THE NIH RECORD

Still The Second Best Thing About Payday

Taste and Smell Loss: Risk for Disease?

By Sophia Glezos

A reduced, distorted, or lost sense of taste or smell signifies much more than a weakened zest for food—one of humankind's greatest sources of pleasure and comfort. These deficits represent serious risk factors for heart disease, diabetes, stroke, and other illnesses that require adherence to specific dietary regimens. Changes in these senses can also lower immunity to disease, contribute to digestive disorders, cause food poisoning, or produce toxic effects of environmentally hazardous chemicals that are otherwise detectable.

The ways in which eating-related behaviors and these sensory losses may harmfully interact with disease, or favorably influence wellness, was the topic of a recent seminar in a monthly series that the NIH Office of Behavioral and Social Sciences Research supports on behavioral and social factors in health issues.

Guest speaker Dr. Susan S. Schiffman, a Duke University researcher and NIH grantee, said the most common groups of people affected by these sensory insufficiencies are those 60 and older; individuals of any age who suffer from certain illnesses or medical conditions; and patients who take particular types of medication or who undergo radiation therapy.

In the United States, approximately 2 million adults have disorders of taste and smell. Although it is not known how many elderly people have these dysfunctions compared to those in other vulnerable groups, a large proportion is believed to have one or both deficits.

"Gradual reduction, or loss, of taste and

SEE **LOSS OF TASTE,** PAGE 4

HIGHLIGHTS

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The Dead Do Tell Tales

Colonial-Era Burial Project Provides Current Research Cohort

By Carla Garnett

Of necessity, the approach is modern, clinical and, arguably, cold. Numbers—not even names like John and Jane Doe—are assigned. That would be too impractical, for there are 427 skeletons of unknown corpses being examined and analyzed in the African Burial Ground Project at Howard University. Frequently, however, in the course of the 9-year project begun in 1992, the evidence itself introduces emotional and spiritual elements that undermine any effort to keep a purely scientific face on the proceedings.

Take, for instance, the slide of burial plot B340. The only thing apparent to an untrained eye is a group of bones arranged loosely in the form of a human skeleton. Upon closer examination and with clues pointed out by burial project head and lecturer Dr. Michael Blakey, a life story is sketched.

Before being excavated by archaeologists 5 or 6 years ago, B340 was a cavity of earth occupied by a deceased Black woman of childbearing age. That she was a slave, probably from a region of

SEE **BURIAL PROJECT,** PAGE 6

Since 1992, more than 400 graves like this one have been excavated for study from a construction site in Manhattan by archaeologists of the African Burial Ground Project. NIH'ers were recently briefed on the project's findings, which will be completed by 2000.

Travel Expo Set, Apr. 30

The R&W Travel Expo is Wednesday, Apr. 30 from 10:30 a.m. to 3 p.m. in the Visitor Information Center, Bldg. 10. Representatives from travel agencies, hotels and resorts, tourism bureaus, and theme parks will be on hand to help you plan your next vacation. Don't miss it!

New Management Cadre Class Welcomed

NIH recently welcomed 15 new participants to the Management Cadre Program. They attended a week of orientation that included a 3½ day leadership development seminar. Guest speakers included Dr. Ruth Kirschstein, NIH deputy director; Naomi Churchill, director, Office of Equal Opportunity; Stephen Benowitz, NIH chief executive officer; Cassandra Isom, assistant director, Office of Science Policy; and members of the leadership development committee.

This competitive 18-month program was established in 1994 to enhance the career growth and potential of GS/GM 12, 13, or 14 employees. The program is an important component of NIH's efforts to develop well-qualified candidates to help meet its future leadership needs. For more information, contact Pauline Irwin, program manager, 2-3385.

The 1997 management cadre participants are (front, from l) Megan Columbus, NIAAA; Susanne Strickland, OD; Dr. Willo Pequegnat, NIMH; Calvin Jackson, OD; program manager Pauline Irwin; (middle row, from l) Dr. Pamela Clax, NIAID; Dr. Mary Lawrence, NCRR; Valeria Shropshire, NIEHS; Dr. Ron King, NHGRI; Kristianne Cooper, NIAID; (top, from l) Stacey Vandor, DCRT; Mary Chunko, OD; Donald Bordine, NHGRI; Ricardo Herring, ORS; and Dr. Barbara Rapp, NLM. Absent is Dr. Alfred Gordon, NINDS.

National Nurses Week, May 6-12

To help promote awareness of the vital role of nursing research, and to commemorate National Nurses Week, May 6-12, the Friends of the National Institute of Nursing Research (FNINR) will host a Capitol Hill breakfast briefing on May 7 for members of Congress, their staff, and the public. The topic will be "Pain Management," featuring two nurse researchers funded by the National Institute of Nursing Research: Dr. Gayle Page of Ohio State University and Dr. Christine Miaskowski of the University of California, San Francisco. This briefing is the second in a series of three. For more information, contact FNINR at (202) 638-2352. ■

Symposium To Honor NIDDK's Davies

NIDDK will honor Dr. David R. Davies with a symposium titled "Structural Thinking in Molecular Biology," on Apr. 25 in Wilson Hall, Bldg. 1 from 9 a.m. to 5 p.m. The event celebrates Davies' 42 years of contributions to the study of structural biology at NIH.

Davies is chief of the section on molecular structure in NIDDK's Laboratory of Molecular Biology and is an international authority in the field. He was first to use x-ray diffraction to elucidate the three-dimensional structure of an antibody molecule, and he and his colleagues provided the first detailed picture of how an antibody protein works. He is also codiscoverer of the first triple-stranded polynucleotide helix.

