

The NIH Record



At a Journal Club meeting, NINCDS summer students listen to Dr. Richard Henneberry lecture about

how cells perceive and respond to signals in their environment.

NINCDS Summer Students Explore Future Careers

Hands make or break the neurosurgeon who must cut through the tough skull to delicately manipulate the glistening, walnut-shaped brain with its billions of nerve cells. Though hand strength is important for these tasks, it is not the neurosurgeon's main attribute.

"Steadiness is actually more important," says neurosurgeon-in-the-making Kevin Billingsley, whose hands are unquivering.

This summer, the second-year medical student from Johns Hopkins University accompanied NINCDS staff neurosurgeons into the operating room and got his first close look at brain surgery.

The experience has heightened his respect for his chosen career.

"When you are operating on the nervous system, you are not allowed any mistakes because they are so costly," he remembers thinking after observing his first case.

In addition to watching surgical techniques, Mr. Billingsley helped test a new immunotherapy that may help patients fight brain tumors with their body's own defense system.

Mr. Billingsley is one of 43 undergraduate and medical students from around the country who embarked on research projects at the NINCDS this summer. Students from schools as near as Baltimore and as far as Spain arrived throughout the summer to experience a taste of biomedical research in the neurosciences.

"We probably have the brightest, most ag-

gressive, and most personable group of students we have ever had," says Dr. Clarence J. Gibbs Jr. of the NINCDS Laboratory of Central Nervous Systems Studies, who had eight summer trainees.

The corps includes 12 National Merit Scholars, 5 recipients of the Westinghouse Science Award, and 3 winners of the Bausch and Lomb Science Award.

Levon Parker, chief of the NINCDS Equal Opportunity Program, who coordinates the Institute's summer program and recruited the last five classes of students, says he is "especially proud that for the first time this summer we had a program reflective of the diversity of the American population." Nearly half the trainees are minorities, and they include blacks, like Kevin Billingsley, Hispanics, Asians, and American Indians.

Getting the students here was difficult this year because there were no appropriated funds for a summer program. "The students who came really wanted research training and experience at the NIH," says Mr. Parker, who helped students find alternate sources of support for travel and living expenses. To encourage interaction among the students and to expose them to as much of the neurological and communicative research here as possible, Mr. Parker also organized the first NINCDS summer student Journal Club.

PBS To Air Series On Medical Miracles

Managing Our Miracles, a new 10-part series on PBS, will feature a panel of nationally known leaders and decisionmakers debating the complex ethical, legal and social questions raised by modern medicine. Using the Socratic method, moderators will lead panelists through hypothetical case studies which force the participants to take agonizing decisions such as they face each day and make them in front of the camera.

The series airs Tuesdays at 10 p.m. EDT, beginning Sept. 30.

The series is produced by Columbia University Seminars on Media and Society, Graduate School of Journalism, in association with WQED/Pittsburgh and WNET/New York. It is made possible by a grant from Equitable Group and Health Insurance Company, a division of Equitable.

Among the hypothetical cases to be considered and air dates:

Truth and Confidences, Sept. 30; *Transplant, Second Chance at Life*, Oct. 7; *The Human Heart Machine*, Oct. 14; *Malpractice*, Oct. 21; *AIDS, In Search of a Miracle*, Oct. 28; *Technology Rocks the Cradle*, Nov. 4; *The Smoking Dilemma*, Nov. 11; *Battered Child, Battered Trust*, Nov. 18; *The Business of Medicine*, Nov. 25; *Final Choices*, Dec. 2.

Nationally known participants will include Supreme Court Justice Harry Blackmun; Dr. Willard Gaylin, president, Hastings Center; Sissesa Bok, philosopher; Benno C. Schmidt Jr., president, Yale University; Dr. Robert Jarvik creator of the Jarvik-7 artificial heart; Surgeon General C. Everett Koop and Dr. Mathilde Krim, cochair, American Foundation for AIDS Research. □

Scientific Symposium to Honor Dr. Albert Sabin on 80th Birthday

A scientific symposium in honor of Dr. Albert B. Sabin's 80th birthday will be held on Aug. 26 in the Lister Hill Center Auditorium, Bldg. 38A. The symposium is sponsored by the National Institute of Allergy and Infectious Diseases and the Fogarty International Center.

The symposium features prominent scientists who have worked on various aspects of poliomyelitis and other critical scientific problems.

For further information contact Nancy Shapiro, 496-2517. □

TRAINING TIPS

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

	Course	
	Starts	Deadline
<i>Executive, Management, and Supervisory</i> 496-6371		
Introduction to Supervision	9/22	8/22
Introduction to Supervision	10/20	9/26
Effective Communications	9/16	8/22
Effective Presentations Skills	9/17	8/29
Report Writing	9/30	9/5
Supervising in the Federal Wage System	10/6	9/12
MBTI I	10/28	9/15
Interpersonal Relationships in the Work Environment	10/14	9/19
<i>Office Skills Career Development Program</i>	496-6371	
<i>Support Staff Training</i> 496-6211		
Basic IBM Displaywriter	10/7	9/16
Career Strategies	9/23	9/9
Delpo	9/15	8/26
Medical Terminology I	10/2	9/9
Proofreading & Editing	10/6	9/12
Improving Voice & Diction	10/6	9/12
Advanced Typing	10/14	9/26
Introduction to Working at NIH	10/15	10/6
Time & Attendance	10/15	9/26
Travel Orders & Vouchers	10/20	9/26
Computer Literacy for Support Staff	10/1	9/12
Transfer from IBM Displaywriter to Displaywrite	10/3	9/12
Introduction to Displaywrite III	10/6	9/10
Introduction to Basic Microcomputers for Professionals	10/27	10/3

Share training. For first-time users enter: x fr &agslugL.@@share(setup) on file37. Adult Education Program ongoing, 496-6211.

