the NINCDS (then the National Institute of Neurological Disease and Blindness).

"And I've been married to her ever since," Mr. Duvall said with a broad smile.

As a medical biological technician, he has tended to the needs of experimental animals in the NINCDS Intramural Research Program. He calls these animals his "buddies," which is characteristic of his friendly and gentle nature.

"I like to feel that I've had a small part in the accomplishments of the Institute's intramural research over the years," Mr. Duvall said.

Mr. Duvall has earned the respect and admiration of his coworkers and supervisors for his cheerful manner and exemplary concern for the well-being of the animals in his care. Even on holidays and weekends, he frequently stopped by the laboratories to check on the animals' welfare.



Mr. Duvall plugs in the automatic watering system for the rats in a rack of cages.

In 1970, Mr. Duvall was appointed to the first NINCDS Equal Employment Opportunity (EEO) Advisory Committee. He subsequently served three terms as Committee chairperson, helping to develop the Institute's first affirmative action plan to bring about diversity in the Institute's work force and to encourage employee participation in educational programs such as Upward Mobility and STRIDE.

Mr. Duvall can look with pride at many "firsts" at the NIH. He helped organize the NIH Black Cultural Committee and served as its first chairperson in 1971. This group plans activities for the annual Dr. Martin Luther King Jr. commemoration program and the Black History Month programs.

For his many contributions, Mr. Duvall received an NINCDS EEO Special Achievement Award in 1972, and was honored in 1981 with the Harvey J. Bullock, Jr., Award for Equal Opportunity Achievement.

After a month's vacation, Mr. Duvall says jokingly, his minister will be planning his time. Mr. Duvall is chairperson of the committee organizing the 1984 Laity Retreat, an annual event of the Baltimore Conference of the United Methodist Church.

With any free time he might have, Mr. Duvall plans to enjoy his favorite hobbies. He is an active member of an amateur trapshooting club and travels frequently to competitions. He also looks forward to spending time with his wife, Helen, his son Robert, his three daughters, Gladys, Michelle and Waneta, and two grandchildren, Tracy and Jamelle.

Many at NIH know that, whatever challenge retirement brings, Mr. Duvall will contribute with all his heart and energy. □

Original Art at Clinical Center Projects Mystery, Magic, Fantasy, Hope and Peace of Mind

Choosing art for the Clinical Center's pediatric oncology clinic posed a dilemma. What image should be portrayed to seriously ill children? There were a number of opinions from nurses, physicians, and administrators. Some suggested illustrations of ill children to which they could relate. But local artist Salvadore Bru had another idea.

"It should be a window, not a mirror," he said. "It should help children to fantasize and give them hope."

The result is a room-sized original oil mural by Bru that depicts animals in a landscape. The painting, which fills an entire wall of the

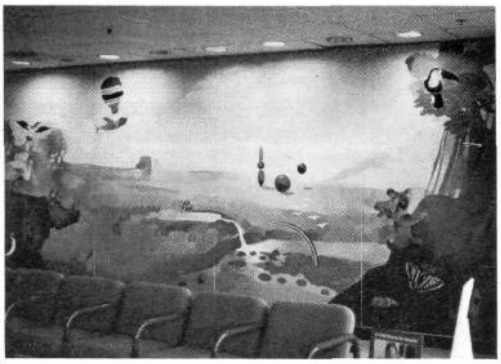
This quilt by Becky Casey will hang in the pediatric oncology unit, 6 West.

13th floor ACRF clinic waiting area, combines mystery, magic, and optimism.

"The feeling created is closer to a dream than the real world," Bru explained.

In the center of the mural are floating geometric shapes creating a feeling of magic. In the near landscape is a rainbow symbolizing hope. Some of the animals are portrayed realistically to provide security for children who are threatened by illness. Others are fantasized, such as a frog carrying a house on his back and a chipmunk using a cane.

Individual elements of the mural will be repeated in smaller paintings that will be hung



An original oil mural by Salvadore Bru depicting animals in a landscape is displayed in the pediatric oncology clinic on the 13th floor, ACRF.

throughout the clinic area.

The 13th floor clinic is the first of a series of areas that are being decorated with original art in conjunction with the Clinical Center's renovation. The project, which was initiated by Larry Eldridge, CC administrative officer, is being coordinated by Helen Orem of the Medical Arts and Photography Branch, DRS.

"The overall goal of the hospital art project is to relieve the stress of patients and their families and to create peace of mind," she said.

The second unit decorated was the National Institute of Alcohol Abuse and Alcoholism unit, 3B north. The objective was to portray the Nation's Capitol without being "touristy." The result is a series of original watercolors by Potomac artist Marilyn Feldman depicting the circles of Washington. The paintings that hang in patients' rooms portray Chevy Chase, Kalorama, Dupont, Sheridan, and Scott Circles.

NIMH's schizophrenia unit on 4 east was the next challenge. It required artwork that would not excite, upset, or remind patients of past experiences. The problem was solved with original quilts.

"Quilts are nonrepresentational and can't be used to cause harm," said Mrs. Orem. "The tactile quality of fabrics creates a feeling of security," she continued. "They are reassuring, warm, and homey."

The quilt idea is being continued on the pediatric oncology unit, 6 west. The quilts will all be unique. Some will incorporate ideas currently in use on the unit, including the familiar teddy bear. In addition, some hangings will have removable balloons on which the child's name can be written to personalize his room.

"We've chosen muted colors to provide tranquility in what can be a hectic environment," said Mrs. Orem.

Refuge areas, near the central elevators, on the 2nd and 6th floors will display

Artist Marilyn Feldman (l) and Helen Orem show a watercolor of Scott Circle that hangs in the NIAAA unit, 3B North.

watercolors of the Chesapeake Bay.

Other areas scheduled to be decorated include the Nuclear Medicine Department, the Diagnostic Radiology Department, the NCI surgery unit on 2 east, the refuge areas near the central elevators, the NICHD endocrinology unit which will be on 10 west, and the NCI units on 12 and 13 west.

"Original art creates a feeling of uniqueness that can't be achieved with posters or photo murals," said Mrs. Orem. "It lets patients know that they are special people in a special place," she concluded. □

HERPES

(Continued from Page 1)

The virus develops a dormant phase during which it is inactive and hibernates in nerve cells. Certain stresses reactivate the virus to cause sporadic recurrences.