Among the speakers is Nobel Laureate Max Perutz of the University of Cambridge who will discuss "How the Structure of Proteins Was Not Solved." Other speakers will discuss "Tolerance and Intolerance in Protein Structure and Function," "ZDNA and mRNA Editing," "The Structure, Mechanism and Regulation of Trimeric G Proteins," and "Chromatin Structure and Gene Expression." ■

Shy Volunteers Needed

Adults ages 18-65 with significant anxiety in social and performance situations (e.g., parties, dates, work, public speaking) are needed for psychology research at American University. Eligible participants will receive $40 for 4-5 hours of interviews and testing. For more information call Giao Tran at American University, Agoraphobia and Anxiety Program, (202) 885-1743. ■

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Gene Transfer Triggers Saliva Production

Using gene transfer technology in animals, scientists at the National Institute of Dental Research have tricked non-fluid-producing cells into making saliva. Their work could one day lead to a new treatment for the thousands of Americans whose salivary glands are damaged by radiation therapy for head and neck cancer.

While head and neck radiation therapy kills cancerous cells, it also often destroys the acinar (fluid-producing) cells of salivary glands that lie within the field of radiation. When this occurs, patients are unable to produce adequate saliva, and as a result suffer a host of long-term problems including xerostomia (dry mouth), inflammation of the mucous membranes lining the mouth, dental caries, frequent infections of the mouth and pharynx, and difficulty with swallowing, speech, and taste. Although clinicians and researchers have recognized these side effects for nearly a century, they have had little to offer patients in the way of treatment.

Now NIDR researchers may have found a way around the problem by coaxing cells into doing what doesn't come naturally. Unlike acinar cells, ductal cells in salivary glands frequently are not destroyed by irradiation. But ductal cells lack the ability to make or secrete saliva. The researchers sought to re-engineer ductal cells into fluid-producing cells by giving them the gene for an aquaporin protein. Aquaporins are a recently discovered family of proteins that form pores in cell membranes, through which fluid can pass.

The scientists inserted an aquaporin gene into an adenovirus—similar to a cold virus—that had been genetically altered so it could not reproduce. After irradiating the salivary glands of rats to significantly diminish saliva production—mimicking what happens to head and neck cancer patients following radiation therapy—the researchers infected the animals' salivary glands with the adenovirus carrying the aquaporin gene. Remarkably, the rats' salivary glands produced fluid. The researchers reported their results in the Apr. 1 issue of the *Proceedings of the National Academy of Sciences*.

Although the investigators caution that it may be several years before this technique can be tried in humans, they are optimistic about the potential use of the therapy for restoring salivary gland function. "It is an important first step to managing a condition for which no suitable and effective therapy is currently available," said Dr. Bruce Baum, chief of NIDR's Gene Therapy and Therapeutics Branch and principal investigator on the study. — **Jody Dove**

Four members of the House commerce subcommittee on health and environment and their associates, as well as other congressional staff, visited NIH Mar. 17 for an afternoon overview of activities here. Above, Rep. Diana DeGette (D-Colo.) shares a laugh with Dr. Francis Collins (l), director of NHGRI, as Diane Wax, director of NIH's Office of Legislative Policy and Analysis (back to camera) and Dr. Richard Hodes, NIA director, look on. Below, Reps. Michael Bilirakis (R-Fla., at left) and Greg Ganske (R-Iowa), who is a plastic surgeon, participate in a discussion in the Conte Bldg. The Capitol Hill entourage learned about the Human Genome Project, the aging brain, NLM information innovations, cancer therapy and AIDS.

U.S. Savings Bonds Drive Kicks Off, May 9

NIH will kick off its 1997 U.S. Savings Bonds drive on Friday, May 9 at 11:45 a.m. on the patio outside the B1 cafeteria of the Clinical Center. The theme of this year's campaign is "It's a Great Way To Save." The National Institute of Nursing Research will be the host of this year's effort. Featured will be a free raffle, music by the Walter Johnson High School Jazz Ensemble and a guest appearance by Washington Warthogs soccer players and "Rooter," the team mascot. In case of inclement weather, the kick off will be held in Masur Auditorium, Bldg. 10. All NIH'ers are invited!

LOSS OF TASTE, CONTINUED FROM PAGE 1

NIAID director Dr. Anthony Fauci was recently named a master of the American College of Physicians (ACP) for his contributions to the understanding of immunology and infectious diseases. Mastership is ACP's highest level of membership; Fauci is now one of 324 ACP masters. Elected an ACP fellow in 1977, he was also presented the ACP John Philips Memorial Award for his distinguished contributions to clinical medicine.

smell appears to be an unfortunate but normal part of aging," Schiffman said, "but it also accompanies illnesses or conditions such as multiple sclerosis, Bell's palsy, head injury, diabetes, liver and kidney diseases, hypertension, and zinc or niacin [vitamin B3] deficiency." Other correlates of these sensory deficits she noted were Alzheimer's disease, tobacco smoking, surgical interventions, certain dental conditions such as infected teeth and gums, and cerebral tumors. "These disorders," Schiffman said, "modify food choices and dietary habits — either favorably or not — but most of them exacerbate diseases or nutritional deficiencies."

An example of the medical impact that a reduced sense of taste or smell may impose is seen in people with hypertension, or high blood pressure — a condition that if left untreated may lead to stroke, heart disease, or other medical problems. Since research evidence shows a clear causal link between sodium intake and high blood pressure, physicians advise hypertensive patients to reduce salt in their diets. Yet, patients who develop disease-induced taste deficiency typically add more salt to meals, simply because the foods are, to them, tasteless. But, the more salt added, the greater the chance of stroke or other disabling health consequences.

