

"Still
The Second
Best Thing
About Payday"

The NIH Record

Searching for Shadow

NCI Scientist Weinstein Captures Solar Eclipse at Sea

By Rich McManus

Eight months ago, NCI scientist Dr. John Weinstein made a date with darkness. A life-long amateur astronomer ("emphasis on 'amateur,'" he insists), he signed on with his wife to sail aboard a ship that would put itself into the path of a total solar eclipse on July 11.

"The trip made absolutely no sense," he recalls. "I had just come back from the international AIDS meeting in Italy, and now I was going for a week's cruise out of Honolulu on an eclipse expedition. But since the next solar eclipse as long and as good as this one won't be until the year 2132, I decided not to wait."

Weinstein is chief of the theoretical immunology section within NCI's Laboratory of Mathematical Biology. During working hours, he directs research on cancer and AIDS.

"About 60 percent of our work is experimental and 40 percent is theory," he estimates. "Our program is based on the familiar principle that one should never believe a theory until it has been confirmed by experiment, or vice versa. It's a terrible shame that theoreticians and experimentalists have rarely understood each other. It's been like C.P. Snow's celebrated 'two worlds.' The two disciplines belong together in the same research group, preferably in the same head."

For several years Weinstein has been studying ways to use monoclonal antibodies in



Dr. John Weinstein is a cancer and AIDS investigator for NCI but also is interested in music, political science, table tennis, football, and astronomy.

cancer and AIDS. Recently, his research group also found that a commonly used drug enhances the activity of AZT against human immunodeficiency virus in cultured cells. That discovery has, in turn, led them to formulate a new set of general principles for analysis of combination therapy in cancer and AIDS.

After hours, however, Weinstein is some-

(See ECLIPSE, Page 8)

Computer Innovation Speeds Gene Hunt

By Gregory Wilson

John Powell of DCRT's Computer Systems Laboratory (CSL) is no biologist; and at first glance, the secrets of human DNA may seem far removed from his world of computers. But to Drs. Craig Venter and Anthony Kerlavage, and their colleagues in the receptor biochemistry and molecular biology section (RBMBS) of NINDS, he is a vital link to the computational power and innovation that have taken them to the vanguard of modern science's crusade to understand the mysteries of the human genome.

As scientists set higher and higher goals for their research, sophisticated computing becomes more and more necessary. Powell is one expert that NIH biomedical researchers turn to when they need creative computing solutions to get them from theoretical point A to practical point B. His current collaboration with Venter and Kerlavage in their research related to the human genome project is a good example.

The human genome project is a 15-year, \$3

billion effort to sequence all of the genetic material that humans carry around in their cells. Once all of the DNA is sequenced, however, scientists will have a second enormous task of identifying where specific genes (genetic instructions) are hidden in vast sec-

(See GENE HUNT, Page 4)

Healy Hosts 'Town Meeting' For NIH/ADAMHA Scientists

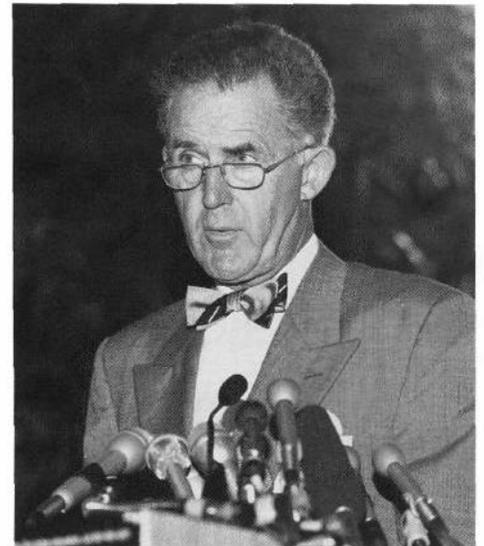
The NIH/ADAMHA intramural research community is invited to a "town meeting" with NIH director Dr. Bernadine Healy and acting deputy director for intramural research Dr. Carl Kupfer. The meeting will be held Friday, Sept. 20 from 10 a.m. to noon in Masur Auditorium, Bldg. 10. The purpose of the meeting will be to discuss issues of concern and interest to the intramural research community. There will be an opportunity for questions and comments from NIH and ADAMHA scientists in the audience.

Dental Restorative Materials Found Effective and Safe

Dental materials, including silver amalgam, are extremely effective for restoring teeth and have not been shown to cause significant side effects, according to a panel of experts convened by NIH. The panel also concluded that the amount of mercury vapor released from silver amalgam is very small and poses little risk to health.

Restorative dentistry remains a major component of dental practice in the United States. More than 200 million restorative procedures are performed each year; 60 to 70 percent of these restorations are for replacement of defective fillings. Materials used in dentistry include metals, ceramics, plastics, and glass and are used for a variety of tooth restorations, including fillings, crowns, and bridges. The panel outlined the benefits of tooth restoration and emphasized its importance in arresting tooth decay, relieving pain or discomfort, improving chewing and speech, and enhancing facial attractiveness.

Restorative materials contain certain components that in excessive amounts may be



Dr. William McHugh, NIDR panel chair, announces conclusion of recent dental restorative materials conference.

harmful. However, there is no scientific information that the amounts of these components released from restorations have significant adverse effects on health. "A few people may develop mild reactions such as irritation or redness near the restored tooth, but most patients are not at risk," said panel chairman Dr. William McHugh, director of the Eastman Dental Center at the University of Rochester. "In reviewing the available data, however, we found no evidence that dental

(See DENTAL, Page 2)

DENTAL

(Continued from Page 1)

restorations are related to the development of disease."

While silver amalgam has received considerable attention because of its mercury content, its potential to cause side effects is no greater than that of any other restorative material, the panel concluded.

In addition to silver amalgam, the panel reviewed data on other materials including metal alloys, ceramics, tooth-colored plastic composites, and glass ionomers. The group noted that selection of the most appropriate material depends on the type of restoration required, the condition of the mouth, the resulting aesthetics, and cost factors.

The 14-member panel called for studies to verify the safety of restorative materials and to detect any adverse effects, however minimal. Future research also should focus on developing new methods and materials for tooth restoration that would minimize the removal of healthy tooth structure and reduce the risk of potential side effects, the panel said.

This 3-day technology assessment conference on the effects and side effects of dental restorative materials was sponsored by the National Institute of Dental Research and the NIH Office of Medical Applications of Research.—
Mary Daum and Bill Hall □



"Fan 57," a 14-ton air cooling unit was recently installed by crane onto the roof of the Clinical Center. The unit will ventilate the south end of the D corridor in the hospital and clinic.

Food Allergy Spices Up Six-Course Lecture Series

The Clinical Center's 1991 Medicine for the Public lecture series opens Oct. 1 with a discussion on "Food Allergy and Intolerances," by Dr. Dean Metcalfe, head of the mast cell physiology section, Laboratory of Clinical Investigation, NIAID.

Dr. Alan Zametkin, senior staff psychiatrist in the clinical brain imaging section, NIMH, explains how "Hyperactivity" is diagnosed and treated Oct. 8.

On Oct. 15, Dr. George Martin, NIA scientific director, will discuss "Aging: Causes and Consequences."

Dr. Ronald Gress, chief of the transplantation immunology section, Experimental Immunology Branch, NCI, speaks Oct. 22 on "New Directions in Bone Marrow Transplantation."

On Oct. 29, Dr. Stephen Gordon, director of the Musculoskeletal Diseases Branch, NIAMS, talks about "Sports and Exercise."

The 1991 series closes with a look at "Gene Therapy: Medicine of the Future" on Nov. 12 by Dr. Michael Blaese, chief of cellular immunology at NCI's Division of Cancer Biology, Diagnosis, and Centers.

The Medicine for the Public lecture series is now in its 15th year. Lectures are held at 7 p.m. on Tuesdays in Masur Auditorium, Bldg. 10.

For additional information on specific topics or speakers call 496-2563. □

'Come Back to Bethesda' Benefits Children's Inn

Enjoy a day of good old-fashioned fun in downtown Bethesda on Saturday, Oct. 5. Sponsored by Chevy Chase Chevyland and Bell Atlantic, "Come Back to Bethesda" includes: a free custom car and street rod show from 11 a.m. to 4 p.m. on the street and in the parking decks of Chevyland; a special showing of "American Graffiti" at the Bethesda Cinema n' Draffhouse for only \$1 at 4 p.m.; and a Fifties/Sixties dance with live music by the Cutters Band in the parking decks at Chevyland from 7 to 11 p.m. Tickets to the dance are \$10 in advance, \$15 at the door. Proceeds benefit the Children's Inn at NIH.

Another reason to come to Bethesda on Oct. 5 is "A Taste of Bethesda," a street festival featuring food from some of Bethesda's finest restaurants, live music and other entertainment. The event takes place on Fairmont and Norfolk Aves., just off Old Georgetown Rd., from noon until 4 p.m.

Tickets and information for both events can be found at the R&W Activities Desk in Bldg. 31, 496-4600. □



Dr. Susan Ellenberg, chief of the Biostatistics Research Branch in NIAID's Division of AIDS, has been elected to fellowship in the American Statistical Association "for exemplary and creative leadership in the development of sound statistical approaches to AIDS clinical trials, for important contributions to the planning and monitoring of multicenter clinical trials, and for service to the profession." The ASA, founded in Boston in 1939, is the oldest and largest professional organization for statisticians. Only 5 percent of its 15,000 current members have been honored as fellows.

The NIH Record

Published biweekly at Bethesda, Md., by the Editorial Operations Branch, Division of Public Information, for the information of employees of the National Institutes of Health, Department of Health and Human Services, and circulated to nonemployees by subscription only through the Government Printing Office. The content is reprintable without permission. Pictures may be available on request. Use of funds for printing this periodical has been approved by the director of the Office of Management and Budget through September 30, 1991.

NIH Record Office
Bldg. 31, Room 2B-03
Phone 496-2125
FAX 402-1485

Editor
Richard McManus

Assistant Editor
Anne Barber

Staff Writer
Carla Garnett

Editorial Assistant
Marilyn Berman

Correspondents:
CC, Karen Riedel
DCRT, Anne P. Enright
DRG, N. Sue Meadows
FIC, Louise Williams
NCI, Patricia A. Newman
NCHGR, Leslie Fink
NCNR, Esther McBride
NCRR, Polly Onderak
NEL, Linda Huss
NHLBI, June Wyman
NIA, Carolyn Shanoff
NIAID, Ann C. London
NIAMS, Barbara Weldon
NICHD, Carol Florance
NIDCD, Gail Blatt
NIDDK, Eileen Corrigan
NIDR, Mary Daum
NIEHS, Hugh J. Lee
NIGMS, Wanda Warddell
NINDS, Carol Rowan
NLM, Roger L. Gilkeson

The NIH Record reserves the right to make corrections, changes, or deletions in submitted copy in conformity with the policies of the paper and HHS.

*Truer Images Sought***NIAMS Laboratory Unveils Molecular Portraits**

By Lauren E.D. Ward

A morphologist and a biochemist use vastly different methods to explore the living world. One studies the form of an organism; the other studies the chemical reactions that take place inside it. Both scientists interpret the intimate workings of life from their own distinct perspectives.

In NIAMS's Laboratory of Structural Biology Research, Dr. Alasdair Steven and his staff conduct research at a unique intersection of these fields, approaching research questions by combining state-of-the-art electron microscopy and innovative computer imaging with standard biochemical and genetic techniques.