Approximately 80 percent of all individuals have had oral herpes infection but only about 10 percent suffer symptoms and know that they have it. Genital herpes affects about 10 percent of the general population.

"There are symptomatic treatments to deal with the itching, pain, fever, or headache associated with herpes," said Dr. Straus. "They, of course, don't get at the root of the problem."

There are now four antiviral drugs currently in use. Acyclovir, which has been developed in the last 4 years, is the first drug to prove effective in treating some common forms of oral or genital herpes simplex infection.

"For patients with first episodes of genital herpes, an intravenous form of this drug has proven effective in shortening the duration and severity of that illness," said Dr. Straus. Some studies have also shown effectiveness of acyclovir-containing ointment. And an oral form of acyclovir is currently under experimentation.

"Current information suggests that the oral form is also effective for first episodes and may be the first drug to have any effect on recurrent genital herpes," he said.

Dr. Straus explained that vaccines are difficult to develop.

"Herpes victims have already developed an incomplete immunity, so a vaccine may be ineffective on them," he said.

Live virus vaccines present the risk of establishing a latent form of the disease while a killed vaccine may provide only short term immunity.

"Development of new drugs for herpes will require more basic research in such areas as biochemistry, molecular biology, immunology and cell biology. However, recent developments have been encouraging and hold promise for future breakthroughs," Dr. Straus concluded. □

Can't Read—Can't Write

Not being able to read or write is the plight of 1 in 8 of the population of Montgomery County. Many others also have a speaking problem as English is not their native language. With the help of volunteer tutors, adults all over the country are learning to read and write and speak English. They use materials and methods developed by Dr. Frank Laubach.

In Montgomery County an active group of volunteers is working to reduce the size of the problem. Training for volunteers is offered each month and materials are provided.

Many volunteers are needed, especially to work with foreign-born adults who need to learn English in order to become fully participating members of our community.

Call the Literacy Council of Montgomery County at 762-6800 for more information. Join a dynamic team of volunteers. □

Asthma Self-Management Cited as Valuable in Improving Patient's Life

Asthma disrupts the lives of an estimated 2 million American children. Childen with poorly controlled asthma lose many school days each year and suffer serious attacks that require hospitalization or emergency room treatment.

During an asthma attack, a child has extreme difficulty breathing due to tightening, swelling, and mucous plugging of the bronchial tubes in the lungs.

Although the cause is an underlying sensitivity in the lungs, specific attacks are generally triggered by external factors.

Common triggers include allergens; colds or flu; irritants such cigarette smoke, strong odors, or cold air, or too much exercise.

Many asthma attacks can be prevented by avoiding known triggers or by taking prescribed medicines in the proper way. Many attacks, once begun, can also be aborted by following accepted management steps.

Unfortunately, many children with asthma do not follow their medication schedules and do not know what to do to prevent or control incipient attacks.

Self-management programs teach children how to take responsibility for controlling their condition and how to be effective partners with their doctors.

Specific skills include proper medicine taking, identifying and avoiding situations that bring on asthma attacks, and learning to set realistic limits for physical activity.

Course materials also teach interpersonal skills for dealing with problems in school and in the family that prevent good asthma management.

Courses also give guidelines for deciding when it is unwise to handle an attack alone and when it is advisable to seek medical help. The National Heart, Lung, and Blood Institute has supported four programs for teaching asthma self-management skills. (See article on workshop, page 9.)

Inner city children discuss feelings about asthma and ways to control attacks during the *Open Airways* asthma self-management program.

The NHLBI-funded programs were tested in three settings and evaluated on hundreds of children and families. It was found the programs were effective in fostering practice of self-management behaviors and in improving the quality of life for patients and their families.

The effect was particularly striking for children who were high users of emergency room and hospital facilities. Among this group, use of costly emergency medical services decreased significantly as patients learned how to avoid attacks and keep them from progressing to a serious stage.

In one program, it was found that for every dollar invested in staff time and materials, as much as $11 was saved in emergency room and hospitalization costs.

In another program, decreases in school absenteeism were noted. Children who participated in the asthma self-management classes lost 11.1 fewer days in the year following the program than before the program began. □

Hypothermia a Special Hazard for the Elderly, Ill, and Persons Living Alone

Winter's cold poses a special hazard to the elderly who may be susceptible to a condition known as accidental hypothermia, a potentially fatal lowering of the internal body temperature to 95°F or lower, the Department of Health and Human Services has warned.

Among the elderly, certain individuals are particularly vulnerable to hypothermia. These include:

—the very old (over 75);

—people living in substandard housing;

—people whose homes are not properly heated;

—individuals living alone or who otherwise are isolated from daily contact with others;

—people taking certain medications for anxiety, depression or nausea; and

—patients with diabetes, heart disease or other chronic conditions which limit activity or mental awareness.

One of the dangers of hypothermia is that people are frequently unaware of their condition. Suspect hypothermia if an individual: seems confused or drowsy, has slurred speech, or is unconscious; feels cold to the touch but is not shivering; has a slow, irregular heartbeat; exhibits shallow, slow breathing.

The only sure way to detect hypothermia is to measure the person's deep body temperature with a clinical "low-reading" thermometer; so if an individual displays any of the symptoms, seek medical care. Until help arrives, the person should be kept warm with blankets.

Because potential victims cannot produce enough body heat during even moderately cold conditions, indoor temperatures of 60° to 65° F may trigger hypothermia. Individuals at risk may want to set their thermostats at 65°F or higher.

People at risk for hypothermia or exposed to cold temperatures should avoid alcoholic beverages. Although it produces a false sense of warmth, alcohol actually reduces the body's ability to retain heat and also impairs judgment.

There are no accurate statistics on the number of people who die from hypothermia each year, but the majority of deaths might be prevented by taking a few, simple precautions. Older individuals should dress warmly (even indoors) and keep the head covered, eat enough food, and stay as active as possible during cold weather. Since hypothermia may develop while a person is asleep, it is important to keep warm at night by wearing adequate clothing and by using extra blankets. These steps can help decrease the risk of hypothermia without drastically increasing heating bills. People can also cut down on energy costs by only heating occupied rooms.

Older people should check with their doctors about medications that might interfere with the body's temperature control mechanism. It is also a good idea to keep in touch with friends and neighbors, especially during cold spells.

