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The NIH Record

‘Eye Listen’
First Deaf Awareness Day Seeks To Shatter Myths
By Carla Garnett

The audience never heard a word from keynote speaker Janet Weinstock, but her simple message came across loud and clear: “Deaf, not dumb.” An inaugural NIH program cosponsored by the deaf employees advisory forum (DEAF) and the Office of Equal Opportunity, “Eye Listen” combined Weinstock’s presentation, an employee panel discussion and movement art performances by students from Kendall School for a 3-hour tour of deaf culture on and off campus.

“This program is to let you know about deaf culture and to help you better understand what it’s like to be deaf,” said Susan Smith of NINDS, program planning chair, in welcoming remarks. Using a voice and sign language interpreter, Smith and Weinstock began a reeducation process for the Wilson Hall audience of about 125, more than double the attendance DEAF expected.

Telling the audience to be completely silent for a few moments, Smith explained the program’s theme: “As soon as the room got really quiet, I noticed your eyes became very attentive to the room. And as this program is called ‘Eye Listen,’ rather than hearing through our ears, we use our eyes to listen.” That is the only difference between deaf and hearing people, she noted.

NIDCD Celebrates Fifth Anniversary

The National Institute on Deafness and Other Communication Disorders recently celebrated its fifth anniversary of progress in research on human communication with what director Dr. James B. Snow, Jr. described as “absolutely sterling presentations that demonstrate the progress that can be made when resources are brought together through an institute to address the needs of 46 million Americans who are challenged by communication disorders.”

The celebration included greetings from Dr. Ruth Kirschstein, then acting NIH director, who commented, “Over the past 5 years, I have seen this institute evolve from a remarkable idea into a powerful reality.” Later in the program, Peter Reinecke, legislative director for Sen. Tom Harkin, delivered a message from the senator, one of the institute’s legislative forefathers. In 1987, Harkin introduced a bill for Sen. Tom Harkin, delivering a message from the senator, one of the institute’s legislative forefathers. In 1987, Harkin introduced a bill to establish an institute to address the needs of 46 million Americans who are challenged by communication disorders.

The first scientific speaker was Dr. Dennis McFadden, professor of experimental psychology at the University of Texas at Austin, whose research is devoted to studying the properties of sound and how it affects the ear and hearing. His talk, “Recent Developments in Research on Hearing and Balance,” highlighted current research into the study of NIDCD’s seven areas of research—hearing, balance, smell, taste, voice, speech and language.

Varmus Unanimously Confirmed by Senate

Dr. Harold Varmus was unanimously confirmed by voice vote as NIH director early Saturday morning, Nov. 20, by the U.S. Senate. He is the 14th director in NIH’s 106-year history. Dr. Ruth Kirschstein, who had served as acting director since July 1, is now deputy director, NIH. Varmus was sworn in by HHS Secretary Donna Shalala in a private ceremony on Nov. 23 in her office; a formal ceremony is planned for the future.

Wong-Staal To Present Dyer Lecture, Dec. 16

Gene therapy was once considered an impossibility, a theoretical issue that could only be discussed in hypothetical terms. Now, therapies involving the introduction of genes into the human body have not only been attempted, but in some cases have met with tentative success. The successful use of gene therapy for AIDS, a disease thus far uncurable, would provide a treatment that now exists only in the realm of fantasy.

“Gene Therapy for AIDS: Fantasy or Feasibility?” will be addressed by Dr. Flossie Wong-Staal, professor of medicine and biology, University of California, San Diego. She will present the R.E. Dyer Lecture on Thursday, Dec. 16 at 3 p.m. in the Clinical Center’s Masur Auditorium.

Wong-Staal is a premier researcher in the fields of cancer and AIDS; in 1991 she was the most-cited female scientist in the nation, with articles cited in nearly 8,000 publications between 1981 and 1988.

Her research involves the molecular biology of human pathogenic viruses, cancer, and AIDS; mechanisms of gene regulation; novel approaches to gene therapy, and molecular vaccines. She currently holds the Florence Riford chair in AIDS research at UCSD.

During her stint in NCI’s Laboratory of Tumor Cell Biology, she was instrumental in the first cloning of HIV and in teasing the virus apart to identify specific genes and their functions. She and her colleagues also observed that molecularly cloned HIV can deplete CD4 cells in vitro, and that other factors besides HIV infection may contribute to and accelerate T-cell depletion.
DYER LECTURE

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In September of this year, NIH’s recombinant DNA advisory committee unanimously approved Wong-Staal’s proposal for a clinical trial of ribozyme gene therapy for HIV-1 infection. The trial involves removing T-cells from HIV-positive patients, transducing the cells with a gene, and returning them to the patients. The gene expresses an enzyme that cleaves the RNA of HIV, preventing it from replicating.

Wong-Staal and colleagues have observed that when T-cells are given this gene in vitro, they are protected from the effects of HIV. She received her bachelor’s degree and doctorate at the University of California, Los Angeles, and came to NCI as a Fogarty fellow in 1973. When she left NCI in 1989, she was chief of the molecular genetics of hematopoietic cells section.

The R.E. Dyer Lectureship was established in 1950 in memory of Dr. Rolla E. Dyer, director of NIH from 1942 to 1950. The award is given to a scientist who has made an outstanding contribution to knowledge in a field of medical science. Previous lecturers have included Philippa C. Marrack, Max. D. Cooper, Howard M. Temin, Salvador E. Luria, and Rene J. Dubos.

Center for Population Research Marks 25th Anniversary

On Dec. 15 in Lister Hill Auditorium, U.S. Surgeon General Joycelyn Elders and PHS Assistant Secretary for Health Philip Lee will join the Center for Population Research, NICHD, at a scientific symposium celebrating the center’s 25th anniversary. Other health officials scheduled to speak include NIH director Dr. Harold Varmus, NIH deputy director Dr. Ruth Kirschstein, NICHD director Dr. Duane Alexander, and center director Dr. Florence Haseltine.