In exquisite detail, Steven and his colleagues capture the activity of viruses and other structures less than a few billionths of a meter across. They have revealed essential details of viral assembly, skin maturation and muscle contraction. These studies are intended to provide insights that will contribute to the design of antiviral drugs and to an improved understanding of skin and muscle diseases.

"We are extremely proud of the laboratory's diverse capabilities," says Dr. Lawrence E. Shulman, NIAMS director. "Rarely does one laboratory address many different research areas so effectively."

For Steven, a multidisciplinary approach is essential. "The cell is not just a bag of enzymes," he says. "It is a deliberately orchestrated structure. What our laboratory does through a multidisciplinary approach is relate structure to function at the macromolecular level."

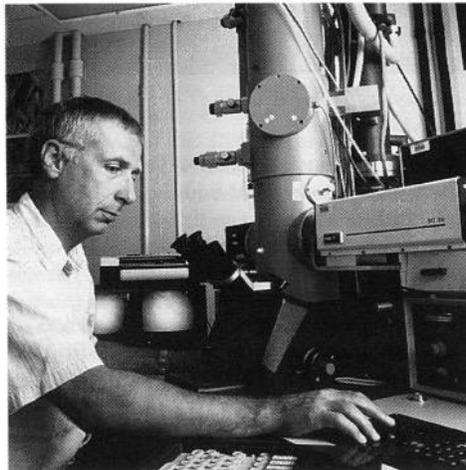
His research perspective is no doubt a product of his eclectic training. "He has advanced expertise in each of several different and traditionally unconnected fields," says Dr. Richard Podolsky, head of NIAMS's Laboratory of Physical Biology, where Steven's group worked until April 1990. These fields include computer technology, electron optics, and the physical chemistry of biological macromolecules. Steven holds a doctorate in theoretical particle physics from Cambridge University, England, and an advanced degree in molecular biology from Basel University, Switzerland.

Cryo-electron microscopy is one of the laboratory's most important tools for exploring the smallest assemblies of life. "Cryo" refers to the rapid cooling specimens undergo in preparation for viewing under an electron microscope. This technique preserves native structural features that might otherwise be distorted if the material underwent conventional fixation, dehydration and staining.

Researchers take other steps to reduce damage. A specimen prepared for cryo-electron

microscopy is not labeled with a heavy metal, a substance normally applied to enhance the low contrast of biological specimens. A low intensity electron beam is focused on these delicate specimens so as not to destroy them by radiation damage.

Despite these careful precautions, an image will come out less than picture perfect. To distinguish authentic structure from artifact,



Dr. Alasdair Steven, chief of the Laboratory of Structural Biology Research, NIAMS, works at a Zeiss EM902 electron microscope.

laboratory researchers subject images to computerized mathematical analysis. Like an added lens, this computation makes a picture clearer, sharper and easier to interpret.

To improve resolution, the researchers may choose to make a composite photograph of a viral particle or of a cross-section of muscle by mathematically combining a number of images. This procedure—correlation averaging—reduces the "noise" that complicates each of the individual images. Other computerized mathematical algorithms enhance the images in various ways. "Fourier analysis allows us to take a set of two-dimensional electron micrographs and synthesize them into a three-dimensional description of the specimen," according to Steven. What results is not a model, but a direct representation of life at the macromolecular level.

The advantages are significant as documented in a Mar. 8 article in *Cell*. The laboratory compared computer projections of empty herpesvirus particles with particles that have incorporated their infectious cargo of DNA. Using the resulting three-dimensional reconstructions, the researchers were able to filter away the surrounding protein shell, or capsid, to reveal a condensed ball of DNA. This type of DNA packaging suggests a close

parallel between viral assembly in a major family of animal viruses (herpes) and a well-studied family of bacterial viruses (bacteriophages).

"Our knowledge of the bacteriophage system suggests specific research avenues that we can now explore to understand capsid assembly in the herpesvirus system," Steven says.

In other new work, scientists at the laboratory participating in the NIH Targeted Antiviral (AIDS) Program have combined data from electron microscopy and biochemical analysis to examine the gp160 protein complex of the human immunodeficiency virus (HIV). Part of the gp160 protein, gp120, recognizes T cells of the immune system and initiates their infection with HIV. Another component, gp41, appears essential for a viral particle to bud from its host cell.

Each protein is named for its molecular weight (in kilodalton units) as crudely measured by its migration on a gel. However, the true molecular weights and other basic characteristics of these complexes—their carbohydrate content and number of subunits, or monomers in the complex—have remained controversial. Using data from electron microscope pictures, the laboratory measured the molecular weights of gp120 and gp41 and combined the information with data on their amino acid sequences to determine these other characteristics. These analyses have shown that the molecules' nominal weights are overestimated: the gp160 monomer is only 123 kilodaltons, not 160 kilodaltons; and the gp120 monomer is 89 kilodaltons. Moreover, in the HIV particle the gp160 complex is actually a dimer. Basic information on these molecules' structural properties will ultimately aid the future development of molecular strategies to interfere with HIV infection. □

Cancer Workshop Planned, Oct. 8-9

A workshop on "Current Approaches to Cancer Biology and Immunology Research" will be held Oct. 8-9 at the Bethesda Ramada, sponsored by NCI's Division of Extramural Activities and Contracts Review Branch.

The workshop will include talks and discussions on new innovations to cancer and AIDS research and logistics of contract procurement process to supplement NCI's research program.

There is no registration charge, but the deadline for registering is Sept. 30. For more information contact Dr. Lalita Palekar, 496-7575. □

GENE HUNT

(Continued from Page 1)

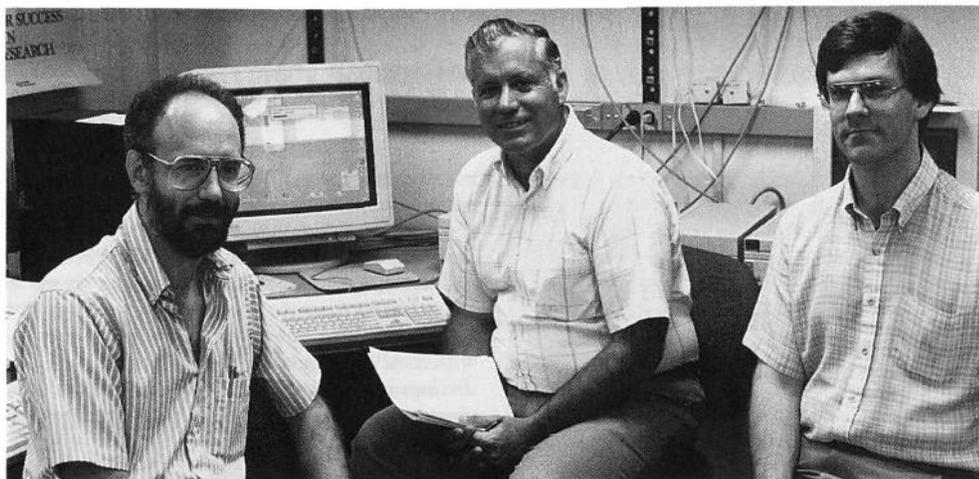
tions of DNA. It is estimated that genes constitute only 3 percent of human DNA. Figuring out where that 3 percent is located in a chemical chain billions of links long will be difficult. The scientists in RBMBS are working currently on a way to flag where the genes are hidden in the sections of the human genome that have already been sequenced.

Powell and Kerlavage, who runs the biological computation facility of the RBMBS, began working together 2 years ago while the section was still involved in large-scale genomic sequencing. At that point Powell helped the laboratory evaluate what computers they needed, connected those computers in a local area network (LAN), and then worked with DCRT communication specialists to connect that LAN in the off-campus Park Bldg. to the campus network backbone nearly 5 miles away. "In the very beginning John was helpful because we were quite naive in terms of how to get our computation up to the level that's required for such large projects," commented Kerlavage.

Since the laboratory had a wide assortment of computer configurations and operating systems (Macintosh, Sun, IBM and Silicon Graphics), establishing the LAN was a little tricky, but nowhere near the computing challenge that would arise when Venter's laboratory moved away from large-scale genomic sequencing towards the innovative expressed sequence tag (EST) project.

Dr. Mark Adams of RBMBS explained the lab's technique, and their results to date, in a recent issue of *Science*. The cells of the human body use the genes in DNA to make proteins. Simply put, proteins are translated copies of the stretches of DNA that are genetic instructions. In an intermediate step, genes are transcribed into mRNA, or "messenger" RNA, from the chromosomes. From the mRNA, scientists can synthesize cDNA, or "complimentary" DNA, which is DNA without all of the genetic filler material that makes up the other 97 percent of the human genome. At the laboratory, the researchers sequence cDNA that they acquire from cDNA libraries, thus they are sequencing just the gene and not all of the DNA strand. "It's like skimming the cream off the human genome," Kerlavage says.

Even when the scientists at RBMBS find a gene and know what it looks like, however, they do not know where it exists on the human genome. This is because they got their information from mRNA on its way to becoming a protein and not from DNA in a specific spot on the genome. Finding out where a specific protein came from is a matter of matching unique cDNA to a corresponding section of DNA. This seems simple enough,



Gene hunt collaborators (from l) Dr. Anthony Kerlavage, John Powell and John Kelley tap DCRT's computational power.

but trying to match a relatively small pattern of bases (DNA's chemical building blocks) to a collection of bases that is thousand of times larger is a process full of computational hurdles—hurdles that Powell is helping to remove or circumvent.

Venter's group transfers the gene sequences to the computer where they use DNA editing software to create ESTs for each piece of cDNA: a "sequence tag" is a small unique segment of the gene that can be used as a pattern to search the human genome; "expressed" means that this tag comes from a gene that they know codes for a protein because the cDNA comes from mRNA. They then search vast databases of genetic information, like GenBank, to try to match each EST to some spot on the parts of the human genome that so far have been sequenced. This process, in effect, shows other researchers where the genes are.

This new angle of attack on human DNA research required rethinking computational techniques. The laboratory's computer facilities were set up for large-scale sequencing and not for tracking down small pieces of genetic material. Powell, who had helped the lab acquire the computing power for sequencing, now began to look at how to retool the laboratory's computers for this new project.

"The computational problems are different," says Kerlavage. "When you are doing large-scale sequencing, the major problem is assembly. You sequence short fragments and then you have to put hundreds to thousands of them back together into one large strand. With ESTs, it's an identification problem that really requires speed. We're developing ESTs at a rate of 100 per day. We very quickly developed a backlog of tags that needed to be characterized."

Unfortunately, at the time, there existed little or no software designed for automated DNA database searches. Even today, according

to Powell, "the software, programs and support available in the public domain or commercially are often limited. They cannot handle the volume of data that RBMBS scientists generate."

Powell and John Kelley, who joined the CSL project team in September 1990, began by evaluating the existing software and recommending the packages they felt would be most useful to Kerlavage's efforts. That evaluation continues as new software become available, and CSL stays in touch with many commercial companies regarding developments in software for genetic research. For example, the CSL team and DCRT's Peter FitzGerald are working with GCG (Genetics Computer Group), which makes a genetic search and analysis package that is used in Kerlavage's facility. "We stay in close contact with the company and serve as a beta test site for the new UNIX version of GCG," explains Powell.