The National Institute on Aging booklet *A Winter Hazard for the Old: Accidental Hypothermia* lists the risk factors and symptoms for hypothermia in the elderly, and describes measures older people can use to protect themselves. Free copies are available by writing to: Hypothermia: NIA/Expand, 8630 Fenton, St., Suite 508, Silver Spring, MD 20910. □

Habit is . . . not to be flung out of the window by any man, but coaxed downstairs a step at a time.—*Mark Twain* □

NIA Biofeed Tape Teaches Bladder Control to Elderly

A videotape cassette describing the behavioral treatment of urinary incontinence in older patients is now available from the National Institute on Aging. This tape focuses on the use of biofeedback techniques in helping these elderly patients master control over their bladder and sphincter muscles.

Since 1980, investigators from the Laboratory of Behavioral Sciences at the NIA Gerontology Research Center in Baltimore have been investigating the value of biofeedback to treat a number of older ambulatory individuals suffering from either stress incontinence or incontinence produced by a hyperreflexive bladder.

Results have been quite impressive, with all patients showing at least 50 percent improvement, and some becoming fully continent.

The tape, "Behavioral Treatment of Urinary Incontinence: Biofeedback of the Bladder and Sphincter Muscles," provides an overview of clinical techniques and behavioral principles used to treat urinary incontinence.

It demonstrates behavioral analysis of incontinence, biofeedback procedure, and instructs the patient in how to practice skills learned in the GRC Continence Clinic.

The tape is particularly appropriate for psychologists, physicians, and nurses.

Copies of the tape are available without charge. If interested, send a 30-minute, 3/4" blank videotape cassette to Dr. Kathryn L. Burgio, Gerontology Research Center, Baltimore City Hospitals, 4940 Eastern Ave., Baltimore, MD 21224. □

Dr. Franklin Bunn Returns to NIH As Fogarty Scholar-in-Residence

Dr. Franklin Bunn, professor of medicine at Harvard Medical School and research director of the hematology division, Brigham and Women's Hospital, has returned to the NIH for his third term as a Fogarty Scholar-in-Residence.

Dr. Bunn is well known for his research on hemoglobin and is widely regarded as a leading investigator in hematology. His studies on oxygen-binding by normal and abnormal hemoglobins provided much of the information used in developing allosteric theories of hemoglobin function.

Dr. Bunn was educated at Harvard College and then studied medicine at the University of Pennsylvania School of Medicine. He received his post-graduate training at the New York Hospital-Cornell University Medical Center after which he returned to Harvard as a research fellow in the medical school.

During his first two terms at FIC Dr. Bunn organized a series of discussions on fundamental problems in hemoglobin research. These talks by well-known extramural scientists were followed in May 1982 by a 2½-day conference on hemoglobin assembly.

During his present term Dr. Bunn will be collaborating with Dr. Arthur Nienhuis, NHLBI.

Dr. Bunn's office is in Stone House where he can be reached at 496-1147. □

Dr. Craig K. Wallace Appointed Director, FIC

Dr. Craig K. Wallace has been appointed Director of the Fogarty International Center, effective Jan. 19. In his role as FIC Director, Dr. Wallace will also serve as NIH Associate Director for International Research.

He comes to the National Institutes of Health from Cairo, Egypt, where he was Commanding Officer of Naval Medical Research Unit No. 3. A former Captain in the U.S. Navy, his military professional experience since 1972 includes service in Ethiopia as well as in the United States.

Prior to serving at NAMRU-3, he was director of clinical services at the Naval Regional Medical Center in Jacksonville, Florida, and chief of internal medicine at the Naval Regional Medical Center in Camp Pendleton, California.

Dr. Wallace received his B.A. from Princeton University and his M.D. from New York Medical College. He did his internship and internal medicine residency at Jefferson Medical College Hospital in Philadelphia. He is a diplomate of the American Board of Internal Medicine.

After spending 3 years at NAMRU-2, Taipei, as a clinical investigator, he joined the staff of the Johns Hopkins University in 1964. During his 8-year affiliation with that institution, he was an associate professor of medicine. This included 2 years as resident coordinator of the Johns Hopkins University Center for Medical Research and Training in Calcutta.

During his naval career, he received the Meritorious Service Medal, Navy Commendation Medal, and Armed Forces Reserve Medal.

Dr. Wallace

Dr. Wallace has a special interest in international medical research, particularly in the area of tropical diseases. He is a member of numerous professional societies and has held many consultant appointments.

In his dual capacity as Director, FIC, and Associate Director for International Research, NIH, he will provide leadership in all activities that address biomedical and behavioral research issues relative to the improvement of health throughout the world. □

Transfusion With Young Red Blood Cells Reduces Iron Overload in Thalassemia, Other Patients

By transfusing with neocytes—young red blood cells—NIH researchers believe they may be able to reduce the risk of iron overload in thalassemia patients and others who require multiple transfusions.

Patients who require multiple transfusions may develop hemosiderosis, or an increase in tissue iron stores. Each millimeter of packed red blood cells the patient receives contains about a milligram of iron which may be deposited in tissues, eventually resulting in abnormal organ function.

Patients with aplastic anemia and pure redcell aplasia, as well as those with thalassemia major, require chronic redcell support and may receive several hundred transfusions.

For patients with thalassemia major, the problem is compounded by a tendency to overabsorb iron. The propensity for iron depositions in the liver, pancreas, and particularly the heart, significantly limits survival.

Investigations conducted by Dr. Laurence Corash, Clinical Center Clinical Pathology Department, and Dr. Sergio Piomelli, New York University School of Medicine, first hypothesized that use of neocytes would support patients with chronic anemia while decreasing iron overload.

In tests on thalassemia patients, neocyte survival was significantly longer than randomly selected units of frozen red cells labeled with radioactive chromium given to the same patients. This might reduce the number of necessary transfusions by one-third to one-half.

Along with Dr. Corash, these studies were performed by Drs. Harvey G. Klein, CC Blood Bank; Albert Deisseroth, NCI; and Arthur Nienhuis, NHLBI. □

Menopause Brochure Available From National Institute on Aging

The National Institute on Aging has published *The Menopause Time of Life,* a brochure exploring the physiological, medical, psychological and social aspects of menopause.

