THE NIH RECORD

Still The Second Best Thing About Payday

Pittman Lecture Explores Human Molecular Genetics, Jan. 28

The next era of human genetics—since the vast majority of human genes are already identified—will be marked by functional analysis and studies aiming at the understanding of complex interactions between multiple genes. Modern human genetics is rapidly moving toward functional analysis of genes and gene products, using the information to understand the molecular pathogenesis of human diseases. This new knowledge will form the basis for novel treatment, prevention and intervention strategies in medicine.

Dr. Leena Peltonen

Dr. Leena Peltonen, one of the field's most

SEE **PITTMAN LECTURE**, PAGE 9

FDA's McClellan To Inaugurate NCI Seminar Series, Feb. 2

On Monday, Feb. 2, National Cancer Institute director Dr. Andrew von Eschenbach will launch a new lecture series at NIH, the NCI Director's Seminar Series, as he introduces the first of three speakers scheduled for 2004. The series is designed to bring national leaders to NIH to discuss extraordinary advances in their fields as NCI works toward helping to eliminate the suffering

Dr. Mark McClellan

SEE **MCCLELLAN**, PAGE 7

HIGHLIGHTS

U.S. Department of Health and Human Services
National Institutes of Health

January 20, 2004
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Ensuring 'Flexibility and Foresight'

Ruiz Bravo Enjoys Role as Deputy Director for Extramural Research

By Carla Garnett

When NIH needed a new deputy director for extramural research, ads for the job could have read: "Wanted: Experienced scientist able to make tough decisions about research management look simple, make complex research policy manageable, make the jump from outside NIH to NIH insider (or in some other way be able to view both sides of issues), make all sides involved—fellow scientists, the boss, the press, the public—feel that decisions were arrived at fairly, and still make the work meaningful."

Dr. Norka Ruiz Bravo

To some, the description "miracle worker" might seem more accurate and less difficult. However, self-described multitasker Dr. Norka Ruiz Bravo—whose appointment was

SEE **RUIZ BRAVO**, PAGE 6

Vaccine Trials, Triumphs Reviewed at Seminar

By Rich McManus

The original title of the STEP committee's Dec. 2 presentation on vaccines was subtitled, "Friend or Foe?" but when it came time for the actual event, the more optimistic, if indefinite, title "Changing Perspectives" was adopted. That's because one needn't have sat through more than half the morning-long presentations to have gleaned that vaccines, viewed historically as a whole, are not only stratospherically more beneficial than they are harmful, but also new ones, including those for such deadly viruses as HIV and Ebola, are on the launchpad and being readied for presentation to a world desperately in need of them.

The panel opened with the heaviest topic on the global health agenda—HIV/AIDS. Vaccine authority Dr. Gary Nabel, who directs NIH's Vaccine Research Center, described the candidate NIH is betting on: a so-called "naked" DNA vaccine consisting of four components—a fusion protein combined with envelope immunogens from the three major clades, or families, of HIV most responsible for infections worldwide. "We need a globally

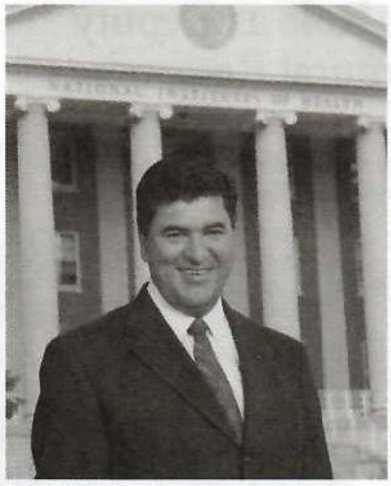
SEE **VACCINES**, PAGE 4

DIRECTOR'S CORNER

NIH Director's Corner

Over the past 20 years, medical and scientific advances that were made possible through basic and applied research, diagnostics and treatment have paved the way for significant improvement in the health of the American people.

Yet, alongside this overall improvement, there remains an alarmingly disproportionate burden of illness among minority and medically underserved populations. Thus, we still see disparities in the extent of illness and death felt by African Americans, Hispanics, Native Americans, Alaska Natives, Asians and Pacific Islanders.



NIH director Dr. Elias Zerhouni

Among the most striking disparities are shorter life expectancy and higher rates of cardiovascular disease, cancer, infant mortality, birth defects, asthma, diabetes, stroke, sexually transmitted diseases and mental illness.

Clearly, our nation's foremost health challenge is to overcome persistent health disparities and promote health for all Americans.

Our approach to minority health and health disparities, guided by Dr. John Ruffin, the director of the National Center on Minority Health and Health Disparities, is to support and promote biomedical and behavioral research, research training, research capacity and information distribution by working closely with the NIH institutes and centers.

The NCMHD mission is driven by our shared vision of a time when all Americans have the opportunity for long, healthy and productive lives regardless of race, ethnicity or socioeconomic status.

The recently released NCMHD report entitled, "NIH Strategic Research Plan and Budget to Reduce and Ultimately Eliminate Health Disparities," details the NIH commitment.

This strategic plan focuses on three major goals:

- Conduct research to advance understanding of the development and progression of diseases and disabilities that contribute to minority health and other health disparities;
- Develop research infrastructure to increase minority health and health disparity research training, career development and institutional capacity;
- Pursue public information and community outreach to ensure the public, health care professionals and research communities are informed and educated about the latest advances in minority health and health disparities research.

All the NCMHD initiatives cut across areas that represent many diseases, disabilities and organizational boundaries. More importantly, the initiatives represent a trans-agency commitment to explore and solve many of the health disparities problems our citizens and our nation face.

To further facilitate research in this important area, we need to continue to train researchers from a diversity of backgrounds reflective of the diversity of the population of our country.

I am confident that the medical research community—working with, and informed by, the public, patients, health care providers and policymakers—will develop new knowledge to improve the prevention, diagnosis and treatment of diseases and disabilities that contribute to health disparities among minority and medically underserved populations.

