

"Still
The Second
Best Thing
About Payday"

The NIH Record

May Be New, Maybe Not

Non-HIV Immunodeficiency To Get Science's Scrutiny

By Rich McManus

NIAID director Dr. Anthony Fauci spared a Clinical Center Grand Rounds audience the incommensurables of a visit to Amsterdam by summarizing the outcome of the recent VIII International AIDS Conference; he also illuminated this year's version of the conference's annual *cause celebre*—non-HIV immunodeficiency, reports of which caught authorities by surprise since they were first published in a news magazine rather than a peer-reviewed journal.

Fauci said he first learned of the new cases when NBC News science reporter Bob Bazell met him as he arrived from the airport in Amsterdam with news of a mysterious ailment that mimics the immune deficiency of HIV infection but is not apparently associated with the virus.

Called "HIV-negative CD4+ T lymphocyte depletion," the cases prompted a special session in Amsterdam chaired by Fauci and Dr. James Curran of the Centers for Disease Control. Their approach has been cautious and

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Fauci Presents New Insights Into HIV Pathogenesis

By Greg Folkers

The symptomless stage of HIV infection, sometimes referred to as clinical latency, is actually a time of the continuous presence and high level replication of HIV in the lymph nodes, according to recent studies carried out in the Laboratory of Immunoregulation, NIAID.

Laboratory chief and NIAID director Dr. Anthony S. Fauci presented the findings in a state-of-the-science lecture, "The Immunopathogenic Mechanisms of HIV Infection," at the recent VIII International AIDS Conference. Fauci's talk reviewed his laboratory's research on the complex immunologic events that occur at each stage of HIV infection, especially those very early in the course of the disease and those that result in CD4+ T cell dysfunction.

"We must rethink the concept of clinical latency," he said. "Although little HIV can be detected in the blood during this period, there is sequestration of virus in the lymphoid tissue, active virus replication in the lymph nodes, and the induction of HIV expression. In addition, there are progressive functional abnormalities of CD4+ T cells as well as cytopathic effects on these cells."

Once it enters the body, HIV rapidly repli-

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NHLBI Hosts Major Minority Health Forum

By Louise Williams

As celebrants enjoyed the cultural displays of the Folk Life Festival on the Mall, health care professionals a few blocks away were grappling with minorities' harsher reality—their burden of disease.

"Minority Health Issues for an Emerging Majority" was the fourth National Forum on Cardiovascular Health, Pulmonary Disorders, and Blood Resources. Cosponsored by NHLBI, its ad hoc committee on minority populations, and the National Medical Association, the 2-day forum drew nearly 600 scientists, health professionals, and policy and program planners—twice the anticipated number.

The forum explored health issues for the major American minority groups—Blacks, Hispanics, Asians and Pacific Islanders, and American Indians and Alaska Natives. For the first time, it covered pulmonary disorders and blood resources, in addition to cardiovascular health. Topics ranged from public health policy issues, to innovative community intervention programs, to cross-cultural trends and state-of-the-art research.

The packed agenda included presentations by top federal, state, and private sector health officials, including DHHS secretary Dr. Louis W. Sullivan, assistant secretary for health Dr. James O. Mason, and NIH director Dr. Bernadine Healy.



Joining in a Lakota prayer at the closing ceremony were Henry Niese (far l), professor, University of Maryland, and Dr. David Baines (far r), chair, NHLBI ad hoc committee on minority populations.

The agenda offered 5 plenary and panel sessions, 15 workshops, 45 roundtables, 66 posters, and an evening-long cultural celebration, which showcased art treasures and traditional dances. The event ended with a song by the St. James Community Choir of Washington, D.C., that brought participants to their feet to hold hands and dance together.

The harmony displayed during that song proved symbolic of the entire forum. As men-

(See **HEART FORUM**, Page 4)



The lines of children were long outside Bldg. 10 when a Formula-Continental race car visited recently. Here, Whitney Barrett-Carter, age 5, sits in the driver's seat of the \$40,000 racer brought to NIH by driver Kevin Kommit and his sponsors Molecular Dynamics and Bridgestone Tires. Kommit gave away race caps and kids had their photos taken in the car, which was parked in front of the hospital during a children's picnic. (Photo: Ernie Smith)

FAUCI

(Continued from Page 1)

cates and disseminates. Fauci and his group have demonstrated that during this period, called the acute or primary stage of infection, large numbers of viral particles spread throughout the body, seeding themselves in various organs, particularly the lymph nodes. The lymph nodes act as a filtering system for the body, trapping invaders and presenting them to the squadrons of immune system cells that congregate there.

"Three to 6 weeks after exposure to the virus, up to 50 to 70 percent of HIV-infected persons suffer flu-like symptoms related to this



Dr. Anthony S. Fauci

acute infection, such as fever, malaise, headaches and swollen lymph nodes," said Fauci.

A week to a month later, the patient's immune system fights back and CD4+ T cell levels may rebound to 80 or 90 percent of their original level. The patient generally goes into a symptomless stage lasting 2 to 10 years, "during which time it is difficult to find the virus replicating in the peripheral blood mononuclear cells," said Fauci. "The patient often feels fine."

But, as Fauci and his colleagues have demonstrated, HIV is active within the lymphoid organs. Using techniques such as electron microscopy and polymerase chain reaction, the researchers have shown that early in the course of infection large amounts of the virus are trapped in the thread-like tentacles of follicular dendritic cells contained within the germinal centers of the lymph nodes.

In and around the germinal centers, CD4+ T cells become infected in increasingly large numbers. Many of these cells may become activated, allowing them to be more easily infected. For years, even though little virus may be present in the blood, significant numbers of HIV particles are accumulating in the

germinal centers, both in infected cells and as free virus.

"At least 10 times more virus per any given number of cells may be present in the lymph nodes than is present in the bloodstream," Fauci reported. "Paradoxically, the filtering system in the lymph nodes, so effective at trapping other invaders and initiating an immune response, may be an important reason why HIV is so effective at destroying the immune system."

Ultimately, the NIAID researchers speculate, the lymph node is overwhelmed and the follicular dendritic cells break down, leading to the release of large quantities of free virus into the bloodstream that heralds the later stages of HIV disease.

"During this burned-out stage, the follicular dendritic cells can no longer effectively filter and trap the virus," Fauci explained. "One sees spill-over of virus into the bloodstream, which manifests itself as accelerated viremia and ultimately advanced HIV disease."

A further understanding of the critical events early in HIV infection and the role of the lymphoid organs in the progression of HIV disease will have important implications for treatment. Toward this end, NIAID researchers are beginning a clinical trial to determine whether people would benefit from treatment with zidovudine (AZT) very soon after primary infection.

"This trial will help clarify gaps in our understanding of HIV immunopathogenesis, and elucidate the promise of therapeutic intervention early in the course of HIV infection," Fauci said. □

Learn How To Draw

Ever wanted to learn how to draw, but were afraid to try? R&W is sponsoring a class whose premise is that everyone can draw. Instructor Lori Kohan has a bachelor of fine arts degree, and is teaching eight sessions for \$65, Sept. 17 through Nov. 12, from 6 to 8 p.m. in Bldg. 31C, Conf. Rm. 7. Register today at any R&W location, or call 496-4600 for more information. □

Kayak Lessons Offered

Kayak lessons on the Potomac River are being offered for people of all ages, but especially beginners, sponsored by R&W. Lessons are scheduled 7 days a week, mornings and afternoons. Cost is \$60 to R&W members. For information call (301) 564-9053. □



Dr. Robert Spirtas has recently been appointed chief of the Contraceptive and Reproductive Evaluation Branch, Center for Population Research, NICHD. He had been a senior scientist in this program since 1988. Spirtas received a bachelor's degree with honors in actuarial science from the University of Illinois in 1965. He then received a master of science degree in statistics from the University of Iowa in 1967 and a Dr. P.H. in biostatistics from the University of North Carolina in 1975. In 1980 he became a biostatistician in what was then the Environmental Epidemiology Branch, NCI. He is a fellow of the American College of Epidemiology and has served on the governing council of the American Public Health Association.

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Men and Women Receive AIDS Treatment at Similar Rates, Researchers Say

Not only do men and women receive HIV-related therapies at similar rates, they also show no differences in the occurrence of HIV-related illnesses or death, according to preliminary findings from an observational study by investigators at the Terry Beirn Community Programs for Clinical Research on AIDS (CPCRA) of the NIAID.

"These investigations are important particularly because this is the first large, prospective study to show that men and women share similar consequences of their HIV disease," says Dr. Lawrence R. Deyton, chief of the community research branch of the Division of AIDS, NIAID.

Dr. Linnea Capps, assistant clinical professor of medicine and public health at Columbia University and attending physician at Harlem Hospital in New York, and colleagues found no significant differences based on gender for those receiving antiviral treatment and anti-*Pneumocystis carinii* pneumonia (PCP) therapy. However, the study revealed that persons under 35—regardless of gender—were less likely than older persons to receive either treatment. The investigators do not know why this occurs. However, they surmise

that younger people tend to be less compliant with medical regimens in general.

This 16-month study had 2,850 participants: 19 percent women and 81 percent men. After accounting for CD4+ T cell levels, injection-drug use, race and ethnicity and age, the investigators found no significant gender differences in care delivery. The participants included 41 percent African Americans, 41 percent Caucasians and 16 percent Hispanics. Among the 374 women, 68 percent were

HIV-infected women and men do not differ significantly in the illnesses they develop or their rates of death.

injection-drug users (IDUs) and 14 percent had AIDS. Of the 1,583 men, 36 percent were IDUs and 26 percent had AIDS.

In another CPCRA study, Dr. Renslow Sherer, director of the HIV Primary Care Center at Cook County Hospital in Chicago, and colleagues found that HIV-infected women and men do not differ significantly in the ill-

nesses they develop or their rates of death. These diseases included PCP, oral and esophageal candidiasis, herpes zoster, *Mycobacterium avium* and cytomegalovirus. Such HIV-related illnesses occurred for the first time on an average of 6.6 months after enrollment.

For this study, the investigators collected data on 4,202 participants—843 women and 3,359 men—every 6 months during the last 2 years. Of the participants, 70 percent were ages 30 to 49, 40 percent were African American, 18 percent Hispanic and 42 percent Caucasian. Of those enrolled, 19 percent of the women used injection drugs, as did 28 percent of the men. Among the volunteers, 42 percent had counts fewer than 200 CD4+ T cells and 70 percent had CD4+ T cell counts less than 500.