Stress Conference Planned At Clinical Center, Nov. 6, 7, 8

An NIH Conference on Mechanisms of Physical and Emotional Stress will be held in Masur Auditorium, Clinical Center, on Nov. 6, 7 and 8. Main topics include: basic mechanisms of the stress response, stress and the immune system, adaptation to physical stress, stress and development, emotional stress and psychiatric illness.

A distinguished faculty of 35 speakers will participate in the conference. For information and registration forms, write or call: Dr. George P. Chrousos, National Institute of Child Health and Human Development, Bldg. 10, Rm. 10N262, 9000 Rockville Pike, Bethesda, MD 20892, (301) 496-4686, or Dr. Philip W. Gold, National Institute of Mental Health, Bldg. 10, Rm. 3S239, 9000 Rockville Pike, Bethesda, MD 20892, (301) 496-6884.

There is no registration fee; however, registration will be limited. Deadline to register is Sept. 30. □

Bibliographic Software Will Be Demonstrated

Bibliographic management software demonstrations will be presented at NIH on Wednesday, Sept. 17, from 9 a.m. to 4 p.m. in Bldg. 12A, Room B51. The sponsors are the DCRT Library, NIH Library, and User Resource Center (URC).

Three software packages will be demonstrated: PRU-CITE, Reference Manager, and SCI-MATE.

These specialized database managers help you create textual and bibliographic files either by manual data entry or by downloading from a remote computer. They also help you search your files by author, title, or keyword; sort by various keys; and create new files.

You can also reformat records to print out references according to any number of publisher styles, for example, *NIH Annual Bibliography* or American National Standard for Bibliographic References.

The demonstration program will be in two parts. The morning program is:

- 9 a.m. PRO-CITE
- 10 a.m. Reference Manager
- 11 a.m. SCI-MATE.

Drop-in demonstrations will be held between 1 and 4 p.m.

Call the URC on 496-5025 for information. □

NIH Word Processor Groups Begin Second Year This Fall

NIH Word Processors (WP) User Groups begin their second year this fall. Presently, there are five NIH-sponsored user groups—IBM, Lexitron, NBI, Wang, and Xerox.

WP user groups meet once a month for an hour to share information about their systems. During this time, new functions and applications for their WP equipment are explored. These user groups have helped people become more proficient on their equipment and gain a better understanding of it.

Meetings are open to all—secretaries, scientists, managers, and administrators currently using the equipment.

Flyers will be sent to users announcing date, time, and location of each user group meeting. This information will also be available on the NIH Thought Exchange Network (TEN). Access may be obtained for the first time by logging onto WYLBUR and type: EXEC FROM &JNEIGVD.TENSET ON CAT.

If you have questions, please call Sue O'Boyle, Division of Management Policy, on 496-2832. □

Fitness Center Announces Fall Exercise Schedule

The NIH Fitness Center's fall exercise classes run from Sept. 8 through Dec. 15, with a makeup week of Dec. 15-19, in the Fitness Center, Bldg. T-39.

The schedule follows:

Quik Fit (cardiovascular and total body workout)—Monday, Wednesday, Friday from noon to 12:45 p.m. and 5:15-6 p.m.; Tuesday and Thursday 12:15-1 p.m. and 6-6:45 p.m.

Alive (total body workout)—Monday, Wednesday, Friday from 6 to 7 p.m.; Tuesday and Thursday from 5 to 6 p.m.

Abominable Abdominals (improve abdominal strength for posture)—Monday, Wednesday, Friday 11:30 a.m.-noon (fee \$84).

E-Z Action (low impact aerobics)—Tuesday and Thursday 11:30 a.m.-12:15 p.m.

Spot/Stretch (concentrated body toning and stretching)—Tuesday and Thursday 7:30-8:15 a.m.

Fees: \$2 per class, Fitness Center member; \$2.50 per class, nonmember; \$3 per class, drop-in.

Register at the NIH Fitness Center, 496-TRIM. □

The NIH Record

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Two Powerful 'Natural Sedatives' Identified In Lab Tests by NINCDS, NIMH Scientists

Two byproducts of common steroid hormones, until now thought to have no action in the body, have the capacity to act as powerful "natural sedatives," according to new work by National Institute of Neurological and Communicative Disorder and Stroke and National Institute of Mental Health scientists.

In laboratory tests on cultured rat neurons, the two substances prolonged the effects of the neurotransmitter GABA—a brain chemical that depresses the central nervous system by slowing down communication between nerve cells. The steroid byproducts' depressant effect was 100 to 1,000 times stronger than that of pentobarbital, a barbiturate used as a surgical anesthetic.

This surprising result may explain the anesthetic actions of certain steroids, said Dr. Neil Harrison of NINCDS. It could also lead to development of new sedatives, sleeping pills, and anesthetics based on the two hormone byproducts, according to Dr. Maria D. Majewska of NIMH.