The CSL team has modified other DNA software packages in order to "tailor them to the environment" of Kerlavage's facility. Some of the packages are powerful but not user friendly or intuitive, so they wrote shell programs and user interfaces to improve the accessibility of the technology. In any laboratory there are people of different skill levels; by making the computer applications easier to use, they have helped change biomolecular computation from a specialized skill to one that is more easily mastered.

Speed is, of course, another concern. It takes an hour and a half for a Sun workstation to perform a motif search for one EST using current software (a motif is a short pattern characteristic for a given group of proteins). With Venter's group generating 100 ESTs a day, the backlog quickly became more than the workstations could handle.

Powell, Kerlavage and Kelley are now working with CSL's parallel computing group to adapt the software for use on DCRT's

highly parallel Intel supercomputer. Initial tests show that a search using one EST would take as little as 6 minutes on the Intel, an improvement that will allow the data searches to keep pace with the laboratory's output.

The CSL team has recently integrated the Andrew File System (AFS) into the RBMBS computers. AFS is a distributed file system implemented and supported by DCRT as part of an advanced laboratory workstation project. This has facilitated further collaboration between RBMBS and other DCRT groups, and gives Kerlavage's section immediate and direct access to new computer programs as they are developed. Because of its security features, AFS is being utilized to manage access to sensitive data, and is being evaluated as a vehicle for sharing data and programs among geographically distant laboratories.

As ESTs are mapped onto the human genome, Kerlavage and Venter plan to set up a database that other scientists can use in their research. Human genome project researchers are sequencing the DNA; Venter's group is attempting to locate the genes; other scientists will be able to combine the information generated by each project in an effort to determine what instructions specific genes carry.

"We see ESTs as complimentary to the human genome project," Kerlavage says. "It will help to solve the problem and in the meantime we're getting lots of ancillary information. EST sequences don't answer all of the questions but they answer what I think most biologists see as the major questions."

Biologists and chemists are certainly excited by the breakthroughs and revelations that are coming out of the human genome research currently under way. Computer scientists and electrical engineers are equally excited by the technology that is being developed to speed these discoveries. The collaboration between Powell and Kerlavage has sparked new ideas in both of their disciplines. Powell remarks that, "a lot of the problems we have encountered were because Venter's laboratory is at the leading edge." Finding computing solutions for, and matching DCRT's vast technological resources to those leading-edge problems is the type of challenge that John Powell most enjoys. □

Family Care Fair Set, Sept. 26

The NIH day care committee is sponsoring a Family Care Fair on Sept. 26 from 11 a.m. to 2 p.m. in the Visitor Information Center, Bldg. 10. It will feature child care and elder care resource and referral services, NIH onsite child care facilities, and other community resources for work/family issues. At noon in the Little Theater, Dr. Wendy Baldwin, NICHD deputy director, will present the results of research on child care. The fair is open to all NIH employees. □

Combined Federal Campaign Opens on Oct. 10

"Your Help Is Their Hope" is the 1991 theme of the Combined Federal Campaign. The CFC is a gigantic undertaking requiring the time, effort and commitment of all federal employees. This year, nearly 1,500 voluntary agencies will participate in the charity fund drive, allowing NIH employees to contribute to services provided to millions of people who suffer the ravages of illness and disease here in our community and throughout the world.

Last year, NIH'ers gave approximately \$706,000 for CFC charities. This year, the agency expects an increase of 10 percent.

The Oct. 10 kickoff will feature the NIH Health's Angels, who will lead the pack at the walk/run, a 1-mile walk and 3-mile run commencing at noon in front of Bldg. 1. The walk/run is a joint effort of the NIH R&W Association and the CFC. Registration forms for the race will be available at R&W gift shops. First, second and third place awards will be presented to winners in four different divisions in the run: male, 39 and under; female, 39 and under; male, 40 and over; and female, 40 and over. Certificates will be presented to all participants. The walk/run is open to all who walk or run for fun, fitness or competition. If you don't walk or run, that doesn't mean you have to miss out on all the fun. Jerry's Sub Shop will be on hand to serve subs, chips and drinks. Lunch tickets are \$4 and can be purchased at any R&W store. Proposed features include the National Naval Medical Center Color Guard and performances by the Wootton High School band and the Richard Montgomery High School band. The Baltimore Orioles "Bird" will also be on hand to strut his stuff.

The R&W raffle is open to all NIH'ers and will include among the prizes a television and a VCR (donations by Geico and the NIH Federal Credit Union). The raffle will take place at the kickoff and individuals must be present to win. A special raffle—just for keyworkers—will also be featured.

Dr. William F. Raub, NIH deputy director, will serve as the NIH CFC vice chairman. John D. Mahoney, NIH associate director for administration, will serve as NIH's CFC coordinator. Dave Chicchirichi, executive officer of the National Institute on Aging, will serve as NIH's CFC ICD coordinator.

The CFC donor who pledges a minimum of \$26, by payroll deduction or cash contribution, will be entered into a special R&W drawing, to be announced at the close of the campaign. The winner will receive two free round-trip tickets to anywhere in the continental United States, courtesy of USAir.

The NIH CFC campaign is expected to run through November. Thirteen dollars feeds a starving refugee child in the Sudan for a year. Fifty dollars gives a wheelchair to a handi-



It takes a combined effort to make CFC work, and shown here with the CFC banner are (from l) Art Fried of NIH's Health's Angels, 7-year-old Clinical Center patient Scott Sorensen, and Dr. William F. Raub, NIH deputy director and 1991 CFC vice chairman.

capped child. Whether by cash contribution or payroll deduction, the combined effort of all of us does more than any one of us can do alone. Remember the slogan—"Your Help Is Their Hope."—Carol Cronin □

NIH's Annual Research Festival Features Week of Activity

NIH Research Festival '91 activities will be held Monday and Tuesday, Sept. 23 and 24, under the tents on parking lot 10D, located near Bldg. 10's department of transfusion medicine (blood bank).

Opening day will feature NIH Alumni Day activities, symposia and poster sessions. Box lunches will be available for sale and a cheese and crackers reception will be held during evening poster sessions.

Tuesday will be a day of workshops, starting at 8:30 a.m. and continuing throughout the day. A complete list of workshops will be distributed desk-to-desk. Poster sessions will continue Tuesday, from 11 a.m. to 1 p.m. The Technical Sales Association (TSA) will again host a picnic for NIH employees from 5:30 to 8 Tuesday evening.

On Thursday and Friday, Sept. 26 and 27, more than 250 TSA members will display scientific research equipment in the tents, beginning at 10 a.m.

Shuttle buses will run continuously throughout Research Festival Week, providing service to most buildings, parking lot 41B and the tents. Research Festival '91 programs are available at the NIH Visitor Information Center (VIC), Bldg. 10, rm. B1C218, and at the NIH reception desk, Bldg. 31A lobby. For more information, call the VIC, 496-1776.—Susan Gerhold

More Vols Needed**FIC Appoints New Volunteer Services Coordinator**

By Louise Williams

Linda Beach must have wished upon a lucky star, because her new job is a dream come true.

She recently took up her post as coordinator of the Fogarty International Center's volunteer services office (VSO). In that role, she works with people from all over the world, helping them forge a home-away-from-home in metropolitan D.C.

Her dream of an international life began when she was a ninth-grader in Ransomville, in upstate New York, and her family hosted a Swedish student as part of the American Field Service (AFS) Exchange Program.

It was strengthened a few years later when Beach traveled to Aix-en-Provence, France. "I fell in love with Provence," she recalls. "I took a trip to France every Easter when I was in high school and spent a semester there during my junior year in college.

"If it hadn't been for those experiences," she adds, "I probably would have stuck with foreign languages and history."

She never did learn Swedish, but she became conversant in French and Spanish and, after graduating from Washington College in Chestertown, Md., entered a master's program in international communications at American University in Washington, D.C., obtaining her degree in 1985. The program "didn't deal with telecommunications," she explains, "but with the interplay of crosscultural communications."

A brief stint at IBM convinced her that her interests lay in working with people, not machines. She then spent 4 years as assistant director of the International Visitors Information Service (IVIS), part of the private nonprofit Meridian House International, which is located in Washington and serves officially sponsored foreign visitors to the United States.

At IVIS, Beach arranged specialized programs, including "home hospitality," which gives foreign visitors a chance to have dinner in an American family's house. She also coordinated a telephone language bank, moderated an "International Careers" panel discussion, and edited handbooks for IVIS interns and volunteer tour guides, including congressional staffers treating foreign visitors to an "insider's" look at Capitol Hill.

A large part of her job involved supervising and training IVIS volunteers. However, the "job was mostly behind the scenes, dealing with paperwork.

"When I heard about the FIC opening," she continues, "I realized it would, finally, give me the opportunity to work face-to-face with scientists from around the world."

It should do that in barrel-loads. About



VSO Coordinator Linda Beach (l) discusses a new bandout with volunteer Audrey Hunt.

2,500 foreign scientists annually conduct research at NIH and, though they come from countries as far-flung as Chile and China, virtually all find their way to the volunteer services office. Additionally, VSO assists spouses and children, who may require more services than the busy scientists. As Beach has discovered, the office has no slow season.

VSO began in 1987 and operates like a social services department fused with a recreation and welfare association. The gamut of its services includes helping newcomers locate housing, schools, day care, furniture, and colleagues from back home. Sometimes, VSO makes a crucial difference in a scientist's U.S. stay. Not long ago, for instance, office volunteers were called upon to help a visiting South American scientist who was finding it hard to support a family of four in Frederick. As a for-eigner, he was ineligible for most Maryland social services but, with a bit of leg work, VSO tracked down some innovative funding sources, including a state fuel allowance available even to noncitizens.

VSO also dispenses multilingual information on area bus schedules and tourist attractions for weekend jaunts. And it puts scientists and their spouses in touch with support groups, such as the international women's group.

Located in conference room 3 in the A-wing of Bldg. 31, the office is a maze of cubbyholes and a beehive of activity. On a given day, the much-in-demand tax consultant might be

advising one foreign scientist while a volunteer leads another through the special hour-long orientation to NIH and its environs.

"When I interviewed at FIC," Beach says, "I was impressed by the office's teamwork and how friendly everyone is."

Although still grounding herself in the office's many activities, Beach already has set herself two clear goals—"to beef up the English tutor program and to recruit more volunteers."

The English tutor program allows foreign scientists to work with a volunteer to brush up their language skills. "We also suggest that the scientist attend an ESOL (English for Speakers of Other Languages) class," Beach adds. "Our program is an addition to ESOL, not a substitution." The program requires a commitment of at least 1 hour a week for 3 to 6 months from each volunteer.

Volunteer recruitment, she notes, is an ever-present need. "The office now has 33 volunteers, but five are high school students who'll be going back to school, and three others are spouses of foreign scientists, due to return home in October."

Beach explains that the mix of volunteers is about 50-50, American and foreign, usually the spouse of a scientist on campus. "The two complement each other because the spouses have been through the experience of adjusting to a different culture and the Americans know exactly how things are done here," which is our forte.

"Because of the attrition of volunteers returning home, we particularly need speakers of Chinese, Japanese, Korean, and German."

The rewards for volunteering, Beach notes, are multiple: "Volunteers get the opportunity to use their foreign language skills while meeting very interesting people from a wide variety of backgrounds, or if they've lived abroad, they can reminisce and share common interests. Or, if none of the above apply, they may find a new experience," much as Beach did when her parents hosted the AFS student and redefined their daughter's horizons.