Established in October 1989, the CPCRA involves 17 community-based research programs at about 160 sites in 13 U.S. cities. The program includes groups of primary physicians and nurses who care for large numbers of people with HIV infection at community health centers and hospitals, private clinics or practices and drug addiction treatment facilities.—James Hadley □



Dr. Polly R. Sager has been named assistant director of the Basic Research and Development Program in NIAID's Division of AIDS. She will provide additional expertise to Dr. Margaret I. Johnston, associate director for the program. Formerly, Sager served as senior scientist in the drug development section of the division's Developmental Therapeutics Branch. In her new position, she will coordinate program interactions with industry and other drug sponsors and act as a liaison between the basic science program and treatment research components within the division. Prior to coming to NIH in 1989, Sager was a senior toxicologist at ICI Americas in Farmington, Conn. She received her doctorate in toxicology from the University of Rochester in 1982.

DES Launches 'Express Service' for Rapid Response to Small Jobs

The Division of Engineering Services announces its new "Express Service," which will provide a rapid response to small, but essential, jobs that have had a tendency to be given low priority.

Express will cover work that can be accomplished by a single mechanic in 1-2 hours, for example, installing a bulletin board, hanging chalk or marker boards, adding shelves to existing installations, installing/relocating electrical receptacles where service is established, installing clocks, installing/removing light fixtures on existing electrical service and similar small jobs.

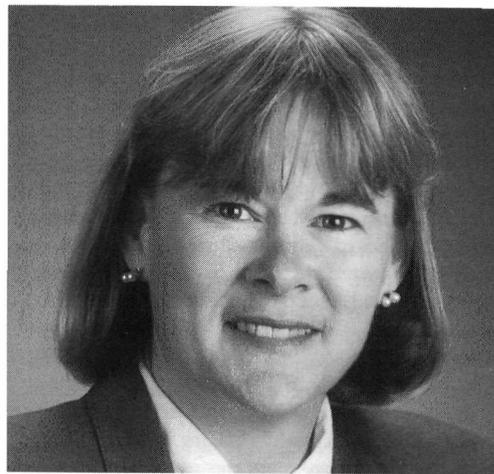
How can customers use Express? When a small service is necessary, customers simply phone the maintenance section responsible for their particular building, describe the need and request Express Service.

The maintenance section will dispatch the appropriate trades mechanic to accomplish the work, normally within 24 hours.

If a particular request falls beyond Express Service guidelines, a mechanic or supervisor will be available for advice.

When placing a service call, use the following as a quick reference: Bldg. 10, call the Clinical Center maintenance section, 496-5862; buildings north of South Drive (i.e., the road that runs straight through campus from the Metro Station to Old Georgetown Road), call north maintenance

engineering section, 496-5083; buildings south of South Drive, call south maintenance engineering section, 496-6484. □



Dr. Christine A. Bachrach has been appointed chief of the Demographic and Behavioral Sciences Branch, Center for Population Research, NICHD. She received her Ph.D. in population dynamics from Johns Hopkins University in 1979. Prior to joining NICHD in 1988, she was on the staff of the National Survey of Family Growth at the National Center for Health Statistics. Bachrach has published articles on a variety of topics related to behavioral aspects of childbearing in the United States.

HEART FORUM

(Continued from Page 1)

tioned by many participants, it signified the forum's success in generating a newfound unity of purpose in attacking minorities' serious health issues.

The forum opened with introductions by its cochairs, Dr. Shiriki K. Kumanyika, associate director for epidemiology at the Pennsylvania State College of Medicine, and Dr. John Karefa-Smart, immediate past-chair of the NHLBI ad hoc committee on minority populations, followed by welcomes from NHLBI director Dr. Claude Lenfant and Healy.

Lenfant defined the forum's goal, saying it would provide a meeting ground for sharing information and ideas that could help end "the tremendous disparities which exist in the health status of minority groups compared with the general population."

Healy then reminded the assemblage that "American 'minorities' are rapidly becoming the new 'majority.'" How, she asked, will America's health care system, derived from Western ideas of health and sickness, "be transformed to fulfill the needs of our culturally diverse nation?"

Next, keynote speaker Sullivan outlined the scope of the problems confronting forum participants. Minorities, he said, bear an unfairly large burden of several chronic diseases. For instance, minorities have been hard hit by the nation's rise in asthma morbidity and mortality. Blacks are now three times more likely to die from asthma than whites—with Black children five times more likely to die.

Sullivan pledged DHHS' continued commitment to alleviating minorities' disease burden and asked each member of the audience to do likewise, paraphrasing an old African proverb that "the health of the people is the wealth of a nation."

Health and wealth—or the lack of both—were often-heard refrains during the forum, as speakers repeatedly zeroed in on poverty and such associated problems as lack of access to care as causes and exacerbations of minority illness.

For instance, Dr. Charles Francis, director of the department of medicine at Harlem Hospital Center in New York City, told an astonished audience that the survival rate for Harlem's Black men is less than that for men in Bangladesh. "The Third World is in Harlem and similar places," he said. "It's appalling and totally unacceptable. Poverty is the main culprit and that is our challenge."

He observed that significant portions of the U.S. population are being left out of the benefits of medical progress. The United States spends more on high-technology medical procedures and equipment than any other developed nation, he added, yet does not have the world's best cardiovascular mortality rates.



Forum officials welcome keynote speaker DHHS secretary Dr. Louis W. Sullivan and NIH Director Dr. Bernadine Healy. Present are (from l) Sheila Pobl, assistant to the NHLBI director; Robinson Fulwood, coordinator of the NHLBI National Asthma Education Program; Dr. David Baines, chair, NHLBI ad hoc committee on minority populations; Matilde Alvarado, NHLBI minority program specialist; Sullivan; Healy; Dr. Shiriki K. Kumanyika, forum cochair; Dr. John Karefa-Smart, immediate past-chair, NHLBI ad hoc committee on minority populations, and forum cochair; and NHLBI director Dr. Claude Lenfant.

Underscoring his point, he said that life expectancy for Black men and women is declining, and hypertension death rates are increasing. "Hypertension is not just more prevalent, but is killing more commonly."

Dr. Everett Rhoades, U.S. assistant surgeon general and director of the Indian Health Service (IHS), gave an overview of poverty's effect on American Indians, who are poorly educated and live in remote and scattered conditions.

Three of every four Navajo households, Rhoades said, have no telephone. "These are Indians whose nearest doctor is like your having a doctor in Chicago if you live here in D.C."

He added that heart disease has become the leading cause of death among American Indians only in the last 15 years, having overtaken injury. Indians also face a high prevalence of obesity and a death rate from tuberculosis six times greater than that for the U.S. as a whole.

"Certain clichés are true," Rhoades said. "Populations get the kinds of disease their living conditions dictate to them."

Dr. Humberto Hidalgo, assistant professor in the department of pediatrics at the University of Texas at San Antonio, described poverty's impact on Hispanic children with asthma. Results of a year-long study of 78 poor, urban Hispanic children with asthma showed that parents lacked money to obtain doctors, medications, and transportation. Additionally, smoking in the home, language barriers, health beliefs and attitudes, and low awareness of symptoms contributed to children's sickness, Hidalgo said.

But poverty is only a partial explanation, cautioned Dr. John M. Flack, assistant professor of medicine and epidemiology and codirector of the division of general internal medicine at the University of Minnesota in Minneapolis. He stressed that poverty cannot explain why Blacks have initial heart attacks 5

years earlier than whites or suffer more sudden death.

Several speakers called for more basic and epidemiological research to answer such questions. For example, Harlem Hospital's Francis said only research would discover why Blacks have more hypertension and diabetes than whites, but about the same incidence of coronary heart disease.

Similarly, Dr. Thomas K. Welty, a medical epidemiologist with the Aberdeen Area IHS in Rapid City, S.D., described intriguing results from NHLBI's Strong Heart Study, the first large-scale CVD investigation among American Indians. The study, which examined 4,500 persons from tribes in Arizona, Oklahoma, and South Dakota, found that the tribe with the most diabetes and a slightly higher average blood pressure had the lowest incidence of CVD.

Lack of information was also blamed for mistaken notions of Asians' health status. Dr. Samuel Lin, U.S. assistant surgeon general and acting deputy assistant secretary for minority health in the Public Health Service, noted that the true state of Asians' health, like much else about the diverse minority, has been dangerously obscured by myth.

Past data gatherers, he explained, including the National Center for Health Statistics, did not distinguish among the myriad subgroups of Asians. That has led to such mistaken notions as Asians suffer less CVD than the U.S. as a whole.

The truth, Lin said, is that Asians are not immune to CVD risk factors. Some Filipinos have higher hypertension rates than the U.S. norm, while young men from Southeast Asia are largely unaware of the dangers of smoking. Furthermore, Asians are less likely than Americans generally to have their blood pressure checked, know about heart-health facts, or see a doctor.

But the forum dealt as much with solutions

as with problems. Presenters, workshops, roundtables, and posters offered innumerable national, state, and local strategies for improving minority health.

For instance, Dr. Emilio Carrillo, medical director of the William F. Ryan Community Health Center in New York City, advocated reversing America's 3 to 7 ratio of primary care physicians to specialists. He cited American Medical Association surveys showing a steady decline in primary care physicians over the past 30 years, a trend that has robbed minorities of doctors "who can build trust so you can do those difficult interventions of smoking, exercise, hypertension, and obesity. Without this," he said, "we are talking theories" and are left with de facto rationing of health care services.

Dr. J. Jarrett Clinton, administrator of the Agency for Health Care Policy and Research, also favored basic health care improvements, including the creation of supportive infrastructures able to meet the health needs of minorities. He presented data from a host of studies showing health care disparities for minorities, including less use for Blacks than whites of the most expensive medical and surgical treatments.

Other suggestions came in the form of concrete actions. Dr. Michael Horan, associate director for cardiology of NHLBI's Division of Heart and Vascular Diseases, said the institute is increasing its funding for research on hypertension and coronary heart disease in Blacks. The hypertension grants alone will total almost \$19 million in fiscal year 1993 and \$25.8 million in fiscal year 1994.

Healy described efforts undertaken by the NIH Office of Minority Programs, including funding of intervention projects to improve the health behaviors of minority youth and of an effort to give masters-level minority students the chance to pursue doctorate degrees.

At a forum press briefing, Dr. Vivian W. Pinn, director of the NIH Office of Research on Women's Health, described the ambitious Women's Health Initiative, "the largest prevention study ever conducted in the United States," which will involve 10 ICDS.

She applauded NHLBI's new Collaborative Projects on Women's Health, which will study underinvestigated areas of women's health. She also praised the institute's public education programs, many of which "are specially focused on minorities."

At roundtable sessions, forum attendees got the chance to sample from a cornucopia of health promotion and disease prevention ideas, which they could take home and replicate in their own communities. Moving in a round-robin among dozens of tables devoted to different projects, participants heard about such activities as: an initiative to reduce chronic disease risk factors among public housing residents, a tuberculosis awareness drive for

Blacks in Washington, D.C., a self-guide for controlling hypertension for Chinese and Filipinos, a bone marrow donation campaign among college-age minority students, and a crash course on how to conduct epidemiologic research in high crime areas.