Two Byproducts

The two byproducts are metabolites produced when the body breaks down the steroid hormones progesterone and deoxycorticosterone. Since the 1940s, scientists have known that steroid hormones induce barbiturate-like effects ranging from mild sedation to coma. But until now, no one knew why.

Following up Dr. Majewska's earlier work on naturally occurring steroids, and Dr. Harrison's work on synthetic steroid anesthetics, the two investigators theorized that a part of steroid compounds might somehow make GABA's depressant effect last longer. To confirm this, two teams of scientists, one from NIMH and one from NINCDS, tested 20 natural and synthetic steroids for their ability to interact with nerve cell receptors that receive GABA signals.

Using separate tracing techniques—radioisotope labeling in the NIMH lab, electrophysiological measurements in the NINCDS lab—the two research groups independently picked out the same six compounds, confirming each other's results. Of the six compounds, only two, the steroid metabolites, occur naturally in the human body.

The finding has implications both for clinical medicine and for a better understanding of how hormones can affect transmission of messages between nerve cells:

Discovery of the active nerve inhibitor derived from the two hormones explains why some natural steroids—and synthetic steroids that are used as surgical anesthetics—induce

anesthesia. Moreover, the rapid and powerful effect of the steroid byproducts accounts for why steroid anesthetics work within seconds to minutes, much faster than is characteristic of steroid compounds. Steroids normally act on body cells only after a delay of 1 to 12 hours, Dr. Harrison noted.

The finding may suggest why people have varying responses to benzodiazepines, the most commonly prescribed tranquilizers. After using these drugs, some people become extremely sedated while others experience no change at all. That variable clinical effect has been ascribed to differences in how much tranquilizer actually gets into the brain.

But the new finding suggests an additional explanation: when the two steroid byproducts rise to higher concentrations in the brain, they could magnify the effects of benzodiazepines. Since both the steroid byproducts and benzodiazepines bind to sites on the same nerve cell receptor, they could augment each other, and their combined depressant effect would then be greater than the effect of benzodiazepines alone.

Scientists speculate that the two byproducts may function as endogenous safety valves in stress reactions and at certain stages of the female reproductive cycle. The brain receives more progesterone during pregnancy, and more deoxycorticosterone during stress; the brain's supply of those hormones' byproducts is believed to increase at the same time. Scientists suggest that the byproducts' sedating effect might limit nervous system arousal to a level that the body can tolerate.

Preliminary behavioral evidence from animal studies supports this view. According to Dr. Steven Paul of NIMH, the deoxycorticosterone metabolite acts like a "minor tranquilizer" in rats used to screen antianxiety agents. Investigators plan more extensive tests of the substance's sedating effects on stressed animals to gauge its potential as an antianxiety drug for humans.

Still unresolved is the key issue of when the two metabolites are present in the human brain at concentrations high enough to affect GABA signals. Also to be determined is exactly where on the GABA receptor complex the metabolites bind. Evidence suggests that they attach to the site that receives barbiturate drugs, or somewhere very close to that site, according to Dr. Jeffery Barker of NINCDS. His laboratory will try to confirm this theory in future experiments. The research was reported in *Science*, Vol. 232, May 23, 1986—June R. Wyman □

New Powerful Computer Expands Computations

Scientific computing at NIH took a giant step forward with the recent installation of the IBM 3090 Vector Facility for users of the NIH Computer Utility.

Early NIH users of the Vector Facility have experienced the super-computer capability of its software and hardware with remarkably little effort.

Complex scientific computing problems such as those found in x-ray crystallography, molecular dynamics, and various body system models can be extensive and require hours, days, or even weeks of computation on the types of computing equipment found in the laboratory.

One researcher reported getting the equivalent of 1 year's calculations on his laboratory computer system done in 1 week on the Vector Facility. Because of its tremendous power, some researchers ventured into exploring higher-order and more complex models with the Vector Facility than were possible with their laboratory computers.

Software has been specifically designed to take advantage of the processor and vector hardware characteristics. The new software includes:

- a new version of the VS FORTRAN Compiler including a new set of mathematical (intrinsic) functions with improved accuracy and performance; and
- a new Engineering and Scientific Subroutine Library (ESSL) providing a wide range of very high performance scientific and engineering subroutines.

The greatly improved computing performance of the 3090 Vector Facility offers new possibilities for computer-intensive research applications.

If you would like additional information, contact the PAL Unit, 496-5525. □



Owen P. Carter (l) bids farewell to DCRT administrative officer Gloria Richardson. Mr. Carter, a supply clerk with the Division of Computer Research and Technology, has retired after 40 years of Federal service, 11 at NIH. His friends and colleagues honored him with a retirement luncheon, where they presented him with a color TV. He plans to enjoy his grandchildren, fish, and wait for his wife to join him in retirement.

FIC Holds Seminar on Iodine Deficiency

The major international problem of iodine deficiency, its consequences for health and the prevention of disorders caused by this deficiency were discussed in a Fogarty International Center Scholars-in-Residence Seminar held recently at NIH. The meeting was chaired by Dr. Joseph E. Rall, NIH Deputy Director for Intramural Research.

Speakers included Dr. John Stanbury, MIT; Dr. Robert De Long, Massachusetts General Hospital; Dr. John Dunn, University of Virginia, Charlottesville; Dr. Gaetano Salvatore, University of Naples, Italy; Dr. Christian Beckers, University of Louvain, Belgium, and Dr. Basil Hetzel, Commonwealth Scientific and Industrial Research Organization in Australia.