Lee was instrumental in establishing the center in 1968, under a presidential directive from Lyndon B. Johnson. As the primary federal agency responsible for population research, the center supports studies in a variety of areas related to human reproduction including fertility and infertility; contraceptive development and evaluation; reproductive behavior; and causes and consequences of population change. The center also supports programs for population research training, helps coordinate federal population research programs, enhances the communication of research information in the population sciences, and advances international cooperation in population research.

In addition to presentations on the center’s history, the agenda includes a variety of scientific panels that will address critical aspects of the center’s supported research. Leading experts in the study of human reproduction will discuss the role of the brain in the reproductive process; neuroendocrine and ovarian interrelationships; the role of interleukin-1 in embryonic implantation; male reproductive function; contraceptive development, safety, and usage; and fertility. Haseltine will moderate the final panel in which speakers will discuss action and strategy for the center’s next 25 years. In summary, Elders will give a special presentation on the importance of continuing health care in America.

All are invited to attend the symposium, scheduled for 9 a.m. to 5:30 p.m.; registration begins at 8:20 a.m. For more information and an agenda, call Marge Perikles, 61101.

NINDS Neuroimaging Lecture Series To Start on Dec. 8

The Biometry and Field Studies Branch (BSFB), NINDS, and the Medical Neurology Branch, NINDS, will sponsor a lecture series titled “Neuroimaging: Statistical and Quantitative Methods.” The first lecture in the three-part series will be held on Dec. 8 and will feature Karl Friston of the Functional Imaging Laboratory, University College, London, who will speak on “The Analysis of MRI Time-Series and Statistical Parametric Mapping.” On Jan. 12, Dr. Keith Worsley, professor of statistics at McGill University, will present “The Geometry of PET Images.” And on Feb. 2, Dr. Nicholas Lange of BSFB will speak on “Feature Quantification in Functional MRI: Case Studies.” All of the lectures will be held at 10 a.m. in the Bunin Rm. (Rm. 9S235), Bldg. 10. For more information, call Dr. Gregory Campbell, 66818.

Chamber Players To Perform

The Rock Creek Chamber Players will perform the fourth in its 1993-94 series of monthly chamber music concerts in the 14th floor assembly hall of the Clinical Center on Sunday, Dec. 19 at 3 p.m. The program features the Brahms piano quintet in f minor, and Schoenberg’s Weihnachtsmusik.

The series is sponsored by the CC rehabilitation medicine department. Concerts are free and open to all. For information call 69350 or (301) 493-5729.

The NIH Record

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NIH Record

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Research Awareness Program Begins at Visitor Information Center

A Research Awareness Program has been started by the NIH Visitor Information Center to stimulate in young people an awareness and appreciation of the sciences and science-related careers. Since last May, stay-in-school Neil Alvanzo, a Howard University student, has led the program.

A typical visit consists of a slide show, a tour of the Clinical Center, a laboratory demonstration, and an informal discussion with an NIH scientist. "The Research Awareness Program is committed to preparing the upcoming generation of scientists by encouraging young people to excel not only as students but also as positive role models," said Alvanzo.

The most important part of the visit is the lab demonstration. "These practical experiments provide hands-on experience of the sciences while demonstrating that learning can be fun and enriching," Alvanzo added.

The program is designed for youth between the ages of 13 and 21. Most groups that visit are under the maximum capacity of 35 people, including staff and teachers.

For more information about the program, contact Alvanzo, 61776.

Surgeon General Elders Opens Women's Health Series, Dec. 16

U.S. Surgeon General Joycelyn Elders will open the third annual Women's Health Seminar Series at 1:30 p.m. on Thursday, Dec. 16 in Lipsett Amphitheater, Bldg. 10.

The first seminar in the four-part series will focus on "Reproductive and Sexual Issues."

As keynote speaker, Elders will provide an overview on reproductive and sexual issues. She will be followed by three nationally recognized experts who will present current research findings on these issues.

Dr. Deborah Holtzman, Centers for Disease Control and Prevention, will discuss adolescent sexual behavior, including the prevalence of sexually transmitted diseases and pregnancy.

RU486 and other antiprogestins will be covered by Dr. Gary Hodgen, Eastern Virginia Medical School. The seminar will close with a lecture by Charlotte Gardiner, United Nations Population Fund, on national and international perspectives in contraception, followed by a question-and-answer session.

The Women's Health Seminar Series is sponsored by the Office of Research on Women's Health in collaboration with the advisory committee on women's health issues. Each seminar will include current research findings by three nationally recognized experts. Other topics for the 1993-94 seminar series, which will run through May, include "HIV/AIDS in Women," "Domestic Violence and Abuse" and "Breast Diseases."

Admission is free and open to the public. For more information, call 21770.

Holiday Parenting Workshop, Dec. 14

Linda Jessup, executive director of the Parent Encouragement Program, will present "A Holiday Parenting Workshop" designed to help overworked parents improve upon the holiday experience for their children and themselves. Jessup was the host of her own radio show called "Talk It Over" for 9 years and has reared three children of her own and four foster children.

The workshop, open to all interested employees, will be held in Bldg. 38 (NLM), Rm. B1E08 from 11:45 a.m. to 1:15 p.m. on Tuesday, Dec. 14. Contact Sheila Feldman, 64161, to reserve a space. Sign language interpretation will be provided.

Join R&W for 1994, You'll Find It's 'More Than Just a Store'

It's the time of year to join NIH's award-winning Recreation and Welfare Association (R&W) for 1994. New members and renewals can sign on for another year of clubs, discounts, travel, great tickets, Fitness Center, video rental, dry cleaning, photo processing and fun. R&W—It's more than just a store. Memberships are $8, available at any R&W and good through January 1995. When you sign on for 1994, you get a free roll of gift wrap, and a chance to win one of three raffle prizes. First prize is two round-trip airline tickets on United Airlines; second prize is two round-trip Amtrak train tickets to New York City; and third prize is a limousine ride in the Washington metropolitan area.