Taste sensitivity is also reduced in people who have diabetes, an illness marked by unstable blood-sugar levels that, if not controlled, can lead to serious medical disorders. In diabetes, ingestion of certain types of carbohydrates contributes to dangerously high blood-sugar levels. Thus, taste reduction becomes a serious health risk when diabetic patients compensate for a reduced sweet taste by adding more sugar to already sweetened foods or beverages.

In the elderly, Schiffman pointed out, taste and smell, typically, are not completely gone, but thresholds for these senses are higher. In a study published in the *New England Journal of Medicine*, she examined taste thresholds for sweeteners, sodium salts, acids, and bitter compounds in healthy elderly individuals and younger counterparts. Results showed the threshold in each taste category was higher in the older study subjects. For sweet taste, the threshold was 3 times as high, salt detection was 11 times greater, acid detection was more than 4 times elevated, and bitter tastes were almost 7 times higher.

While these sensory dysfunctions reduce the enjoyment of life for affected individuals — and increase the risk of developing depression and unwanted weight loss — the good news is that in many cases they are temporary or minor. Also, these disorders are often reversed when underlying medical conditions are effectively treated or offending chemicals or medications are eliminated.

Although several remedies appear moderately useful in treating the more intractable cases of taste and smell disorders, persuasive evidence for their efficacy is limited. However, treatments showing some promise include vitamins A and B3 supplementation, which may restore taste if these nutrients are deficient, and zinc sulfate use even though a deficiency of the mineral may not exist.

Self-help techniques for enhancing flavor are to chew well and to alternate bites of different foods in one meal. Chewing breaks down food and allows more molecules to interact with taste and smell receptors, and switching from one food to another helps counteract the phenomenon of sensory adaptation. Also, the use of monosodium glutamate (MSG) in foods, and other flavor enhancers, has diminished the problem for some people. But MSG must be mixed with 5'-ribonucleotides when adding to foods, Schiffman warned, both to further intensify its enhancing effect and to reduce its otherwise high sodium content, which far exceeds that of table salt. (The chemical 5'-ribonucleotides is available through nutritionists or some food distributors.)

[Hypertensive] patients who develop disease-induced taste deficiency typically add more salt to meals, simply because the foods are, to them, tasteless. But, the more salt added, the greater the chance of stroke or other disabling health consequences.

"When healthfully and appropriately used, flavor enhancers can make a huge difference in taste," Schiffman said.

For treating olfactory dysfunction, somewhat effective approaches include the use of certain steroids; acetate; vitamins A, B complex and E; antibiotics; and the more drastic measure of intranasal cryosurgery.

"For many people with taste or smell dysfunctions, life has lost its gusto," Schiffman said, both in the figurative and literal senses, "but food enhancers and other treatment approaches, when used properly and with a physician's guidance, can help 'nontasters' comply with dietary restrictions and at the same time enjoy food again."

Upcoming OBSSR seminars, each of which will be held from 10 to 11 a.m., will feature Dr. John B. McKinlay, New England Research Institute, "Psychosocial and Behavioral Influences on Clinical Diagnostic Decisions," Apr. 28; and Dr. Lisa F. Berkman, Harvard School of Public Health, "Social Relationships, Connectedness and Health: The Bonds That Heal," May 29, both in Bldg. 1's Wilson Hall; also, Dr. Alan M. Kraut, American University, "Silent Travelers: Germs, Genes, and the Immigrant Menace," June 27, in the Natcher Bldg. ■

Women's History Program Draws Crowd

Writer Judy Mann, prize-winning columnist for the *Washington Post* and keynote speaker at NIH's observance of Women's History Month, drew an overflow audience at the Mar. 27 gathering in Wilson Hall. Her message about women, politics and gender conflicts underscored the important choices women need to make in their lives, such as developing economic stability and forging and exercising the power to make their own life choices. She said women can contribute their creative integrated thinking to society, while fashioning their own sense of self-worth.

Dr. Ruth Kirschstein, NIH deputy director, presented an overview of NIH women's accomplishments, highlighting the many research and administrative achievements.

Washington Post *columnist Judy Mann addresses a capacity crowd in Wilson Hall for Women's History Month.*

Following Mann's talk, she signed copies of her most recent book. In honor of the occasion, all audience members were given a Women's History Month bookmark and button. In addition to the mementos, the audience took home a reaffirmation that women have participated actively in every era of American history and have made enormous social and political advances.

Women's History Month planning committee and volunteers include (seated, from l) Cynthia Washington, committee cochairs Angela Magliozzi and Nga Nguyen, and Josie Evans; and (standing, from l) Harriet Greenwald, Mary Ann Kelley, Genia Bohrer, guest speaker Judy Mann, Karen Howard, Mary Langford, Shirley Everest and Mary Beth Gallagher.

Mann autographs copies of her book, The Difference: Growing Up Female in America, *for attendees at the WHM observance.*

If you are interested in working on the WHM planning committee for 1998, contact Shirley Everest in the NIH Office of Equal Opportunity, 6-4627.

Conference on Effects of Neural Impulses

A conference on control of genes, development and plasticity by neural impulses will be held June 9-10 at Natcher Auditorium. Bringing together new research on gene regulation by neural impulse activity with research on cell adhesion molecules, intracellular signaling and synaptic plasticity, this conference explores the molecules and mechanisms that coordinate the structure and function of the brain. Registration information and a preliminary program are available at: http://mecko.nichd.nih.gov/LDN_Labs/FieldsLab/Fields.html. For more information contact Dr. R. Douglas Fields, 0-3209; fax 6-9939, email: Fields@helix.nih.gov.