And there are bonuses, such as an upcoming Lawton Chiles International House awards ceremony, when volunteers will be officially thanked for their past year's efforts.

So far, Beach is enjoying the challenges of her new job, big and small. "It's fun helping the scientists learn the ropes, even with things like how to get a driver's license."

She believes that the office "is one of the reasons NIH is a popular place to come. Its high level of service makes it user-friendly. I think the scientists are lucky. There's so much information here.

"And the volunteers make the foreign scientists feel comfortable. We have a good group. We welcome repeat business—the door is always open." □

BIG-YARD Cultivated

Former NIH'er Charlene Drew-Jarvis Bridges Gap Between Science, Politics

By Carla Garnett

No hurdle too high. Those words are the secret for success often repeated by Ward 4 councilwoman Dr. Charlene Drew-Jarvis, former NIH researcher, current District of Columbia politician and recent keynote speaker at "The Formula for Success," a forum presented by the newly formed YARD, a young adult resources and development committee within NIH's Blacks in Government (BIG) organization.

Greeted at a reception by NIH director Dr. Bernadine Healy and presented formally by YARD Chairperson Felicia Shingler, Drew-Jarvis introduced herself to the audience.

"I am the daughter of a man and a mother who believed that there were no obstacles that you could not overcome, that not sex, not income, not the manner of your birth was an obstacle to achievement."

She spoke intimately to the gathering in Lipssett Amphitheater. The more humbly she described her early life, the more impressive it sounded. Born and reared in Washington, D.C., a graduate of the public school system, Drew-Jarvis came to NIH in 1971 after undergraduate studies at Oberlin University, a master's degree from Howard University and a doctorate from the University of Maryland.

She had been working here in NIMH laboratories 8 years when she began to feel pulled from her career in science toward what she called Washington's "more immediate problems" of where people were going to live and where they were going to find jobs to support themselves.

"I was feeling very much removed from the social and economic problems that were facing the Black community in our city," Drew-Jarvis recalled. "And I was wondering whether I shouldn't be using some of the skills I had developed to address some of the important problems that we faced in the city where I was born."

At age 38, Drew-Jarvis made a major career shift—from biomedical science to political science. She said the two are not so very far apart. Indeed, many of the skills she learned doing bench science were natural bridges to her new career. However, she recognized a major difference early in her political tenure.

"I saw that I was in a very different arena in politics than I was at NIH," she said. "In science you are always presumed to be looking for the truth, never any hidden agendas, always working for the common good. And I discovered in politics you're presumed to have quite the opposite—always a hidden agenda, very seldom looking for the truth and not always guided by the common good."



At a reception held by the young adult resources and development (YARD) committee of NIH's Blacks in Government (BIG), are (from l) NIH deputy director Dr. William Raub; YARD Cochair Steve Cox; NIH associate director for intramural affairs Dr. Philip Chen; D.C. councilwoman Dr. Charlene Drew-Jarvis, who spoke at a recent BIG-YARD workshop; NIH director Dr. Bernadine Healy and YARD Chair Felicia Shingler.

It was her concern for the common good that brought Drew-Jarvis back to NIH. In addition to her professional accomplishments, she is the mother of two young adults—the target age group of BIG-YARD's program.

"BIG-YARD's mission is to address needs, eliminate barriers and to develop opportunities for African-American young adults employed at NIH," said YARD founder Shingler, in opening remarks. "The BIG-YARD emphasizes creating a positive attitude and promoting unity while developing networks and cultivating leadership roles."

The keynote speech was followed by a series of workshops designed by and for young adults in the NIH workforce. Topics included SF-171 writing, dressing for success, building self-esteem and exploring training resources.

"We realize that NIH's as well as America's greatest natural resources are its young adults," Shingler continued. "YARD was developed to explore ways of developing our young adults for careers at NIH and to assist BIG in continuing African-American progress by meshing conventional actions of seasoned, experienced employees with the fresh approaches that new and inexperienced employees can bring to society or, as some might say, to the 'system.' The system works. The key is in knowing how to work the system."

Drew-Jarvis, who said she continues to battle racism and sexism in politics, offered advice on working the system successfully:

"Marshal your facts to win arguments," she emphasized. "Science is very good training, because it allows you to ask the right questions."

In addition, the councilwoman asserted,

keep an eye on the finish line. "A goal is probably the most important thing you can set."

Finally, she noted the value of networking. Let people in power know what you want and what you're willing to do to attain it, she advised.

"Align yourself with those who know the field," she said, because they like nothing better than to hear that someone is seriously interested in pursuing their profession.

"At every stage of my career there were new things I had to learn," she concluded, citing the transitions she made in her research from electrophysiological studies with Dr. Mortimer Mishkin to biochemical studies with Dr. Louis Sokoloff, a field in which she had no training. "There were new techniques I had to master, new technologies that I did not know. But my childhood training stood me in very good stead because I kept remembering that there was no obstacle beyond which I could not move." □

Normal Volunteers Sought

The Clinical Neuroendocrinology Branch, NIMH, and the Developmental Endocrinology Branch, NICHD, seek healthy women between the ages of 28 and 55 years for studies involving the relations of hormone changes to sleep and psychological functioning. Individuals will be admitted to the Clinical Center for four nights. Psychological testing will be conducted along with blood sampling and EEG monitoring. For more information call 496-4319. □

ECLIPSE

(Continued from Page 1)

thing of a Renaissance man, capable of expounding with both intelligence and passion on such subjects as political science, table tennis, Redskins football, music, philosophy and, of course, astronomy.

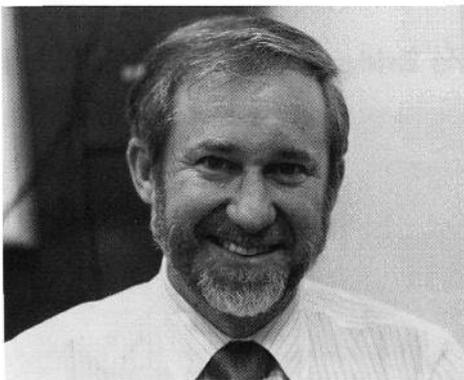
"I've been interested in astronomy since I was a kid," he relates. "I followed all the space probes and Moon shots."

To him, an eclipse is part of the aesthetic of science: "If something is beautiful, it's all the more beautiful if it happens to be real," he says. "Take the coup in Moscow, for instance. It would make a second rate spy novel if it were fiction. But since it's true, it's fascinating. An eclipse is a truly wonderful experience among the things that are real.

"The world of reality has so many wonders," he continues, "that I'm surprised so many people resort to the world of the occult."

Weinstein and his wife, Juliette, a professor in the department of biology at Georgetown University, had their appetites whetted for a total solar eclipse by a partial one they had seen in 1970.

Owing to a happy accident of nature, the Moon is the perfect size and distance from Earth to totally block out the disk of the Sun during an eclipse. The shadow formed by this happenstance is composed of two parts, an umbra and penumbra. The former, which is the smaller and darker of the two, is responsible for the phenomenon known as "totality."



Weinstein and his wife Juliette call Hawaii their "desert island." Try to attend his talk on Oct. 9 if you are interested in a photographic tour of the islands.

The umbra of the July 11 eclipse first touched Earth in the Pacific Ocean and surged east toward Hawaii at 16,000 miles per hour. Crossing the ocean, it passed through Baja California and over millions of upturned faces in Mexico City before dipping into South America and rocketing off into space from the Amazon jungles of Brazil.

The Weinstains decided to leave little to chance when it came to viewing what was known in astronomical circles as "the Big One." They signed on aboard the S.S. Constitution for a special voyage arranged by Scientific Expeditions and the American-Hawaii Lines.

The week-long tour of the Hawaiian islands featured helicopter rides, science lectures

(Weinstein gave a talk on AIDS; his wife discussed the sexual habits of wasps), films, and scuba diving. Included in the itinerary was a detailed plan to intercept the umbral path, the region of totality. For 4 minutes, the boat, weather withstanding, would lie in the shadow of a completely erased Sun.

"The sea offers the advantage of mobility," Weinstein explained. "Our captain had charted several path options depending on the weather."

At 4 o'clock on the morning of the eclipse, unbeknownst to a vessel crowded with eclipse enthusiasts who were still asleep, a world-famous meteorologist on board, working with the Weather Service and up-to-the-minute satellite information, changed the ship's course to a heading that would put them in what he hoped would be sunny waters, 33 miles off the big island of Hawaii.

Just before dawn that morning, the Weinstains staked out a position on deck and set up

"If something is beautiful, it's all the more beautiful if it happens to be real."

three cameras—two with telephoto lenses—for photographs.

"We had originally planned not to bring the cameras," Weinstein related. "The eclipse is so brief and so breathtaking that we didn't want to bother with photography. But we got seduced into shooting it because we had already taken so many beautiful pictures of Hawaii."

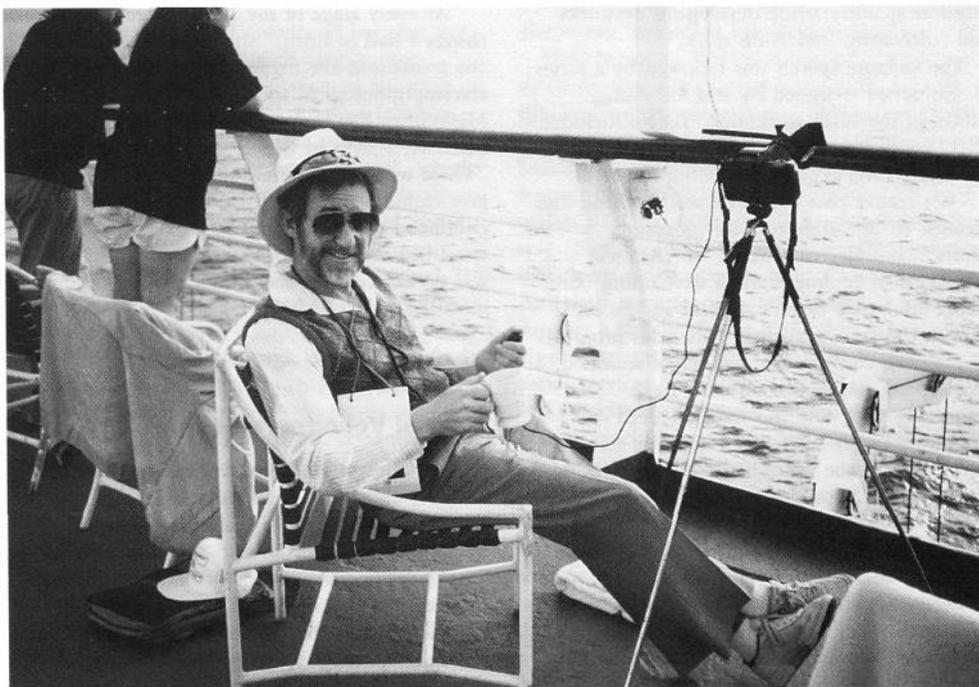
Weinstein said he felt anxious and exhilarated in the minutes leading up to totality.

"There was a band of clouds and we weren't sure the Sun would rise above it," he remembers. He had been at Cape Cod for a previous big eclipse and had just missed the region of totality. The next good chance would not come until 1999 in Europe, an event for which the Weinstains are already booking rooms prophylactically in both Cornwall and Rouen.