All of us share an obligation to ensure that the new knowledge uncovered in our laboratories and our clinics benefits all our citizens and communities. We at the NIH will continue to promote the development and transfer of research-based information from the biomedical, behavioral and social sciences for use by health professionals, communities and others in working toward the elimination of health disparities. ■

Korach To Lecture, Feb. 6

The women's health special interest group will host Dr. Kenneth S. Korach on Friday, Feb. 6, speaking on the topic, "Evaluating Differential Estrogen Receptor Activities Using Knock Out Mouse Models." The talk will be held from 11:30 a.m. to 12:30 p.m. in Lipsett Amphitheater, Bldg. 10. Korach is program director, environmental disease medicine program, and chief, Laboratory of Reproductive and Developmental Toxicology, NIEHS. ■

NIH RECORD

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ORWH Offers Overview of Women and Alcohol

The Office of Research on Women's Health recently sponsored a seminar on "Alcohol: A Women's Health Issue."

Dr. Mary Dufour, former deputy director, National Institute on Alcohol Abuse and Alcoholism, began the discussion by showing the audience staggering statistics on alcohol consumption in the U.S. Americans consume more than 6 billion gallons of beer per year, almost 547 million gallons of wine and nearly 355 million gallons of distilled spirits. She also provided statistics on per capita alcohol consumption, drinking status of women, how women handle alcohol differently from men (mostly due to body size and composition), how hormones affect tolerance and how tolerance decreases with age.

Dr. Mary Dufour

Dufour explained some of the medical consequences of using alcohol and how it affects the liver, heart, brain, pancreas, nerves and bones. She indicated that for both men and women, about 50 percent of the risk of becoming an alcoholic is genetic but there appear to be differences between men and women as to which genes are involved. She stressed moderation and referred to the Dietary Guidelines for Americans 2000. Moderation is defined as "no more than one drink per day for women." Dufour said that there is much research to support a very strong association between moderate drinking in women and reduced risk of death from a heart attack as well as reduced risk of having a heart attack. Some of the possible mechanisms for this protective effect are decreased blood clotting and increased good cholesterol. More research is needed to determine if moderate drinking in one's 20s confers any added benefit over and above moderate drinking in one's 50s or 60s. Decreased blood clotting and increased good cholesterol are only two of several possible mechanisms now under investigation.

Dr. Karen Clay Rhines, assistant professor of psychology, Seton Hall University, focused on treatment issues and outcomes for alcohol-dependent women. She said the effectiveness of alcohol treatment in women has not been sufficiently studied. One of the problems is that, traditionally, men have been studied and the results extrapolated to women. Rhines clearly showed that women must be studied too.

One of the concerns is that relatively few women seek alcohol treatment, perhaps because programs such as Alcoholics Anonymous are designed for male clients. The programs often do not take into account the special issues involved in treating women who are mothers or caregivers. Also, there are psychosocial differences between alcoholic men and women, which directly affect the type of alcohol treatment each sex needs. So while programs like AA might be beneficial for men, they may not be as effective for women.

Dr. Karen Clay Rhines of Seton Hall University

In addition, providing treatment for women tends to be more challenging than for men because women suffer from many barriers that prevent them from seeking help. Some of these barriers are internal—women experience denial, fear of stigma, concern for losing their children, guilt, and shame. Barriers can also be external—opposition from family and friends, and social costs of trying to leave an abusing situation. Other barriers include a lack of standard referral patterns, inadequate training of health care providers, lack of services geared toward women, a lack of economic resources, inadequate insurance and a lack of child care facilities.

In order to make treatment more beneficial for women, Rhines said it is time to educate the public on this women's health issue, increase knowledge about women and drinking and increase availability of sensitive services for alcoholic women.

Final speaker Dr. Kenneth Leonard of the State University of New York at Buffalo talked about alcohol and its correlation with domestic violence. According to the National Crime Victimization Survey, 1 million females are victims of intimate-partner violence a year. Other research suggests that 1.8 million women report severe violence and 6.2 million females are assaulted by husbands or partners each year. In addition, about one-third of couples experienced aggression related to alcohol before marriage. It is estimated that 250,000 victims of intimate violence are seen in hospital emergency departments a year, but most fail to seek treatment or to report the crime.

Dr. Kenneth Leonard of SUNY-Buffalo

Leonard explained that heavy drinking among males is associated with domestic violence. Male batterers drink more and are more likely to be alcoholic. The role of female drinking in domestic cases is less clear. However, there is some evidence to suggest that females who drink do not show violence unless both the male and female spouse are drinking. Among alcoholics, the odds of violence occurring on a specific day are 10 times higher on days when both drink than on days that neither did. According to Leonard, there is research that shows that when an alcoholic batterer stops drinking, the violence is reduced considerably, and tends to occur if and when the alcoholic returns to heavy drinking.—**Liz Connors, Vicki Malick**

Dr. Lawrence Baizer is the new scientific review administrator for the neurogenesis and cell fate study section at the Center for Scientific Review. He earned his Ph.D. in pharmacology from the University of Colorado Health Sciences Center. After postdoctoral work in molecular neurobiology at Massachusetts General Hospital, Baizer moved to the Neurological Sciences Institute of the Oregon Health Sciences University, where he was a principal investigator from 1989 to 2000. His laboratory investigated the molecular mechanisms of action of growth-associated protein (GAP)-43, a protein involved in axonal growth during neuronal development and regeneration. For the past 3 years, Baizer was a senior scientist at Bioject, Inc., where he explored new applications for the company's technology and was involved in several clinical vaccine trials.

VACCINES, CONTINUED FROM PAGE 1

relevant vaccine," Nabel said. "The strains [of HIV] in the developing world are different from the ones we see here." NIH's so-called "prime-boost" vaccine includes a prime designed to stimulate CD8 cells in the body to mount an infection-controlling defense, which is boosted by an adenovirus vector.

Nabel said his team's assumption is that CD8 cells can control infection; thus far no antibodies to HIV have proven capable of doing that. The vaccine may also induce neutralizing antibodies that react with some circulating strains in the population. CD8 cells seem to be effective in animal models of the disease, Nabel said, and scientists here are hoping that their candidate can delay disease progression, reduce the spread of HIV in people and, most ambitiously, prevent the disease. "Ultimately we'll need to test its efficacy in a natural setting."

Before getting there, however, the long slog toward success must include a safety test of the recombinant adenovirus component of the vaccine, scheduled to commence in March 2004. "The immune profile in animals is encouraging so far, with respect to CD4 and CD8 response," Nabel noted.