Epidemiological data, research results and research needs relevant to many countries were presented at the seminar.

Disorders attributable to low iodine intake include goiter, scoliosis, neuromotor and other neurological problems, cretinism, retarded and irregular growth, mental retardation, and spasticity. These disorders also affect the fetus in the form of stillbirths and perinatal mortality, and they produce neonatal, childhood, adolescent and adult impairments.

In Southeast Asia alone, with a population of 1 billion, there may be as many as 10 million cretins. An additional 80 million motor and mental defects are attributable to iodine deficiency. Iodine-deficient diets during pregnancy cause 200,000 stillbirths, and 100,000 newborn deaths per year.

The recommended daily allowance (RDA) of iodine for adults is 150 micrograms. At least 10 percent of the world's population has an average daily intake of less than 50 micrograms; about 80 percent a daily intake of between 50 and 100 micrograms. However, not all of the world's people that have iodine-deficient diets exhibit the above disorders. For reasons of genetic constitution some people are more at risk from iodine deficiency than others.

Iodine deficiency disorders (IDD) can be prevented and corrected by any one of three approaches, depending on the urgency of the problem and the technological means of production and distribution of iodine.

Iodized salt has proved to be effective in many countries and is appropriate in circumstances of mild or moderate deficiency.

Preparation and distribution of iodized salt can be accomplished with little added cost and with minimal technology. Constant intake is required, however, and both the technology and cultural acceptance must be sustained. The principle obstacles to using iodized salt are economic, lack of transport, and administrative

problems.

Injection of iodized oil derived from poppy-seeds, walnuts, or soy beans is an effective way to treat severe iodine deficiency because the effect is both immediate and long-lasting. A major advantage of iodized oil is that a single dose can be effective for up to 3 years. Target populations in areas with severe or moderate iodine deficiency are women of childbearing age, children 0-5, children over 5, and adult males.

The third method of correcting iodine deficiency and preventing iodine deficiency disorders is by using iodinated water. While the technology is easy and cheap, a central water supply is required, and continuous "doses" are necessary. Much of the population at risk does not have a central water supply available.

Beginning in 1974 the World Food Council, the General Assembly of the United Nations and, most recently, the World Health Assembly, have been sensitized to the problems and have passed resolutions urging member countries to organize preventive measures. The International Council for the Control of Iodine Deficiency Disorders was established recently—with 200 members representing concerned scientific groups, international and national organizations in commerce, as well as governmental representatives from affected countries.

The participants in the seminar concluded that future biomedical research is needed in areas of iodine absorption, metabolism, effective duration, and the synergistic effects of malnutrition and iodine deficiency as related to specific outcomes. Further studies are needed to evaluate the relationship between the expression of genes regulating receptor sites for thyroid stimulating hormone and iodine capture in response to iodine deficiency. □



Three NIEHS officials have been named officers of the North Carolina Chapter of the Society of Toxicology. Shown (l to r) are Dr. Linda S. Birnbaum, Systemic Toxicology Branch, secretary-treasurer; Dr. H. B. Matthews, chief of Chemical Disposition, president, and Dr. Bernard A. Schwetz, chief of Systemic Toxicology Branch, president-elect.

Spinal Bifida Pamphlet Published by NINCDS

Spina Bifida: Hope Through Research, a new pamphlet issued by the National Institute of Neurological and Communicative Disorders and Stroke, is now available through the NINCDS Office of Scientific and Health Reports.

The 43-page brochure describes current scientific thinking about the causes, diagnosis, and medical care of spina bifida, a congenital spinal cord defect that affects 1 to 2 of every 1,000 American babies. Among issues addressed area:

- the roles of genetics and fetal environment—especially maternal diet—in triggering the disease
- strategies for dealing with young patients' bladder and bowel problems, lack of sensation, deformities that limit movement, and learning disabilities
- prenatal diagnosis of spina bifida, and genetic counseling for women in high-risk families
- research to prevent neural tube defects and restore nerve function in people who have them.

Personal stories of young people with spina bifida—how they cope with both physical limitations and emotional concerns—illustrate how affected children can adjust to their disabilities and go on to lead productive lives. Voluntary groups that help spina bifida patients and their families are listed at the end of the pamphlet.

With advances in neurosurgery and better antibiotic control of infections, an estimated 80 to 95 percent of babies born with spina bifida now survive and grow to maturity. In the future, scientists may be able to correct both spina bifida and associated hydrocephalus in utero, using methods now being perfected in animal models.

Other experimental techniques—such as a nerve tissue implant that may allow broken nerve fibers to grow across the spinal cord gap—offer hope for eliminating paralysis and restoring nerve function in spina bifida patients.

Single copies of *Spina Bifida* are available free from the Office of Scientific and Health Reports, NINCDS Bldg. 31, Rm. 8A16, Bethesda, Md 20892; telephone (301) 496-5751. □

Male Twins Needed for Study

The Laboratory of Psychology and Psychopathology, National Institute of Mental Health, is seeking male twins over age 20 to participate in research. Participants will be paid. For information call Dr. Gabbay, 496-7672. □

Power Plant Keeps NIH Humming Round-The-Clock

What runs 7 days a week, 24-hours a day, has nearly 70 men, and 2 women and uses almost 8 million gallons of oil a year? If you're hard put to come up with the answer, it is NIH's own Power Plant. Without it, NIH could not function.