Call R&W for more details, 64600.

Employees of NIH's award-winning Recreation and Welfare (R&W) Association gather at the gift shop in Bldg. 31 to invite all NIH'ers to sign up for membership in the coming new year.
ANNIVERSARY
(Continued from Page 1)

the auditory and vestibular systems.

"More than 90 million Americans have experienced a serious episode of dizziness or balance disorder at a health care cost of $1 billion per year," he said. He then described the mechanisms and conditions that underlie hearing disorders. These include noise-induced hearing loss and the effect of noise on individuals with normal hearing compared to the effect of noise on individuals with hearing impairment. McFadden emphasized the importance of future research into hair cell regeneration. He cited encouraging improvements of auditory prostheses such as cochlear implants. Regarding early detection and prevention, he stressed the importance of universal screening of infants for hearing loss. He echoed the recommendations of a panel of experts at a recent NIH consensus development conference, supported by NIDCD, to screen all infants for hearing impairment within the first 3 months of life.

The second scientific talk, "Smell and Taste: Recent Advances and Future Directions," was presented by Dr. Linda Buck, assistant professor, department of neurobiology, Harvard Medical School, who is best known for her pioneering work on the molecular basis of the sense of smell. Her presentation focused on the molecular basis of the ability of individuals to discriminate different smells. "The last 5 years have witnessed significant advances in our understanding of the two chemical senses, taste and smell," she said. Considerable insight has been gained into the mechanisms that underlie the initial events in taste and smell perception. Buck's research concentrates on how the olfactory system works and on how it is organized and shaped during development. These studies should yield new information about the molecular organization of the olfactory system and make important contributions to the growing knowledge of nervous system development and function.

Dr. Paula Tallal, professor and codirector, Center for Molecular and Behavioral Neuroscience, Rutgers University, spoke on "For Speech and Language, Time Is of the Essence." She discussed how the nervous system organizes complex acoustic signals and turns them into what we perceive as speech. She explained that current studies focus on children who seem to have normal development and learn most of the things required of young children. But when they start to talk, they begin to have difficulty with speech. Tallal's approach to studying these children starts with confirming that all the basic processing systems necessary to organize a linguistic system at the sensory and perceptual level are intact. She stated, "It is critical to understand the basis of developmental language disorders and demonstrate that, if left untreated, these children are in serious peril for long-term significant academic problems."

After the scientific presentations, Reinecke delivered a message from Harkin: "The NIDCD has by its leadership fostered new cooperation and collaborations throughout what had seemed to be a sometimes unwieldy government, ensuring the effectiveness of each research dollar."

Then Jeanette Van DeWater, executive director of the Friends of the NIDCD, an organization that promotes public awareness of deafness and other communication disorders, presented a special award to Snow in recognition of his outstanding leadership.

The program concluded with a performance by the Gallaudet Dance Company. The dancers are liberal arts students at Gallaudet University who have different levels of hearing loss ranging from moderate to profound. The company, which has performed throughout the United States and the world, brought the afternoon program to a close with a medley of dance and mime.
Workshop Reveals

World’s Rising Affluence Leads to Expanding Beltline

Newly urbanized and westernized countries are rapidly conquering problems of food scarcity. They are also experiencing a steady rise of obesity that is beginning to mirror the escalating rate of obesity in the United States, says a panel of internationally recognized obesity researchers.

In an effort to evaluate the changing patterns of obesity among populations from around the world, the U.S./Japan Malnutrition Panel, the NIDDK national task force on prevention and treatment of obesity, other NIH institutes and PHS agencies held a 3-day workshop on “Prevention of Obesity: Populations at Risk, Ehliological Factors and Intervention Strategies,” recently in Baltimore. Findings from studies of diets of populations throughout Asia, the Pacific and the Indian Ocean Islands, and other countries indicate that as populations become more affluent, diet and selected environmental factors can contribute to obesity.

Obesity a Sign of Privilege

"Presently, one-quarter of the urban population in China consumes a diet that is 30 percent fat compared to 5 percent fat a decade ago," said Dr. Barry M. Popkin of the University of North Carolina, Chapel Hill. "Obesity in many developing nations is viewed as a symbol of privilege and prosperity, and as these societies become free, with a free market, and free choice, obesity, as in the United States, is one price of admission." Along with rising life expectancy and increased wealth in developing nations, changing diet has also contributed to the incidence of obesity-related disorders such as hypertension, cardiovascular disease and diabetes.

While other countries increasingly recognize obesity as a health problem, in the U.S. it has reached epidemic proportions, particularly in minority populations. Obesity is one of six health problems accounting for more than 80 percent of unnecessary deaths among U.S. minorities.

Preliminary figures from the first phase of the third National Health and Nutrition Examination Survey (NHANES III) show an approximate 8 percent increase in the prevalence of obesity in the U.S. during the past 10 years. In nonwhite populations, particularly African and Mexican American women, the prevalence of obesity approaches a disturbing 50 percent.

“Despite a seemingly tireless pursuit of thinness by some Americans, generally, we are getting fatter,” said Dr. Barbara C. Hansen, professor of physiology at the University of Maryland School of Medicine. “Becoming obese is a gradual process; we need to revisit the issues of intervention because the standard methods of dieting and exercising are not working.”

During the conference, researchers emphasized that there are no new approaches on the horizon to reduce the obesity rate worldwide. The panel endorsed prevention as the only way to reduce the prevalence of obesity.

Restricting overall caloric intake, decreasing dietary fats, and increasing physical activity are three approaches to obesity prevention the experts considered important. The panel admitted there is no research to support the efficacy of primary prevention programs, nor does medical literature examine these approaches either singly or in combination.