At the end of the second day, attendees regrouped en masse for what PHS' Lin termed a "last call to action." Giving the forum's summary speech, Lin told the group to not only prepare for the challenges ahead but also remember the gains already made. "Minority health," he observed, "is a demand whose time for action has come."

The forum closed with a special farewell prayer, sung in Lakota Sioux by several American Indians, including Dr. David Baines, chair of the NHLBI ad hoc committee on minority populations.

One of the closing singers, Henry Niese, a professor at the University of Maryland, told the gathering that a medicine man had long ago predicted the meeting of four colors on the American continent. "This conference is part of that prophecy," he said. And "if we do it right here and now, a child seven generations from us will benefit." □

NHLBI, NIDDK Sponsor Workshop

A "Workshop on Diabetes and Mechanisms of Atherogenesis" sponsored by NHLBI and NIDDK will be held Sept. 17-18 in Lister Hill Auditorium, Bldg. 38A. The workshop is designed to stimulate work at the interface of diabetes research and vascular biology research. For program and registration information, contact Dr. Marie R. Green, Lipid Metabolism-Atherogenesis Branch, Division of Heart and Vascular Diseases, NHLBI, 496-3271 or fax 496-9882. □



Dr. Hortencia M. Hornbeak has been named chief of the Scientific Review Branch in the NIAID Division of Extramural Activities. Her duties include management and coordination of the scientific and technical review of grant applications submitted to NIAID in the fields of microbiology, immunology and infectious diseases. Formerly, she was chief of the AIDS review section in the division. Hornbeak earned her doctorate degree in microbiology from Georgetown University in 1972.

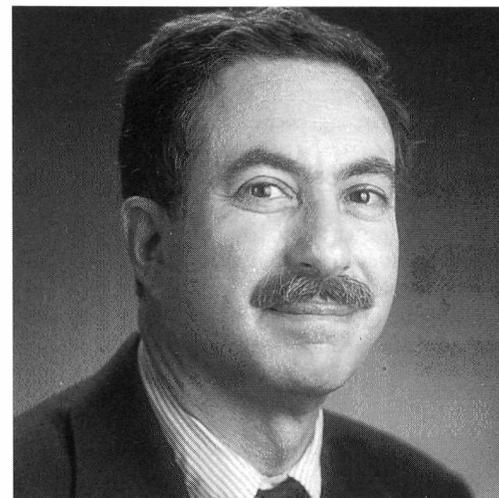
Friedman To Direct NHLBI Division

Dr. Lawrence M. Friedman was recently appointed director of NHLBI's Division of Epidemiology and Clinical Applications (DECA).

DECA plans and directs a range of basic and applied behavioral research, clinical trials, demonstration projects, and epidemiological studies in disease prevention and health promotion.

"Dr. Friedman brings a wealth of experience and knowledge to this important position," said NHLBI director Dr. Claude Lenfant. "I welcome his leadership in helping to shape the policies and programs of the institute."

A New York City native, Friedman gradu-



Dr. Lawrence M. Friedman

ated from Trinity College in Hartford, going on to earn an M.D. at the University of Pittsburgh Medical School.

He came to NHLBI as a medical officer in 1972, after completing his residency at the Hartford Hospital. A year later, he joined DECA's Clinical Trials Branch, becoming its chief in 1985.

Since 1986, he has served as both chief of that branch and associate director of DECA's Clinical Applications and Prevention Program.

Through the years, Friedman has been involved in many key NHLBI trials, including the Coronary Drug Project, the Aspirin Myocardial Infarction Study, the Type II Coronary Intervention Study, the Physicians Health Study, and the Cardiac Arrhythmia Suppression Trial.

Friedman has taught courses on clinical trials and biostatistics at NIH's FAES Graduate School, the Food and Drug Administration, and the Georgetown University School of Medicine.

He has written or coauthored nearly 50 professional articles, as well as a textbook on clinical trials methodology. □

Plug Into DCRT's Advanced Laboratory Workstation Project

By Greg Wilson

What does an NIH scientist want in a computer? Certainly an ideal computer would be powerful and easy to use, with nearly unlimited file space, strong security features, and access to the latest scientific software. While we're dreaming, why not throw in a staff of computer experts to troubleshoot and act as system administrators? It may be time for NIH'ers to pinch themselves, because DCRT's Advanced Laboratory Workstation (ALW) project makes all of these features available today.

The ALW project is a support system for high-performance, UNIX-based workstations. Any NIH scientist with a workstation and an NIHnet connection can apply for an account on the ALW system. The ALW software offers a range of features that make workstations more effective scientific tools, while at the same time making them easier to manage. Traditionally, the hard part of owning a UNIX workstation has been system management, but ALW is centrally administered by DCRT computer specialists who handle the complex issues associated with keeping the workstations running efficiently.

Files and most software for advanced laboratory workstations are stored on central file servers linked via high-speed network connections to the workstations around campus. A scientist using a mainframe would use a local terminal to access a large remote computer that both stores files and software, and also processes computing jobs on a time sharing basis. With ALW, however, the computing actually takes place on the workstation on the scientist's bench, while the storage is provided by specialized file server machines located elsewhere on the network. This is what is meant by "distributed computing."

The Andrew File System

ALW's distributed file system uses the Andrew File System (AFS) software that was developed at Carnegie Mellon University and is in use at more than 200 sites worldwide. AFS offers several advantages to ALW account holders. Scientists using the system have access to tens or hundreds of megabytes of file space for their own use, enough room to work with large files. Since the system is scalable, additional disk storage space can be added as demand grows. Currently, there are 9 ALW file servers with over 80 gigabytes of storage space, and all of the files on these servers are backed up daily at DCRT.

AFS also provides strong security features: scientists can limit access to their data, ensuring that only they or their collaborators can read the information. At the same time, an



Dr. Thomas Zeffiro

authorized collaborator at NIH or another institution also on the AFS system can easily read the data by accessing the NIH scientist's directory.

At NIH, the ALW system is designed so that a scientist can log onto any available workstation on the system and it will look and respond just like his or her own workstation. So, researchers can go to collaborators' labs and pull up their own files just as if they were sitting at their own benches. ALW administrators like to quote science fiction hero Buckaroo Banzai when explaining this feature: "No matter where you go, there you are!"

UNIX Advantages

A major advantage of the UNIX operating system is that many vendors make UNIX computers, and competition for market share is intense. ALW project head Keith Gorlen explains that with a UNIX workstation, "You protect your investment in software and training. You can buy or write software for one company's workstation and in a year or two, if another vendor has a better or more cost-effective machine, you can move your software to that computer and use it without having to learn a new system. If you need to use a larger machine you can run the UNIX software on the DCRT Convex or on NCI's Cray at Frederick."

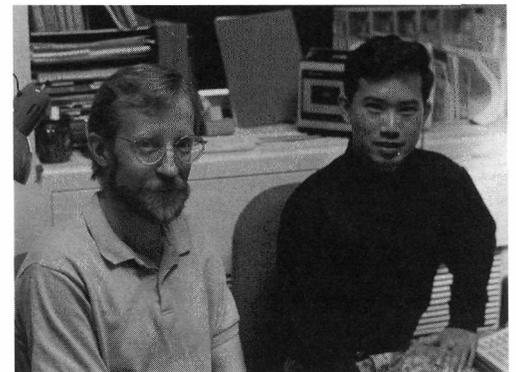
ALW offers the UNIX X-Windows user interface that has multiple on-screen windows and pull-down menus. So, while ALWs are based on the UNIX operating system, users don't need to be UNIX experts to use the system effectively. "A year ago I didn't know a

single UNIX command," says James Haxby of the Laboratory of Neurosciences, NIA. Laughing, he adds, "Now I know six or seven." With just a few commands, a user can navigate through the computer files and start applications. Haxby concludes, "ALW is simple enough to do everything you need to do with a minimal knowledge of UNIX."

DCRT Support

To help researchers learn how to use advanced laboratory workstations most effectively, DCRT teaches free courses in basic and advanced UNIX, and overview seminars on AFS and ALW as well. Contact the DCRT Training Program, 496-2339, for information on course offerings.

The ALW administrators centrally install and maintain software that can be accessed from ALW machines. Currently there are several different packages available for image processing, graphics, document processing, data management and statistical analysis, mathematics, genetic analysis, electronic mail and productivity. Keith Gorlen offered, "We encourage users who need particular software to contact us. We try to get a site or floating license and centrally install the software so



Drs. James Haxby (l) and Joe Maisog

that it becomes available to everybody with a workstation, and only has to be installed once. That's part of the notion here; central administration allows us to make software available to the entire community."

At DCRT, Gorlen heads the distributed systems section of the Computer Systems Laboratory. His group tests and evaluates state-of-the-art software and hardware components in an effort to expand and improve ALW. They offer direct support to ALW users: answering questions, troubleshooting, and implementing user suggestions. Daily administration and maintenance of the ALW servers and system software is performed by the Laboratory Systems Unit (LSU) of DCRT's Computer Center Branch, the unit that also maintains DCRT's

UNIX-based Convex supercomputer. LSU chief John Dickson explains that ALW and the Convex are complementary because, "they basically fulfill different roles. The Convex can handle very large problems more quickly. It's a large machine that complements what the user has on the desktop."

DCRT's Perry Plexico, past chief of the Computer Systems Laboratory and current acting chief of the Computer Center Branch, sees ALW as a sign of things to come. "The ALW project is a key part of DCRT's effort to bring

"ALW is simple enough to do everything you need to do with a minimal knowledge of UNIX."

distributed computing to NIH. In a few years, similar network-based services will be available on IBM PCs, Macintoshes, and mainframes, as well as on UNIX machines. This will give users immediate access to whatever computing resources their problem requires," he says. "Moreover, because of the project's open systems approach, users will be able to apply their knowledge rapidly across a number of computing platforms."

Is ALW for You?

If your scientific computing needs have outgrown the Mac or PC on your desk, then maybe the answer is yes. There is an easy way to find out; the ALW project group will loan a UNIX workstation to qualified NIH scientists. The workstation loaner program was started so NIH scientists could evaluate the many features of ALW before investing in workstations of their own. If you are interested in getting a loaner machine or any information about the ALW system, call 496-UNIX.

Let's look at how a few NIH researchers are using ALW today.

Dr. Thomas Zeffiro works in the human motor control section of the Medical Neurology Branch, NINDS. His group is interested in the mechanisms by which the brain plans and executes movement.