It includes a description of how a woman's body changes during this transition, the use of hormones and other therapies for women who may need them, current research on the role of nutrition, and information about sexuality, exercise, osteoporosis and finding good medical care.

Copies of the brochure on menopause are available from NIA/MT, National Institutes of Health, Bldg. 31, Rm. 5C35, Bethesda, MD 20205. □

Put all thine eggs in one basket and—watch that basket.—*Mark Twain* □

ALZHEIMER'S

(Continued from Page 1)

has relatively standard criteria to diagnose Alzheimer's disease in its late stages, but there are no specific tests that can be recommended to the general practitioner who sees minor problems and suspects Alzheimer's disease.

Each of the six panels did, however, make a number of valuable suggestions that will help the Federal research Institutes plan future studies related to the diagnosis and course of Alzheimer's disease. Some of the various panel's recommendations follow.

Neuropsychologists stressed developing longitudinal studies, including large community-based studies to establish better figures on the prevalence of Alzheimer's disease, as well as more focused studies of patients who may have the disease.

They also urged testing of suspected Alzheimer patients every 6 months—or even more frequently, if possible—to establish patterns of changes in memory, concentration, language and mood.

These panelists also concluded that new tests are needed to measure the range of psychological changes in the early, middle and late stages of Alzheimer's disease; that definitions of mild, moderate and severe impairment should be standardized; that better tests should focus on how the patient performs routine daily activities, and that neuropsychological changes be correlated with other changes that occur in Alzheimer's disease.

This was not the only panel to note that the growing number of therapeutic trials on Alzheimer's disease required tests that can accurately assess slight changes, whether deterioration or improvement, in affected patients.

A second panel focused on the psychiatrist's role in the diagnosis and management of Alzheimer's disease. They recommended development of criteria beyond the Diagnostic and Statistical Manual III, which is currently used by American psychiatrists for diagnosis of clinical disorders.

The neurology panel recommended that clinical investigators develop an algorithm, or system of standardized steps, for use by the practicing physician.

This could include a thorough history, neurological examination, blood tests, laboratory tests, and EEG, as well as specialized tests such as the brain CT scan and psychological tests.

Since no test or set of tests can unequivocally diagnose Alzheimer's disease, a matrix allowing for a combination or concurrence of test results might serve as a diagnostic aid, they indicated.

The value of such a system would depend upon the availability of good data on normal healthy aging, with particular attention to the effects of education, socioeconomic status, and life experiences.

Therefore research studies of Alzheimer's disease need to be tightly linked to studies of normal aging.

Unequivocal diagnosis of Alzheimer's disease is now made at autopsy when the neuropathologist views small sections of the cerebral cortex and the hippocampus and finds accumulations of amyloid plaques (throught to be debris left by degenerating nerve cells) and neurofibrillary tangles (twisted masses of protein fibers).

This information, coupled with a clinical history of dementia prior to death, is enough to confirm the diagnosis of Alzheimer's disease at the present time.

After much heated discussion, the workshop panel on neuropathology made recommendations as to the number of plaques and tangles they would like to see per field before confirming a diagnosis of Alzheimer's.

This constituted the first attempt by a group of world-renowned neuropathologists to establish a minimum standard for diagnosis of Alzheimer's disease.

With rates of brain autopsies on the rise and an increasing demand for autopsy from relatives of suspected Alzheimer patients, such practical guidelines could allow for uniform diagnosis across the country.

The workshop panel on neurochemistry noted that a number of studies are now underway that might offer hope of a simple diagnostic aid in the near future. Immunologic techniques might be able to assess changes specific to Alzheimer's.

For example, Harvard scientists have developed an antibody which can selectively label the paired helical filaments which form the neurofibrillary tangles in Alzheimer's disease, and clearly distinguish these structures from normal brain proteins.

These and other investigators are also looking at cerebrospinal fluid to see if an antigen or any specific change could quickly and easily mark the presence of the disease.

There was also general consensus that scientists should look for cholinergic, genetic or any other abnormality in non-neural cells, and should pursue developing opportunities to view neurotransmitter receptors in living individuals.

The hottest discussion during the workshop focused on the potential role of positron emission tomography (PET) in diagnosing Alzheimer's. Several studies have found a slowing in metabolic activity in the brain's parietal lobe that is consistent with the early stages of Alzheimer's.

Other studies show that these and other changes may not occur until after dementia has been established through tests of psychological function. It was generally agreed that further research is necessary before PET can become a definitive or supportive diagnostic tool.

In the meantime, the PET techniques might be used to study the workings of different neurotransmitter systems in Alzheimer's disease, and the metabolic effects of experimental drug therapies.

Overall, a number of research needs were highlighted by participants from the panels.

These included the need for: careful longitudinal studies which follow the natural history and course of Alzheimer's disease; multidisciplinary studies which correlate the psychological, chemical, metabolic, pathological, morphological, and other changes in the disease; autopsy of all cases that have been carefully characterized prior to death; and studies of the etiology of Alzheimer's.

Also, a registry of cases of familial Alzheimer's disease and family pedigrees; a protocol for interviewing families and others during the course of the disease; animal models for the behavioral and physiological changes in the disease; mechanisms for long-term support; and training of more scientists to pursue developing research.

Finally, there was general agreement that any suggested criteria should be carefully studied before being widely applied.

Since Alzheimer's disease is a progressive disorder for which there is no known cure; physicians might be advised to wait 6 months after an initial examination, reexamine the patient and look for changes before labelling dementia as Alzheimer's.—**Marian Emr** □

FIC Research Fellow Receives Two Awards

Dr. Gerhard Skofitsch from the University of Graz, Austria, now working as a FIC research fellow under Dr. David Jacobowitz at NIMH, recently received two scientific awards in his home country.

Dr. Skofitsch

His work on blood pressure reflexes, elicited by visceral pain, and the pharmacological characterization of the reflex circuit was honored with the 1983 prize from the Hoechst Austria Pharmaceutical Company Foundation in November.

In December, he was awarded the 1983 Erzherzog Johann Preis, the highest scientific award by the Styrian government of Austria for his study, started in 1976, on the epidemiology and biology of brain-cyst formation, and potentially human pathogenic parasites among animals in their natural environment. □

R&W To Visit the National Aquarium

Join R&W on Saturday, Feb. 25, on a visit to the National Aquarium in Baltimore and the Inner Harbor, the nationally recognized shopping area filled with quaint boutiques and restaurants.