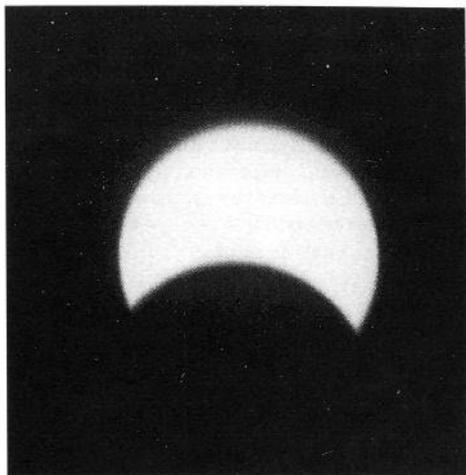
Counting down for the legion of heavens-watchers were the director of an astronomical society and an Apollo astronaut, Dick Gordon, the command module pilot on Apollo 12. They were supposed to keep time over the shipboard public address system as totality approached.

At 7:28 a.m., the long-awaited umbra arrived.

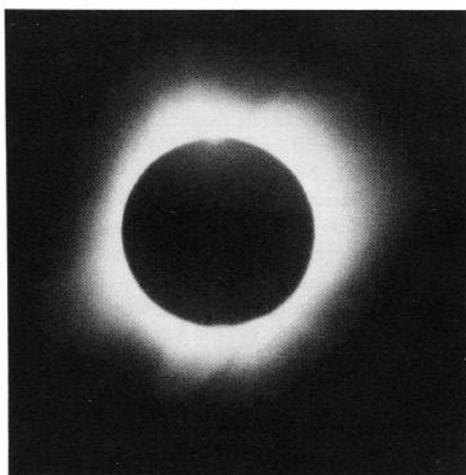
"Television and photos can't communicate the phenomenon," Weinstein said. "The sky darkens, the temperature drops, the sea turns silver. Everybody goes quietly nuts—it's known as 'eclipse fever.'"



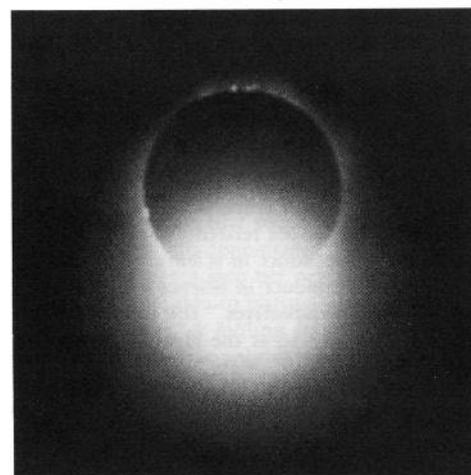
His coworkers in NCI's Laboratory of Mathematical Biology may not know this side of Weinstein, who is shown shipboard on the morning of July 11, just before a total eclipse of the Sun.



The Moon begins to invade the disc of the Sun in this photograph taken July 11, about 33 miles off the big island of Hawaii in the Pacific.



During the 4 minutes of "totality," the Sun is completely blocked out by the Moon. Only the bright fringes of the corona are visible in this photo.



As the Sun begins to emerge following totality, a phenomenon known as a "diamond ring" occurs—the first brilliant edge of the Sun creates the jewel.

So awestruck were the timekeepers that they were speechless at zero hour and lost track of totality's duration.

Weinstein, meanwhile, was composed enough to shoot not only a series of excellent eclipse pictures, but also a photograph of his wife witnessing the eclipse in quiet bliss.

When the event had ended, word got back to Weinstein that a professional photographer on contract to *Life* magazine, a veteran of 11 solar eclipses, had experienced technical difficulties and didn't get an eclipse photo. Weinstein offered his work as a substitute.

"*Life* is planning to use one of our best shots as a two-page spread in their year-in-review issue," he said. "I'll believe it when I see it. But it's definite that *Omni* magazine will be using a number of the photos in their November issue."

Arriving back in Washington after the trip, Weinstein showed some of his best slides to friends, who convinced him to turn his work into a lecture presentation. The scientist obliged on Aug. 13 when he gave a seminar for NIH'ers called "Photographing the Solar Eclipse at Sea: Science and Pictures" in a Bldg. 10 conference room. So popular was his talk that he will give it again at 2 p.m. on Oct. 9 in Lipsett Amphitheater.

The scientific relevance of the recent eclipse is still being digested at NASA and other laboratories. The time has passed, Weinstein reports, when only a total solar eclipse could answer certain fundamental scientific questions.

"In terms of scientific value, the most famous eclipse ever occurred in Brazil in 1919, when experiments were done to test Einstein's theory of general relativity—the idea that gravity consists of a bending of space in the region of a large object such as the Sun. The results were positive, and an Australian

expedition 3 years later confirmed those findings. The new space telescopes make this recent eclipse the last one of its scientific breed."

Aside from its scientific relevance, total solar eclipse occupies a place in cultural history. Reams of bad poetry, several lines of which Weinstein includes in his presentation, have been inspired by such events.

"It's interesting to me that we can accept

"The sky darkens, the temperature drops, the sea turns silver. Everybody goes quietly nuts—it's known as 'eclipse fever.'"

the fallibility of great scientists and politicians, yet believe that Shakespeare never wrote lousy verse or that Mozart didn't occasionally write as if he were being paid by the note," said Weinstein, who takes pleasure in finding relationships between the humanities and science.

"Most primitive people viewed the eclipse as the Sun being swallowed by a dragon, or a hyena, or a wolf," he continued. "It's interesting that Polynesian tradition saw it as the Sun and the Moon embracing. They are said to have celebrated this happy occurrence with embraces of their own, including orgiastic celebrations lasting several days."

A San Francisco native, Weinstein went to college at Harvard, where one of his professors was Henry Kissinger. His father is a noted internist, medical educator, and community leader in San Francisco. His mother, also a leader in the community, was a disciple of Margaret Sanger's in the early days of Planned Parenthood.

"I would have been a political scientist in another life," he muses.

Not that his own life isn't full enough. A veteran of several Boston Marathons, Weinstein is also a table tennis ace who, for a time, helped train the current U.S. champion, Sean O'Neill of McLean, Va. A lecture on table tennis serves and racquet composition by Weinstein would likely draw almost as many NIH'ers as a talk on the solar eclipse.

"Aside from my marriage and my science, the biggest thrills in life so far have been the eclipse and playing table tennis at the Beijing Sports Complex in 1984," he says.

Weinstein is also a music lover. "We listen to more classical music than anything else, but I think there's good music in every genre," he avers. His wife is the producer and host of a program called "Desert Island Discs" that airs Saturday mornings at 11 on radio station WETA (FM 90.9); her guests have included NIGMS director Dr. Ruth Kirschstein and Clinical Center director Dr. Saul Rosen.

Written on his computer but, as yet, unmailed is a letter to Redskins' coach Joe Gibbs on how he might improve Washington's defense. "I don't know if I'll send it," he says, sheepishly.

Weinstein has been in his current laboratory since 1975. He arrived at NIH in 1973 following an internship and residency at Stanford. While obtaining his medical degree at Harvard before that, he became deeply interested in physics and math, subjects that remain his specialty.

"I spent 2 happy years with Norman Gershfeld at NIAMD, then a productive fellowship with Robert Blumenthal in this lab. I've stayed ever since."

Except when there's been a total solar eclipse. □

AAAS/OSIR Conference Addresses Misconduct in Science, Nov. 15-16

The American Association for the Advancement of Science-American Bar Association National Conference of Lawyers and Scientists and the PHS Office of Scientific Integrity Review (OSIR) will cosponsor a conference addressing key issues related to handling allegations of misconduct in scientific research. Entitled "Misconduct in Science—Recurring Issues, Fresh Perspectives," the conference will be held Nov. 15-16 at the Hyatt Regency Hotel in Cambridge, Mass.

This conference will offer a variety of perspectives on such topics as delineating boundaries between poor scientific practices and flagrant misconduct or fraud; the appropriate roles of universities and the government in investigating allegations; various models used by universities and the government in conducting investigations; practical questions that arise in the course of a university or government inquiry and the need to protect good faith whistleblowers.

This conference will be of interest to scientists from all disciplines, university administrators and counsel, government funding agencies, attorneys, scientific societies, public policy makers and students and scholars of the ethical dimensions of science.

For information contact, Deborah Runkle, AAAS, (202) 326-6794, or Barbara Bullman, OSIR, (301) 443-5300. □

NIH Cycling Classic Set, Oct. 6

Cycle the beautiful NIH grounds on Sunday, Oct. 6, at the first annual NIH Cycling Classic. At the classic you can see a United States Cycling Federation-certified cycling event with some of the area's best racing cyclists and strongest teams competing on an exciting course through campus. Afterward, ride the course yourself in the sponsored ride for NIH patient charities. There will be free workshops and information on cycling and fitness, bike safety and maintenance, and the new helmet law. And for racing enthusiasts ages 3-12, there will be special peewee races.

The USCF races are scheduled from 8 a.m. until 1:15 p.m.; the peewee races will be held at 1:30; and the sponsored ride, open to all ages, will be held from 1:45 to 3:15 p.m. All events will begin in front of Bldg. 1 on Center Dr. For registration information, call R&W, 496-6061.

Volunteers are needed to help with registration and course monitoring; call Kelly, 496-6061. Volunteers will receive an "NIH Cycling Classic" t-shirt. Sponsors of the event include the Bethesda Marriott, Metropolis Bicycles, the Fenwick Inn in Ocean City, Md., NIH Federal Credit Union, and the National Capital Velo Club. □

Poster Day Exemplifies Students' Striving

"Even if the open windows of science at first make us shiver . . . in the end, the fresh air brings vigor, and the great spaces have a splendor of their own."—Bertrand Russell

Last month, the windows of science were open for students and teachers participating in the first annual NIH/ADAMHA Summer Research Program Poster Day, sponsored by the Office of Education.

From late morning until mid-afternoon in the Clinical Center's Visitor Information Center, scientists listened and discussed presentations with more than 120 students and teachers who chronicled their summer research lab experiences in 117 exhibits.

High school, college, medical, dental, and graduate students from 22 states and United States territories stood side by side, in a marriage of scientific and regional backgrounds, explaining their findings from the summer.

"The poster session provides an opportunity for students and teachers to pull together their summer's work and share their results with



Dr. Heiner Westphal, chief of the Laboratory of Mammalian Genes and Development, NICHD, asks a student about her poster.

their colleagues just as scientists do at professional meetings," explained Dr. Michael Fordis, director of the Office of Education. "Learning to present and communicate one's research findings is an important part of becoming a scientist. The students here are participating in the complete scientific process of investigation and communication."

Aside from providing a forum for the exchange of scientific information, Poster Day "welcomes these young researchers into the scientific community," offered Fordis.

Students such as Stacy Marcus, a senior at Rockville's Kennedy High School this fall, embraced the welcome: "It's neat to be able to talk to people you pass in the hall and see the work that they've been doing and talk to them about the work you've been doing. There are a lot of similarities, even if it's on different projects. A lot of the techniques and goals are the same."

The summer internship programs provide

"hands on" research experience for nearly 700 students and teachers who spend from 8 to 10 weeks with NIH and ADAMHA scientists. Although for many, this summer represented their first research experience, a number of students and teachers have returned this year for followup research.