Much of his research involves PET and MRI images. Zeffiro says that prior to ALW, image analysis in his section was done on a VAX, and statistics and report generation were done on Macintosh computers. All of those functions can now be performed on ALW machines and, he says, "it's a much richer environment to have everything present on one computer, and to have it supported by DCRT."

When the human motor control section bought its first UNIX workstation, workers



Dr. Lael Stone

quickly realized that system support was going to be a major issue. "It would be difficult for a lab of our size to support a large number of UNIX computers," says Zeffiro. "Probably the main benefit of ALW is the UNIX system management that comes with it."

Zeffiro also likes the data storage capacity of ALW. He says that at one point he was "up to his ears" in magnetic tapes from the VAX. He knew that something would have to be done or else he would be "drowning in data." ALW turned out to be an excellent solution. When asked about ALW user support, he commented, "We've gotten help with every aspect that we needed help with. DCRT has been very responsive."

Neurologist Dr. Lael Stone is a postdoctoral fellow from the Multiple Sclerosis Society working in the Neuroimmunology Branch, NINDS. She is involved in a longitudinal study of MS patients using MRI, researching both the "natural history" of MS and the best way to use MRI to study possible treatments for the disease.

Stone says she had no computer experience prior to coming to NIH a year ago, but after taking a DCRT UNIX course she has had no problem with workstations, especially since the ALW windowing and menu system doesn't require a lot of UNIX. She uses ALW to store MRI images and likes the system for several reasons: she has easy and quick access to her files, the security features allow her to preserve the confidentiality of subjects, and she finds it comforting that her files are backed up daily.

"Support from DCRT has been wonderful," says Stone. "If I have a question, it's answered promptly. If it's something that's not in their purview, they find someone else who can help."

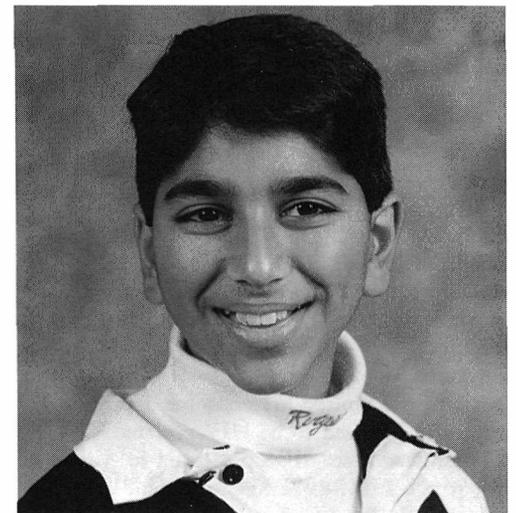
Dr. James Haxby, a neuropsychologist, and Dr. Joe Maisog, a physician, work in the Laboratory of Neurosciences, NIA, a group that conducts multidisciplinary research into brain

function. They are specifically interested in changes in brain function associated with age-related dementia and similar clinical conditions.

Their lab has been working with PET and MRI images for several years. Looking for new ways to analyze their data, they bought their first Sun workstation in May of last year and acquired some PET analysis software that ran on that machine. People in the lab were impressed with what could be done on the Sun with PET images, and realized they could analyze MRI pictures on the workstation as well. The lab ordered two more workstations last winter, and is considering getting two more in the near future.

Haxby and Maisog love the conveniences of ALW. "File transfer, just getting the images from the MRI machine to our computer, used to be an incredible headache," says Haxby. "Now with the network they can move the images in just a few minutes. And we can access the files of collaborators without having to download to tape."

Haxby speaks highly of DCRT's Jim Sullivan, an ALW team member: "Sullivan has made it work for the brain scientists. It's because of him that people are comfortable using ALW." □



Aron Kaul Qasba, a Takoma Park Intermediate School student working in the Neural Systems Laboratory, NINDS, received the 1992 Montgomery County Science Fair Grand Award for the Life Sciences, Junior Division. The work was done under the mentorship of Dr. James Olds and Dr. Daniel Alkon. The project, "Heterogeneity of Protein Kinase C Distribution in Rat Brains," also received a first place award from the Maryland Psychological Association. In the fall, 13-year-old Qasba, who enjoys not only biology but also computers and electronics, will enter the math/science magnet program at Montgomery Blair High School in Silver Spring, Md.

GRAND ROUNDS

(Continued from Page 1)

painstaking, with the result that certain key questions have been framed but remain unanswered.

The AIDS executive committee at NIH, which Fauci chairs, has posed five "ifs" in examining the cases, now numbering about 26, according to CDC. The first is, "Is there a syndrome?" "I believe there is," answered Fauci. But the so-called "intracisternal particles" that are turning up on sensitive electron microscopic tests of these patients may simply be "background noise," he cautioned, rather than the cause of a new disease. "Nevertheless, we're going to treat these cases as though the worst-case scenario were true."

The second key question is, "If it is a syndrome, is it new?" Fauci says it isn't clear yet whether a new disease has been found. Is there a virus involved? "The question is absolutely open," opined Fauci.

The last two questions, "If it is a virus, does it cause disease?" and "If it does cause disease, is it communicable?" are similarly unanswered as yet, he said.

"If this disease is real, somebody's going to find it," Fauci predicted, "but the possibility exists that we may be dealing with nothing. Fortunately, this is not 1981 (when AIDS was first recognized), and there are a lot of good laboratories looking into this question. We will be following the progress of these cases with great interest."

A meeting at CDC on Aug. 14 was to have thrown more light on the perplexing new reports.

As for HIV, the world picture is almost unrelievedly dim. The World Health Organization has logged 501,272 cases of AIDS worldwide, but Fauci called that "a gross underestimation." There are more like 1.5 million cases of AIDS worldwide and 10 million more people infected with HIV, said Fauci. In the United States, some 1 million people are believed to be HIV-positive.

The research on AIDS presented in Amsterdam struck Fauci as being steady and incremental. Progress has been "about as fast as we've ever gone in any other disease," he reported.

WHO predicts 40 million cases of HIV infection worldwide by the year 2000; Fauci said a truer estimate would lie between 60-70 million. In the U.S., some 230,000 cases of AIDS have been reported to date, of whom about 160,000 have died. There are about 4,000 cases of children with AIDS in the U.S., but "tens of thousands" are infected with HIV, said Fauci. Eighty-five percent of the infected children got the illness from their mothers.

Examining hospital, Army and Job Corps data on prevalence of AIDS in entrants to

these arenas, Fauci saw alarming trends (7.6 percent seroprevalence in selected hospitals, 1 in 20 men born in the District of Columbia between 1951 and 1967 are HIV-positive, 0.12 percent seroprevalence in service inductees), particularly in Black and Hispanic populations.

League President Brown Recalls Yankee Days

Leavening the dark news from Amsterdam at Grand Rounds were remarks by Dr. Robert "Bobby" Brown, president of baseball's American League, retired cardiologist, and World Series batting record holder. He spoke under the aegis of "Medical Ectopics," an occasional category included by rounds host Dr. Saul Rosen, acting CC director, "to celebrate those physicians who are doing things three or four standard deviations beyond what physicians normally do."

Born in Seattle, educated at Stanford and Tulane Medical School (where he was a classmate of Dr. Ruth Kirschstein, NIGMS director), and a third baseman for the New York Yankees during four World Series, Brown breezed laconically through a roster of seemingly disjointed topics including basic math, roommate selection, attitude, the art of communicating and "odds and ends."

Having had the legendary Casey Stengel as a manager and Yogi Berra as a roommate, Brown had plenty of fodder for comment. Asked once what Brown's greatest attribute was as a Yankee, Stengel replied, "He can outread any of the other players."

Brown said that when the Yankees paired him and Yogi Berra on road trips, "That's when they first coined that term 'culture shock.' If you were a follower of the ideas of Charles Darwin and saw Yogi, you got excited."

Berra allegedly once warned Brown that the "humility" in the air was "too damned thick in the northeast for the ball to travel very far."

Gazing at a flock of geese headed south, Brown once quizzed Berra, "Where do you think they're going?" Replied the Hall of Fame catcher, "Down south to spawn."

Berra was once asked by a sportswriter about his children and their education. "Have you bought them an encyclopedia?" queried the reporter. "Hell no," answered Berra, "they'll walk to school just like their daddy did."

When he was a manager and attendance was suffering, Berra handled a query about drawing more fans this way: "If people don't want to come to the ballpark, you can't stop them." And when, before a ballgame, he wanted his pitchers to run their sprints in the outfield, he suggested a timesaver: "Pair up in threes."

Twelve vaccine candidates are now in phase I trials, he said. If one of the preparations proves 90 percent effective, the answer as to whether we will have a vaccine will come by the year 2000, he concluded. If a vaccine is 50-60 percent effective, several additional years will be needed.

When it came to the art of communicating, Brown let Stengel have the last word: "The key to managing successfully is to keep the six guys that hate you away from the six that are still undecided."

Brown fielded a few questions from the audience, predicting that the designated hitter rule would migrate to the National League eventually, that Washington, D.C., is unlikely to land a baseball team anytime soon, and that a "Dream Team" of professional baseball players would be unlikely to appear representing the U.S. in future Summer Olympics because of interfering schedules.



Salam Abebe, 17, a senior at Montgomery Blair High School, and Dr. Philip R. Krause, formerly with NIAID's Division of Intramural Research, recently were featured on Black Entertainment Television's Teen Summit, which explores the challenge of growing up in America. The teenager, who "always wanted to do this kind of work," volunteered in the medical virology section of the Laboratory of Clinical Investigation under Krause's supervision. She performed basic laboratory techniques to help researchers study the latent stage of herpes simplex virus. As a 14-year-old she volunteered 200 hours at the Washington Hospital Center, where she is working this summer. Krause now is with the Center for Biologics Evaluation and Research, FDA.

Environmental Health Officials Coordinate Research

Senior managers of federal environmental and occupational research programs, from both within HHS and from other federal agencies, met at NIEHS recently to discuss research program priorities and identify areas of potential collaboration.

In opening remarks, NIEHS director Dr. Kenneth Olden noted that there are many interagency groups including the federal coordinating committee on science and engineering technology (FCCSET) and the committee to coordinate environmental health and related programs (CCHERP) that have been chartered to assist in coordinating the many environmental and occupational research programs enacted by Congress. However, after visiting with the directors of all of these programs, Olden realized that no opportunities exist for senior managers to meet as a group—hence the retreat, hosted by Olden at NIEHS.

Participants discussed such diverse matters as clinical trials of a new drug to treat childhood lead poisoning; possible nutritional interventions for the treatment or prevention of lead poisoning in pregnancy and early childhood; plans for interagency support and participation in a major national effort by EPA to integrate and characterize human and environmental exposures to hazardous substances; the use of basic biomedical research to determine the fundamental mechanisms of environmental cancer and other diseases and disorders with environmental causes; and how to effectively organize and manage modern environmental health research programs. There were spirited debates about the extent to which government and industry should collaborate in environmental and occupational research and on how to encourage federal regulatory agencies to help establish priorities for basic and applied studies in agencies with research missions.