Chamber Singers Need Women

If you're a soprano looking for a group to sing with, the NIH Chamber Singers would like to hear from you. To find out more about the group, visit its Web site, http://www.recgov.org/r&w/chamber/nihcs.html, or come to the Spring Concert performance on Wednesday, Apr. 23 at noon in auditorium B in the Natcher Bldg. If you'd like to join the fun, email David Ehrenstein at davide@nih.gov, or phone 6-7232.

Injured on the Job?

Do you have a work-related upper extremity problem or injury, i.e., carpal tunnel syndrome, tendonitis, or repetitive strain injury of the fingers, wrist, elbow or shoulder? USUHS is conducting a study that includes a $40 payment and opportunity to win $500 in a study lottery. Volunteers must be ages 20-60, seen by a physician within the past month and currently working. Call (301) 295-9659.

BURIAL PROJECT, CONTINUED FROM PAGE 1

west or central Africa, is not in question. Her approximate height at death can also be determined. She worked extremely hard doing manual labor, one can tell, from the lesions on her thigh and arm bones that denote excessive, repetitive stress. That crook in her right elbow? Look closely and one can see more skeletal remains, tinier than the others, scattered, but concentrated around the woman's right arm and ribs. She was apparently buried cradling her newborn in her arm, probably not too long after delivering the child, Blakey concluded. As the packed conference room he was addressing peered at the slide screen and seemed to digest this information in uncomfortable silence, the scientist filled the quiet space.

The position of this skeleton, along with the scattered bits of bone found near the crooked elbow, indicate this woman was buried cradling her newborn in her arm. Archaeologists say she was a slave most likely brought from west or central Africa in the 1700's to the former New Amsterdam region of North America that we now call New York.

"From the very beginning," he explained, "this project has evoked a broad range of interest and emotion. By the time our project is finished, these will not be simply memorials to the unknown African. We will be able to say something about these people."

The African Burial Ground Project was established as an afterthought in 1992. During the previous summer, while excavation for a $500 million General Services Administration construction project in downtown New York City was under way, workers disrupted a number of unmarked gravesites, some as deep as 28 feet beneath street level. As is customary under such circumstances since the 1966 Historic Preservation Act, construction was delayed while a team of archaeologists was hired to examine the area more fully and determine what could be done to mitigate effects of the excavation.

By fall 1991, contract archaeologists believed that no more than 50 bodies had occupied the 14,000-square-foot site, which was adjacent to a designated 18th century "Negros Burying Ground" that had probably been used for more than a century. The scientists had grossly underestimated the number of burials, however, as dozens more skulls, bones and artifacts continued to be unearthed. By December 1991, at least 200 skeletons could be recognized and by March 1992 the count had exceeded 400. To the astonishment of almost all involved, the 5 acres of land (bordered on four sides by Broadway, Elk, Duane and Reade Streets) surrounding the city block under construction in lower Manhattan was determined to be the largest and earliest African burial site in the nation. Enter the community.

While the archaeologists had been working feverishly night and day to remove this unforeseen — and unwelcome — abundance of historic bones from the construction zone, folks in neighboring New York communities had grown increasingly concerned about the haste with which removal was being conducted. Questions began cropping up in the media and at civic gatherings: What was going to happen to the remains? Was the removal being handled with the proper respect reserved for memorials? Who had rights and responsibilities to the bones and artifacts? Who were these colonial slave ancestors found so far north of the Jim Crow South? Hearing the public outcry, Congress intervened. In October 1992, the groundwork for the African Burial Ground Project was laid in a 130-page research design proposal by Howard University's W.M. Cobb Biological Anthropology Laboratory.

By fall 1993, with construction indefinitely postponed and removal efforts stopped, Blakey and his team of experienced researchers of African and African American populations undertook the painstaking task of rewriting history based solely on millions of fragments — bones, teeth, beads, and other burial artifacts. At the invitation of NIH's Office of Equal Opportunity, the scientist visited NIH Mar. 27 to discuss the project's progress and offer a preliminary overview of its final report due in 2000.

Following an introduction by OEO Diversity Program Manager O.H. Laster, Blakey put the work in historical context: From 1492 to 1776, about 6 million people came from the old world to the Americas, according to some accounts of history. Only 1 million of those people were European. The rest were mainly African. By about 1660, it is estimated that the population of New York (then called New Amsterdam, as settled by Dutch immigrants) was 40 percent African. The newly discovered burial project represents only a small portion of the approximately 10,000 to 20,000 Blacks who died in the region in that era.

The project seeks to answer four major questions: Where did the people come from originally? What was their physical quality of life? What biological and cultural transformations took place as the Africans became African Americans? In what ways did they resist slavery?

"We have a large enough sample to generalize about the population," Blakey said, explaining that many conclusions have already been drawn and corroborated by the remains. About 50 percent of

New York's colonial Africans died by age 12, he said. Thirty or 40 percent of those died in infancy. About 40 percent of the skeletons found belonged to preadolescent children, many of them with thickened skulls indicating anemia and osteomalacia (weakening of the bones due to poor diet and nutrition). Enlarged muscle attachments seen in the skeletons have been attributed to heavy stress loads borne by the slaves. Signs of arthritis in the neck bones were probably caused by toting heavy items on the head — a traditional African practice — and lesions on the thigh bones probably resulted from muscle and ligament tears, Blakey said. "These people were obviously working at the very margins of human endurance and capacity," he said. "Arguably, a few were worked to death in a time when it was considered cost-effective to work slaves to death. Even some 6-year-old children show signs of being worked in what we would today consider an extreme way."