Built in 1952 and opened with three boilers, the Power Plant has never had a major unscheduled shut down. Currently, the plant has four boilers, 14 centrifugal refrigeration units, and two medical-pathological waste incinerators. It provides steam for heating and chilled water for air conditioning to almost every building on the campus.

Recently a group of executive officers went on an informational tour of the Power Plant and its environs. There they were introduced to the complexities of such a facility—one that could, in fact supply heating and air conditioning to a small city of about 50,000 people. The plant is designed to put out 600,000 pounds of steam per hour or enough to heat around 10,000 homes. And even in the summer, one boiler is operating to meet the process loads of the various laboratories.

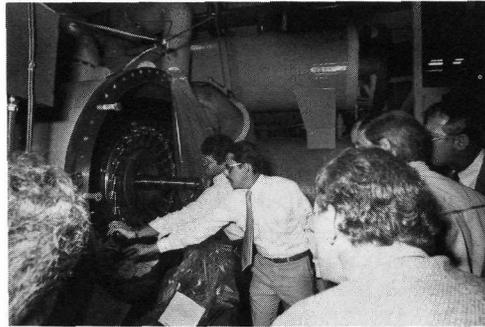
Buildings on campus actually require more air conditioning than heating capacity. There are two major refrigeration plants on campus. Their combined capacity is 24,730 tons of refrigeration. This is enough to remove heat from various NIH buildings at a rate of 296.7 million BTUs per hour, which is also enough capacity to cool approximately 10,000 homes.

Treated to the grand tour, the executive officers were also introduced to the NIH incinerator, which burns, on average, 100 tons of pathological waste each month. They also viewed parts of the high voltage distribution system which supplies electrical power to all the buildings at 13,500 volts—enough power to light 1.5 million 100-watt light bulbs!

Laboratory in Plant

Also located in the plant is a small laboratory that every day tests the water for certain chemical residuals. They also test for oil viscosity daily. Every hour the various boilers, chillers, and incinerator and their associated controls are checked and operating status logged-in. All this is done by Division of Engineering Services Power Plant staff working three, around-the-clock shifts.

Also responsible for testing the emergency generators which supply the Clinical Center and ACRF, Power Plant staff check these emergency systems weekly and full system tests are run twice a year. The executive officers were surprised to learn that many of the pieces of equipment in the plant are from the original



Pete Baum, chief, Power Plant and Ray Mullinix, general foreman of the plant, explain number 13 chiller in Bldg. 34 to some of the NIH executive officers on tour of the plant.

installation, so that parts are sometimes difficult to find. It takes the talents and skilled craftsmanship of Power Plant staff to tear pieces down, clean, and repair them. And sometimes the shortage of parts requires them to design and fabricate their own parts. They keep NIH hummin'.

What does all this mean to people at NIH? It means that without the smooth functioning of the Power Plant this campus would not be able to fulfill its mission of providing the best in biomedical research.

The seldom-seen Power Plant and staff are located in Bldg. 11 and 34 next to Bldg. 13.

So the next time you walk inside to a cool, comfortable lab in the heat of the summer or a snug warm office in the cold of winter, remember where it all came from—the Power Plant—NIH's.—Barbara J. Saragovitz □

Eleanor McCollum of DRG Dies

Eleanor C. McCollum, a staff member in the Division of Research Grants, NIH, died Saturday, Aug. 2, in Halifax, Nova Scotia, Canada, where she had been vacationing.

She joined the DRG in 1969 and worked as a technical information specialist in the Research Analysis and Evaluation Branch until the branch was abolished in 1984. Afterwards she joined the Research Documentation Section of DRG's Statistics and Analysis Branch.

Ms. McCollum is survived by two daughters; Virginia Nell McCollum and Sarah Alice Soday; two sons, M. Sidney and Joseph T.; five sisters, one brother, and four grandchildren.

Contributions may be made in her memory to the American Heart Association.

Clinical Center Sponsors Series on Death and Dying

Clinical Center's Educational Services Office is sponsoring a series of minilectures on the care of the terminally ill, titled "Issues in Death and Dying."

The series, including informal discussions with audience participation, will be held in the ACRF Amphitheater on Thursdays from noon to 1 p.m., Sept. 11 through June 18. Moderators will be Louise Meister, Dr. Daniel Cowell and Jacques Bolle.

The first lecture on Sept. 11 will be "Responding to the Needs of the Dying Patient" by Louise Meister, L.C. S.W., clinical social worker.

The second lecture on Oct. 2 on "AIDS: Psychosocial Issues" will be delivered by Jacques Bolles, R.N., M.S., clinical specialist/psychiatric liaison.

Other lectures and dates and speakers will be:

Dec. 11: "Grief and Bereavement: The Healing Process," Dr. Daniel Cowell, associate director for medical education, CC;

Jan. 15, 1987: "Reflections on the Experience of Dying: Panel Discussion with Relatives of Patients," Louise Meister;

Feb. 19: "Caregiver, Help Me To Die: Ethical Issues," Dr. John Fletcher, chief, Bioethics Program;

Mar. 19: "Principles of Relieving Pain," Dr. Mitchell Max, clinical coordinator, Pain Research Clinic;

Apr. 16: "Stress Management," Laura Ryan, M.S.N., R.N., C.S., clinical specialist;

May 21: "The Dying Child: Thoughts for Caregiver," Dr. Daniel Cowell;

June 18: "Reflections of Caregivers: A Panel Discussion," Jacques Bolle.