According to Dr. Rena R. Wing of the University of Pittsburgh, a three-pronged approach to preventing adult obesity would incorporate a restricted diet that derives only 25 percent of total calories from fat, along with increased levels of regular physical activity. Three periods could be critical for beginning this intervention: the 25-35 year age group, the 45-55 year age group, and the years following successful weight loss.

“Is it possible to curtail the incidence of major weight gain for men and women during these periods of high social, financial, vocational and familial productivity, we may be able to mitigate the worsening in cardiovascular disease and hypertension so often seen as obese adults age,” Wing said.—Leslie Curtis

ORWH Awards $6 Million in Supplemental Grants

The Office of Research on Women’s Health (ORWH) has recently awarded supplemental grants totaling more than $6.6 million. The majority of the research projects received additional funding to address diseases, disorders and conditions that affect women and that are highlighted in the research agenda developed by ORWH. Other projects received supplemental funding through the reentry program, which supports scientists reestablishing careers in biomedical or behavioral research.

“The challenge for NIH is to enhance a dynamic science base with recognition of gender differences that will support prevention strategies, reliable diagnoses and effective treatment for all women,” said Dr. Vivian Pinn, ORWH director. “This includes outreach for inclusion of women who have been traditionally underrepresented in biomedical research such as ethnic minorities, rural and inner-city women, and women of diverse socioeconomic status.”

In the last 3 years, ORWH has supplemented 193 research grants that address diverse diseases and disease conditions that affect women. In FY 1993, ORWH received 260 applications for supplemental funding from 16 NIH institutes and centers and awarded 78 administrative supplements.

The awards address such issues as: Southeast Asian women’s smoking and passive smoking; children at high and low risk for depression; validation of biomarkers for bone diseases in racially/ethnically diverse populations; osteoarthritis; pregnancy outcomes in lupus patients; work injury and disability; cognitive processing of traumatic sexual victimization; AIDS in women; and risk factors for unhealthy weight regulation. ORWH gave special consideration to grants that demonstrated innovative ways to reach women or that identified populations of women who previously have been underrepresented.

In addition, ORWH provides funding for scientists seeking to reenter research careers after interruptions due to family responsibilities. Established by ORWH and NIH’s Office of Extramural Research, this 2-year-old pilot reentry program provides 2-year administrative supplements to principal investigators with ongoing NIH research grants. The supplemental funds enable researchers to update existing research skills and knowledge and to conduct research related to the parent grant independently.

In FY 1992, nine researchers received this type of funding totaling almost $1 million. In FY 1993, ORWH awarded six reentry grants totaling $851,000. Though men and women are eligible, all the candidates receiving reentry awards are women.

In cooperation with the NIH Office of Education, an intramural reentry program is currently being implemented for NIH laboratories. To date, one candidate has been accepted for a 2-year period in NCI’s Laboratory of Genetics.
“I’m not saying only deaf people are unique. I’m saying that like any other cultural group, deaf people have their own kind of uniqueness, the same as Asian people or Hispanics or African Americans.”

As in other cultures, within the deaf culture there are also many individual differences, she said. Some deaf people are deaf from birth, some through illness, some as a result of the aging process, she noted. “In every group you’ll always find a range of individuals. Probably the most unique aspect about deaf people is that only 10 percent have deaf parents, which means that 90 percent come from hearing families. That’s really the most outstanding feature of the communication.”

Children develop their cultural environments usually through translation by their parents, Weinstock explained, so that a deaf child who has hearing parents is often not as exposed to visual communication as would be a deaf child whose parents are also deaf.

Herself a third generation deaf person, and mother of two deaf boys, Weinstock described the initial steps after birth of a deaf child. Usually when hearing parents first notice something different about their child, they consult with a physician, she said. Then, there is natural disappointment of some hearing parents when they discover their child’s deafness.

“A lot of times,” Weinstock said, “hearing parents want their child to be just like them. They like to say ‘Oh, he has his father’s nose,’ or ‘Looks like the child has my green eyes,’ so of course when the child is born with something that may make them considerably different than the parents, there is always a period of grieving.”

Finally, there is the difficult stage where hearing parents try to “save” their children from being deaf, she said. Often, this can be a harmful time for all parties concerned, as a battery of tests and procedures—many futile—are attempted by medical personnel, many of whom in the past have not shown the necessary sensitivity at this critical juncture in the child’s early development.

“So you see, 90 percent of deaf people come from this kind of early environment,” Weinstock said. Contrast them, she said, to the 10 percent of deaf people who are born to deaf parents and therefore learn to communicate and experience the world through their eyes in lieu of their ears. “Deaf parents generally do not consult with doctors at the birth of their child. They have their own little tests...they can usually tell whether their kids can hear or not. And, of course, there is less emphasis on the child’s hearing.”

Weinstock also covered another important developmental stage for children and their parents, particularly in deaf culture: decisions about education and school choices.

Educated in oral public schools, without sign language interpretation or any other assistance, Weinstock, who has been a teacher for more than a decade of elementary and high school children, related her own sometimes painful experiences in schools where the use of sign language—her main means of communication—was prohibited. Later in the program, other deaf people in the audience confirmed that banning of sign language was common in oral schools, and that often, corporal punishment was used to enforce the ban.

One of the longest surviving myths about deaf people, Weinstock said, was begun by Greek theorist Aristotle, who wrote that being deaf has no bearing on being able to read Braille, she said, drawing a chuckle from the audience. “Why this myth was born and what some of its consequences are,” she continued, “is still somewhat of a mystery.”

“We ask that you realize deaf people are as capable of learning or of thought as anyone else,” Weinstock stressed.

“Deaf people need to be included.”