"Out of my three summers here, this is definitely the best," said Ethan Gershon, who will be a sophomore at Harvard this fall. "This is the summer I've had the most interaction. How long a student has been here makes a difference in the presentation. You slowly figure out how to communicate with others."

"It's important for students to see how much can be accomplished in one summer as well as to see the impressive results of work over several summers," added Fordis.

"When scientists came around and asked questions, I was actually able to answer them. I realized then that I had made a contribution," beamed Wendy Clarke, a second year medical student at SUNY-Syracuse.

The variety of summer programs offered for students and teachers at NIH is being used to capture the interest of students at all levels. Experiences are available for students year after year.

"It was a good idea to get the students together. I was a little intimidated at first, but the medical student beside me talked to me a lot and helped set up my poster," said Gladys Ignacio, who will be a freshman at Harvard this fall.

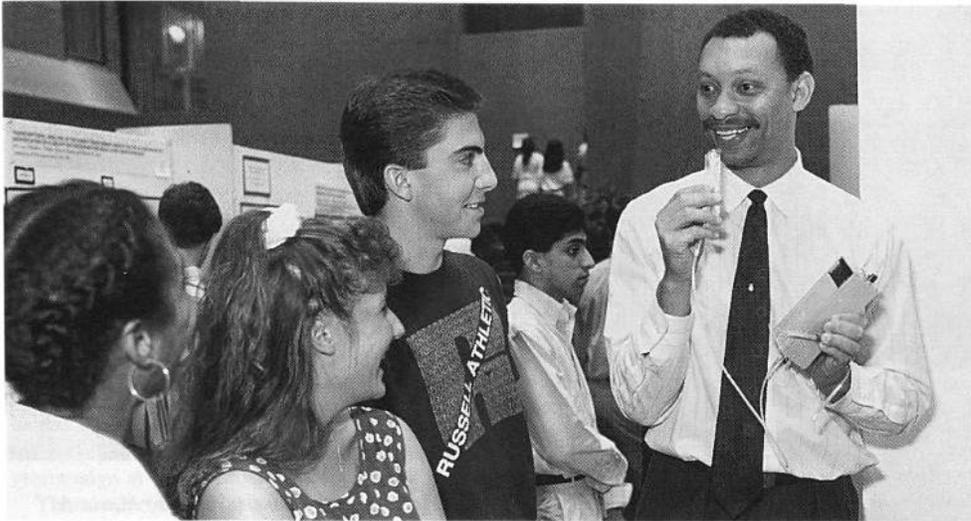
Sean Francis, a second year medical student from Case Western Reserve, was randomly placed next to an undergraduate student.

"I found that if you listen to an explanation of someone else's project, you end up understanding about one-third of the information. After I had finished explaining my project, the student next to me said it was the first thing he had understood all summer. In fact, he pointed out my poster to a number of other people. That really boosted my confidence," recalled Francis.

For the many teachers who will take their summer research experiences back into the classroom, the practical experience was welcome. Carol Raphael, a biology teacher at Virginia's Paul VI High School commented, "I always wanted to see what it would be like to do a poster session. Right around the corner was a former student of mine. We discussed our projects and I talked to many other students as well. It was a great experience. I encourage more teachers to participate."

Gershon invited his high school biology teacher, who has about 10-15 former students in NIH summer programs.

"I think it was interesting for him because he knows the information, the theory, but not



Discussing his poster on assessments of tongue strength is Jonathan S. Hunn (r), a third-year medical student at Howard University, who addresses a gathering of interested onlookers at Poster Day. At center is Alyssa Needleman who, like Hunn, worked under Dr. Barbara Sonies in the Clinical Center department of rehabilitation medicine this summer.

how it came to be, not how we got there," explained Gershon. "It was neat to be able to say, 'Now I can tell you something interesting.' Finally the teachers see the product of their labor."

For Dr. Robert Adelstein, chief of NHLBI's Laboratory of Molecular Cardiology, poster day represented three generations of learning.

"My son presented and my 92-year-old father attended," he began. "I'm always enthusiastic about young people and I was very impressed by the sophistication of the posters."

Amit Golding, a sophomore at Cornell University, remarked, "It gave me a chance to see other people's work. I didn't realize how much work is done by students at NIH. They all seemed very professional. Poster day together with the lecture series were programs that respect the students' ability to learn. The summer programs were targeted to the students—they were all-encompassing, encouraging and confidence-building," he concluded.

For many students, the poster presentations represented an impressive end to their first biomedical research experience. Bobby Gupta,

a senior at nearby Walter Johnson High School this fall, explained:

"It was strange at first, a 16-year-old explaining science to a senior scientist, but then you realize that they're really interested and that they want you to learn. I had a high degree of confidence after the poster session, but this is only the first step and certainly not the end."

Fordis related: "For students who wish to learn about science, there is no substitute for doing research and presenting one's results. Presenting teaches one to have a critical eye in reviewing one's own work. It helps one to develop the discipline to look for gaps and unanswered questions in one's experiments. Hopefully, the students will begin to understand the collegial nature of research where ideas and suggestions are freely exchanged and where that exchange is vital to scientific progress."

Although the return of the fall season beckons students back to their respective schools, the windows of science remain open, bringing a new discovery with every breeze. □

New Training Catalog and Calendar Available

The new FY 1992 NIH Training Catalog and Calendar, which describes courses, programs, and training services offered by the NIH Training Center, has been distributed to ICD personnel and administrative offices.

Quarterly brochures, providing detailed registration information for courses offered October through December 1991 have also been distributed and are available on Training Center information racks in Bldgs. 1, 10, 30, and 31; in Executive Plaza South and North; and the Westwood Bldg. Look for the follow-

ing quarterly brochures: *Personal Computing (and Networking)*, *Office Operations and Administrative Systems*, *Professional Development and Supervision and Management*, and *Personnel Management Training*.

Many new courses are in the final stages of development and will be advertised by fliers, in the *Record*, and in subsequent quarterly brochures. Look for Introduction to Windows 3.0, IMPACT Training, additional property management courses and performance appraisal workshops, to name a few. □

Riley Named NIA Senior Scientist

Dr. Matilda White Riley, associate director of the National Institute on Aging for the Behavioral and Social Research Program, has been named senior social scientist at NIA; she joins a handful of other senior researchers in the congressionally established senior scientist position, and is the first social scientist at NIH to receive this appointment.

When she moves into her new post on Oct. 6, Riley will be able to pursue a variety of research interests. A leading sociologist and pioneer in innovative approaches to the study of aging and society, she plans to focus her research on social structures and structural changes as they affect quality of life, health and functioning among older people.

"This is a neglected area of scientific attention, despite the fact that contemporary social structures are still woefully geared to the population of much younger people that characterized the last century," she says.

The position reflects a lifetime of achievement in social sciences and more than a decade



Dr. Matilda White Riley

as leader of NIA's behavioral and social research effort. According to Dr. T. Franklin Williams, former NIA director, Riley "is credited with creating the sociology of age as a scientific field. Her appointment as a senior researcher honors and strengthens the institute and the interests of aging research in general."

In addition to her position as an NIA associate director, Riley is emerita professor at both Rutgers University and Bowdoin College. She has been president of several professional organizations, including the American Sociological Association. She is a senior member of the Institute of Medicine and in 1990 received the Presidential Meritorious Rank Award. She has published widely, often in collaboration with her husband, Dr. John W. Riley, Jr. □

NIDCD Board Gains Five

Five new members have been named recently to the Deafness and Other Communication Disorders Advisory Board. They are Drs. Byron J. Bailey, Gerard J. Buckley, Thomas V. Getchell, and Robert Kohut, and Engelberto J. Bolanos.

Bailey is the Wiess professor and chairman of the department of otolaryngology at the University of Texas Medical Branch at Galveston. He served on the communicative disorders study section from 1975 to 1979 and as its chairman from 1977 to 1979; he was also a member of the NIDCD national strategic research plan task force in 1989.

Bolanos is a hearing aid specialist certified by the National Board for Certification in Hearing Instruments Studies. He is a member of the National Hearing Aid Society and the Florida Hearing Aid Society. He coordinates various hearing screening programs and provides outreach services to senior citizens groups and residents of nursing homes on hearing problems.

Buckley is the chairperson of the department of summer career exploration and outreach development at the National Technical Institute for the Deaf and assistant professor at the Rochester Institute of Technology. He is president of the American Deafness and Rehabilitation Association and a member of National Association of the Deaf.

Getchell is professor in the department of physiology and biophysics and associate dean for research and basic sciences at the University of Kentucky College of Medicine. He recently completed his term as executive chairperson of the Association of Chemoreceptive Sciences. Getchell, who received a Claude Pepper Award from NIDCD in 1990, has made major contributions to the field of molecular neurobiology of the chemosensory systems.

Kohut is professor and head of the section on otolaryngology in the department of surgery at Bowman Gray School of Medicine in Winston-Salem. He has served as president of the Society of University Otolaryngologists-Head and Neck Surgeons and on the scientific forum committee of the American College of Surgeons. He is considered one of the world's leading authorities on perilymphatic fistulae, a disorder in which fluid leaks from the inner ear causing dizziness and sudden hearing loss. □

Hyperactive Boys Needed

The Child Psychiatry Branch, NIMH, is recruiting boys between the ages of 6 and 12 who have the dual diagnosis of Tourette syndrome and attention-deficit hyperactivity disorder. Call Gail Ritchie, 496-0851. □



Dr. Anthony S. Fauci (standing, l), NIAID director, recently presented NIH Merit Awards to eight NIAID staff members. Seated are (from l) Lennita R. Lawson, Management Services Branch; Maria A. Deloria, Epidemiology and Biometry Branch; Dr. Betty J. Fowlkes, Laboratory of Cellular and Molecular Immunology; Dr. Peter Golway, Animal Care Branch. Standing are (from l) Dr. M. Michele Hogan, Basic Immunology Branch; Dr. Margaret Johnston, Basic Research and Development Program; and Mary C. Kirker, Grants Management Branch. Not shown is Dr. James F. Balsley, Pediatric Medicine Branch.

Three Named to NIGMS National Advisory Council

Three new members have been named to 4-year terms on the National Advisory General Medical Sciences Council. They are Drs. Terry A. Krulwich of the Mount Sinai School of Medicine of the City University of New York, Reynaldo S. Elizondo of the University of Texas at El Paso and Rowena G. Matthews of the University of Michigan Medical School.

Krulwich is a professor of biochemistry and dean of the graduate school of biological sciences at Mount Sinai. She also directs the school's medical scientist training program.

Elizondo is dean of the college of science

and professor of biological sciences at the University of Texas at El Paso. After receiving a Ph.D. in physiology from the Tulane University School of Medicine in New Orleans, he went to the Indiana University School of Medicine. He assumed his present position in El Paso in 1988.

Matthews is professor and associate chair of biological chemistry at the University of Michigan Medical School in Ann Arbor and holds an appointment as a research scientist in the biophysics research division of the university. □

Exhibit Opens on Midwifery

An exhibit on the history of midwifery will be on display in the front lobby of the NLM through Jan. 15, 1992. The exhibit is being prepared by the library's History of Medicine Division in cooperation with the American College of Nurse-Midwives, whose archives are deposited in NLM's modern manuscripts collection.

The exhibit will feature books, manuscripts, artifacts, pictures, and films on the development of midwifery from early times through the 20th century. The library is open Monday through Thursday, 8:30 a.m. to 9 p.m., and Friday and Saturday, 8:30 a.m. to 5 p.m.