Participants in the retreat included (from l) Dr. Richard Griesemer, deputy director, NIEHS; Dr. J. Donald Millar, director, NIOSH; Dr. David Bayse, assistant director for science, NIOSH; Mary Martin-Gant, legislative assistant to the NIEHS director; Erich Brethauer, assistant administrator of the office of research and development, EPA; Dr. James Elwood, assistant director of the office of health and environmental research, DOE; Dr. Kenneth Olden, NIEHS director; Dr. Jane Henney, deputy commissioner for operations, FDA; Dr. Vernon Houk, director of the center for environmental health and injury control, CDC; Dr. William Allaben, deputy associate director for science coordination, NCTR; Daniel VanderMeer, director, office of program planning and evaluation, NIEHS; Dr. Kenneth Sexton, director, office of health research, EPA; Dr. Larry Reiter, director of the health effects research laboratory, EPA; and Dr. John McLachlan, director, Division of Intramural Research, NIEHS.

Both the Department of Energy and the Environmental Protection Agency are concerned about the health risks of increased human exposure to the sun's ultraviolet radiation and are considering research efforts, conferees learned. They resolved to work together to develop research plans, and NIEHS offered to share information about its own ongoing research into the health effects of UV-B radiation.

By the end of the day, participants had identified research goals and interests common to all of the agencies represented and which would benefit from increased cooperation and coordination. These included studies in basic biological science, in applied research, in characterizing potential environmental

etiologies of intense public and regulatory concern, and in risk assessment and risk communication.

By all measures, the retreat was a success. Dr. J. Donald Millar, director of NIOSH, noted that the discussion of strategies for enabling scientists to retain independence of thought and innovative research approaches was particularly useful. Dr. Jane Henney, deputy commissioner for operations at FDA, emphasized the importance of federal leadership in identifying research that is critically needed to protect public health and cited the importance of support of research grants to study the safety and efficacy of new biomaterials.

There was unanimous agreement that the retreat should become an annual event. The next retreat will be hosted by EPA.—Dan C. VanderMeer □

New Weight Watchers Session

Registration for the next session of Weight Watchers at NIH will be held on Thursday, Sept. 3 at 12 noon in Bldg. 31, Rm. 11A10.

The meetings will be held Thursdays from noon to 1 p.m., beginning Sept. 10. The 10-week session is \$120 for new members (payable upon registration) and includes program materials, weekly meetings, and musical entertainment. Current Weight Watchers members and lifetimers who are over goal can join at a discounted rate of \$105. Special foods are not required in this program.

Class size is limited to 30 people, and registration will be on a first-come, first-served basis. For more information call R&W, 496-6061. □



A delegation headed by the Minister of Health of Georgia (former USSR), Dr. Irakli Megreladze, visited NIH recently to discuss programs available for Georgia-NIH cooperation. They expressed special interest in NLM services, aging research, neurological diseases, clinical pharmacology and drug control, and training for young Georgian scientists. Shown are (from l) Dr. Andrei Glonti, deputy minister of health; Dr. Philip Schambra, director of the Fogarty International Center; Megreladze; and Dr. Archil Kobaladze, chief advisor to the minister.

Osteoporosis: The Environmental Link

Osteoporosis results in the thinning and weakening of bones, the bow-backed posture and "dowager's hump" that afflict some older patients, and vulnerability to fractures that can immobilize and further debilitate older people. Twenty million Americans suffer from osteoporosis, and the treatment of osteoporosis-related fractures costs between \$7-10 billion a year—figures that may increase as the population as a whole ages.

While osteoporosis afflicts men, the great majority of those affected are women, especially postmenopausal women. Historically the illness has been accepted as a natural part of aging or attributed to a person's genetic predisposition, but research conducted by NIEHS suggests that environmental factors may play a significant role in the development of at least some cases of osteoporosis.

Supported through an NIEHS grant, Dr. Maryka H. Bhattacharyya, biochemist group leader at the Argonne National Laboratory, Argonne, Ill., has studied cadmium-induced bone loss in female laboratory animals, to see if such bone loss parallels that experienced in Itai-Itai disease, a disease characterized in post-World War II Japan by dramatic bone loss and renal dysfunction. Victims of the illness were 97 percent women, and all lived downstream of a zinc-lead mine—cadmium is a byproduct of the smelting of zinc. Cadmium is used today in battery manufacture and a wide array of other occupational settings, and cadmium is present in tobacco smoke; therefore its role as an environmental contaminant is of ongoing concern.

Bhattacharyya's animal studies showed that the female skeleton is at increased risk of cad-

mium induced bone loss during pregnancy and lactation and after menopausal hormone depletion. In Itai-Itai disease, cases involved predominantly postmenopausal women with a history of multiple childbirths averaging six children per woman.

Bhattacharyya points out that cigarette smoking can provide a significant exposure to cadmium, and that bone loss in her animal studies occurred at concentrations of cadmium in blood that were in a range of those reported both in people who smoked cigarettes and in workers with low-level occupational exposures to cadmium. Said Bhattacharyya, "The results strongly suggest that women exposed to cadmium either in industry or via cigarette smoke may be at increased risk of developing postmenopausal osteoporosis."

A team of researchers—Dr. Silvia Migliaccio, Dr. John McLachlan, Dr. Kenneth S. Korach and Retha R. Newbold, in the NIEHS Laboratory of Reproductive and Developmental Toxicology—has studied the effects of newborn and fetal exposure to estrogens in mice on adult bone development. Estrogens are hormones, present in higher levels in females, that play a key role in female reproductive functioning. A number of environmental factors—both natural and synthetic—are capable of binding to estrogen receptor sites, mimicking and modifying the hormonal functions of the body. Studies in mice showed that newborn and fetal exposure to the estrogen diethylstilbestrol resulted in increased bone density when the mice reached adulthood. These findings further illustrate the vulnerability and sensitivity of fetal and newborn animals to estrogenic exposures that

affect their long-term development.

In addition to learning the effects of specific environmental substances on bone development, it is important to learn more about the exact mechanisms by which toxic substances do their damage. With a grant from NIEHS, Dr. Douglas B. Hanson of Forsyth Dental Center in Boston, is studying how a specific environmental contaminant administered in their diet affects bone development in rabbits. He explains, "The ubiquity of environmental toxins makes it imperative to understand how bone density, stiffness, collagen fibril structure, and the spatial arrangement of bone in cross-section can be affected by environmental toxins." Relating his animal work to human illness, he notes, "Bone of sufficient quality is essential to prevent or forestall the onset and/or in reducing the severity of common adult bone diseases like osteoporosis and osteoarthritis."

Dr. Kenneth Olden, NIEHS director, noted that NIEHS joins with several other institutes within NIH in researching osteoporosis. "It is important that NIEHS add the environmental perspective to the overall NIH effort against osteoporosis," he said. "Women's health is a top priority at NIH and within NIEHS, and it is apparent that environment factors can play a role in osteoporosis, a disease that afflicts a great many women. The environment's role in the aging process is another top priority, and again, osteoporosis is an illness that affects older people. NIEHS is determined to better understand the part the environment plays in this cruel disease."—
Thomas Hawkins □

NHLBI's Gretchen Jones Takes Her Talents to HRSA

For Gretchen S. Jones, former chief of NHLBI's Administrative Services Branch, summer brought a new job. After 15 years with NHLBI, she is now a management analyst in the Bureau of Health Care Delivery Assistance, a newly created unit in the PHS Health Resources and Services Administration.

Jones, who started working for the government in 1966, leaves behind an outstanding record of accomplishments at NHLBI, which began when she came to the institute in 1977 as a secretary with the Sickle Cell Disease Branch of the Division of Blood Diseases and Resources. After completing an NHLBI management training program, Jones found her talents well suited for administration and, in 1981, she became the administrative officer for the NHLBI Office of the Director.



Gretchen S. Jones

Among her honors are numerous performance awards and a 1989 Equal Opportunity Special Achievement Award for unselfish efforts in training staff members and creating new career opportunities for them.

She also has won what may be an administrator's toughest award: the respect and friendship of her coworkers. "Gretchen has always been the person everyone runs to," said Sheila Merritt, chief of the Management Policy and Technology Branch. "No matter what the project, Gretchen has always made time to get it done."

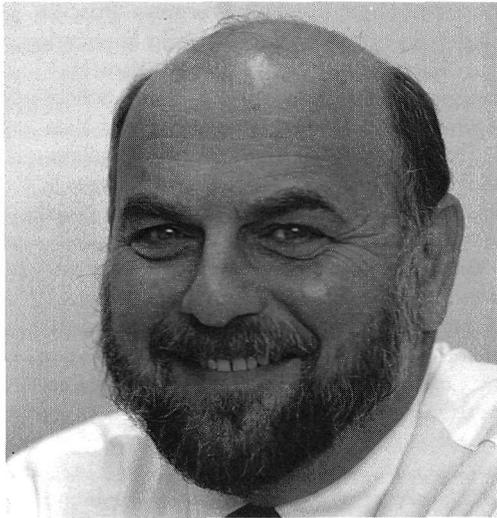
"We are very sorry to lose Gretchen," noted NHLBI director Dr. Claude Lenfant. "But I know that her skills and dedication will make her a success in her new office." □

Braveman Named NIDR Assistant Director for Program Development

Dr. Norman Braveman, formerly with the NIH Office of the Director, joined the Extramural Program of NIDR recently as the assistant director for program development.

Braveman brings an extensive background in program planning and evaluation to NIDR, where he will serve as a key advisor in determining program priorities, identifying promising new research directions, and developing extramural policies and funding strategies. In addition, he will oversee the development and monitoring of extramural research projects.

Since 1987, he has worked in OD as chief of the Planning and Policy Research Branch and, most recently, as acting director of the Division of Planning and Evaluation. In this



Dr. Norman Braveman

latter capacity, he was principal advisor to the NIH director in the area of program planning and analysis.

Among his accomplishments, Braveman implemented policies that increased the emphasis on health cost savings in assessing the impact of biomedical research. He also supported the development and use of integrated databases to assist in making planning and policy decisions.

Braveman first came to NIH in 1980 as a grants associate with the Division of Research Grants. He subsequently held positions as director of the Immunology and Endocrinology Program, NIA, and the executive secretary of the clinical trials review committee for NHLBI.