Buses will leave Bldg. 31C at 9 a.m. sharp and will leave Baltimore for the return trip at 3 p.m.. Cost is $11.50 for adults and $9 for children under 12 years. Price includes bus transportation and admission to the National Aquarium (we will enter through a special door which eliminates standing in line).

Sign up early at the Activities Desk, Bldg. 31, Rm. BIW30, as space is limited. □

Margaret Thompson, MAPB, Retires After 35 Years

Margaret Thompson, secretary of the chief of the Medical Arts and Photography Branch (MAPB), Division of Research Services, has retired after 35 years of Federal employment.

Ms. Thompson (l) was presented her NIH retirement certificate by B. J. Collier, MAPB administrative officer, during her retirement party.

"Margie" came to NIH in 1966. Her previous Federal service was with the Social Security Administration, the Department of Commerce, and —for 16 years—the War Department and the Department of the Army.

Margie served in the administrative office of the DRS Veterinary Resources Branch (VRB) from 1966 until 1977, when she became secretary to the MAPB branch chief. At her farewell get-together in the MAPB conference room Dec. 2, many wellwishers from the VRB joined with Margie's MAPB coworkers in wishing her a happy and healthy retirement.

In both branches, her spirit of get-the-job-done won her an enviable record of awards and quality increases, and also the appreciation of her superiors and fellow workers.

"Margie is a self-starter," MAPB branch chief Ron Winterrowd commented."When there is a problem with something she is working on, she solves it."

Margie began her Federal service in 1943 at the Aberdeen Proving Grounds, soon after graduation from Mount Airy (Md.) High School. In 1948 she began 12 years of service at the Edgewood Arsenal, working in the Office of the Chief of the Technical Information Division, Army Chemical Corps.

After working briefly for the Social Security Administration, Margie moved to Washington, D.C., where she was employed in the office of the Chief of Staff, U.S. Army, and then at the Commerce Department. She came to NIH after spending several years at home caring for her young daughter Candy.

Margie grew up in Woodbine, Md., near Mount Airy; she moved back there 9 years ago, and plans to retire there. □

Get Fit at the NIH Fitness Center

The NIH Fitness Center will offer a 1-day seminar entitled "Guidelines for a Personal Exercise Program" on Thursday, Feb. 2, at noon in Bldg. T-39, Fitness Center. For more information contact Janet or Tom on 496-TRIM. □

Workshop Held on Asthma Self-Management Sponsored by NHLBI, American Lung Association

Collaboration between Federal and private voluntary agencies is paying off as an effective way to disseminate research results to the health care community.

At a recent model workshop, asthma care professionals—brought together by the American Lung Association (ALA)—were introduced to the concept of self-management of childhood asthma and to five programs for teaching these skills.

Four of the programs were funded by the National Heart, Lung, and Blood Institute, and one was funded by the ALA. The workshop in Cleveland, Ohio was jointly sponsored by the NHLBI, the national office of the ALA, and the Northern Ohio Lung Association.

Highlighted were programs that resulted from NHLBI demonstration and education projects that began in 1977. These programs are *Open Airways/Respiro Abierto* program, developed at Columbia University in New York City; the *Living with Asthma* program, developed at the National Asthma Center in Denver; and the *AIR WISE* and *AIR POWER* courses developed at the American Institutes for Research in the Behavioral Sciences in Palo Alto, Calif. A fifth program, ALA's *Superstuff,* was also featured.

Three of the NHLBI programs are teaching packages that health professionals can use to conduct separate, group sessions for children with asthma and their parents. The fourth program—*AIR WISE*—is for teaching one-on-one sessions tailored to the needs of a single child. It has been shown to be effective for difficult-to-manage cases. ALA's *Superstuff* is a kit of self-teaching materials that can be used at home without a teacher or health educator.

Although all the programs cover the same basic information and skills, each has a different focus. *Open Airways* is designed for inner city families. *Living with Asthma* concentrates on family dynamics and the needs of rural areas. The two AIR programs are tightly structured and could be used in a variety of settings with minimal teacher preparation. The workshop was unusual because it combined the strengths of the two sponsoring organizations and bridged the gap between research and its practical application.

The NHLBI role was to provide the content and faculty of the workshop. The ALA role was to mobilize its network of lung care professionals as an audience who could implement asthma self-management programs in their own communities.

As an outgrowth of the meeting, NHLBI's Office of Prevention, Education, and Control, with assistance from the ALA, is preparing a workshop planning package. It will furnish all the how-to steps and materials for duplicating the workshop in other settings. The book, which will be ready by summer of 1984, will be of interest to Lung Association chapters and other health organizations wishing to foster adoption of asthma self-management programs for children and their families.

The four NHLBI course manuals discussed at the Cleveland workshop are currently being prepared for printing and are also scheduled to be available by summer of 1984. *Superstuff* is currently available from local chapters of the American Lung Association. □

Belgian Guitarist to Perform

Join R&W Thursday, Feb. 2, in Masur Auditorium, when Guy Cuyvers, classical guitarist, will perform from noon to 1 p.m. A graduate of the Royal Conservatory of Antwerp, Mr. Cuyvers will perform a solo recital of works by J.S. Bach and Guiliani as well as a generous selection of music from Spain.

He is currently furthering his guitar studies under John Marlow at the American University. □

NIH Golf League Plans Meeting

The NIH R&W Golf League will hold a meeting on Feb. 27, in Conf. Rm. 2A, Bldg. 31. Officers of the league will be available between 12:30 and 1:30 p.m. to provide information to prospective new members.

Golfers of all skill levels are encouraged to attend. League members play 9 holes once a week after work at Falls Road Golf Course.

For further information, contact Tom Porter, 427-8888. □

The NIH R&W Theatre Group has donated $1,000 to the NIH Patient Emergency Fund. In the photo above presenting the check are (l to r): Adele Weeks; Zita Givens; Dr. Charlotte Berg, director of the Patient Emergency Fund; Alice Smyth; Botti Thomasson; Anthea Maton; Millie Fenton; Agnes Richardson and Randy Schools, representing R&W.