"...These will not be simply memorials to the unknown African. We will be able to say something about these people."
—Dr. Michael Blakey

The slide of another numbered burial plot was unique, however. It belonged to one of the few slaves who probably did not meet death through overwork or malnutrition. The skeleton of a 22-year-old woman was found with a musket ball lodged in her chest cavity. Her bones also showed multiple signs of physical trauma and several blunt force injuries. She had been shot in the back. "Generally, we found very little evidence of interpersonal violence among the population," Blakey said, "but this woman was an obvious exception."

Acknowledging that his study population was impoverished, the archaeologist said the most frequent artifact uncovered was a shroud pin, which was often used in colonial times to fasten the burial wrap. Most people were not buried in their clothes in those days, he noted. More than 500 such pins were found. Scientists will use the copper stains left by the pins on bones to figure out how shrouds were draped and tied. The methods used to bury the dead can shed light on cultural influences and practices of a people, Blakey said.

Also found were cufflinks, coins, rings, and scattered beads from bracelets, earbobs and necklaces. Complicating the study, he admitted, is the fact that initial excavation with backhoes scooped away the first layer of what might have been valuable clues about the people. Blakey noted that in a number of regions of Africa, items placed on top of bodies laid to rest told a great deal about the circumstances of the deceased. Surprisingly, one child's skeleton being studied in the project had been buried with a teardrop-shaped pendant made of pure silver.

"Here you have an obviously very poor group of people who, instead of selling the silver to improve their lives somehow, chose to bury the most valuable item with their child," said Blakey. "That says something about the culture and the people. We can learn a lot by taking this biocultural, biohistorical approach to the project. We're looking at the social and economic profiles of these people as well as what information they can share about the health and well-being of contemporary people...There are many bridges being built here, as we fill in the many gaps."

The skeletons have now been moved to Howard's Washington, D.C., campus for study. Tours of the facility can be scheduled by contacting the project laboratory director, Mark Mack, (202) 806-5252. ■

Those massive tower cranes looming above the east and west sides of the Clinical Center are participants in the CC essential maintenance & safety program, which will continue through 1998 to extend the life of the facility. The program will: replace the main heating and air conditioning systems; replace and upgrade lab fume hoods; install fire sprinklers; and rewire the facility for a new combined LAN and telephone system. The roof of five building wings will also be raised using the cranes to install the new main heating and air conditioning systems. The cranes are being used to minimize the number of disruptions to patients and staff.

Spring Musical Features Music Of Mercer

Reserve your tickets now for "Too Marvelous for Words—The Magical Lyrics of Johnny Mercer," presented by the Bethesda Little Theatre (formerly the NIH R&W Theatre Group). There will be evening performances at 8 on May 2-3, 9-10, 16-17, and 3 p.m. matinees on May 4 and 11. All performances are held in Masur Auditorium, Bldg. 10. Among the featured compositions are "That Old Black Magic," "Jeepers Creepers," "Satin Doll," and "Autumn Leaves." For ticket information, call Elaine Hughes, (301) 589-0720. Proceeds benefit the Patient Emergency Fund at the Clinical Center.

Seminar Reports on Aches and Pains Of Middle, Later Years

By Barbara Weldon

"Osteoarthritis is a disease of the joints, while osteoporosis is a disease of fragile bones. At least $50 billion a year is spent on medical costs and lost wages due to these two conditions." That's what Dr. Joan McGowan, chief of the Musculoskeletal Diseases Branch and director of the Bone Diseases Program at NIAMS, told the standing-room-only crowd at an arthritis and osteoporosis seminar sponsored recently at NIH by the Office of Research on Women's Health.

Speaker Dr. Rosemarie Hirsch, an NIAMS rheumatologist, said more than 37 million Americans have some form of arthritis, and "by the year 2020, 60 million Americans are projected to have arthritis." She said arthritis literally means joint inflammation but is often used to refer to more than 100 different rheumatic diseases that can affect children and adults. Her discussion focused on three diseases that affect women more than men: osteoarthritis, rheumatoid arthritis (RA), and lupus.

"Osteoarthritis is the most common form of arthritis," said Hirsch. The disease ranges from mild to severe and may cause pain, stiffness and tenderness around joints. It most often affects the hands, feet, knees and hips.

RA is less common than osteoarthritis, but not rare. In the joint with rheumatoid arthritis, the lining becomes inflamed, leading to destruction of tissue, which can result in chronic pain and deformity. Possible causes of rheumatoid arthritis may include a genetic susceptibility combined with environmental factors such as bacteria or viruses.

Lupus is less common than either osteoarthritis or rheumatoid arthritis. It tends to occur in women in their reproductive years, but can affect older individuals. Its frequency is higher in Blacks and Hispanics. In lupus, the immune system attacks the body's healthy cells and tissues. The disease is characterized by periods of flares and remissions.

Hirsch highlighted several discoveries. In osteoarthritis, defective collagen genes have been identified in some families. In rheumatoid arthritis, a group of genes with the same amino acid sequence have been identified as susceptibility markers. In lupus, a gene on chromosome 1 has been linked with susceptibility to lupus in Caucasians, Asians, and African Americans. In the area of cartilage research, Hirsch said medications that counteract cartilage-destroying enzymes have been identified. Improved implants for replacing areas of worn cartilage and better artificial joints for longer lasting joint replacements also are being investigated. Finally, Hirsch discussed biologics (messenger molecules that allow communication in or between cells), which can be used to enhance or interfere with immune system activity in arthritis inflammation.

Seminar speakers included (from l) Drs. Ethel S. Siris, Kate Lorig and Rosemarie Hirsch.

Dr. Ethel S. Siris, professor of clinical medicine at Columbia University College of Physicians and Surgeons, discussed diagnosis and treatment options for osteoporosis. She said low bone mass is the single most predictive factor for osteoporosis, a disease that affects more than 25 million Americans. She noted that bone is a living dynamic tissue. Peak bone mass is achieved at 20-30 years and then declines with age. At menopause, with diminished levels of estrogens, there is rapid bone loss.