He said the molecular nature of the HIV envelope is under intense scrutiny at the VRC as scientists probe its 3-dimensional structure for targets of opportunity. Nabel foresees phase III (efficacy) trials of the candidate vaccine by 2005 or 2006, and said colleagues have already picked dozens of sites worldwide as test beds for trials that will take at least 3-4 years. "The earliest that we expect results is around 2009, so we need to settle in and be patient," he advised. A second-generation VRC candidate is about a year behind the first one, he disclosed, and the drug company Merck also has a horse in the race.

With respect to Ebola, Nabel said that the virus's envelope glycoprotein is responsible for its toxicity; his team has engineered this factor out of its vaccine. Like the HIV vaccine candidate, the Ebola vaccine consists of a DNA prime and adenovirus boost. Human trials of the Ebola vaccine are scheduled to start next year, Nabel said.

Touching briefly on SARS, Nabel observed that it took scientists only 10 days to identify the agent, once it was isolated, and another month to sequence its genome. With respect to a SARS vaccine, he said, "I'm relatively optimistic that we'll get there in a few years—the early signs look good."

Offering a sobering look at how long and hard—and expensive—vaccine development can be was Dr. Harry Greenberg, senior associate dean for research and professor of medicine at Stanford University, who spent a few years away from academia as he helped a company launch FluMist, a nasal flu vaccine. Since the early 1990s, he said, the company spent nearly $750 million bringing its product to market. "Vaccine development historically has been quite slow," he explained. "You don't make it in a day or two, and frequently not in a decade or two."

As with HIV, the SARS coronavirus, and Ebola, it's the surface or envelope proteins on the flu virus that are the targets of protective antibody responses. The recently licensed live attenuated intranasally administered flu vaccine (FluMist) was originally developed in the mid-1960s and consists of an attenuated master donor virus, coupled with the surface proteins relevant to immunity to the latest strain circulating in the community. The strains are actually named according to the characteristic envelope proteins hemagglutinin (H) and neuraminidase (N), hence a designation such as H3N2 to describe a season's flu bug.

The program's last two speakers took on the challenge of defending vaccine safety. Dr. Frank DeStefano of the CDC's National Immunization Program outlined the strengths and weaknesses of vaccine safety monitoring in the United States, both pre- and post-licensure, and gave evidence against a link between the MMR (measles, mumps and rubella) vaccine and autism, or between thimerosal (an organic ethyl mercury compound used as a preservative in vaccines) and neurodevelopmental disorders.

While evidence gathered internationally lets the MMR vaccine off the hook as a cause of autism, DeStefano acknowledged that concerns persist not only in the U.S., but also more strongly in the United Kingdom. He called for better education and communication in the area of risk. Because concerns persist and new data have become available, the Institute of Medicine, which last weighed in on the topic in a report issued in 2001, has another review of vaccines and autism due in February 2004.

The final speaker put vaccine safety in perspective; if your definition of safety is absolute, then nothing is safe, neither bathing, nor eating, nor walking in the rain. Dr. Paul Offit, professor of pediatrics at the University of Pennsylvania School of Medicine, used the histories of the polio, pertussis, rotavirus and smallpox vaccines to argue that vaccines can generally be considered safe so long as their benefits outweigh their risks. He acknowledged that vaccines do sometimes injure; early versions of the polio vaccine caused some cases of polio, the first whole-cell pertussis vaccine did cause some symptoms of fever, fretfulness and crying, and the rotavirus vaccine has lost a place in the world pharmacopeia because, while it is vastly more useful than harmful, it is still associated with rare cases of intussusception, or intestinal obstruction.

Offit said society is trending toward the irrational nowadays as emotional argument comes to outweigh the preponderance of data. "We are unduly influenced by anecdote," he said, lamenting that the removal of the Rotashield rotavirus vaccine from the

marketplace demonstrates a wrongheaded apprehension of risk.

If we are going to define safety absolutely, he wondered, how do we handle the following facts: RSV (respiratory syncytial virus) causes about 90,000 hospitalizations and 5,000 deaths per year in the U.S. Would an RSV vaccine that prevented 90 percent of severe and fatal illness, but caused 5 deaths per year be considered safe? "I fear the answer would be no," said Offit. "We'd want to wait for a safer vaccine."

Such waiting around is justified, he noted, with respect to the smallpox vaccine. True, smallpox could theoretically be used as an agent of terror. But with no cases evident in the wild (the last case occurred in 1977 in Ethiopia), and a good but not great vaccine already stockpiled, why put yourself at any risk whatsoever? "The American medical profession has already voted with their arms on this one," Offit said.

To view the entire 3-hour seminar, visit http://videocast.nih.gov. ■

Duke, Pitt Training in Clinical Research

The Clinical Center's Office of Clinical Research Training and Medical Education offers two opportunities for training in collaboration with Duke University and the University of Pittsburgh.

The NIH-Duke Training Program in Clinical Research, implemented in 1998, is designed primarily for physicians and dentists who desire formal training in the quantitative and methodological principles of clinical research. The program, offered via videoconference at the CC, offers formal courses in research design, research management and statistical analysis.

Academic credit earned by participating in this program may be applied toward satisfying the degree requirement for a master of health sciences in clinical research from Duke School of Medicine. For more information, visit http://tpcr.mc.duke.edu/ or email tpcr@mc.duke.edu. The deadline for applying is Mar. 1, 2004.

The University of Pittsburgh Training in Clinical Research Program is designed for Ph.D.'s and allied health professionals and consists of a curriculum taught over three semesters starting with an intensive 8-week summer session. NIH trainees are only required to spend the first 5 days of the summer session in residence at the University of Pittsburgh. Physicians and dentists are also eligible to matriculate in this program.

For more information, including tuition costs, visit http://www.cc.nih.gov/ccc/cc_pitt/index.html or email tcrp@pitt.edu. The deadline for applying is Mar. 1, 2004. Prospective participants should consult with their NIH institute or center regarding the official training nomination procedure. ■

Kastner Honored by Arthritis Foundation

Dr. Daniel Kastner, chief of the Genetics and Genomics Branch at the National Institute of Arthritis and Musculoskeletal and Skin Diseases, was identified by the Arthritis Foundation as producing one of the top 10 research advances of 2003.