NIADDK Brochure on Paget's Bone Disease Explains Symptoms, Limitations of Treatment

The first comprehensive patient brochure on Paget's disease of bone, an ailment which affects as many as 3 million Americans over age 40, was recently issued by the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases.

Understanding Paget's Disease was written and developed by NIADDK with the cooperation of the medical advisory board and executive director of the Paget's Disease Foundation, a national voluntary organization. Copies are available from the Paget's Disease Foundation, Box 2772, Brooklyn, N.Y. 11202.

Paget's disease of bone, technically known as "osteitis deformans," is a chronic disease of the skeleton with abnormally rapid bone turnover. Excessive bone breakdown and formation can result in bone that is both dense and fragile, frequently occuring in the spine, skull, pelvis, thighs, and lower legs.

This complex disorder, whose cause is unknown and whose symptoms often are mistaken for the discomfort of rheumatoid arthritis, seems to afflict people of Western European heritage most frequently.

There is a possibility it may be transmitted genetically since it often occurs in more than one member of the family. In most cases, however, it seems to arise spontaneously.

In Paget's disease of bone, the rate of bone turnover far exceeds the normal rate of action and some unidentified factor stimulates excessive bone breakdown.

New bone forms in a disorderly way and the affected bones may become thickened and weak. In the initital stage of the disease, fat in bone marrow cavities is replaced to a large extent by blood vessels. Involved areas can cause pain, become deformed, and occasionally fracture spontaneously.

Many patients are symptom-free but those who do have symptoms report pain, a sensation of heat, headaches, bowing of a limb or enlargement of the skull, muscle and sensory disturbances, congestive heart failure when the heart is overworked and pumps more blood through the thickened mass of blood vessels in active pagetic bone; hearing loss, or in extremely rare cases, osteogenic sarcoma, a form of bone cancer.

Tests for diagnosis include laboratory studies of blood and urine, most commonly measuring the level of the blood enzyme alkaline phosphatase, a by-product of bone-forming cell activity. X-rays, bone scans and biopsy may also be used for detection.

Treatment slows the disease but does not cure it. Early recognition and treatment can bring about a good response in most cases. Treatment is often effective with calcitonin, a hormone produced by the thyroid gland, and diphosphonate disodium etidronate.

These agents work to block bone breakdown and formation and in many patients improve symptoms for a period of time. Mythramycin, a cytotoxic (cell-destroying) agent, has also been used to treat Paget's patients, and other diphosphonates are being developed. □

Yale Study Shows High Doses of Steroids Not More Effective for Spinal Cord Injury

A study funded by the National Institute of Neurological and Communicative Disorders and Stroke has revealed that high doses of steroid drugs are no more effective in treating acute spinal cord injury than conventional doses.

Yale University Medical School investigators—Drs. Michael B. Bracken and William F. Collins—along with colleagues at eight other institutions conducted a random, double-blind trial using methylprednisolone for 10 days with 330 patients. One group received high doses, the other standard doses. All were then evaluated 6 weeks and 6 months after injury.

According to an article published in the Jan. 6, 1984, *Journal of the American Medical Association,* the scientists observed no difference between the two groups in neurological recovery of motor function, response to pinprick, or light touch sensation.

The investigators also concluded that the test results were not affected by either the severity of the injury or the time elapsed between injury and treatment. The study indicated, however, that high-dosage patients are at greater risk of wound infection and, possibly, death.

Steroids have been commonly used in treating spinal cord injury, based on positive results in animal experiments. The Yale study, however, conflicts with some of those findings.

"This study has many positive aspects," said Dr. Michael D. Walker, director of the NINCDS Stroke and Trauma Program. "Probably the most important is that it is the first multi-institutional, controlled, prospective, and randomized study in the very difficult field of spinal cord injury.

"Secondly," he added, "it demonstrates that these kinds of studies can be performed and can generate meaningful data. And thirdly, it shows that physicians using high doses of steroids should do so with great caution because of the complications."

The Yale study provides a useful model for future investigations by refining the test methodology and producing a significant data base, Dr. Walker said. □

Burn Brae Tickets Now Discounted

R&W has established a 10 percent discount program with Burn Brae Dinner Theatre located in Burtonsville, Md., on Rt. 29.

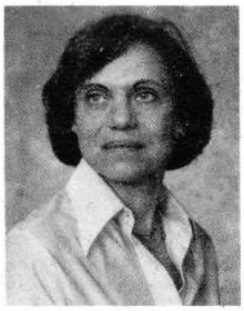
Discount prices including service charge are: Sunday through Thursday—$17.60, Friday—$18.50, and Saturday—$19.55. □

Drs. J. Schultz, D. Klein, Named to New NIAID Posts

Two Institute appointments were announced recently by Dr. Richard M. Krause, Director of the National Institute of Allergy and Infectious Diseases.

Dr. Jane Schultz has been named chief of the Genetics and Transplantation Biology Branch (GTBB), and Dr. David Klein, health scientist administrator, was appointed bacterial vaccines program officer of the Development and Applications Branch (DAB).

Dr. Klein



Dr. Schultz

In her new position with the Immunology, Allergic and Immunologic Diseases Program, Dr. Schultz will advise the program's director on the scientific aspects of transplantation biology and immunogenetics, define program goals, encourage grant applications from experienced as well as new investigators, and prepare recommendations for NIAID's advisory council and advisory committees. In addition, she will represent the program at local, national and international professional meetings.

Born in New York City, Dr. Schultz earned an M.S. degree from Columbia University, New York, and M.S. and Ph.D. degrees in human genetics from the University of Michigan, Ann Arbor. Prior to joining NIAID she was assistant dean of student affairs at University of Michigan School of Medicine where she retains an associate professorship in the department of human genetics.

Dr. Klein's major responsibilities with DAB, within the Microbiology and Infectious Diseases Program, will involve the promotion, coordination and administration of research to advance the understanding of bacterial diseases identified by the Institute as important public health concerns, so that appropriate vaccines, serological reagents, or other control measures can be developed and evaluated.

Prior to joining NIAID, Dr. Klein was a health scientist administrator with the National Caries Program of the National Institute of Dental Research. Earlier in his career, he was a postdoctoral fellow in the department of oncology at Johns Hopkins University School of Medicine, Baltimore, and an immunologist with Litton Bionetics, Kensington, Md.