Siris said osteoporosis causes 1.3 million fractures a year of the wrist, vertebrae, and hips. "About half the people who break their hips end up in nursing homes," she said, "and in the year following the fracture, 20 percent will die. The lifetime risk of death due to hip fracture is comparable to the risk of death from breast cancer." Osteoporosis is a silent disease, she said, recommending that people at risk have a noninvasive test called dual x-ray absorptiometry that will scan the spine, hip, and arm in order to measure bone density.

"Every woman at menopause should consider taking estrogen since it is highly effective against osteoporosis and heart disease, and may protect the brain from Alzheimer's disease," she concluded. "Women who take estrogen can reduce their fracture risk by 50 percent."

Dr. Kate Lorig, associate professor at Stanford University School of Medicine, discussed self-management and how to break the pain cycle. She said several things are important in managing a chronic disease: take medicine, exercise, go to the doctor; learn how to get on with your life; and learn how to deal with your emotions.

"In arthritis," she said, "the biggest problem is pain. If you make a small change in the amount of pain, you may be able to lessen the disability." She said not all pain comes from the disease. Other things such as tense and deconditioned muscles, depression, fatigue and stress all may contribute. She said exercise is important for people with arthritis, and recommended it be done in gradually

NIH deputy director Dr. Ruth L. Kirschstein (r) receives the first Association for Women in Science Mentorship Award—established to honor those who serve as role models for women in science and help female researchers succeed in their careers—from association president Dr. Janet Joy. "Women often make good mentors," Kirschstein noted during her acceptance speech. "As the number of women in senior scientific positions increases, there will be increased opportunities for informal mentoring."

increasing amounts 4-5 times a week. Another technique is to substitute distraction for pain. Keep your mind occupied, think of something else, she advised.

Finally, Lorig noted that we constantly talk to ourselves and our emotions are ruled by what we say. "You should pay attention to the messages that you give yourself, and make an effort to change your mental messages," she said. "Management of your pain is up to you."

The next seminar in the ORWH series, "Elder Options and Care Giving," will be held from 2 to 4 p.m. on June 5 in Lipsett Amphitheater, Bldg. 10. ■

Drs. William Eaton (l) and James Hofrichter of NIDDK received the 1996 Hillebrand Prize from the Chemical Society of Washington. They were cited for outstanding and original contributions to basic research on the dynamics and self-assembly of proteins. Eaton and Hofrichter are best known for their studies of hemoglobin S polymerization, the abnormal process causing sickle cell disease, and for formulating the "kinetic hypothesis" that provided the first coherent picture of its pathophysiology. Their idea was confirmed in a recent multicenter clinical trial of hydroxyurea, the first successful specific treatment for sickle cell disease. Hydroxyurea produces a small dilution of the hemoglobin S by increasing fetal hemoglobin synthesis. Twenty-six NIH scientists have won the Hillebrand Prize since its inception in 1924; 19 of these were affiliated with NIDDK.

Seminar on Child Care, Development

The NIH day care oversight board is sponsoring a brown-bag lunchtime seminar on "The Relation Between Family, Child Care and Child Development—Implications for Families and for Policy," on May 15, from 11:30 a.m. to 1:30 p.m. in Bldg. 1, Wilson Hall. Dr. Sarah Friedman, scientific coordinator for NICHD's Study of Early Child Care and one of its approximately 30 investigators from 14 locations across the U.S., will present recent findings from this comprehensive longitudinal study. These findings, first presented on Apr. 4 at the meeting of the Society for Research in Child Development pertain to cognitive and language development and mother-child interaction during the first 3 years of life. All NIH employees, and parents of children in NIH day care centers, are invited to attend. Preregistration is not required and the seminar is free. For more information contact Gladys Bohler, 6-9231. ■

Preparations Afoot for Next Fall's Research Festival

Spring is in the air, and a young researcher's fancy turns to thoughts of—the NIH Research Festival! The annual festival spotlights the NIH intramural program and runs this year from Oct 6 to 10. Dr. Allen Spiegel, scientific director for NIDDK, chairs the 1997 organizing committee. Researchers interested in presenting posters at the festival must submit applications by Friday, June 13. Visit the festival home page, http://pubnet-mac.nih.gov/festival97/, for more details.

The Natcher Conference Center will host most of the scientific programs on Monday, Oct. 6, and Tuesday, Oct. 7. The schedule includes two major symposia, one organized by the Immunology Interest Group and the second by the Structural Biology Interest Group. In addition, more than 300 posters will be displayed during four poster sessions. The sessions are closely coordinated with over 20 workshops developed by other NIH interest groups. On Wednesday, Oct. 8, the Office of Education will host a Job Fair for NIH postdoctoral researchers. A third symposium on Wednesday afternoon will commemorate the 10th anniversary of the DeWitt Stetten, Jr. Museum of Medical Research. Thursday and Friday of that week will include the popular tent show by vendors with the Technical Sales Association.

Researchers from all ICDs are invited to submit an application to present posters at the festival. However, poster space is limited to approximately 320 presentations. As a suggested guideline for applicants, principal investigators are encouraged to reduce the number of entries from the same laboratory wherever possible, either by coordinating or combining similar or repetitive presentations.

Researchers may submit applications via the festival Web site mentioned above. Applicants simply fill in the blanks on the Web form and forward the information with the click of a button. Authors are required to submit a brief abstract, but unlike last year's posters, viewing access to the abstracts will be restricted to NIH users via DCRT's PUBnet site.