Dr. Daniel Kastner

Kastner and his research fellow, Dr. Jae Jin Chae, established an important new finding about the protein pyrin: that it helps to shut down the inflammatory process in the normal response to infection. When the gene that produces pyrin has a certain mutation, the body does not get the proper signals to shut down the inflammatory response. This finding, published in the March issue of *Molecular Cell*, has implications for the possible role of genetics in the development of arthritis, and supports the theory that some rheumatic and inflammatory diseases begin when individuals with genetic susceptibility encounter certain types of infection.

The "Top Ten" list, announced via teleconference Dec. 3, was developed in consultation with clinicians and scientists as well as with the American College of Rheumatology, the American Academy of Orthopaedic Surgeons, the Centers for Disease Control and Prevention and NIH. ■

Gabrielle Cannick (l) was recently awarded the grand prize at the Hinman Student Research Symposium sponsored by the Thomas P. Hinman Dental Society (THDS) and the University of Tennessee Health Science Center College of Dentistry. At right is Dr. Mustafa Dabbous, coordinator of the Hinman Student Research Symposium at which Cannick won the grand prize. The symposium, held recently in Memphis, brought together 94 dental students from the United States and Canada. Cannick is a D.M.D.-Ph.D. student working on her dissertation research at NIDCR. Her symposium presentation on "Oral Cancer Knowledge among South Carolina Dental Students," garnered her the top prize that includes a plaque from THDS for "Most Outstanding Presentation in Clinical Research" and another from the National Student Research Group, American Association for Dental Research for the "President's Award for Excellence in Dental Research." The award also includes a check and a trip to the annual THDS meeting in March 2004.

Dr. Ai-Ping Zou has joined the Center for Scientific Review as scientific review administrator for the hypertension and microcirculation study section, a new panel that reviews grant applications involving basic and applied aspects of blood pressure regulation and microcirculation control. He completed training as a physician at Tongji Medical University in China and received his Ph.D. in physiology at Heidelberg University in Germany. He previously served as associate dean for academic affairs at TMU and was an associate professor at the Medical College of Wisconsin. Before coming to CSR, he was an NIH grantee, studying transcriptional mechanisms mediating renal regulation of arterial blood pressure and homocysteine-induced end-stage renal damage associated with hypertension.

RUIZ BRAVO, CONTINUED FROM PAGE 1

announced last Oct. 30—admits the job seems tailor-made for her. Told that her predecessor insisted that a sense of humor was essential for success in the role, she readily agrees.

"This has all the elements that I love in a job," she explains, smiling. "It's challenging, it keeps me busy...and it's high in entertainment value.

"It was the opportunity to do something at a higher level," she continues, more seriously. "It also presented a chance to make a difference somewhere, and that's always been important to me."

In her new role, Ruiz Bravo oversees the development of policies and guidelines for NIH's entire research grant operation, which represents about 85 percent of the agency's total budget.

The Office of Extramural Research—the job's primary organizational structure and one of several NIH components scheduled for major changes following NIH's victory in its recent A-76 competition—is NIH's focal point and voice for all policies and guidelines for extramural research grants. OER policies and procedures affect the entire medical research community.

"The job involves communication across a lot of different groups, some with competing interests," Ruiz Bravo pointed out recently, after nearly 8 weeks in her new post. "My job is to get us all rowing in the same direction. The difference between this job and the one I left is that I get to be involved in more policy development here."

On any given day, Ruiz Bravo might be called upon by the media to address research policies in the news. Such issues as human subjects research, the appropriate care and use of animals in research, intellectual property and sharing research resources, institutional difficulties in responding to government regulations and many other hot topics are never far from the front page or nightly news reports, which means the NIH deputy director for extramural research must stay well-versed and at the top of her game. Ruiz Bravo says she manages this with a top-notch staff, many of whom she inherited with the job.

"The sheer volume and variety of things we face every day in this office is amazing," she acknowledges. "In fact, I've already found three things—speed, volume and variety—that you don't fully understand until you come to work here."

In addition, she notes, the job she left was great preparation for this one. Before becoming NIH deputy director, Ruiz Bravo spent 4 years in a similar, institute-level role as associate director for extramural activities at NIGMS. There she oversaw $1.7 billion in research and research training grant programs.

A former NICHD grantee, Ruiz Bravo was a faculty member from 1983 to 1989 while at Baylor College of Medicine, and a postdoctoral fellow at the University of Texas Health Science Center's M.D. Anderson Cancer Research Center. She earned her bachelor's degree in biology from Goucher College in Towson, Md., and master's and Ph.D. degrees in biology from Yale University.

"I'm a scientist at heart, a cell and developmental biologist," she says, recalling her years in the lab. "I don't miss the bench so much as I miss being more involved in the day-to-day management of the science. I left bench science because I'm a generalist. For me, being at the bench required that I focus too narrowly."

In 1990, Ruiz Bravo came to NIH as a scientific review administrator in NIGMS's Office of Scientific Review. Her husband, a research physicist, had been offered a position at Johns Hopkins, and Ruiz Bravo remembers feeling fortunate to find the SRA post nearby. Looking back at the job, she considers it to have been the perfect entrée to the NIH community.

"I really think that position was the best one for me," she recalled. "It helped prepare me for every job I've taken here since then, and it exposed me to the NIH environment as almost no other position could have. It was a great job."

Two years later she became a program director in NIGMS's Division of Genetics and Developmental Biology, and in 1997, she moved to NCI as deputy director of the Division of Cancer Biology, where she was named acting director in 1998. In 1999, Ruiz Bravo returned to NIGMS as deputy director of its Division of Extramural Activities, before being named NIGMS associate director for extramural activities in October 2000.

Settling into her new office in Bldg. 1, Ruiz Bravo says one of her first goals is to help implement NIH director Dr. Elias Zerhouni's Roadmap for Medical Research initiative.

"The way we do science and the management of science have changed dramatically over the years," she explains. "It used to be highly reductionist—a single principal investigator looking at a single molecule. Now it's much more of a systems approach by a team of scientists. Our job at NIH is to make sure we have the flexibility and foresight to accommodate that shift."