For further information, call Rona Buchbinder, educational services officer, 496-1618. □

NIMH Seeks Volunteers For Sleep Studies

The National Institute of Mental Health is seeking volunteers for sleep apnea studies. Persons with persistent difficulty sleeping, no history of psychiatric illness, or medical problems, and not taking any medications may be considered.

Volunteers must be between the ages of 21 and 55. For more information call Holly, 496-6981, between the hours of 1 p.m. and 4 p.m. Selectees will be paid for their time. □

Parents are the bones on which children cut their teeth.—Peter Ustinov

STUDENTS*(Continued from Page 1)*

Nancy Sandoval, a Stanford University student of American Indian heritage, decided 2 years ago that she wanted to come to the NINCDS after she met Mr. Parker at a Minority Access to Research Careers (MARC) conference in Duluth. He sold her on the program so well that she turned down a more lucrative research opportunity just to work at NIH.

"I didn't want it to be a decision based on finances," says Ms. Sandoval.

This summer in the NINCDS Laboratory of Molecular Biology, she's learning about the complex sequence of events that occurs after a neurotransmitter binds to a receptor on a nerve cell. Her ultimate career goal, she says, is to practice medicine in an urban Indian community or reservation.

Until she came to NINCDS, Ms. Sandoval hadn't seriously considered pursuing biomedical research along with clinical work.

"Now I realize I have the potential to do both," she says, adding that she plans to attend a medical school that emphasizes research so that she can log in some lab time.

Sang-Mo Kang, a 4.0 chemistry graduate from Cornell University, also rejected other opportunities in favor of NINCDS this summer. Instead of working in a lab in Boston, he joined Dr. Gibbs to study the slow virus that causes scrapie, a brain disease of sheep.

According to Dr. Gibbs, Mr. Kang's work has been exceptional. "Sang-Mo came cold into the field and made major contributions to our laboratory," including developing a shorter assay for detecting part of the scrapie agent, Dr. Gibbs says.

For his outstanding performance, Mr. Kang, who was born in Korea, received one of 10 NINCDS Exceptional Summer Employee Awards. Last year, he was awarded a \$36,000 scholarship from the S & H Foundation that will help finance part of his graduate work. He will enter an NIGMS-sponsored medical scientist training program this fall at Harvard University to earn an M.D./Ph.D.

With the dual degree, he says, "I hope to bridge the gap between basic science and the clinic."

David Pezen was a coworker of Mr. Kang's this summer who also won a summer student award for his contributions to the scrapie project. As an undergraduate at Northwestern University, Mr. Pezen mastered tissue culture, chemical, and immunological techniques that he easily applied to his research at NINCDS. For example, he reestablished a laboratory cell line infected with the scrapie agent. He also designed a protocol that may determine whether or not this infectious particle contains

the genetic material—DNA or RNA—found in other living organisms. Scientists suspect that the scrapie agent contains DNA or RNA, but so far they have not been able to find any.

Mr. Pezen also single-handedly set up a high performance liquid chromatography unit to purify a protein associated with scrapie infection. "Until now, this protein was unavailable in its purified form," says Dr. Gibbs. "This breakthrough will allow the laboratory to take the lead in the future study of this protein."

Currently, Mr. Pezen, a second-year medical student at Loyola University Stritch School of Medicine in Chicago, is planning a career in the clinical neurosciences. He has already talked to Dr. Gibbs about returning to work with him next summer.

Yasmin Tirado is a native of Puerto Rico who landed at NINCDS after working with the National Aeronautics and Space Administration last summer.

At NASA she helped put a shuttle crew through rigorous tests of their balance systems to determine who might get space sick.

"My predictions were accurate," she says, remembering the three astronauts who got sick while on the mission.

When she presented her research at a MARC student conference last fall, Ms. Tirado met Dr. Jerome Sanes who invited her to work with him at NINCDS. She has now learned how to use laboratory minicomputers coupled to physiological recording equipment. This instrumentation allowed her to evaluate the movements and muscle activity of normal volunteers who were control subjects in a project intended to investigate recovery from stroke.

While at NINCDS, Ms. Tirado learned that she had won a \$48,000 award from the Ford Foundation Doctoral Fellowship Program for Minorities to finance her graduate training.

She just graduated with a degree in chemistry from the University of Puerto Rico and will enter Boston University this fall to earn a doctorate in biomedical engineering and aeronautics so that she can return to the space program.

Her experience at NINCDS this summer "has helped me feel more prepared to enter a new career."

It is such positive feelings that many of the NINCDS summer students will carry away with them after they leave. They also sport a sense of pride for being part of what Ms. Tirado called "the city of research." Even though they were here for such a few months, the students have played a role in advancing the understanding and possible treatment of neurological disease.

"This is the very cutting edge of therapy," says Kevin Billingsley about the experimental brain tumor treatment he worked on this summer. "You have the feeling this research is really going to help people."—Lynn Cave □

Medical Service for Indigents Seeks Physician Volunteers

Mobile Medical Care Inc., a private, non-profit system of medical clinics providing primary care services since 1970 for indigent and medically indigent residents of local communities in Montgomery County, is seeking volunteer physicians to help staff the clinics.

Dr. Jim Hawley, medical director of the group, said each volunteer physician can select his work site and how much time he will donate.

The clinics operate on Wednesday and Thursday evenings or the second and fourth Thursdays of each month and one Friday morning a month.