The deadline to submit entries is 5 p.m., Friday, June 13. Applicants lacking access to the Web site may submit entries via fax or email; look for Research Festival flyers with the application form, appearing on desks throughout NIH, or contact Gregory Roa, 6-1776, email gr25v@nih.gov, for more information.

Dr. David S. Hogness, an NIGMS grantee for the past 24 years, has been named a recipient of the 1997 March of Dimes Prize in Developmental Biology. The award recognizes investigators who have made seminal discoveries in developmental biology that reveal new principles of relevance to birth defects. Hogness was honored for his role in discovering homeobox genes, which control body plan development in animals ranging from fruit flies to humans. A biology professor at Stanford, he also received past funding from NIAMS, NCI and NEI. He will receive his award at a ceremony on May 5 in Washington, D.C. He shares the award and its $100,000 cash prize with Dr. Walter J. Gehring of the University of Basel, Switzerland.

Gunton Retires from DRG After 20 Years of Federal Service

Jean Gunton, DRG administrative officer, retired recently after 20 years of federal service.

Born in Indiana, she graduated from Washington University School of Nursing in St. Louis. Before joining DRG, she worked as a registered nurse.

Early in 1977, she joined DRG's Referral and Review Branch as a clerk-typist, and was later promoted to grants technical assistant, then lead GTA. In 1986, she joined the administrative services office. At retirement, she was acting chief in the Office of Administrative Management.

After 20 years with DRG, Gunton said that more than anything else she will miss working with the people with whom she interacted on a daily basis. "The people are what make DRG a unique and interesting place to work," she said. "One thing I'm particularly proud of is the fact that this job has given me the opportunity to grow."

In addition to numerous quality step increases, Gunton was presented with the NIH Merit Award in 1985 "for leadership and judgment as lead grants technical assistant in anticipating and solving problems and improving procedures in the Referral and Review Branch, DRG."

Retirement plans include "travel with my husband, Ronald, who is retired." After a rewarding federal career, Gunton anticipates a new career of leisure.

Mother's Day Bazaar

On Tuesday, May 6 in Bldg. 10's Visitor Information Center, there will be a Mother's Day Bazaar from 10:30 a.m. to 2:30 p.m. There will be 30 vendors with a variety of wares to make your Mother's Day shopping easy. There will be jewelry, crafts, handbags and all kinds of gifts. Put this R&W event on your calendar and beat the madness of the malls.

Thomas Boyce of NIGMS and Carolyn McHale of NIAMS were among 10 DHHS employees who recently received the Government Computer News *Award, which recognizes individuals for their accomplishments and contributions to excellence in information technology. Boyce, a supervisory computer specialist with the NIGMS Information Resources Management Branch, was honored for his "critical role in the planning, development, and implementation of several major information technology activities for...NIH. He was instrumental in making a number of important recommendations in the planning of the computer, telecommunications, and utility infrastructure for the William Natcher Building." McHale, chief of the NIAMS Scientific Information and Data Systems Branch, was noted for her overall leadership at NIH in the field of computer technology, playing a "key role on cross-NIH committees...which are dedicated to resolving major issues related to data systems." Largely due to McHale's "skill and commitment, the NIH Electronic Council Book was developed and is now used by virtually every institute at NIH."*

DRG's Marcel Pons Mourned

Dr. Marcel W. Pons, a scientific review administrator and referral officer with the Division of Research Grants, died on Feb. 21 at his home in Olney, Md. He was 65.

Dr. Marcel W. Pons

He was born in New York City and was educated in the New York City Public School system. Thereafter, he ventured west to study at the University of Michigan, from which he earned both a master of science and a doctoral degree in bacteriology. He received a 2-year PHS postdoctoral fellowship at Children's Hospital and Harvard Medical School in the laboratory of Nobel Laureate John F. Enders.

Upon completing his education, Pons returned to New York City to accept a position with G.K. Hirst in the department of virology at the Public Health Research Institute of the City of New York. He later held adjunct appointments with NYU Medical School and Hunter College. He then left New York again to become director, Laboratory of Molecular Virology, at the James N. Gamble Institute of Medical Research in Cincinnati.

Since coming to NIH in 1988, Pons had been instrumental in establishing the virology and AIDS study sections, with which he continued to work until his illness. In recent years, he also administered the review of applications to the study section on chronic fatigue syndrome. He had been widely recognized by his associates, especially in the AIDS group, for being informed, thorough, and efficient. In addition, he had a wonderful talent for storytelling, too-often hidden behind a quiet no-nonsense, work-oriented demeanor. Pons was known as a voracious reader and an accomplished chef. He is survived by his wife, Joyce, and two daughters, Lisa and Missy.

Blood Safety Advisory Committee Meets

The DHHS advisory committee on blood safety and availability will hold its first meeting Apr. 24-25 in Masur Auditorium, Bldg. 10. Sponsored by NIH, CDC, and FDA, the meeting is open to the public. To speak at the meeting, contact Dr. Paul McCurdy, executive secretary, at 5-0065. To attend the meeting, register with Wanda Keys at Prospect Associates, (301) 468-6555 or fax (301) 770-5164. For general information, call Jodi Shelley, 5-0065.

DWD Training Tips

The Division of Workforce Development, OHRM, offers the courses below. Personal computer training is also available through User Resource Center hands-on, self-study courses, at no cost to NIH employees. Additional courses are available by completing the "Training by Request" form in the back of the DWD catalog. For more information call DWD on 6-6211 or consult DWD's home page at http://www-urc.od.nih.gov/dwd/dwdhome.html.