Already Ruiz Bravo says she relishes tackling several different challenges at the same time despite the fact that her daily calendar stays full from sun up to sun down, and she can rarely predict what the next day will bring.

She concludes, "This is a great job for me—one where the sand is constantly shifting under my feet. One of the greatest fears of my life is being bored. I don't think that will ever happen here." ■

Heart Failure and Diabetes

If you or someone you know has heart failure/diabetes, call today for study information: 1-800-411-1222 (TTY 1-866-411-1010). ■

MCCLELLAN, CONTINUED FROM PAGE 1

and death due to cancer by the year 2015.

Dr. Mark McClellan, commissioner of the Food and Drug Administration, will kick off the series with remarks from 9 to 10 a.m. in Masur Auditorium, Bldg. 10. In a lecture titled, "Confronting Cancer through Collaboration and e-Health Technologies," he will discuss the latest innovations in biomedical and cancer research. He will also share insights into the promise of electronic medical information, FDA's recent collaboration with NCI, and the agency's broad initiative to speed the development of new drugs and therapeutics.

McClellan has a distinguished background in academia, medicine and public service. With an M.D. from the Harvard-MIT division of health sciences and technology and a Ph.D. in economics from MIT, he has taught both economics and medicine at Stanford University, was director of Stanford's program on health outcomes research and practiced internal medicine. He served in the White House during 2001-2002 as a member of the President's Council of Economic Advisors and as senior policy director for health care and related economic issues. He has served as a member of the National Cancer Policy Board of the National Academy of Sciences, as associate editor of the *Journal of Health Economics*, and as co-principal investigator of the Health and Retirement Study.

McClellan's research has addressed such issues as measuring and improving the quality of health care, identifying economic and policy factors that influence medical treatment decisions and health outcomes, estimating the effects of medical treatments, examining technological change in health care and its consequences for health and medical expenditures, and understanding the relationship between health and economic well-being.

"Meeting the goal of eliminating the suffering and death due to cancer by 2015 requires a concerted effort by the entire cancer community," said von Eschenbach, explaining the series' rationale. "NCI is working in collaboration with other institutes and centers of NIH, other federal agencies such as the Food and Drug Administration and the Centers for Disease Control and Prevention and other public and private ventures in the community to achieve this goal."

The NCI Director's Seminar Series provides a forum for such collaborators to share advances in their area of expertise and allow others the opportunity to build on their knowledge. "If these collaborations are successful, the progress of cancer research will accelerate and pay considerable dividends for all members of our community," noted von Eschenbach. "And, most importantly, these initiatives will directly benefit cancer patients and members of the public—in the near-term and even more dramatically as we get closer to 2015."

Future lecturers in the series include the president of the Biotechnology Industry Organization (BIO), Carl Feldbaum, speaking on Mar. 19 at 2 p.m., and the director of the Centers for Disease Control and Prevention, Dr. Julie Gerberding, speaking at 1 p.m. on Sept. 16. Both lectures will take place in Masur Auditorium.

The Feb. 2 lecture will be webcast at http://videocast.nih.gov. Sign language interpretation will be provided. For more information, or for reasonable accommodation, contact Kate Haessler at (301) 348-1662 or the Federal Relay at 1-800-877-8339. More information about the NCI Director's Seminar Series can be found at http://cancer.gov/directorscorner. ■

Dr. Jerome Wujek recently joined the Center for Scientific Review as a scientific review administrator, coordinating the review of small business research grant applications related to vision research for the brain disorders and clinical neuroscience integrated review group. He earned his Ph.D. from the department of anatomy at Case Western Reserve University. His work there focused on the role of axonal transport in regulating axonal regeneration. In subsequent postdoctoral positions at the University of Maryland and Cincinnati Children's Hospital, he investigated the relationship of astrocytes to axonal regeneration in spinal cord injury. At Gliatech, Inc., a start-up biotech company in Cleveland, he was part of a research and development team working on therapies for surgical adhesions and for Alzheimer's disease. He comes to CSR from the department of neurosciences of the Cleveland Clinic Foundation. As a staff scientist there, he studied the role of microglia, inflammation and axonal pathology in multiple sclerosis.

Stress Hormones, Depression Studies

The Clinical Neuroendocrinology Branch, NIMH, is seeking people with current or past depression, as well as matched normal controls, to participate in an evaluation study at the Clinical Center. Participants should be 18 to 65 years old; medically healthy; nonsmokers within the past year; and able to participate in studies involving at least one night's stay at the Clinical Center. Eligible volunteers will receive a physical evaluation, metabolic studies and participate in studies for possible heart disease in depression. They will also be paid. For more information, call (301) 496-5831 or (301) 496-1892 voice mail #1 for Dr. June Cai. ■

Female Smokers Needed

Adult female cigarette smokers are invited to participate in a 90-minute study of mood and coping being conducted at American University. Compensation is provided. For more details call (240) 994-0268.

Creative Influence Begins New Phase

Artist Al Laoang Retires After 34 Years at NIH

By Carla Garnett

The Clinical Center has been home to juried art galleries only since the late 1980s, but you've always been able to stroll down any of its major corridors and find museum-quality images of myriad topics, from the pedestrian traffic depicted in "Arthritis and Osteoporosis" (1997) to the wind-blown trees of "Imagine God" (1989) to the carousel that is "Mood Disorders" (1984). That's because the lion's share of art—medical illustrations, posters publicizing lectures and events, graphics for slides—is conceived by a small, but highly creative talent trust composed almost entirely of NIH'ers. That trust absorbed a huge loss on Jan. 2, when longtime NIH artist Al Laoang retired after 34 years.

Al Laoang

"We have such a grand time working at NIH," said Linda Brown, Laoang's former supervisor who he described as part art director/part coach/part inspiration during what he termed the "glory days" of his time here. "It's impossible to believe this much time has flown past. Al's more like a family member than a coworker. I remember when we were both skinny, young and dark-haired. Al got married, had a family, bought a house, sent children to school—now we're both gray and lots smarter!"