A half-day symposium on midwifery in historical perspective will be held in conjunction with the exhibit in the library's Lister Hill Auditorium on Friday, Oct. 11, from 2 to 5 p.m. The symposium is sponsored by the American College of Nurse-Midwives, in cooperation with NLM, and is open to the public. For more information contact Peter Hirtle, 496-5963.



Midwives assist a woman giving birth. From Jacob Rueff, Ein schon lustig Trostbuehle ... (Zurich, 1554).

Our Man in the Desert**NIH'er Vincent Thomas Returns From Persian Gulf War Action**

By Ann C. London

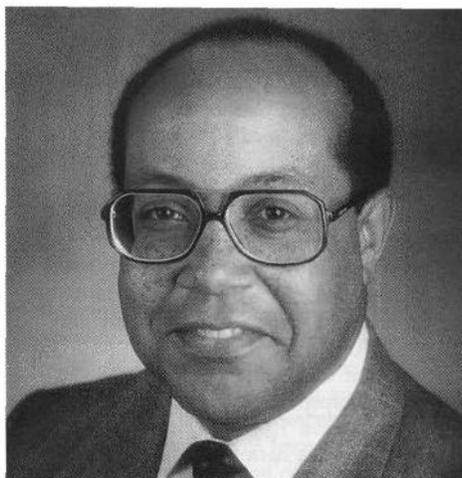
Because he was one of several NIH participants in Operation Desert Storm, Maj. Vincent A. Thomas Jr., United States Army Reserve, also known as chief of NIAID's Management Services Branch, missed the cherry blossoms and the 4th annual NIAID employee recognition day picnic. And because his unit was one of the last to leave the Middle East, he couldn't participate in all the hoopla and the fanfare—the national victory parade in Washington, D.C., honoring those who served in Operation Desert Storm, as well as the travel and purchase discounts for returning veterans.

Thomas went from the cold of the Washington winter last January to the dry heat of the Saudi Arabian desert to the cool mountains of Turkey and northern Iraq only to return recently to a hot, humid and hazy Washington summer. As part of the 354th Civil Affairs Brigade from Riverdale, Md., Thomas was one of thousands of citizen soldiers called up for active duty in the Persian Gulf War.

In the middle of the night Jan. 19, Thomas arrived in Dhahran, Saudi Arabia, and was greeted with screeching sirens and a light show of flying Scud and Patriot missiles. The situation was so dangerous in Dhahran that the crew aborted the plane's landing and headed for Riyadh. At first Thomas thought that it was a standard training exercise. "When the plane turned around, I realized that this was not a test," Thomas recalled. "It was live ammunition!" Immediately, the atmosphere on the plane turned from complacency to fear.

An hour to the south of Dhahran and just north of the Tropic of Cancer, Riyadh, Saudi Arabia, was clearly not a better choice. The plane landed amid three Scud attacks, and soon took off again for Dhahran, where the situation had improved. This deadly game of hopscotch ended at dawn when Thomas' shaken unit left the plane in full gear to protect themselves from possible chemical exposure. Quite a welcome.

Thomas' first assignment was to write a public health "contingency" plan to provide safety and medical help for Iraqi citizens if U.S. troops and officials occupied a major Iraqi city. Fortunately, the plan was never needed. For the next 2 months, during and after the ground war, he helped coordinate a relief effort that was headquartered in a small town in southern Iraq. Food, water and medical services were brought into the area for the townspeople as well as for thousands of refugees fleeing the horrifying conditions in the northern areas of the country. Persuading these very proud people to accept help



Vincent A. Thomas, Jr.

required a lot of diplomacy and sensitivity to religious and social customs.

Tent life in the desert was not like an Ali Baba fairy tale. It was deadly scorpions, poisonous snakes, and blinding sand storms. Along with routine military maneuvers and briefings, there was the daily check for uninvited critters in boots and bedding. According to Thomas, "We were allowed only weekly, 3-minute showers. But 3 minutes was long enough for a snake to slither up through the wooden plank floor and attack the unwary." As if the natural enemies weren't bad enough, there were the manmade ones to contend

with—missiles, bombs, and the threat of chemicals and biologicals.

By March, Thomas was writing to family and friends that he would probably be home in April. However, April found him on a plane to Sliopi, Turkey, on the Turkey-Iraq border, to be part of a new mission—Operation Provide Comfort. As the name suggests, troops were there to provide and coordinate services for the thousands of refugees who had been displaced by the war. Every day in the beautiful mountains of southern Turkey and northern Iraq, an estimated 400 to 1,000 people, most of them Kurdish refugees, were dying from lack of food, water and proper sanitation. By the time U.S. troops had left the area, chaos had turned into order, many of the refugees had returned to their homes, and local governments and international organizations were providing continuing help. Thomas said, "I feel good about my role in helping people to survive and get back on their feet again. This made it worth all the effort and inconvenience."

Thomas is glad to be home among family and friends. Although he wasn't here for many events during the last 5 months, the veteran of Operation Just Cause (Panama, January 1990) and Operation Desert Storm didn't miss the surprise celebration his colleagues gave for him on his first day back to work at NIAID. Thomas is one of several members of the NIH community who served in Operation Desert Shield/Storm. Coworkers were glad to welcome home all who served overseas. □



Attendees gather at the recent conference on "The Role of T Cell Subsets and Cytokines in the Regulation of Infection." The local conference organizer Dr. Alan Sher, chief of the immunology and cell biology section of NIAID's Laboratory of Parasitic Diseases, is seated at center. NIAID was the prime sponsor of this international forum, which highlighted current advances in our understanding of how the immune system defends against microbial infection. As a result of this scientific exchange, the immunologists expect to fine-tune their knowledge of the function and biology of CD4+ and CD8+ T cells, their subsets, and the regulating chemicals—called cytokines—they produce. One of the speakers, Dr. Sergio Romagnani, at the University of Florence School of Medicine in Italy, was the first to document the possibility that CD4 lymphocytes in man can be divided into two distinct functional subsets. NIH's Mary Lasker Center provided the setting for the meeting.



Dr. Bruce A. Chabner, director of NCI's Division of Cancer Treatment, was recently awarded the rank of rear admiral in the PHS Commissioned Corps. As director of DCT since 1982, he is responsible for the discovery and development of treatments for cancer and AIDS. He graduated summa cum laude from Yale College in 1961; received his M.D. degree from Harvard Medical School, cum laude in 1965; and completed his internship and residency at the Peter Bent Brigham Hospital.

NIH Honored for Hiring

NIH recently received a "Partners in Change" award for its innovative support of women re-entering the workforce. Named to receive one of only 95 such awards given nationwide, NIH was cited for providing representatives to conduct work seminars and testing, and seeking and hiring "displaced homemakers"—women who must find jobs because they have lost their primary income, usually by being divorced or widowed.

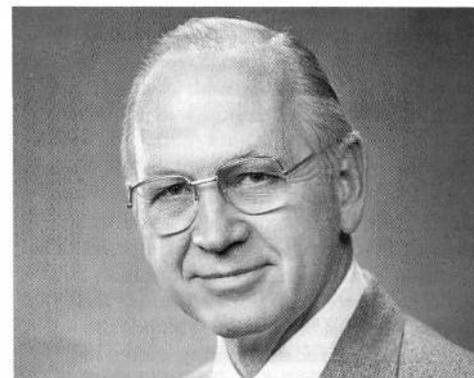
"Partners in Change" winners were nominated by local employment and training programs around the country that serve displaced homemakers. NIH was nominated by the Crossroads Program in Capitol Heights, Md.

The award was announced by the National Displaced Homemakers Network, which represents more than 1,000 employment and training programs nationwide. □

NCI's Charles Smart Retires

Dr. Charles R. Smart, chief of NCI's Early Detection Branch from its beginning in 1986, has retired and returned to Salt Lake City, Utah. In 1985, after 10 years as chief of surgery at the LDS Hospital in Salt Lake City, Smart came to NCI as chief of the Community Oncology and Rehabilitation Branch. In 1986, he became chief of the newly created Early Detection Branch. He was responsible for developing NCI's working guidelines for the early detection of cancer. These guidelines have been widely accepted by the medical community. He made the early detection of cancer a primary focus for cancer control activities in the institute's Division of Cancer Prevention and Control.

Smart has devoted his professional life to dealing with cancer. As a nationally and internationally recognized expert in the field of cancer registration, as well as in screening for



Dr. Charles Smart

Three New Members Welcomed to NIDR Council

Three new members have been appointed to the National Advisory Dental Research Council. They are Drs. Ronald Max Andersen of the University of California at Los Angeles, Paula Fives-Taylor of the University of Vermont, and Ray Allen Muston of the University of Iowa.

Andersen is the Wasserman professor of health services at UCLA, where he teaches and conducts research on the structure and financing of health care systems. He is currently participating in the International Collaborative Study of Oral Health, which is designed to identify oral health issues that would benefit from international collaborative research.

Fives-Taylor is a professor in the department of microbiology and molecular genetics

at the University of Vermont in Burlington. Her research focuses on how bacteria attach themselves to host tissues and invade healthy cells. She was a member of the oral biology and medicine study group from 1986-1989.

Muston is an associate professor of planning, policy and leadership studies at the University of Iowa. He has been active in many organizations related to economic growth and development, including the East Central Iowa Private Industry Council and the Iowa Association of Professional Developers. Most recently he founded Marke-Tech, a market research and consulting firm that specializes in increasing contacts between U.S. and foreign companies and organizations.



Dr. Harald Loe (second from r), NIDR director, welcomes three new members to the National Advisory Dental Research Council. They are (from l) Drs. Ronald Max Andersen, Paula Fives-Taylor, and Ray Allen Muston.

cancer, he has developed cancer registry data systems and programs for the analyses of these data that are now used throughout the world. He started the Rocky Mountain Tumor Registry, which covers many of the western states.

An active member of the American Cancer Society and state cancer societies, Smart has more than 100 scientific publications spanning a career of more than 30 years. Before joining NCI, he served on many NCI working groups and advisory committees. At the time of his appointment to NCI, he was a member of the board of scientific counselors for the Division of Cancer Prevention and Control.

As a surgeon, Smart was also involved in medical professional societies. He was director of the cancer department of the American College of Surgeons from 1977 to 1983 and also assistant director of the college from 1978 to 1983. He served as executive secretary of the American joint committee on cancer from 1975 to 1983. In his retirement, he will continue his interests in cancer, pursuing the further development of chemotherapeutic agents as well as new methods for the early detection of cancer. □

TRAINING TIPS

The NIH Training Center of the Division of Personnel Management offers the following:

<i>Courses and Programs</i>	<i>Starting Dates</i>
<i>Management and Supervisory 496-6371</i>	
Managing Stress Maximizing Effectiveness	10/2
Interacting with Difficult Employees	10/10
Avoid Writing Anxiety	10/15
Time Management	10/16
Scientific and Medical Editing	10/23
Managing Behavior in the Work Environment	10/23
Federal Budget Process	10/28
<i>Office Operations and Administrative System Training 496-6211</i>	
Effective Guide to Good Grammar	10/18
Time Management for Office Support Personnel	10/22
NIH Correspondence: Letter and Memo Preparation	10/30

Physics Paper Honored

The American Association of Physicists in Medicine has honored a paper coauthored by scientists in the Biomedical Engineering and Instrumentation Program (BEIP), NCCR, and the diagnostic radiology department of the Clinical Center as the best paper published in the journal *Medical Physics* in 1990.