“A panel of deaf NIH employees confirmed...
that assessment during the interactive part of the program. Sally MacDougall of OD, Theresa Newman of CC, and Alex Nobleman of NLM were panelists led in discussion by moderator Dave Frank of Gallaudet University. The individuality among deaf people that Weinstock mentioned was illustrated as each panelist described his or her background and education. Their consensus was also a reiteration of something the main speaker noted, as stated by Nobleman: "It's very important that we have communication. Hearing people should become more sensitive to the needs of deaf employees."

Attitudes, Weinstock concluded, remain the single biggest roadblock to communication between deaf and hearing people: "The problem with deaf people is not being deaf, but perspectives and views imposed on us by people outside of our group. A lot of people have misconceptions. Some people are misguided about being deaf. Deaf people have eyes and deaf people have brains. 'We just have a different access to language—through our eyes.'

**Scientists Use Fingerprints to Track Gum Disease Bacteria**

Dental researchers can now identify the bacteria that cause gum disease as precisely as fingerprint experts can identify people. NIDR grantee Dr. Joseph Zambon of the State University of New York at Buffalo recently reported on a technique that produces a "DNA fingerprint" so unique it can be used to track these disease-causing bacteria from one individual to another. "The ability to identify periodontal bacteria with this degree of precision is a technological advance that can provide important clues for preventing and treating gum disease," he said.

In addition to examining person-to-person transmission, the new fingerprinting technique can detect subtle differences in the bacterial distribution within an individual's mouth or among human populations scattered throughout the world. The technique also can be used to follow changes in bacterial populations during disease progression or in response to different types of treatment. "The applications are far-reaching," said Zambon. "We've just begun to apply this technique to study how to stop the initial infection by periodontal bacteria and how to eliminate existing infections."

Developed independently at the California Institute of Biological Research and the E.I. du Pont Co., the procedure was adapted by Zambon to track periodontal bacteria—the microorganisms that live deep below the gum line and contribute to soft tissue destruction, bone degradation, and, finally, tooth loss. Called the arbitrarily primed polymerase chain reaction, or AP-PCR, this technique is based on the polymerase chain reaction, a method that is widely used to copy sections of DNA for identifying gene structure or matching tissue specimens. The new technique holds great promise for unraveling the mystery of how these fragile bacteria, which are readily killed by oxygen in the air, initially gain access to the human mouth. In the past, studies attempting to answer questions about the source of an infection or person-to-person transmission of periodontal bacteria were hampered by the inability to distinguish between bacteria within the same species. These so-called "strains" can look essentially the same, even when analyzed in great detail.

In recent years, DNA fingerprinting technology has made it easier to discriminate between strains. The classic approach to DNA fingerprinting relies on enzymes that digest, or break apart, DNA. In this way the single bacterial chromosome, which is made up of two complimentary strands of DNA containing millions of nucleotide bases, is broken into many smaller fragments. The actual number and size of the DNA fragments depend on the structure of the bacterial chromosome. The DNA fragments can be separated on electrophoresis gels according to the molecular size of the DNA pieces. The fragments appear in the gel as a pattern of bands, referred to as the DNA fingerprint, which visually resembles the "bar codes" used by stores to identify merchandise.

It is now known that each bacterial species can be separated into a finite number of strains based on differences in fingerprint patterns. However, the number of strains is highly variable among the different species of periodontal bacteria. AP-PCR aids transmission studies of species in which there are a small number of detectable strains and helps discriminate subtle strain differences.

Although the work is still in the early stages, Zambon's group has successfully used AP-PCR to fingerprint several species of periodontal bacteria.

Funded by NIDR and the Norwegian Research Council, the study appeared in the *Journal of Clinical Microbiology*.

**Karate Classes at Navy**

Classes in ryukyu kempo karate and self-defense are being offered at the Bethesda Naval Hospital gym (Bldg. 23) for $49 a month. Private sessions are available and the first 25 students to sign up get a free uniform. Classes are Tuesday and Thursday evenings, 8-9, until Jan. 1; after that, same nights, 7-8:30. Call Peter Polander, (301) 933-9090.
Mercury-free Fillings Proposed by NIDR Study

Scientists supported by NIDR have developed a new mercury-free restorative filling material. In preliminary laboratory tests, the silver-tin alloy proved stronger and more durable than mercury-containing amalgam. The scientists created the new material using metal-fusing techniques that they recently invented.

Although silver and tin are the main ingredients in the prototype version, the scientists are investigating the possibility of adding other metals such as copper or gold to the mixture.

Dr. David Lashmore of the National Institute of Standards and Technology (NIST), where the research was conducted, and Dr. Moshe Dariel, a guest scientist from Israel, developed the new metal-fusing technology. Dr. Fred Eichmiller and colleagues at NIST’s Paffenbarger Research Center are assisting in developing the alloy as a dental filling material.

Currently, the material used most often for fillings is dental amalgam, which contains mercury. Amalgam has been in use for more than 150 years, and remains popular because it is strong, durable, and relatively inexpensive. A 1993 report on dental amalgam released by the Public Health Service said that roughly half of the 200 million restorative procedures performed in 1990 used amalgam. However, questions have been raised about possible adverse health effects from the mercury in amalgam. Although there is no scientific evidence linking mercury in amalgam to any diseases or disorders, scientists have continued to look for non-mercury-containing filling materials.

After undergoing additional durability tests, the new material will be tested in animals to confirm its safety. Plans call for collaboration with a dental materials manufacturer to refine the alloy and prepare it for use by dentists. It will also require review by the Food and Drug Administration before it can be marketed. The new material could be in dental offices within 3 years, according to Lashmore.—Mary Daum

Flood-stricken Midwestern Towns Aided by Division of Safety Staffers

A town becomes an island, surrounded by waterlogged countryside with overturned barns, exploded grain silos, destroyed homes and mud and mosquitoes everywhere. These are some memories that Lcdr. Edward Pfister has of flood-ravaged Hull, Ill. When the floodwaters began to recede, Commissioned Corps members Pfister and Capt. Merle Wasson of the Environmental Protection Branch, Division of Safety, went as volunteers to Hull and Louisa County, Iowa. There they joined teams of local officials and other PHS personnel from across the country. These teams provided additional manpower and expertise to augment the overwhelmed local governments.