A Chicago native who had spent the years 1962 through 1965 in the military as an Army illustrator, producing art for large-scale dioramas at the World's Fair in New York and paintings for the sides of buses and vans, Laoang was recruited to NIH in 1970 by former chief of Medical Arts and Photography Ron Winterrowd. He had seen Laoang's work in several ShoTel exhibits. Laoang was working then at the Pentagon in the Air Force's art department, where he created visuals for publications, awards, certificates, cartoons, etc. When he came to NIH for the interview, he saw potential to expand his subject matter and his gift.

At NIH, Laoang's creativity and skill in all media—acrylics, oils, pen & ink, charcoal and watercolor—flourished; NIH patrons particularly fell in love with Laoang portraits, done in the classic style of Dutch master Vermeer. The formal portrait of former Clinical Center director Dr. Mortimer Lipsett that hangs outside the Bldg. 10 amphitheater is a Laoang original, as is much of the poster art gracing hallways and offices across campus.

Although he acknowledged his formal art training—at Chicago's American Academy of Art, the Philadelphia College of Art (where he earned a bachelor's degree in fine art and also met and married his wife, Dorothy, who is also an artist) and George Washington University (where he received a master's in fine arts)—and several of his many plaudits—PRINT's regional design honors in 1989 and 1996 for posters promoting "Black History" and "Taste of Asia"; awards of merit in 1995 and 1996 for "NIH Disability Employment: Awareness and Action" from the Illustrator's Club and "Cochlear Implants" from the Art Director's Club of Metropolitan Washington, D.C.; an NIH Merit Award in 1991; and consecutive ORS Outstanding Performance Awards 1991-1993—Laoang constantly diverts praise from himself and attributes his success instead to the environment where he worked.

He recalled a particularly close-knit group of artists, overseen by Brown, that included Richard Barnes (now the senior web designer at CIT), Karen Cook (now a career counseling coordinator in ORS's Center for Career Resources), Margaret Georgiann (now owner of Whim Whams Illustration Studio) and Betty Hebb (now retired).

"We were like a family," Laoang said. "We fed off each other. We competed with each other. We had such a love and appreciation for each other's work. I think that period—the late '80s, early '90s—was our 'Camelot.'"

Brown, an artist herself who began at NIH 4 years before Laoang and still works in Medical Arts, said it was "a time when you found a place where you could practice your craft, and you stuck with it. It was a big luxury for me to have someone like Al working for me. I really can't believe he's leaving—I'm pretending that he's just cleaning out his area."

Other alumni of the period agreed, acknowledging that in addition to his art, Laoang's personality makes him unique.

"Al is truly a gifted and versatile artist," remarked Cook, warmly. "Of course with creativity comes quirkiness. Al and his friend of over 30 years, Ralph Isenburg, would meet each other religiously at 3 p.m. every day for coffee in the cafeteria. You could set your watch by Al. Al would call Ralph just before 3 every day and ask him, 'Going up a tree?' [They] always had constant word plays going on between each other; this is the way they communicated together. Very strange."

Added Georgiann, "Al occupies a space somewhere between Michelangelo and Gene Kelly in my heart. He was always the best painter and draftsman among us, but his sweet soft-shoe moves in the aisle between our office spaces are some of my favorite moments with Al."

"Al is a great music lover and a graceful dancer," Cook confirmed. "He always seems to have a rhythm going in his head. Sometimes I could hear his feet dancing while he was working at the drawing

Have Kidney Disease?

Call NIH at 1-800-411-1222 for new kidney studies, including lupus nephritis, membranous nephropathy and focal segmental glomerulosclerosis. Treatment provided at no cost. Transportation may be provided. Email prpl@cc.nih.gov (TTY: 1-866-411-1010).

board in his cubicle (often without any music playing!). And after the coffee break, Al often had Broadway tunes blasting from his boom box. In addition, he is a man with a very kind and generous heart...I love Al. I will miss him!"

Barnes also recalled cubicle life around Laoang. "Soon after I started working at NIH," he said, "I discovered Al's unique solution to beat the traffic. One morning I arrived early at the office, switched on the lights and sat down to work alone. After a little while I thought I heard a rustling sound. Medical Arts was located in the Clinical Center sub-basement in the area originally intended for library stacks—a perfect hideout for the fabled fugitive lab mice. But then I was startled by the beep-beep of a watch alarm. That's when Al methodically arose from the floor in his cubicle, rolled up his mat and headed out for coffee before beginning the work day. In those days, if you arrived at 0-dark-thirty, you could actually get a parking space in the CC garage. I even tried Al's daily ritual for a few weeks, but it was just too early for me!"

NCI chief medical photographer Isenburg, a 58-year veteran NIH'er who vows to reach the 60-year mark here, remembered meeting Laoang decades ago deep in the heart of Bldg. 10.

"We struck up a friendship as two of the very few people that arrive here at a quarter to 5 every morning," he said, chuckling. "Over the years, Al has always joked with me that he would outlast me, that I would retire before he would. Well, I win. He's retiring before I am. He always said they'd need a wheelchair to wheel me out of here. Well, I'm arranging to pick up a little surprise for him at his retirement party."

In addition to his own award-winning career in the arts, Laoang admitted he is equally proud of his influence on a new generation of talent—particularly his two daughters: Jennifer Camille, a painter in New York, and Bette Cassatt, a local actor. He also gave early painting lessons to Netherlands portrait artist Scott Bartner, son of former NIH medical illustrator Howard.

Although he won't be physically located on campus, Laoang is not deserting his legion of fans. "NIH still needs that talent close by," explained Brown, who said Laoang has promised to continue producing work on commission for NIH'ers "who have become addicted to his style." Essentially, Laoang's retirement will give him the opportunity—and time—to launch a studio business and pursue other projects that have been on the back burner for years. "I just thought that it was time to go out and do something that I've always wanted to do," he concluded.

To view examples of some of the artwork created over the years by Laoang and his colleagues, visit http://history.cit.nih.gov/exhibits/galleries/posters/text-index.html. ■

PITTMAN LECTURE, CONTINUED FROM PAGE 1

recognized human molecular geneticists, will deliver this year's Margaret Pittman Lecture, part of the NIH Director's Lecture series. Her talk, "Story of My Roots: Disease Mutations of a Population," will take place on Wednesday, Jan. 28 at 3 p.m. in Masur Auditorium, Bldg. 10. She will describe the search for disease genes of rare and common phenotypes to demonstrate strategies to identify disease genes and predisposing alleles.