After attending Miami University (Ohio) and receiving a B.A. in 1963 and an M.A. in psychology in 1965, Braveman earned a Ph.D. in psychobiology from Washington State University in 1969. He has an academic background in both teaching and research and has published numerous articles in the field of psychopharmacology. —Wayne Little □



Dr. Giovanni Di Chiro, chief of NINDS's intramural Neuroimmunology Branch, recently received the Ottorino Rossi Award from the Neurologic Institute of the University of Pavia, Italy. The prize is supported by the institute's "C. Mondino" Foundation. Prof. Guisepppe Nappi, director of the foundation, presented the award during an international meeting on "Functional and Therapeutic Neuroradiology," organized in honor of Di Chiro. The Ottorino Rossi Award is given annually in recognition of outstanding contributions in the neurological sciences.

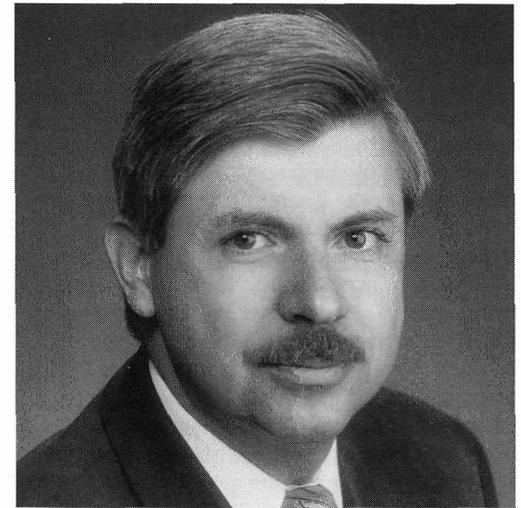


Dr. Rochelle Small recently joined NIDCD as a health scientist administrator in the Division of Communication Sciences and Disorders. She shares responsibility for the research grants in the extramural chemosensory program. She comes to NIDCD from London, where she served for the past 4½ years as the division head of cellular biology at the Institute of Neurology. Prior to that, she conducted research studies on the migration of cells in the central nervous system at the department of zoology, University College in London. In the early eighties, Small was an assistant professor of pathology at Yale University School of Medicine. She received her Ph.D. in neuroscience at the City University of New York. Her areas of expertise include developmental and molecular neurobiology and axonal transport.

Kador Honored for Drug Research

Dr. Peter Kador, chief of NEI's Laboratory of Ocular Therapeutics, was recently awarded the Jack Beal Postbaccalaureate Alumni Achievement Award by the Ohio State University College of Pharmacy for his achievements in pharmaceutical research. Kador received his Ph.D. in medicinal chemistry from the Ohio State University College of Pharmacy in 1976.

His research has focused primarily on the development of drugs to inhibit the enzyme aldose reductase, which is suspected of initiating diabetic complications such as retinopathy,



Dr. Peter Kador
cataract, neuropathy, nephropathy, and microvascular disease.

His recent scientific achievements include defining the appropriate therapeutic dosage and mechanism of action of aldose reductase-inhibiting drugs, developing an animal model for advanced diabetic retinopathy, and demonstrating that the first lesions associated with diabetic retinopathy are linked to aldose reductase and that the activity of this enzyme can be blocked with aldose reductase-inhibiting drugs. □

Bldg. 21 Gets Lighted Sidewalk

The Grounds Maintenance and Landscaping Branch of NIH's Division of Engineering Services recently completed new lighted sidewalk segments extending from Bldg. 21 toward the Metro Station and to the corner of South and Center Drives. The idea was developed by the GMLB Quality Circle Program. □

Bay Fishing Expedition Set

R&W has chartered boats from Scheible's Fishing Center in Ridge, Md., for a day of fishing on the Chesapeake Bay. Beginners and experts are all welcome on Saturday, Oct. 17 for a relaxing day on the bay. Cost is \$47 and includes 8 hours on the boat, bait, tackle, and fishing license, plus a hearty lunch (bring your own beverages). Sign up at any R&W location or call 496-4600 for more information. □

NIDDK's Barrie Carter Heads for Seattle After 22 Years at NIH

Dr. Barrie Carter never expected to stay at NIH for long. The New Zealand native arrived here in 1970 for a 1-year tenure as a visiting fellow, expecting soon to return to his South Pacific homeland.

But Carter liked what he saw at NIH. "When I got here, the facilities were so great, the support was so great. People around were terrific. For one reason or another, I never left," he says. During the next 22 years, NIH became his home, the place where he honed his boyhood passion for science into the skills of a first-rate researcher and became chief of NIDDK's Laboratory of Molecular and Cellular Biology.

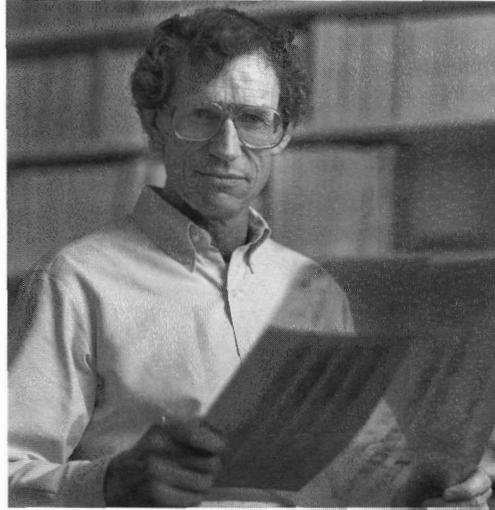
In early August, Carter moved to Seattle as the vice president for research and development at Targeted Genetics Corp., a 2-year-old spinoff of one of the largest biotech companies, Immunex. There, Carter will head efforts to develop delivery systems, or vectors, for gene therapy and disease intervention.

His area of expertise is the adeno-associated virus, or AAV. An obscure virus at the time of Carter's arrival here, AAV has recently become a hot item as scientists seek new and better vectors for gene therapy.

Carter says that AAV may have certain advantages over retroviruses, the most commonly explored viruses for gene therapy. AAV targets specific sites on chromosomes, whereas retroviruses integrate with chromosomes randomly. AAV may be more efficient than retroviruses in entering cells, he says. Moreover, AAV is not associated with any diseases, says Carter, and therefore may be safer than retroviruses, which can cause a number of diseases such as human immunodeficiency virus (HIV), the cause of AIDS. Efforts to use AAV to combat diseases have already begun. Carter and his associates recently succeeded in fitting the cystic fibrosis gene into an AAV vector as a potential treatment for this lethal genetic disease.

Carter's lab believes the virus may prove helpful in treating other diseases as well, including cancer and AIDS. In fact, Carter and his colleagues recently discovered that the "rep" protein, made by AAV, can inhibit the growth of HIV in cell culture. Carter says that it may one day be possible to use AAV to deliver AIDS antivirals. However, he cautions that much research is still needed.

Carter was first introduced to AAV in 1970 while working as a postdoctoral fellow for the Imperial Cancer Research Fund in London, where he was studying animal viruses. He was contacted by Dr. James Rose, currently of NIAID's Laboratory of Viral Diseases, who was looking for someone to study the molecular biology of the recently discovered virus. Carter was interested in the virus, and Rose recruited him as an NIH visiting fellow.



Dr. Barrie Carter

When Carter first began working in the United States, he says, only about three or four other labs in this country were studying AAV. Today, he says, a large number of laboratories and companies have become interested in developing AAV vectors because of their unique advantages over retroviruses.

"We started off in 1970 working on a bizarre virus nobody thought was terribly important," says Carter. "Now, as far as gene therapy goes, it's enormously important."

He credits NIH's intramural program for his success. "I think the overall reason why I've been here 22 years is the way the intramural science research system is set up," he says. Working with top-notch personnel at NIH has been another plus. "It's a terrific environment for working despite what anybody says right now," says Carter. "It's an enormous community of first-rate scientists."

Carter will be missed by those colleagues. "He's an outstanding scientist who has made fundamental contributions to virology in general and more recently to gene therapy," says Dr. Allen Spiegel, NIDDK's director of intramural research. "His departure really represents a loss."

Carter notes that he is not severing his ties with NIH completely. He plans to return here for meetings.

Despite his happiness with NIH, Carter has not forgotten his homeland. "It's a South Pacific island with a temperate climate, 3 million people, 70 million sheep, and very little pollution," he says of his native New Zealand. "Scenery is terrific, lifestyle is wonderful, the economy has its ups and downs. The question is, 'Why did I ever leave?'"

Carter may have left for his research, but in the U.S. he became enamored of other things as well. Hockey, which he says was absent in his native country, is one of them. "I became

a maniacal hockey fan," says the scientist, who had season tickets to the Washington Capitals. In 1979, he became a naturalized U.S. citizen.

Dr. Nancy Nossal has replaced Carter as chief of the Laboratory of Molecular and Cellular Biology. She was formerly chief of the section on nucleic acid biochemistry in NIDDK's Laboratory of Biochemical Pharmacology. —Mark T. Sampson □

Five Join NIAMS Advisory Board

Five new members have been named to the National Advisory Board for Arthritis and Musculoskeletal and Skin Diseases—Priscilla Ciccariello of the National Marfan Foundation, Port Washington, N.Y.; Dr. William H. Eaglstein of the University of Miami School of Medicine; Dr. Gary E. Friedlaender of Yale University School of Medicine; Dr. Muhammad Asim Khan of Case Western Reserve University; and Dr. Paula H. Stern of Northwestern University Medical School.

Ciccariello has a deep interest in rare diseases and heritable disorders of connective tissue; she is chairperson of the National Marfan Foundation and founder and president of the Coalition for Heritable Disorders of Connective Tissue.

Eaglstein, Harvey Blank professor and chairman of the department of dermatology at the University of Miami School of Medicine, is recognized nationally and internationally as a leader in academic dermatology.

Friedlaender is professor and chairman of orthopaedics and rehabilitation and director of orthopaedic research at Yale University School of Medicine; his major areas of research and clinical activity relate to musculoskeletal oncology and the immunobiology of osteochondral allograft transplantation.

Khan is a professor of medicine at Case Western Reserve University and director of the division of rheumatology at MetroHealth Medical Center in Cleveland; he is a national expert in the field of rheumatology with a major interest in ankylosing spondylitis and related diseases and immunogenetics of rheumatic diseases.

Stern, a professor in the department of pharmacology at Northwestern University Medical School, is an expert in bone and mineral research; she also serves on the editorial boards of national and international scientific journals in this field. □

NIH Broadcast Chief Blumberg Retires

Who says you can't go home again? Gerri Blumberg, known as the voice of NIH and who was chief, NIH Broadcast Services, Office of Communications, OD, has retired after 20 years and returned with her husband Ralph to her home town of St. Louis, Mo. She came to NIH in 1972 as a clerk in the laboratory of Dr. Elizabeth Weisburger, NCI.