In the farming communities, Pfister and Wasson made door-to-door (sometimes in knee-deep water) inspections of water and sanitary facilities. They provided to residents reassurance that septic systems and wells could be restored and clarified misconceptions. For example, many had assumed that all drinking water was contaminated even though it had not been tested. Distribution of information and supplies for testing and emergency treatment of water helped alleviate these concerns. On a community level, they assessed and recom-
Outside, on a tiny plateau overlooking the Children’s Inn, a huge rock sits firmly planted, flanked by small benches. The rock is solid, immoveable. In the brief history of the inn, the rock is a relative newcomer. If only it could speak.

Inside the inn, there is a much smaller rock, not so firmly planted and not nearly so immoveable. Her name is Kate Higgins, and she is the only resident manager the inn has known. On Nov. 17, she left the facility she nurtured through its infancy, and the life she carved out for herself there. She can tell the inn’s story like no one else.

“I’ve had a ball,” she said. “It’s been the best job I’ve ever had, outside my own family. This job has been a gift. I wonder if it was a once-in-a-lifetime gift.”

Higgins has returned the gift many times over.

In November 1989, former inn executive director Andy Tartler approached Higgins about a job so new no one had ever held it before. The position’s duties could only be generally defined at best: the resident manager will assume responsibility for daily and nightly operations of a large motel-like structure often filled with seriously ill children and their families.

Over the next 4 years, Higgins would fill in the holes in that definition. She would at various times during her normal 16-hour days become many things to the wide variety of inn residents: confidante and comforter, gardener and photographer, activities director and shuttle bus driver, even friend and mother. And she would love it. It, the job. It, the inn. It, the life.

“This inn cast a whole new light on coming here for treatment,” Higgins said. “It’s hard to describe what they go through. You listen and then you love them…and hug them. They’re all into hugs. All your triumphs come in the form of the little battles the kids win daily.”

This past summer marked the 20-year anniversary of Higgins’ personal battle with disease—she was diagnosed with cancer in 1973. Now she is healthy, and has been for several years, she says, “thankfully.” But the time has come for her to expand her efforts from the dozens of personal battles to the war in general.

Although she does not have a firm position in mind, Higgins said she would like her next job to be in health education and prevention. She has already looked into intriguing projects in North Carolina, the New England area and even Great Britain. Mother of four and grandmother of three, the former school teacher and Navy wife said she’ll have no trouble moving to a new area. Still she’s both happy to make a fresh start and sad to leave the inn.

“It’s the right decision,” she said, “but it’s sad because I feel connected to a lot of people here. 1,700 residents have made more than 10,000 reservations at the inn since it opened. “It’s hard to describe what they go through. You listen and then you love them…and hug them. They’re all into hugs. All your triumphs come in the form of the little battles the kids win daily.”

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The inn plays a real role in NIH’s approach to caring for and about kids. This is a unique place.”

Higgins shrugged off her own achievements at the facility, crediting instead the staff, families and the corps of 300 volunteers for the remarkable success of the inn. However, there was undeniable pride in her voice when she shared a cherry tomato fresh from the kids’ vegetable garden, or when she vainly searched for the goldfish hiding in the huge outdoor lily pond. Higgins brought “home” to the inn.

Smiling, in a quiet voice, she noted her finest hours as resident manager of the Children’s Inn: “When families can leave smiling and go home, that’s the best for me.”

Kate Higgins gives one of her customary hugs to inn resident Adam Russell, who sports the temporary tattoo Higgins helped him apply just above his right ear.

For the third straight year, the American Federation for Clinical Research (AFCR) has presented the Henry Christian Award for Excellence in Research to a member of the Laboratory of Developmental Biology (LDB) at the National Institute of Dental Research. This year’s winner, Dr. Leslie Bruggeman (r), was honored for an abstract on the mechanism of gene expression in tissues of HIV-transgenic animals. Bruggeman joined LDB in 1988 as a postdoctoral fellow after receiving her Ph.D. in biochemistry from West Virginia University. Established to honor AFCR’s founder, the award is given for the best abstract in each subspecialty represented in the organization. It was presented to Bruggeman at the federation’s annual meeting held earlier this year in Washington, D.C. The previous 2 years, Dr. Jeffrey Kopp (l) of LDB received the award. Joining Kopp and Bruggeman is Dr. Paul Klosman, their section chief at the time they won the awards.
Dr. Murray Goldstein recently retired from his position as NINDS director, ending a career of service in the NIH community and the PHS Commissioned Corps that spanned four decades. Upon leaving his NIH post, he became medical director of the United Cerebral Palsy Research and Educational Foundation.

He began his NINDS career in 1960 as chief of the Special Projects Branch. Since then he has held many positions within the institute including director of the Extramural Program, director of the Stroke and Trauma Program, deputy director, and director. Prior to his positions at NINDS, Goldstein served as assistant chief of the Research Grants Review Branch, DRG, and as assistant chief of the Grants Program of the National Heart Institute (now NHLBI). The highest ranking rear admiral in the PHS Commissioned Corps, he held the title of assistant surgeon general.

"In my 40 years at the NIH I have had the privilege of seeing NIH research activities grow both in scope and size to become the international model for the development and support of both investigator-initiated and targeted research," he said. "I have enjoyed being a part of this extraordinary organization that stands at the forefront of the research world."