Peltonen has studied gene defects in multiple human diseases for the past 25 years. The greatest landmark of her research history was the identification and characterization of the molecular background of the lysosomal accumulation disease, aspartylglucosaminuria (AGU). Among her many accomplishments, Peltonen is one of the pioneers of novel strategies using samples from isolated populations to position and clone disease genes. The highly successful work of her group has been crucial in launching the concept of the use of population isolates in the search for disease genes and provides a model of such research today. Her group has positioned more than 20 disease loci to restricted chromosomal regions, and via positional cloning strategy has successfully identified more than 10 disease genes and characterized their functions.

Peltonen was the founding chair of the department of human genetics at UCLA and is currently the Gordon and Virginia MacDonald distinguished chair in human genetics at the university. She got her basic scientific education at one of the Centers of Excellence at the Academy of Finland, and started her thesis work while still in medical school. She obtained her M.D. at the University of Oulu in 1976 and her Ph.D. in biochemistry in 1978.

Peltonen has had a total of 50 Ph.D. theses produced and many of them have been accepted with honors. She has also organized numerous international scientific symposia and courses, which have established her as an international scientific educator. She has published a total of 369 original publications, 56 reviews in English, and 45 reviews in Finnish or Swedish. During the last 20 years, her papers have appeared in leading journals of molecular genetics and molecular biology, including *Nature*, *Nature Genetics*, *American Journal of Human Genetics*, and the *New England Journal of Medicine*. ■

Malaria Vaccine Study Needs Volunteers

Healthy men and women ages 18-45, without previous history of malaria or receipt of a malaria vaccine, are needed to participate in a study on the safety and effectiveness of a new investigational malaria vaccine at Walter Reed Army Institute of Research in Silver Spring. Health screening and financial compensation provided. Call 1-866-856-3259 toll free or visit www.wrairclinicaltrials.com. ■

Dr. Richard Kostriken has joined the Center for Scientific Review as the scientific review administrator of the SSS-Z study section, which reviews small business and other grant applications involving the detection, characterization and inactivation of viruses and parasites. He earned his Ph.D. from the State University of New York at Stony Brook, where he studied the genetics and biochemistry of genomic rearrangements in bacteria and yeast. His postdoctoral work focused on understanding the genetic regulation of embryonic development in invertebrate organisms. As a faculty member at New York Medical College, he conducted NIH-funded research into the genetic regulation of chromosome structure. Before coming to CSR, he worked as a senior scientist at Biolog Inc., in Hayward, Calif.

Parker Bids NIH Farewell After 43 Years of Service

By Shannon E. Garnett

Years ago, a young biologist showed up at an NINCDS laboratory intent on staying only for a short time. Forty-two years later, Levon O. Parker, NINDS minority and special concerns program officer and director of the Summer Program in the Neurological Sciences, retired with 43 years of federal service.

"Levon has been an extraordinary member of the NINDS staff for over four decades—moving from the laboratory when he first joined the institute to managing what is perceived by many as the best summer student and outreach program on campus," said NINDS director Dr. Story Landis. "He is almost single-handedly responsible for the careers of many neuroscientists, neurologists and neurosurgeons who got their start here in our summer program."

Flanked by Dr. Ruth Kirschstein (l), senior advisor to the NIH director, and Dr. Vivian Pinn, NIH associate director for research on women's health, veteran NIH'er Levon Parker enjoys a retirement gathering in his honor.

PHOTOS: BILL BRANSON

Parker first came to NIH as a biologist in the neurology institute's Laboratory of Molecular Biology in 1961. Three years later he moved to the Laboratory of Neurophysiology, where he conducted studies of the blood-brain barrier and patients with Parkinson's disease.

During this time he was also training other young scientists in the lab, but became concerned by the lack of minorities and women involved in research. He took his concerns to then-NINDS director Dr. Edward "Ted" MacNichol, and soon after Parker was chosen not only to represent the institute on the NIH Equal Employment Opportunities Advisory Council, but also to serve as the institute's EEO counselor. He later became the first NINDS EEO officer, making the difficult decision to move from the laboratory to an administrative position.

"I said if I got the position of EEO officer I would make sure we would do everything we could to bring African Americans and other minorities into the laboratories," Parker said. "At that time there were no training courses available to take you from the lab to being an administrator. You had to wing it. I had a gray desk, no typewriter, not even a file cabinet, and no staff."

As Parker's EEO office developed and grew, so did his enthusiasm for promoting science and research—particularly among minorities and students. Along the way, he helped build a nationwide network of minorities, individuals with disabilities and women involved in brain and nervous system research, and to establish and sustain relationships between the institute and such organizations as the Society for the Advancement of Chicano and Native Americans in Science (SACNAS) and the American Indian Science and Engineering Society.

Parker also helped to stimulate interest in NIH's clinical and basic research training opportunities by encouraging students to pursue careers in science and medicine—particularly neuroscience—and by imparting the excitement and challenges of biomedical research, and touting the rewards of such careers. His success is particularly evident in his work with the NINDS Summer Program in the Neurological Sciences—a program he founded some 18 years ago.

According to Parker, before the NINDS summer program, the only summer program available on campus was simply a "jobs" program, not a research training program. "I felt we could do better than that," Parker said. So he took his idea to a few scientists in the NINDS Intramural Division and began a program to bring students and minorities into the laboratories—not only providing them with hands-on research experience and training them, but also mentoring them into research careers.

Some of NINDS's senior investigators fondly remember the "Parker Patrol," a term they adopted to describe how, during the early years of the program, Parker would patrol the laboratories in Bldgs. 10 and 36, looking for those willing to train and mentor students. Several of Parker's students have trained, or are now training, for careers in biomedical research or academic medicine at prestigious academic institutions.

"The positive experience that I had that summer as my first research experience stimulated me to consider a career in medical science that has involved M.D., Ph.D., and academic subspecialty training," said Dr. Eric Sibley, assistant professor of pediatrics at Stanford University School of Medicine and former summer student who trained in the NINDS Laboratory of Molecular Biology. "The dedication, professionalism and human touch that Mr. Parker has provided in his various offices is greatly appreciated and will be greatly missed by me and the medical science community."