The Sylvia Sorkin Greenfield Memorial Award was presented at the association's 1991 annual meeting to the article "Hyperthermia System Combined with a Magnetic Resonance Imaging Unit," (*Medical Physics* 17: 855-860) by Jose Delannoy (BEIP), Denis LeBihan (CC), David Hoult (BEIP) and Ronald Levin (BEIP).

Hyperthermia is an adjunctive treatment for malignancies, used in combination with radiotherapy or chemotherapy. For effective treatment, the authors say, temperatures within tumors must remain above 43 degrees C for 30 to 60 minutes, but for safety's sake the temperatures of normal tissues must stay below 43. Recently developed hyperthermia devices can focus the energy into a targeted area of the body, but lack of adequate temperature control has limited their usefulness. And thermal probe insertion may be painful and hazardous.

The prize-winning article describes the authors' combination of a hyperthermia device with a magnetic resonance imaging (MRI) unit as an experimental tool to control hyperthermia treatments. MRI has the advantage of being noninvasive and nonionizing, and there is a relationship between body temperature and molecular diffusion, which can be measured and imaged by MRI (D. LeBihan et al. *Radiology* 171: 853-857, 1989). However, a hyperthermia device and an MRI unit may each be disturbed or damaged by the presence of the other. The article describes the solutions adopted by the authors to overcome this difficulty. □

'Frontiers in Imaging Sciences' Seminars Continue on Oct. 1

Recent advances in imaging sciences have important implications for the future of clinical, biomedical and behavioral research. The National Center for Research Resources and the National Cancer Institute in collaboration with the diagnostic radiology department of the Clinical Center are sponsoring a series of seminars entitled "Frontiers in Imaging Sciences" to focus on these latest developments.

The fourth lecture in this series will be given by Dr. Harold M. Swartz on "Recent Development in *In Vivo* Electron Paramagnetic Resonance" (EPR). EPR techniques now provide the means to obtain very useful and unique data from viable biological systems, including intact living animals. The available techniques involve both imaging and spectroscopy. There is a reasonable probability that *in vivo* EPR spectroscopy will become both an important experimental and clinical tool to measure concentrations of oxygen and to detect the presence of free radicals.

Swartz is director of the University of Illinois EPR Research Center and president of the International EPR Society.

The lecture will be held on Tuesday, Oct. 1 at 8:30 a.m. in Lipsett Amphitheater, Bldg. 10. To preregister, call Patty Vorndran on 496-2992. □

Child Health Day, Oct. 7

Child Health Day will be celebrated this year with a national symposium titled "Looking Out: Understanding and Preventing Childhood Injury." It will be held Monday, Oct. 7 at Masur Auditorium, Bldg. 10, from 9 a.m. to 5 p.m. HHS secretary Dr. Louis Sullivan will head a list of distinguished speakers.

Injury is the single greatest killer of children older than age 1. In 1988, 22,426 children from birth through age 19 died from intentional and unintentional injuries. Each year an estimated 30,000 more are permanently disabled as a result of injuries.

Experts in the field of unintentional injuries will discuss programs dealing with the major causes of childhood deaths from fires, drownings, automobile accidents, bicycle accidents, poisoning, and choking. Dr. C. Everett Koop, former U.S. surgeon general who now heads the National Safe Kids Campaign, will be the keynote speaker. Joining Sullivan among the speakers will be Dr. James Mason, HHS assistant secretary for health, who will present the Healthy Mothers/Healthy Babies coalition awards, and Dr. Antonia Novello, current U.S. surgeon general, who will present the symposium summary.

The Child Health Day symposium is free of charge and no preregistration is required. For more information, contact Marsha Love, 496-5133. □



Gwendolyn Brooks, NIAID equal employment opportunity officer, recently received an "Outstanding Service Award" from the National Council of Negro Women, Prince George's County, Md., chapter, during its 10th anniversary celebration. The council recognized Brooks for her voluntary support and outreach to young women in the community.

DCRT Computer Training Classes

<i>Classes</i>	<i>Dates</i>
Convex Questions and Answers	9/18
Ligand Bonding for the PC and Macintosh	9/20
Beyond Basic WYLBUR	9/23-9/27
BITNET	9/25
Flow Cytometry Topics	9/26, 9/27
Introduction to Windows	9/30
C Language Fundamentals	9/30-10/4
Use of SAS at NIH	9/30-10/11
Drawing DNA Sequences with Computers	10/2
DB2 Application Programming	10/7-10/11
Introduction to WYLBUR	10/7-10/18
Downloading Sequences from GenBank on the Convex	10/8
DCRT Support for UNIX Workstations	10/8
Batch Files with PC-DOS	10/15
ENTER BBS	10/15

Classes are offered by DCRT's Computer Center Training Unit, without charge. Call 496-2339 for more information. □

Horseback Ride in Virginia

Enjoy the beautiful fall scenery of the Virginia countryside on horseback at Marriott Ranches, located in Fauquier County near the Blue Ridge Mountains. R&W has scheduled a 2-hour group ride for Saturday, Oct. 12, beginning at 10 a.m., followed by a hearty lunch of barbecue chicken, cole slaw, beans, rolls, dessert and drinks. Cost is \$40 per person. Make your reservation for this popular outing at any R&W location, or call 496-4600 for more information. □

OMS Again Sponsors Mammography Screening for NIH Employees

The Occupational Medical Service of ORS' Division of Safety will again coordinate a low-cost mammography screening and breast education program for NIH employees at several NIH locations during September, October and November. The cost of the screening mammogram is \$55. Because the State of Maryland recently passed a law requiring all insurance companies that pay for breast cancer treatment to also pay for screening mammograms, employees should call their insurance carriers to get accurate information about insurance reimbursement.

Following NCI's three-point breast cancer detection plan, the program includes a teaching module for breast self-exam, a clinical breast exam and a mammogram. The teaching module is scheduled separately from the clinical exam and mammogram. All employees are encouraged to participate in the educational session that focuses on the role of clinical breast examination and breast self-examination in the detection of breast cancer. Participants will also be taught breast examination techniques using prosthetic models.

Women 40 years and older are encouraged to make an appointment to get a mammogram and clinical breast examination; women between the ages of 40-49 should have them every year or 2; and women 50 and older should have them on an annual basis.

The mobile screening program will be provided by the University of Maryland Cancer Center and will include a screening mammogram and clinical breast examination that in combination achieve maximum detection rates. A female radiology technologist will perform the clinical breast exam and conduct the mammogram using mammography-dedicated screening equipment. The procedure itself may cause brief, but only slight discomfort, and is not painful. All results will be read by a board-certified radiologist and sent to each woman and her physician of choice. The appointment will take approximately 20 minutes. To participate in this program women must:

- Be age 40 or older unless there is a family history of breast cancer. Younger women will be accommodated with a prescription

from a physician.

- Be asymptomatic—experiencing no current breast problems, for example a lump or nipple discharge and have no history of breast cancer.

- Not have had a mammogram within the last 12 months.

- Not have breast implants.

- Not be pregnant or nursing.

Appointments and payment may be made at the education session or by calling the University of Maryland Cancer Center at 1-800-787-0506. Payment options include personal check, money order, Visa or MasterCard. Space is limited and requests will be handled on a first-come, first-served basis. For more information call OMS, 496-4411.

Screening and Education Sessions

Screening Sessions

Friday	Oct. 11	Bldg. 31C parking lot
Friday	Oct. 18	Bldg. 10C shuttle turn
Friday	Oct. 25	Bldg. 10C shuttle turn
Friday	Nov. 1	Westwood Bldg.
Friday	Nov. 8	Executive Plaza South

Educational Sessions

Sept. 27	31/7A24	10-11 a.m.
	10/Little Theater	11 a.m.-noon
Oct. 23	WW/7A04	11 a.m.-noon
Oct. 29	EPN/Conf. Rm. C	11 a.m.-noon

Healy Recommends Participation in Mammography Screening Program

Message from the Director

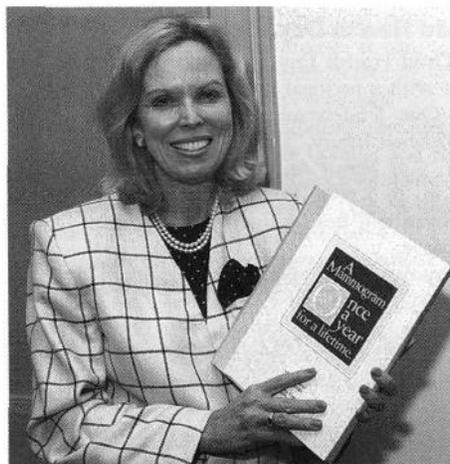
This fall is a time of celebration and of taking stock. In October we will be celebrating the beginning of the 500th anniversary of the discovery of America by Christopher Columbus. On a more personal than symbolic level we will celebrate Fire Prevention Week as a way of thinking about keeping ourselves safe at home and where we work.

October is also Breast Cancer Awareness Month. I hope that every woman at NIH will think about her vulnerability to breast cancer and will participate in the Occupational Medical Services' mammography education and screening program.

All women are at risk for breast cancer including those with no family history of the disease. The two major risk factors for breast cancer are aspects of ourselves that we can't change—being a woman and getting older. However, there are steps we can take as women to put ourselves in the best position to care for our lives.

Among the steps that every woman can take regardless of her age is to learn how to perform an effective breast self-exam and to ask her doctor to do an annual clinical breast examination. For women 40 and older, follow NCI's recommendation to get a mammogram "Once a Year for a Lifetime" because early detection of breast cancer greatly increases survival and peace of mind. Let's take this opportunity to translate our NIH mission of health to our own employees and work place. Supervisors can do this by encouraging employees to attend these programs as an act of caring and commitment to their employees' health.

I want every woman at NIH to have the advan-



NIH director Dr. Bernadine Healy encourages NIH-employed women who are 40 years and older to participate in the Occupational Medical Services' Mammography Screening Program by following the National Cancer Institute's theme: A Mammogram-Once a Year for a Lifetime.

tage of mammography, which for most women is the assurance that you are well. For a few women, mammography may reveal a lump of which 80 percent are benign. For an even smaller number of women, mammography can detect breast cancer at its earliest stage up to 2 years before any symptoms occur. Because when breast cancer, or any cancer, is found, early detection is our best protection.

NIAMS, NHLBI Hold Joint Meeting

The National Institute of Arthritis and Musculoskeletal and Skin Diseases and the National Heart, Lung, and Blood Institute are cosponsoring an upcoming scientific meeting entitled the Antiphospholipid Antibody/Lupus Anticoagulant Workshop. It will be held on Sept. 25 from 8 a.m. to 6 p.m. in Bldg. 31C, Conf. Rm. 8.

The antiphospholipid antibody or lupus anticoagulant syndrome is found primarily in women, some of whom may also have systemic lupus erythematosus. Its major manifestations include recurrent thromboembolic disease and recurrent pregnancy loss. The workshop will focus on antigen and antibody characteristics and on pathological mechanisms.

The workshop is intended to bring together leading investigators from different disciplines to review the state of knowledge and to define a research agenda for the future.

Space is limited. Scientists interested in attending should contact Lynn Warwick, 496-0802. □