Goldstein had a particularly significant impact on the development and oversight of training programs to encourage young people to contribute to the field of neurological research. One such training grant program enabled medical students to devote a full year to research in the neurological sciences, ensuring that students received a top-notch education to motivate them to pursue careers in this field.

In addition, he developed and implemented the Sen. Jacob Javits Neuroscience Award, which gives outstanding individual investigators up to 7 years of grant support for basic or clinical research and has become a model for similar programs at other NIH institutes. He also developed the Re-Entry into the Neurological Sciences program, a grant program established to help scientists return to active research in the neurological sciences after experiencing an interruption in their careers.

A native of New York City, Goldstein received his B.A. in biology from New York University in 1947 and his doctor of osteopathy in 1950 from Des Moines Still College of Osteopathic Medicine, where he also completed a residency in internal medicine. He was a public health trainee in the California state department of public health, receiving his master of public health in epidemiology in 1959 from the University of California.

Under his leadership, NINDS-supported investigators announced many major breakthroughs, including: the identification of genes for 14 inherited neurological diseases; the confirmation that surgery can prevent stroke in certain high-risk populations and prevent many epileptic seizures; and the development of the first effective treatment for Gaucher's disease. During his years as director, more knowledge about the field of neurology was gained than in all of history.

Known throughout the world as a leader in the neurosciences, Goldstein has been a consultant to many associations, including the Pan American Health Organization and the World Health Organization, for which he was director of the WHO Neuroscience Collaborating Center at NIH. He is also a member of many scientific, professional and public organizations including the American Academy of Neurology, the American Osteopathic Association, the American Neurological Association and the American Association for the Advancement of Science. He was also chair of the Commissioned Corps advisory committee to the NIH director.

Among his professional accomplishments are numerous publications dating back to 1955. He is consulting editor of Stroke: A Journal of Cerebral Circulation and serves on the editorial board of this journal.

Friends Bid Goldstein Farewell

Friends, family, past and present colleagues, and even an old college buddy from the 1950 graduating class of Des Moines Still College of Osteopathic Medicine came together recently to bid farewell to Dr. Murray Goldstein at his retirement dinner. The dinner, held in the main deck of the Commissioned Officers’ Club at Bethesda Naval Medical Command, was attended by approximately 200 people including Rep. Steny Hoyer, former acting NIH director Dr. William H. Raub, and Deputy Surgeon General Robert A. Whitney, Jr.

At the dinner, Goldstein received awards from the Uniformed Services University of the Health Sciences, the National Parkinson Foundation, the Stroke Clinical Trials Group, and the American Epilepsy Society. He also received Distinguished Service Medals from PHS and the Department of Defense for his service at USUHS.

On behalf of the institute, Dr. Patricia A. Grady, acting NINDS director, presented Goldstein with a Rolex watch that she said represented his special quality "of never being too far in front or too far behind, too fast or too slow, but just right."

In addition, he was presented with two albums of memorabilia from his 40-year career and received numerous letters of well wishes from organizations and individuals including letters from the White House and from Rep. Louis Stokes, who also wrote an article in the Congressional Record on Goldstein’s retirement.
boards of the International Journal of Neurology, Neuroepidemiology, Hospital and Community Psychiatry, Alzheimer’s Disease: An International Journal, and Cerebrovascular and Brain Metabolism Review.

He has earned both a Silver Star and a Purple Heart from the U.S. Army and many awards from PHS, including the Meritorious Service Medal, the Distinguished Service Medal and the Surgeon General’s Exemplary Service Medal. Other honors include the Burke Award for Neurological Community Service, the Patenge Medal of Public Service, and the Marjorie Guthrie Award from the Huntington’s Disease Society of America. He has received seven honorary doctoral degrees from American and European universities.

In addition to fulfilling his extensive scientific and administrative duties, Goldstein has also imparted his knowledge to future research scientists and other physicians by teaching at the New York College of Osteopathic Medicine and the Uniformed Services University of the Health Sciences, where he has served as clinical professor and senior lecturer in the neurology department, respectively.

“I leave the NIH envious of the opportunities my colleagues have to help advance biomedical research in one of the most exciting periods that science has ever known,” he said. “In my new position at the United Cerebral Palsy Research and Educational Foundation, I look forward to continuing participation in the overall evolution and progress of the medical and scientific endeavor dedicated to the health of mankind. I am not really leaving, I am just changing my hat.”

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**Inner-city Kids Visit NIH, Learn About Biomedical Careers**

Recently, a group of about 50 minority youngsters visited NIH to learn about careers in biomedical research. They were participants in the Tenley Achievement Program (TAP), a 6-week program in which young professionals and college students work with inner-city youth to help them do better in school and eventually go on to college. TAP is sponsored by the Tenley Study Center, a supplementary educational center located in Northwest Washington.

The “Tappers” were welcomed by Kim Lockert and Neil Alvanzo of the NIH Visitor Information Center, who gave them an overview of NIH. The kids asked questions ranging from where certain research activities take place to the college course work necessary to become a physician.

During the day, the students heard from two speakers: Dr. John Cooper, an NHLBI research associate, and Dr. Ricardo Parker, an NCI research fellow. In these two investigations, the students could see that even though there were many obstacles to achievement, with a little patience and perseverance the kids too could be successful. The speakers talked about their work as medical researchers and indicated that with the willingness and motivation, the kids too could become doctors or whatever else they decide to do in life.

The schedule also included group tours led by Dr. Kevin Gardner, NCI senior staff fellow; Dr. Laureen Wood, NCI senior clinical investigator; and Alvanzo, program coordinator at the Visitor Information Center. The 7th graders visited a laboratory where they learned about the human circulatory system and took blood samples to determine their blood types. The 8th graders visited an autopsy laboratory to find out how pathologists determine causes of death; students had a chance to see actual human organs. The 9th graders took a trip to a pediatric unit in the Clinical Center to tour its facilities and witness the care of ill children.