Dr. Klein was born in Cleveland, Ohio. He earned an M.S. degree from the University of Toledo (Ohio) and Ph.D. degree in immunology from the University of Kansas, Lawrence, Kan. □

Our chief want in life is somebody who will make us do what we can—*Ralph Waldo Emerson.*

Biochemical Markers for Early Signs of Cancer And Cardiovascular Diseases Developed at CC

Cancer and cardiovascular diseases—including heart attacks and strokes—are the major causes of death today. In both groups, biochemical abnormalities exist long before the disastrous final manifestation of disease.

Intensive studies have been conducted for evidence or signs of these diseases—biochemical markers—that give warning of their existence since early intervention improves the outcome.

An important contribution to this effort has been made by Dr. Nicholas Papadopoulos of the Clinical Center's Clinical Pathology Department who has developed two tests that aid in the diagnosis of cardiovascular disease and cancer through the early detection of abnormalities before the diseases are clinically manifested.

These tests are:

- for cardiovascular disease, the determination of serum lipoproteins by high-resolution agarose gel electrophoresis;
- for cancer, the separation of serum proteins by the same high-resolution electrophoresis and their identification by immunofixation electrophoresis.

These methods have been applied in studies of normal individuals as well as studies of patients in several of NIH's protocols.

Test for Cardiovascular Disease

Circulating lipoproteins (complex molecules that transport fat in the blood) have been intimately associated with the development of cardiovascular disease. Dr. Papadopoulos' test demonstrates the presence of all lipoproteins as they circulate in a normal state in blood.

This test has been used to detect two beta lipoproteins that identify patients with type-3 hyperlipoproteinemia as compared to the single beta lipoprotein band usually found in normal persons. Patients with this condition develop angina and heart attacks early in life.

This disorder, however, responds readily to treatment. With therapy, the levels of lipids (fats) will return to normal and the symptoms will be relieved or disappear. Thus, the benefit of early diagnosis and treatment of patients with this disorder cannot be overemphasized.

A second example of new information obtained by this sensitive laboratory test is the demonstration of an extra ("pre-beta") lipoprotein fraction present in the sera of 98 percent of patients who have suffered a heart attack and in more than 90 percent of patients with coronary heart disease diagnosed by coronary angiography. The same abnormal lipoprotein marker is found in 30 percent of normal persons.

These studies establish that the presence of an extra pre-beta lipoprotein band in the serum is strongly associated with coronary heart disease. They further indicate that the presence of this extra pre-beta band in apparently normal individuals may be an early predictive risk factor for later development of cardiovascular disease. This information alerts a physician to take appropriate therapeutic measures to reduce the risk of atherosclerosis which leads to heart attacks and strokes.

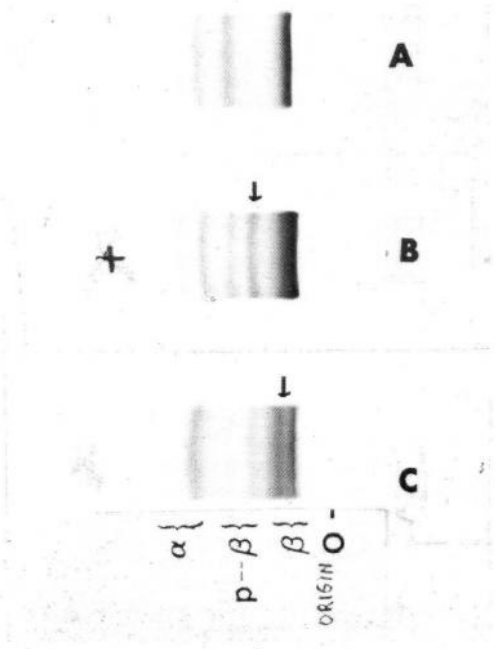


Figure 1: High-resolution serum lipoprotein electrophoretic pattern of A: normolipidemic individual; B: patient with an extra, slow pre-beta band; C: patient with type-3 hyperlipidemia with a beta doublet. *Arrows* indicate lipoprotein bands.

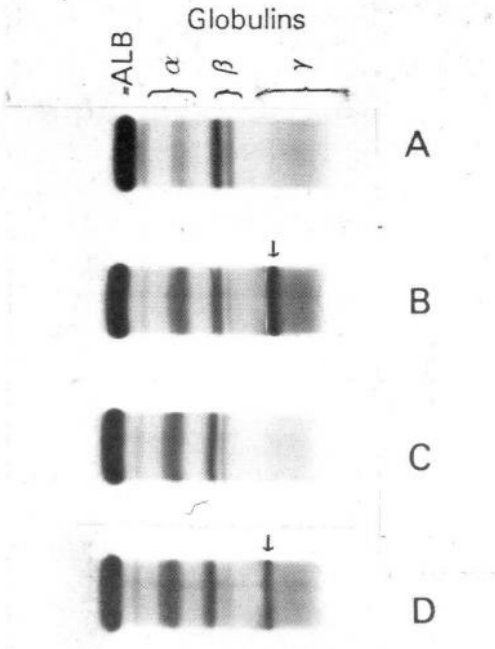


Figure 2: Protein electrophoretic patterns. A: normal serum. Serial serum samples of patient with lymphoma in the following items B, C, and D; B: before treatment; C: after chemotherapy; D: upon recurrence. *Arrows* indicate protein bands.

Test for Cancer

Dr. Papadopoulos has also developed a high-resolution agarose gel electrophoresis test for detecting abnormal serum proteins which can be used as biochemical markers for lymphoma.

The standard test is zone electrophoresis, a laboratory procedure that separates serum proteins into distinct fractions called albumin and the globulins (alpha, beta and gamma).

The gamma globulin fraction has attracted considerable attention because it contains antibodies called immunoglobulins which defend and protect the body from disease.

Qualitative and quantitative alterations of immunoglobulins have been associated with a variety of immunologic abnormalities and malignant processes.

Malignant cells constantly release unique proteins in the circulation, and the concentration of these proteins rises with the progress of the malignant process.

These proteins appear as homogeneous, distinct bands in diffuse gamma globulin zones. The presence of a single prominent band in the normally diffuse gamma globulin zone is often due to abnormal conditions called "monoclonal gammopathies" or to malignant transformations of blood cells and tissues.