Blumberg began her broadcasting career after her junior year at the University of Missouri. At a radio station in St. Louis, she met her future husband, who was news director at the station. After they married, they moved to Memphis, Tenn., where their daughter Susan was born and then to Mobile, Ala., before buying their own radio station in 1961, WBOX, in Bogalusa, La., where their son Robert was born.

At the height of the civil rights movement in the early 1960's, Blumberg and her husband became the target of the Ku Klux Klan as a result of their editorial stand on civil rights. Their battle with the Klan garnered international attention and generated national journalism awards. But the fight with the KKK cost them all their resources. In 1965, they sold the station at a loss and moved to New York City before settling in Rockville, Md.

During Blumberg's tenure at NIH, she completed her B.S. in journalism at the University of Maryland. She came to the OD's Office of Communications in 1977 and in 1978 she began a 15-minute radio interview program with NIH scientists that ran locally on radio station WGMS. This show was also beamed nationally over the National Public Radio satellite. She interviewed more than 300 NIH scientists for this popular radio show, which aired for 14 years. Among her "stars" was then surgeon general, Dr. Everett Koop. At the end of the interview she was informed by her engineer that nothing had recorded. But Koop agreed amiably to come back and redo the interview the next day, and indeed he did. In 1988, Blumberg initiated the NIH Radio News Service, establishing an 800 telephone number so that radio stations across the country could receive the 1-minute news stories with sound bites of NIH scientists.

Among Blumberg's fond recollections of her time at NIH was the third International AIDS Conference, which took place in Washington, D.C. She was coordinator for all broadcast media. It was anticipated that only a few press would attend. But, to the surprise of the staff, well over 100 electronic media showed up and Blumberg found herself working around the clock to accommodate their needs. She is also proud of her production of the 1988 NIH Centennial Salute to Scientists radio public service announcements that celebrated NIH's



Gerri Blumberg

100th anniversary. These announcements were featured on radio stations nationwide. Also, during the Centennial celebration, she arranged for a live remote TV broadcast from Bldg. 10's clinical pathology department for *Good Morning America*, whose cameras and crew showed up at 4 a.m. During her 15 years in the Broadcast Services Branch, she was the NIH contact person for national television shows including *Good Morning America*, *The Today Show*, *CBS This Morning*, *Prime Time*, the *Home Show*, and many others.

Blumberg was honored by her coworkers and friends at a reception attended by many of her fellow OD staff, current and retired, including former NIH associate director for communications, Storm Whaley, and the current acting associate director, Anne Thomas. Well over 100 friends in the information community attended to say an affectionate goodbye and wish Gerri and Ralph a happy retirement. Their first tasks will be to start preparations for their daughter Susan's wedding in December and to make plans for an anticipated spring trip to Israel and France.—Sandy Kamisar □

DCRT Computer Training Courses

Classes	August Dates
Batch Files with PC-DOS	20
Macintosh Dial-Up and Network Connectivity	20
Distributed Database Processing Using Client-Server Technology	24
Molecular Graphics: Creating Pictures and Videos	24-26
NUnet, LAN, and Mainframe Connectivity	25
Designing Tables and Managing a DB2 Database	26-28

Classes are offered by the DCRT Training Program, without charge. Call 496-2339 for more information. □

Sequence Databases on CD-ROM

Beginning Oct. 1, NLM's National Center for Biotechnology Information (NCBI) will assume responsibility for NIH's GenBank DNA Sequence Database. To ensure that users have uninterrupted access to GenBank data, NCBI is now offering subscriptions to three different CD-ROM products containing GenBank and other sequence data. These are Entrez: Sequences, NCBI-GenBank, and NCBI-Sequences.

Entrez: Sequences contains molecular sequence and related bibliographic data, with retrieval software. The DNA and protein sequence data are integrated from a variety of sources, including GenBank, the NCBI Backbone, European Molecular Biology Laboratory (EMBL), DNA Database of Japan (DDBJ), Protein Identification Resource (PIR), and SWISS-PROT. The bibliographic database is a sequence-related subset of MEDLINE. The DNA, protein, and bibliographic data are linked to provide easy traversal among the three databases. Entrez: Sequences contains retrieval software for the Macintosh and PC-compatible systems running Microsoft Windows. A minimum of 1 Mbyte of memory is necessary.

In addition to Entrez: Sequences, NCBI is distributing two CD-ROM products that contain data only, with no retrieval software. The NCBI-GenBank (Flat File) CD-ROM consists of a full GenBank release, supplemented by data from the NCBI Backbone, and EMBL and DDBJ databases. This version provides a continuation of the same flat file format in which GenBank is currently distributed. The NCBI-Sequences (ASN.1) CD-ROM consists of sequences and MEDLINE citations, the same integrated sequence dataset used on Entrez: Sequences, in the ISO ASN.1 standard data description format.

All three CD-ROMs are available by subscription through the Government Printing Office (GPO). U.S. prices are \$57 for an annual subscription to Entrez: Sequences and \$47 for each of the other subscriptions. Subscriptions will begin Oct. 15, 1992, and include six releases per year, on a 2-month cycle.

Orders may be placed by phone at (202) 783-3238; by fax at (202) 512-2233; or by mail to Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. The GPO Order Processing Code is 5250. The GPO List ID for each of the products is as follows: ENT for Entrez: Sequences; NCBI for NCBI-GenBank (Flat File); and NCBI for NCBI-Sequences (ASN.1). Quantity discounts of 25 percent are available for orders of 100 or more CD-ROMs delivered to a single address.

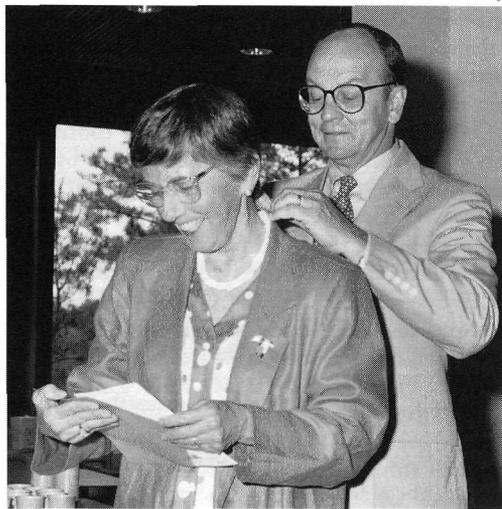
For more information, contact NCBI via e-mail at 'info@ncbi.nlm.nih.gov' or by phone, 496-2475. □

Two NIEHS Pioneers Say 'So Long'

A total half century of government service and institute history went into retirement recently when Lucille Reaves, head of NIEHS Office Services, and Rev. James Scott of the Comparative Medicine Branch, were honored at retirement parties at NIEHS.

Reaves joined NIEHS in 1969, 6 months after it was elevated from a division to an institute within NIH. She was among the first NIEHS employees to graduate from college through the Stride program and has long been the supervisor of the Office Services unit within the Administrative Services Branch, responsible for telephones, mail and shipping, copying, and other related services throughout the institute.

One major accomplishment of Reaves' career was her key role in occupying South Campus, which included moving scores of offices and whole laboratories from NIEHS' North Campus to its headquarters office and laboratory building and support facility on South Campus. The effort required extensive planning; for her efforts, she received the NIH Director's Award.



Lucille Reaves, former head of NIEHS Office Services, enjoys a card signed by her many institute friends, while Charles E. Leasure, NIEHS associate director for management and retirement party master of ceremonies, fastens the clasp on a special gold necklace with an NIEHS pendant, one of several retirement gifts from institute colleagues.

Charles E. Leasure, associate director for management, served as master of ceremonies for Reaves' retirement party and presented her with a check, a gold necklace with an NIEHS pendant, and a photo album of pictures from her many institute friends. "People always say they'll come back and visit," Reaves said, "but since I'm only 2 miles up the road, you know I'll be back to see you."

Scott began his NIEHS career in 1967 as a security guard at what was then the Division of Environmental Health Sciences. He had



Rev. James Scott of the NIEHS Comparative Medicine Branch, at the podium, savors a round of applause at a retirement party in his honor. Joining hundreds of his institute friends and his family in the tribute are (from l) Adolphus Caviness, Comparative Medicine Branch; Juanita Davis, CMB; and Katherine M. Mackzum, CMB.

previous employment with the Marine Corps and in Veterans Administration hospitals in Fayetteville and Durham, N.C. Security in the early days had added elements of risk, since

Research Triangle Park was far less populated and the law enforcement presence was more limited than today. In addition, it was some time before institute security officers were authorized to carry sidearms.

Scott showed adaptability throughout his career. When the security force went to a contractor, he joined the glassware unit, and later in his career when glassware also went to a contractor, he joined the Comparative Medicine Branch. Working in CMB, he developed a regimen of enrichment for lab rabbits, introducing roughage in their diets and a program of grooming and handling the rabbits, both of which helped eliminate the problem of hairballs among the colony.

Throughout his government career, Scott worked during off-duty hours at realizing a dream of service to others, as he earned a minister's certificate and built his own church in Apex, N.C. In retirement, he will devote himself full-time to his congregation.

Scott was presented with a DHHS Certificate of Merit, a coffee mug, a rabbit figurine, a keychain signed by CMB friends, and a leather briefcase for use in his pastoral work.—Tom Hawkins □

NCI's Herson Fox Retires After 40 Years in Government

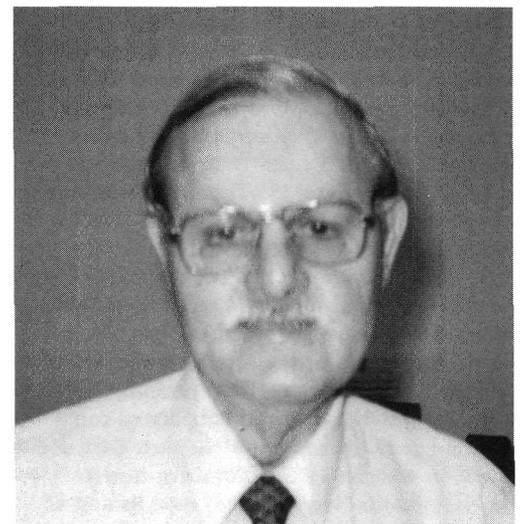
NCI's Dr. Herson H. Fox, who spent 40 years in government service, including 4 years in the military, retired on July 3. He worked in the Review Logistics Branch of the Division of Extramural Activities (DEA) since the branch's inception. As referral officer, he distributed grant applications to NCI's various programs, allowing him to interact with many individuals and organizations. "You get to know people pretty well in other institutes, as well as within the cancer institute," he said. "I hate to leave."

Prior to this position, he served as executive secretary for the Grants Review Branch in DEA.