Dr. Lawrence Prograis, deputy director of NIAID’s Division of Allergy, Immunology and Transplantation, and the father of a TAP student, visits with kids after giving them a career talk.

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**NICHD To Study Child-care Effects; More Than 1,300 Families Enrolled**

Unlike earlier generations of women, mothers of young children today are far more likely to work outside the home. With so many mothers away during the day, the trend is toward an ever-increasing reliance on alternative forms of child care.

Many children of single mothers or two-career families are placed in child care at a very young age; in fact, approximately 75 percent of United States children under age 2 whose mothers are employed outside the home are cared for by somebody other than a parent.

Scientists have described the principles of child development and those aspects of children’s physical and social environment that support healthy development. Little is known, however, about how variations in child care and family experiences and the personality and temperament of children work together to shape children’s social, emotional, cognitive, and linguistic development.

NICHD’s Study of Early Child Care is an attempt to understand how the many factors, including child care, that influence child development affect the health and well-being of children born in the U.S. in the early 1990’s.

A crucial question facing parents considering child care is whether it is good for their children or harmful in some way. Not all child-care experiences, however, are the same. Some differences include the age at which children enter child care; the number of hours per day they are in child care; the type of arrangement they are in; and the quality of care they receive.

“It’s clear that there is great variation in terms of the quality of child care, the hours that the child spends in it, and the age at which they start,” said Dr. Sarah Friedman, project officer and health scientist administrator in NICHD’s Human Learning and Behavior Branch.

For this study, investigators in 10 centers from all regions of the U.S. have enrolled more than 1,350 families. While the sample is not nationally representative, it includes families that are diverse in terms of race, maternal education, family income, family structure (single-parent families are included), maternal employment status, the type and quality of child care, and the number of hours the mothers are employed.

The study is groundbreaking in that it represents the first time that scientists have described in such great detail the environments in which children live and are cared for.—Anne Blank

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Neil Alvanzo, a stay-in-school student at Howard University and employee at the NIH Visitor Information Center (see story, p. 3), answers a question from a TAP student.

Transplantation, and the father of “Tapper” Anthony, a 9th grader, urged the TAP participants to stay in school and go on to college and even graduate school. He told them it was important to set goals and, no matter how hard it gets along the way, never lose sight of those goals.

Reaction to the NIH visit was uniformly positive: “I liked NIH because it fascinated me with all of the places it has and it was very interesting,” said Justin Smith, a 9th grader. “I liked the trip to NIH because I got to learn more about cancer and I got to see organs up close,” observed Nicholas Scott, an 8th grader. “I liked when we went to NIH because I learned a lot about the heart and had fun,” concluded Brandon Booker, a 7th grader.—Paul Coppola

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Less than 12 hours after he was confirmed as the next director of NIH, Dr. Harold Varmus performed his first official duty by addressing an impressive, and impressionable crowd—a group of lab-coated middle school students and their guests at the commencement exercises of the Office of Science Education Policy’s 6-week Biomedical Research Advancement: Saturday Scholars (BRASS) Program.

"It wasn’t until I was 28 years old that I was actually exposed to science the way you have been," Varmus told the soon-to-be BRASS graduates. "When I was a kid, my father was a doctor, but the only real exposure I had to science was via a big textbook. And as we all know, textbooks aren’t that much fun. This...being in a laboratory and actually doing science...now this is fun."

Fun and excitement were the order of the day on Saturday, Nov. 20, as Varmus and Dr. Ruth Kirschstein, NIH deputy director, helped bring the fifth session of the BRASS pilot program at NIH to a climactic close. The program, which brings local middle school students to NIH, provides the youngsters with a positive science experience and raises their awareness of the range of careers available in the life sciences.

After surviving early morning bus rides and 5 weeks of presentations and hands-on activities covering the areas of hematology, genetics, cancer, animal research/cardiology and AIDS, the students were ready to share their discoveries and knowledge with parents, fellow students, teachers and NIH scientists. The students provided brief summaries of what they had learned throughout the session and demonstrated to their guests some of the experiments they had conducted.

The students then listened as Kirschstein introduced Varmus using his work as an example of the kind of contributions scientists can make if they are committed to their disciplines.

Although the new director has a Nobel prize under his belt, he told the students that to be a good scientist you shouldn’t worry about where your experiment is going to lead you or whether it will win you an award or not. "Just make sure it’s a good experiment and just do it," he emphatically stated.

As Varmus concluded his brief unscripted remarks about the excitement of science, he was presented with a royal blue BRASS t-shirt, which he immediately donned over his long-sleeved, tie-less attire.

The program concluded with light refreshments after Kirschstein presented each student with a certificate of accomplishment. —Robin Mackar

Five NIH’ers Elected to AAAS
NCI Drs. James J. Goedert, Gordon L. Hager, Elaine S. Jaffe, and Robert Yarchoan, along with NLM’s Lois Ann Colaianni were recently elected to fellowship in the American Association for the Advancement of Science.

Goedert, Jaffe, and Yarchoan were selected for their contributions in medical sciences; Hager in biological sciences; and Colaianni in information, computing, and communication.

Goedert serves as chief of the AIDS and cancer section in NCI’s Division of Cancer Etiology (DCE); Hager is chief of the hormone action and oncogenesis section in DCE; Jaffe is deputy chief of the Laboratory of Pathology in the Division of Cancer Biology, Diagnosis, and Centers; Yarchoan is head of the retroviral diseases section in the Division of Cancer Treatment; and Colaianni is associate director for NLM’s Division of Library Operations.

NIH Master Plan Meeting, Dec. 16
A public hearing on the master plan to guide development of the NIH Bethesda campus in the next 20 years will be held on Thursday, Dec. 16 at 7 p.m. in Masur Auditorium, Bldg. 10. A draft environmental impact statement will also be discussed. All are welcome.