The Papadopoulos high-resolution agarose gel electrophoresis test is more sensitive than the standard zone electrophoretic methods because it can detect strong as well as weak bands (even mini bands) in the gamma globulin region.

The high sensitivity and specificity of this test are illustrated by the following study: Serum protein electrophoretic patterns from patients with lymphoma demonstrated a monoclonal band in the gamma globulin zone as compared to a normal pattern with a diffuse gamma globulin zone.

After therapeutic intervention with surgery, chemotherapy or radiation, the concentration of protein decreases, the band disappears and the diffuse pattern reappears in the gamma globulin region.

The single band may reappear, however, often long before disease returns clinically. Therefore, the detection and monitoring of the band by zone electrophoresis serves as a biochemical marker for the detection and prediction of an abnormal or malignant process.

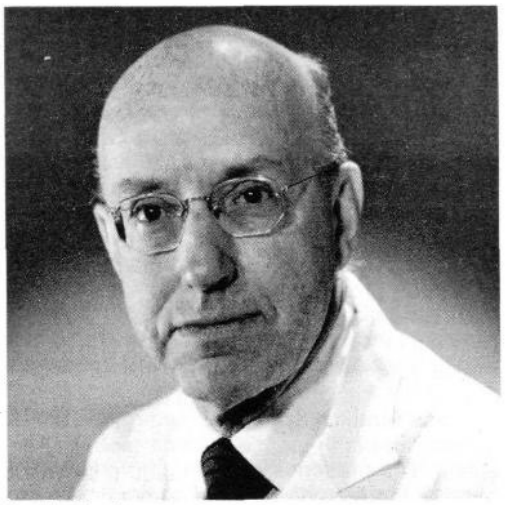
These inexpensive and harmless laboratory tests are significant because they will enable the physician to diagnose a disease early and thus intervene therapeutically to minimize or eliminate the untoward effects of disease.

Besides cancer and cardiovascular diseases, these two tests have clinical applications in patients with a variety of disorders, including multiple sclerosis, AIDS and autoimmune diseases. These tests could also be used in programs to screen asymptomatic persons, clinical trials, lipid clinics and HMOs.—**Sheila Munson.**□

Preschool Accepting 2½-Year Olds

The NIH Preschool Developmental Program, located in Bldg. 35, is now accepting children who are 2 years and 6 months and toilet trained. Parents who might be interested in having their child attend the Preschool should call Sherrie Rudick, 496-5144. □

NEI Clinical Director Retires



Dr. Ballintine

Dr. Elmer J. Ballintine, clinical director of the National Eye Institute for 10 years, retired Dec. 30.

Dr. Ballintine's career at NEI combined clinical research on patients at risk of developing glaucoma from various causes with laboratory studies of the pharmacology and physiology of glaucoma. Drawing on his early training as an engineer, he studied fluid dynamics of the eye and designed instruments to measure them.

He also conducted a long-term study of people with early glaucoma. People with this condition have abnormally high pressure inside the eye (ocular hypertension), but it is unknown which of them are at greatest risk of losing vision and whether specific treatments might prevent the disease from progressing to that point.

In Dr. Ballintine's study, such patients have been carefully followed for many years in an effort to determine whether early treatment on ocular hypertension has any value in preventing visual impairment or in slowing the rate of development of glaucomatous changes.

In addition, he has been looking for signs and symptoms of the disease that might have value in predicting which patients in the early stages of simple glaucoma will eventually become glaucomatous and therefore require treatment to prevent visual loss from occurring. The data from his study are expected to be very useful in establishing criteria for identifying such patients who require treatment. He will continue these studies on a part-time basis, returning to the NEI several days each month.

Dr. Ballintine will also continue his involvement in a field study of Pima Indians who are at high risk of developing diabetes-associated eye disease (diabetic retinopathy). His work in this area evolved from participation in a project of the Southwest Field Studies Section, NIADDK.

Before becoming clinical director, he was associate clinical professor at Case Western Reserve University School of Medicine and associate ophthalmologist at University Hospitals of Cleveland. During this time, he maintained an interest in ophthalmic instruments, serving on the Committee of Standardization of Tonometers of the American Academy of Ophthalmology and Otolaryngology (AAOO) and as chairman of the committee from 1959 to 1976. He was director of the AAOO's Tonometer Testing Station as well.

Dr. Ballintine was born in Pennsylvania and received his B.S. degree there, in chemical engineering, from Grove City College in 1936. In 1949 he earned his M.D. at Case Western Reserve University, then completed pre- and postgraduate requirements in ophthalmology at University Hospitals of Cleveland.

After spending the next 25 years in Cleveland as a clinician and teacher, he came to NIH in 1974. In 1979 he received the NIH Director's Award for his contribution to and his advocacy of modern clinical trial methodology in eye research.

His retirement plans call for a shift in emphasis from one of his two enduring interests to the other—clinical ophthalmology to gardening. In retirement, he will spend the greater part of each month gardening near the headwaters of the Coan River a few miles from Chesapeake Bay in Virginia but return to NIH for several days each month to continue his clinical studies and share the harvest with his colleagues. □

Scholarships, Financial Aid Subject of NIADDK Seminar

Dr. H. Kenneth Shook, executive director of the Maryland State Scholarship Program and president-elect of the National Association of State Scholarship Grant Programs, spoke to NIH employees on the availability of student financial assistance on Dec. 6.

Dr. Shook distributed financial-aid packets and outlined the process for applying through the State Scholarship Program and through federally guaranteed bank loans. He said forms should be submitted between Jan. 1 and Mar. 2 in order to receive Maryland state scholarship money for the Fall 1984 semester.

All applications will be evaluated by an automated system at Princeton University.

There are 14 Maryland state scholarship programs, including the general state awards, grants for war orphans, senatorial scholarships, professional school scholarships, family practice medical scholarships, and distinguished scholar.

Some of these programs will require payback through service in the state after graduation; for example, nursing.

All grants, except the distinguished scholar awards, are based on need and students are selected on relative income and legislative district through a special ranking system.

The state scholarships, available only to residents who have lived in the state for at least 1 year, are usually evenly divided between the fall and spring, and made payable to the college.

The best time to apply for a guaranteed student loan is usually April or early May, but applicants should check with their banks to verify procedures and deadlines.

Persons interested in more specific information on the Maryland State Scholarship Program call Dr. Shook at (301) 659-6420. □

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