Courses and Programs	*Starting Dates*
Management and Supervisory Development	
Conflict Management for Managers	4/28
Project Management	4/30
Reinventing NIH: An Introduction to Work Process Redesign	5/6
Successful Management at NIH	5/20
Delegation Skills: How to Empower People	5/20
Communication Skills	
How to Write & Publish Scientific Papers	5/21
Effective Executive Speaking	5/8
Reviewing Other People's Writing	5/15
Effective Listening & Memory Development	5/22
Administrative Skills	
Managing Difficulties in the Workplace	5/15
Giving Successful Presentations	5/20
Success Strategies for Support Staff	5/28
Administrative Systems	
Basic T&A Using TAIMS	5/19
IMPACT System for Administrative Staff	5/6
Human Resource Management	
Position Classification Overview	5/5
Career Transition	
NIH Retirement Seminar (CSRS)	5/14
Career Assessment & Planning - Grades 8 & below	5/12
Computer Applications and Concepts	
WordPerfect 6.1 for Windows	5/19
Intro to Windows 95	5/29
PageMaker 6.0 (Mac)	5/6
Welcome to Macintosh	5/7
Introduction to MS Word 6.0 (Mac)	5/20
MS Exchange for Windows 95	5/21
Intro to Internet	5/19
Advanced Internet	5/19
Web Page Design	5/28

DCRT Courses and Programs

All courses are on the NIH campus and are given without charge. For more information call 4-3278.

Disaster Recovery	4/23
Email at NIH	4/23
Principles of Regression Analysis Using SAS/STAT	4/23-25
Fundamentals of SAS Part 2	4/24-25
Database Administration for DB2 and Oracle	4/28
C Language Fundamentals	4/28-5/2
Macintosh Tips and Techniques 2	4/29
Memory Management on the PC	4/30
Central Computing Services at NIH	5/1
Macintosh Configuration for PARACHUTE Network Access	5/1
Macintosh Troubleshooting	5/2
PC Troubleshooting	5/5
NIH Data Warehouse: ADBIS for Procurement and Requisitions	5/5
NIH Data Warehouse: ADBIS for Property Management	5/6
Introduction to HTML	5/6
Creating Web Presentations with PowerPoint	5/6
NIH Data Warehouse: ADBIS for Budget and Finance	5/7
Electronic Forms Users Group	5/7
Preparing Scientific Images for Publication and Display	5/7
Computer Security Issues for Unix Administrators and Users	5/7
Netscape for the PC	5/8
Fundamentals of SAS Part 1	5/8-9
Creating Formatted Reports Using QMF	5/12-13
Introduction to Oracle PL/SQL	5/12-14
WIG - World Wide Web Interest Group	5/13
Managing Your Team with MS Team Manager	5/14

Career Opportunities in the Trades

There's a Future in it!

Apply now for the Apprenticeship Program as a:

- ***Utility System Repairer/Operator***
- ***Air Conditioning Equipment Mechanic***
- ***Sheet Metal Mechanic***
- ***Plumber***

Open only to NIH personnel with a minimum of 1 year permanent status. Call Ron Poole, 2-3441, for more information. Applications are now being accepted in the ORS Personnel Office, Bldg. 31, Rm. 4B41, 2-1528. Open Apr. 14-May 12.

Preschoolers Visit NIDR Lab

Ten children from the Gan HaYeled preschool at Adas Israel Temple in Washington, D.C., recently visited Dr. Mike Iadarola in NIDR's Pain and Neurosensory Mechanisms Branch as part of Brain Awareness Week. The students were able to spend time in a "kid-proof" laboratory where they had hands-on experience color mixing, pipetting, and using centrifugation to separate a colored oil-water mixture as well as a soil sample. They also met the resident skeleton (teaching model) and some friendly lab mice.

As the photographs attest, the budding scientists really enjoyed their field trip. Iadarola and his wife, Dr. Karen Berman of NIMH, have hosted laboratory visits for both of their sons' classes.

Students (from l) Ben Mingo, Tena Thau, and Renee Dunn look on as Dr. Drew Mannes performs some pipetting...

PHOTOS: BILL BRANSON

...then proceed to examine some test tubes.

A centrifuge experiment involves (from l) teacher Suzanne Bull, Andrew Jacobs, Jonathan Iadarola (reaching), Alex Donesky, Jane Jacobs—Andrew's mom—and Dr. Mike Iadarola.

Experiments with color fascinate (from l) Jonathan Iadarola, Andrew Jacobs, and Alex Donesky. Andrew went home that evening and did an experiment in his sink with ice cubes.

More Minority Research Needed?

On May 19-20, a conference to address the need for increased research on communication disorders and stroke in African-American and other cultural groups will be held at the Natcher Conference Center. The conference, "Communication Disorders and Stroke in African-American and Other Cultural Groups: Multidisciplinary Perspectives and Research," is sponsored by the National Institute on Deafness and Other Communication Disorders and Howard University. Topics include epidemiology, assessment and management of sequelae of stroke, cultural variables, and contemporary issues in acute stroke management and assessment. In addition, environmental and cultural influences on rehabilitation and research, and issues regarding quality of life will be discussed.

For registration information or requests for reasonable accommodation, contact Nancy Shapiro at (301) 907-9655.

Wednesday Afternoon Lectures

The Wednesday Afternoon Lecture series—held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features Dr. Tom Maniatis, Mallinckrodt professor of molecular and cellular biology, Harvard University, on Apr. 30. His talk will be on "Combinatorial Mechanisms for Specific Gene Activation in Response to Extracellular Signals."

On May 7, Dr. Corey S. Goodman, head of the neurobiology division and HHMI investigator at the University of California, Berkeley, will present "Wiring Up the Brain: Genetic Analysis of the Mechanisms Controlling the Generation of Neural Specificity."

For more information or for reasonable accommodation, call Hilda Madine, 4-5595.