Special state licensing to practice in these clinics and medical liability insurance is available free. Time donated can be credited toward meeting Maryland's state requirements for recertification of licenses.

Further information can be obtained directly from Dr. Hawley (493-8581, home, or 745-8146, work)—or by contacting Mobile Medical Care Inc. at 933-2828. □



The NIH Toastmasters Club #3421 installed new club officers for the July/December 1986 term. Pictured from left to right: Margret Foster, secretary; Tony Kaminski, educational vice pres.; Fran Roark, immediate past pres.; Alex Nobleman, treasurer; Marie Pinbo, president; Dan Higgins, administrative vice pres.; Madeline Catravas, sgt.-at-arms. Toastmasters is a "learn by participating" club that teaches effective communication and leadership. Sponsored by the Recreation and Welfare Association, the NIH club meets every Friday at noon in Bldg. 31, Rm. B2C05. Contact Dan Higgins (474-0260) for more information. Visitors are always welcome!

NINCDS Seeks Volunteers

Normal volunteers are needed for NINCDS studies. Volunteers should have no major medical problems, take no chronic medications and be over 18. Reimbursement will be paid. Call 496-1923. □

NHLBI's National High Blood Pressure Campaign Wins Two Public Service Mass Media Awards

The National Heart, Lung, and Blood Institute recently won two awards for the 1985/86 National High Blood Pressure Education Program's mass media campaign.

At an awards ceremony held at the National Press Club, the National Capitol Area Chapter of the Public Relations Society of America presented the Institute with its "TOTH" award for the conceptual development and production of the entire 1985/86 campaign.

The Advertising Club of Metropolitan Washington presented the Institute with its "Addy" award for the 1985 fall/winter high blood pressure campaign. The campaign contained three spots: "Consequences," "Father and Son," and "Basketball." All three PSAs (public service announcements) were aimed at aware hypertensive (persons with high blood pressure) and encouraged them to stay on their treatment. Survey data had indicated that while knowledge of hypertension is high, many hypertensives do not remain on their treatment or only follow the treatment regimen sporadically.

NHLBI's National High Blood Pressure Education Program was established in 1972 with the goal of reducing death and disability from high blood pressure through better control and treatment. The mass media campaigns have been an important part of the program for more than 10 years and reflect the changes in public awareness about high blood pressure during this time. In the early 1970s, with about half of all hypertensives unaware they had the disease, the media campaigns focused on raising public awareness and stressed detection among target populations. As awareness and detection levels increased, messages focused on sticking to therapy.

In recent months, television stations around the country have increased the time devoted to public service announcements from the National High Blood Pressure Education Program. This is due in large part to the work of a newly formed cadre of high blood pressure state media directors.

In 48 out of the 50 states, a representative from the state health department arranges for the distribution of the PSAs to TV stations throughout the state, placing the "tag" (address and telephone number) of a state or local high blood pressure control program on the end of the PSA. Often delivering these PSAs in person to TV stations, the state media directors have a chance to discuss local high blood pressure control and treatment issues particularly relevant to that state or community.



Principal Deputy Presidential Press Secretary Larry Speakes (r) presents the TOTH award for excellence in public service advertising to Michael White (c), NHLBI associate director for Prevention, Education and Control, and Terry Bellicha (l), chief of NHLBI's Communication and Public Information Branch. The award, from the National Capitol Area Chapter of the Public Relations Society of America, was given for a series of public service announcements produced as part of the National High Blood Pressure Education Program.

Tennis Club Sets Tournament

The NIH Tennis Club is sponsoring a fall tournament open to all NIH personnel and spouses. Categories include singles, doubles, and mixed doubles. The singles categories include open, over 35, over 45 and over 55 for both men and women.

The tournament begins Sept. 9—deadline for entries is Sept. 5. Entry blanks are available at the R&W Activities Desk, Bldg. 31, Rm. B1W30. For further information call Dr. R. Chen, 496-4073. □

'Charm of the Chesapeake' Topic At Sailing Assn. August Meeting

The NIH Sailing Association will hear a presentation by Dick and Dixie Goertemiller, writers and representatives for *Chesapeake Bay* magazine, on Thursday, Aug. 28 at 8 p.m. in Bldg. 30, Rm. 117.

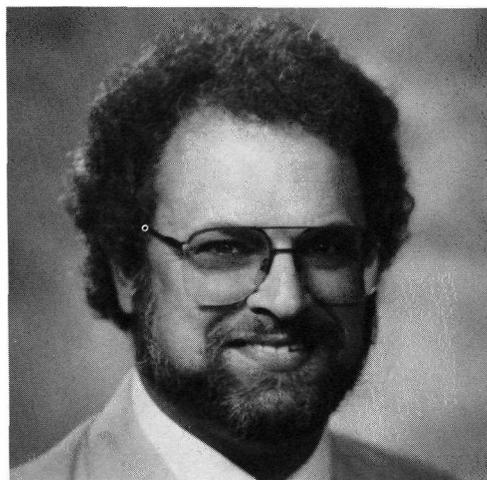
They will present a slide show on "The Charm of the Chesapeake," dealing with things to do with experiences awaiting those who sail the bay. An open discussion will follow.

Refreshments will be served after the meeting. Everyone is welcome. □

Molecular Biologist Joins NIGMS Genetics Program

Dr. Mark S. Guyer, molecular microbiologist, has joined the Genetics Program of the National Institute of General Medical Sciences as a health science administrator. At NIGMS, he will manage grants on extrachromosomal inheritance and the translation of RNA into proteins.