Fox came to NIH in 1956 to work for NIAID, where he pursued laboratory research dealing with human respiratory agents. That assignment led to another reason he will have fond memories of NIH—his first encounter with his wife-to-be in Bldg. 10's cafeteria line.

In addition to his interaction with NIH staff, Fox especially enjoyed working with the First Independent Research Support and Transition (FIRST) Award applicants. They represent, in part, the young and upcoming scientific community outside the NIH. He interacted with many promising individuals, including several who became Nobel laureates. "I was able to see some of the very best applications in the field," he said. "Everyone should be proud to work for NIH."

Prior to his retirement, Fox could be found



Dr. Herson H. Fox

in his office every day, diligently attending to his work, which earned him numerous awards throughout his career. His colleagues will certainly miss this cheerful, hard-working, soft-spoken individual.

In retirement, he plans to relax by traveling to Europe and possibly Bermuda (where he honeymooned 30 years ago), reading books and articles of a nontechnical nature, wood-working, and tracing his genealogy. "And then on the second day," he said, "...I have enough hobbies to last me well into the next century."—Dr. Paulette S. Gray □



TRAINING TIPS

The NIH Training Center, Division of Personnel Management, offers the following "hands-on" IBM and Macintosh computer courses:

Personal Computing Training 496-6211

Course Titles	Starting Dates
Welcome to Macintosh	8/26, 9/11
Advanced Macintosh Techniques	9/18
Intro to WordPerfect 2.0 (Mac)	9/14
Advanced WordPerfect 2.0 (Mac)	8/27
Excel Level 4	9/10
HyperCard Authoring & Scripting — 2	8/20
3Com PC Network-Level 1	9/15
3Com PC Network Management-Level 1	8/24
Intro to Personal Computing for New Users	9/17
Disaster Recovery and Data Retrieval for the PC	9/11
Intro to DOS 5.0	9/3, 9/15
Intro to WordPerfect 5.1	8/25
Intermed. Harvard Graphics, Rel. 3.0	9/11
Intermed. Harvard Graphics, Rel. 2.3	9/14
Intro to Paradox	9/9
Intermed. Paradox	9/10
Intro to dBASE IV (New)	9/22
Intro to Lotus 1-2-3, Rel. 2.2	8/24
IMPACT System for Personnel Staff	9/16
IMPACT System for MSCs	9/2
IMPACT System for Administrative Staff	8/31, 9/21
IMPACT System for Professional Staff	8/31, 9/21
Introduction to CRISP	9/18
CRISP Thesaurus	9/18



NICHD director Dr. Duane F. Alexander (second from l) welcomes new advisory council members (from l) Drs. Anne C. Petersen, Janina R. Galler, and Melvin M. Grumbach.

NICHD Council Adds Three Members to Ranks

Three new appointments have been made to the National Advisory Child Health and Human Development Council.

The new members are Drs.: Melvin M. Grumbach, Edward B. Shaw professor of pediatrics at the University of California, San Francisco; Janina R. Galler, director, Center for Behavioral Development and Mental Retardation at Boston University; and Anne C. Petersen, vice president for research and dean, Graduate School at the University of

Minnesota.

Grumbach, a renowned pediatric endocrinologist, was instrumental in discovering the role of the hypothalamus in puberty.

Galler is a professor of psychiatry as well as a professor of public health (epidemiology and biostatistics).

Petersen has been active in research dealing with issues relating to the health and well-being of adolescents, and is a former president of the Society for Research on Adolescence. □

NIEHS Director Olden Celebrates First Year in Office

By Hugh Lee

After regaling his audience with a humorous recounting of his Father's Day experiences, Dr. Kenneth Olden, NIEHS director, congratulated an overflow crowd of employees for their accomplishments during his first year as director of the institute.

Olden's personality shone as he spoke of NIEHS as a family and acknowledged the special contributions that each employee had already made toward bringing everyone



At a recent ceremony marking his first year in office, Dr. Kenneth Olden, NIEHS director, took the opportunity to present Merit Awards to ten NIEHS employees. They are (from l) Dr. William Suk, William F. Quattlebaum, Dr. Dale P. Sandler, Nancy W. Stegman, Zadock McCoy, Olden, Dr. John Bucher, Helen D. Stopinski, Dr. James W. Putney and Dr. William R. Johnston.

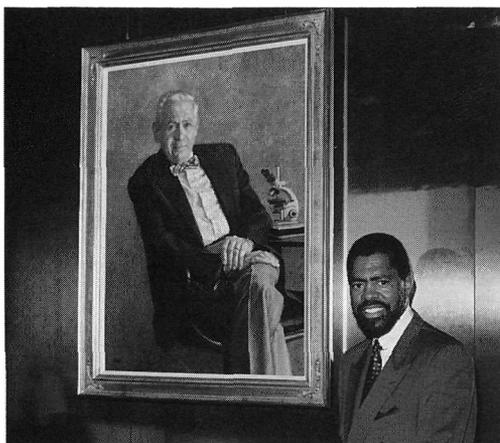
several groups and individuals, who through their science and administration, brought added recognition and acclaim to the institute. He said that the scientific staff at NIEHS was, in his opinion, as good as any group at NIH, and deserved recognition for their accomplishments.

To make the institute even better known, Olden outlined his thoughts concerning outreach and methods to make more people in decision-making positions aware of the great contributions that the institute has made over the years toward public health, not only in this country but also throughout the world, and how NIEHS research results have in many instances been the keystone of regulatory decisions. He added that his personal contacts

with those who have greatest inputs into the budgetary process for the institute showed promise of paying off. He is hopeful that the institute's budget will be supported more enthusiastically and realize substantial increases within the next several years. Environmental health is on many people's minds today, and the time is right to take full advantage, he concluded.

Following his address, Olden unveiled two oil portraits in the lobby of NIEHS' Bldg. 101, one of Dr. Paul Kotin, NIEHS director from 1966 to 1971, and the other of Dr. David P. Rall, director from 1971 to 1990.

He then cut his "First Anniversary in Office" cake as refreshments were served to the NIEHS community. □



Olden unveils a portrait of Dr. Paul Kotin, who served as NIEHS director from 1966 to 1971.

together as a unit. His extemporaneous presentation touched on accomplishments of

NIEHS Cosponsors Science Camp for Grade-Schoolers, Workshop for Teachers

Sixty students in the third, fourth and fifth grades found science an active, participatory adventure brimming with opportunities for surprise and discovery when they attended Science Camp this summer, cosponsored by NIEHS.

Hundreds more children their age will receive a similar introduction to science through teachers who attended a week-long Science Camp workshop demonstrating classroom experiments and activities that engage grade school students with the process and basic concepts of science.

Stem Elementary School in Butner, N.C., was the site of the week-long Science Camp. Activities included an EPA-conducted presentation on radon testing, in which the students tested radon levels at the school. Another session explored the physics of giant soap bubbles. Some principles of electricity were demonstrated through building "secret circuit boards" using materials supplied by an electronic equipment store. The students also learned about rocks, minerals and fossils, and their week included a field trip to the North Carolina Zoo in Asheboro, N.C. NIEHS scientists Theodora R. Devereux and Dr. Michael L. Cunningham were among the scientists serving as instructors at the camp.

"The day was very fast-moving," Devereux said. "The camp was designed to show that science is fun." She added that the children responded to fossils of large sharks' teeth. Most of the children had never seen fossils of any kind before.

Science Camp is a collaboration of private and public organizations. It was conducted jointly by the Public School Forum and Granville County Schools, with support and participation from NIEHS, EPA, General Telephone and Telegraph, IBM, and the North Carolina Math and Science Alliance.

A cook-out capped off camp activities, with students, scientists, teachers and parents attending to hear a program in which students presented some of their week's work.

"This kind of outreach touches the entire community and awakens students and parents to the possibilities of science as a career," said Dr. Kenneth Olden, NIEHS director. "It is among young students like these and their parents that the community support will be found to educate a new generation of scientists and science-literate lay people. We are delighted to have been a part of this excellent effort."—Thomas Hawkins □



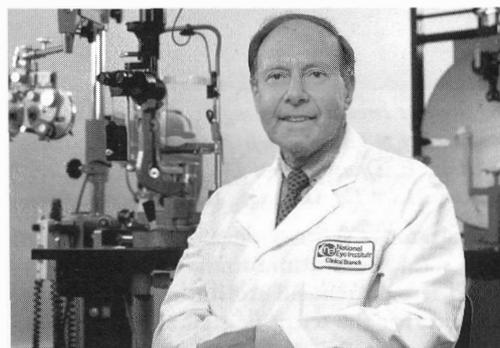
Members of NIAID's 11th floor clinic staff recently collaborated on a panel that will become part of the NAMES Project's AIDS memorial quilt. They are (front, from l) Dennis Martell, Mary Vienna, Diane Rock, Bernice Williams, Laura Govoni, and head nurse Bill Barrick. At rear are (from l) Chuck Owen, Yona Reizes, Cheryl Perry, Jane Engle, Suzanne Woolard, Debbie Blum, Julie Metcalf and Senora Mitchell.

NEI Director Kupfer Receives Humanitarian Award

NEI director Dr. Carl Kupfer was named the 1992 recipient of the Lions Humanitarian Award, the highest honor presented by the Lions Clubs International. At the recent Lions international convention in Hong Kong, Kupfer was presented the award in recognition of his outstanding achievements in fostering clinical research and prevention of blindness activities worldwide.

As founding director of NEI, Kupfer has been responsible since 1970 for guiding the institute's support for vision research. An internationally recognized leader in promoting cost-effective intervention and blindness prevention programs, he has provided leadership to 13 national and 20 international organizations concerned with reducing the prevalence of blindness worldwide.

From 1982 until 1990, he served as president of the International Agency for the Prevention of Blindness, where he effectively increased the collaboration between non-governmental organizations working in the blindness prevention field throughout the world. Kupfer's expertise was also instrumen-



Dr. Carl Kupfer

tal in the development and direction of the Lions' SightFirst program, another international effort to prevent and eliminate blindness.

Along with the award, Kupfer received a \$250,000 grant that he will use to support training and educational efforts carried out through SightFirst programs in developing nations worldwide.

Infants, Moms Sought

The NICHD is studying communication between infants and mothers. Needed are volunteers for a 1-hour session, in which you and your infant will be filmed on videotape. The session involves merely taping your baby's interaction with you under nonstressful conditions. In return, participants will receive a high-quality videotape of the entire session. If your infant is about 12 weeks old, call Stephanie or Axel for more information, 496-0420. □

Research Subjects Needed

NICHD is seeking infants for a longitudinal study of cognitive and social development. Infants must be 2 months old between Sept. 1 and Nov. 15. For more information, call Deborah Clay, 496-6832, and ask for information on the infant study. □