Most recently, Dr. Guyer was a consultant to the National Science Foundation, where he helped administer grants on prokaryotic genetics. From 1980 to 1985, he worked for Genex Corporation, first as a senior research scientist and eventually as research director of the molecular biology and physiology department. At Genex, he worked to develop the bacterium *Bacillus subtilis* as a host for the extracellular production of proteins of commercial interest.



Dr. Guyer

Between 1976 and 1980, he was with the National Institute of Arthritis, Metabolism, and Digestive Diseases, working in the laboratory of Dr. Martin Gellert. While there, Dr. Guyer studied transposable elements in *E. coli*, one of which—Tn1000—he was the first to identify as a transposon (a migratory segment of DNA).

Earlier, he was with the division of chemistry at the California Institute of Technology in Pasadena from 1973 to 1976. For two of these years, he was a fellow of the Jane Coffin Childs memorial Fund for Medical Research.

Born in New York City, Dr. Guyer received a B.A. in biology from Amherst College in Massachusetts in 1966. He went on to the University of California, Berkeley, where he received an M.A. and a Ph.D., both in bacteriology and immunology.

He is a member of the American Society for Microbiology. An author of 19 research papers, he has also reviewed articles for numerous scientific journals in his field. □

Dr. Judith Vaitukaitis Named GCRC Program Director

Dr. Judith Vaitukaitis, a reproductive neuroendocrinologist and former program director of the General Clinical Research Center (GCRC) at Boston University's School of Medicine, has become the new director of the GCRC program of the Division of Research Resources.

Prior to her appointment, she was professor of medicine at the medical school for 9 years, including the last 6 as professor of physiology. In addition to her teaching workload, she conducted extensive basic research into the mechanisms controlling hormonal action and metabolism at the cellular level, and clinical research in the field of reproductive endocrinology.

While at Boston University her clinical studies were conducted in the institution's GCRC where she served as codirector from 1975 to 1977, and director from 1977 until her recent resignation.

Because of her role at a GCRC, Dr. Vaitukaitis brings to her new position special insight into the day-to-day issues surrounding the administration of DRR's program, which now funds 78 such research facilities throughout the nation.

The GCRCs are separate research units containing about 8 beds, with a range from 3 to 30. A wide spectrum of clinical projects is conducted by investigators in each facility which also often includes a core laboratory, metabolic kitchen, treatment rooms, patient lounge area, nurses' station, conference room, computer hardware and software for management of clinical studies, and an outpatient section. Each GCRC is staffed with specially trained nurses, dietitians and a program director, and frequently with biostatistician and computer systems manager who together provide the best possible medical care to patients being studied in the center's protocols.

Dr. Vaitukaitis received a B.S. degree in chemistry and biology from Tufts University in 1962, and her M.D. from Boston University in 1966. Her postgraduate training began with an internship and residency at the Bellevue-Memorial Hospitals in New York City, and continued when she first came to NIH in 1970



Dr. Vaitukaitis

as a researcher in the Endocrine Branch at NCI.

After additional postdoctoral training in the Reproduction Research Branch of NICHD as a special PHS research fellow and as a senior staff fellow, she was appointed as senior investigator and medical officer in the branch, and held that position until returning to Boston University in 1974.

While at NIH, the development by Dr. Vaitukaitis and her colleagues of a radioimmunoassay that specifically measures human chorionic gonadotropin in the presence of human luteinizing hormones resulted in a subsequently published article being designated as a "Citation Classic" by *Current Contents*. She has also received two other such citations for published articles about her research.

"Dr. Vaitukaitis brings to us exactly what we needed for this program," said Dr. Betty H. Pickett, DRR Director. "She is a talented administrator, was an excellent GCRC program director, and is a highly accomplished scientist." □

New Series of Seminars To Be Sponsored by DRG

The Division of Research Grants is introducing a new series of seminars—the DRG Study Section Seminar Series—to be presented by DRG study section members who come to Bethesda to attend meetings.

During each 6-week round of peer review meetings, which are held three times a year, DRG will invite two or three study section members to speak to the NIH community on a particular topic within their expertise.

The first lecture will be Sept. 18.

Dr. Jerome G. Green, DRG Director, in initiating the seminar series, said that DRG will be tapping the expertise of study section members as well as presenting scientific topics of interest to the NIH extramural community. At the same time, it will give the NIH staff and study section members an opportunity to get to know each other.

Presentations for the next round of study section meetings are "Human Development Over the Life Span" by Dr. John Hagen, Behavioral and Neurosciences Manpower Review Study Section, on Sept. 18, Westwood Bldg., Rm. 428, at 9:30 a.m., and "Gene Replacement in Mammalian Cells" by Dr. Raju Kucherlapati, Mammalian Genetics Study Section, on Oct. 15, Westwood Bldg., Rm. 428, at 2 p.m.

Dr. Hagen is professor of psychology, director of the Center for Human Growth and Development, and director of the Reading and Learning Skills Center, College of Literature Science and Arts, University of Michigan, Ann Arbor. Dr. Kucherlapati is professor, Center for Genetics, School of Basic Medical Sciences, University of Illinois, Chicago.

For further information, contact Dr. Hugh Stampfer, executive secretary, Immunological Sciences Study Section, Review and Referral Branch, DRG, 496-7179. □

A bore is a person who talks when you want him to listen.—Ambrose Bierce

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