The program—which has trained more than 3,000 students since its inception—has since become a model for other NIH programs. In addition, Parker has been instrumental in developing many other training opportunities including the Ernest Everett Just and the Collaborative Neurological Sciences Awards—which were developed to encourage minorities in neurological research—and the NIH Academy, which fosters research on elimination of health disparities.

"The future of biomedical research is in our young people," said Parker. "If you want to build the next pool of scientists, you have to get them while they are young and expose them to the excitement of

research. It's our responsibility to bring them in, train and mentor them, and provide them with resources to get into top-notch programs and academic institutions."

He is particularly proud of having helped to create the Minority Faculty-Student Partnership Traineeships in Biotechnology Program—a week-long lecture and laboratory course introducing topics in biotechnology with special emphasis on recombinant DNA technology. In 11 years, students from more than 80 minority institutions have participated in the program, which is cosponsored by NINDS and the Foundation for Advanced Education in the Sciences, Inc.

Former NINDS director (1982-1993) Dr. Murray Goldstein joins Parker and grandson Jason at the celebration in Wilson Hall.

"The program provides a unique learning situation for both faculty and students. They gain valuable knowledge and experience concerning the latest biotechnology techniques," said Parker. "A lot of minority schools don't have the resources for this kind of technology."

Born in Craddockville—a small town on the Eastern Shore of Virginia—Parker graduated from Mary N. Smith High School, and was the first in his family to go to college. He earned his B.S. degree in biology and chemistry from the University of Maryland Eastern Shore, and is a veteran of the U.S. Army and Air Force Reserves.

Through the years, he has received many prestigious awards and honors such as the NIH Director's Award, in 1999 and 2001, the 2002 Minority Access National Mentor Role Model Award, the 2003 SACNAS Distinguished Professional Award, and most recently, the Meyerhoff Scholars Program's Mentor of the Year Award from the University of Maryland, Baltimore County.

Recently, nearly 200 friends, family, and past and present colleagues honored Parker at a reception in Wilson Hall. They presented him with a citation from Anne Arundel County for his work at NIH, a certificate deeming him "Dean of OEO," a poster and a plaque. In addition to the many verbal tributes he received, perhaps the greatest honor was the announcement of NINDS's new Levon O. Parker Scholarship Fund, which consists of monetary gifts from numerous well-wishers, and is intended to continue Parker's legacy of promoting students in neuroscience.

Although Parker has retired, his plans still include young people. He will enjoy spending time with his grandson (who will be joined by a sibling in June). Parker will also continue to mentor UMBC students and, occasionally, serve as an advisor to NINDS on student- and outreach-related projects.

Concluded Parker, "When you get to be my age it's nice to look back and to be able to say 'I made a difference. I made a contribution. I did something.' I feel like it was my second home here. It's a place that I will always cherish and remember." ■

Dr. Valerie Durrant recently joined the Center for Scientific Review as a scientific review administrator with the health of the population integrated review group. She will coordinate two of its special emphasis panels: one that will review all of the IRG's small business grant applications and another that will review non-R01 grant applications in the area of social sciences and population studies. Before coming to CSR, Durrant was a program officer for the Committee on Population at the National Academies of Science, where she directed studies on population issues in developing countries, including studies on transitions from childhood to adulthood, leveraging longitudinal data, and the economic benefits of investing in youth. Durrant holds a Ph.D. in sociology with an emphasis in demography from the University of Maryland. After earning her Ph.D., she was a Berelson postdoctoral fellow at the Population Council, conducting research on adolescents and on the influence of the status of women on infant and child mortality and children's schooling in Pakistan.

The Friends of the NIDCR (FNIDCR) recently held its gala annual awards dinner where Sen. Jeff Bingaman (D-NM, center) was honored with the 2003 FNIDCR Lifetime Achievement Award. The organization presents the annual award to a public official who has demonstrated longstanding dedication to fostering health through oral and craniofacial research, education or care. FNIDCR honored Bingaman for his commitment to improving access and delivery of dental care to children. Also on hand are (from l) NIDCR director Dr. Lawrence Tabak, FNIDCR president Dr. Linda Niessen, NIH director Dr. Elias Zerhouni and Surgeon General Richard Carmona.

Asian/Chinese Volunteers Needed

The department of transfusion medicine (Blood Bank) at the Clinical Center seeks healthy volunteers (male and female) 18 years of age and older to participate in a research apheresis study that assesses the influence of ethnic background on immune response. Volunteers are needed who were born in China, including Taiwan, Hong Kong and Singapore or first generation offspring of parents who were born in these countries. Two visits are required and compensation is available. Call Rose Werden, (301) 402-0757.

Developing Leaders

NIH Management Intern Program Marks 47th Year

If you've thought about changing your career path or developing more depth and breadth of knowledge about NIH, the Management Intern (MI) Program may hold the keys to your future. Entering its 47th year, the program—a highly competitive 2-year rotational training opportunity—has graduated dozens of interns, many of whom now hold high-level managerial positions with NIH and other federal agencies. Outstanding men and women who have a clear interest in and a commitment to a career in public service are encouraged to apply for the 2004 NIH Management Intern Program.

NIH recently welcomed three new management interns (from l) Richard Clark, Kim Mott and James Remington.

MIs complete assignments that introduce them to potential administrative career tracks in budget and finance, public information and education, public liaison and legislative analysis, program planning and evaluation, grants and contracts, program administration, information technology, human resources management and human capital management, central service management, science policy, program and management analysis and general administration.

Management interns come from diverse career backgrounds, including administrative offices, intramural research laboratories and patient care. Skills in project management and evaluation; idea and literature research; data collection, analysis and presentation; negotiation; problem solving; communication and the ability to lead teams are key attributes of successful interns.

Eligible candidates must be either a current career or career-conditional employee of NIH at the GS-5 level or above or wage grade equivalent, or on any other type of appointment that offers noncompetitive conversion during the application period.

This year's program will open on Monday, Feb. 2 and close on Mar. 2. Up to three MIs will be selected. Interested applicants should visit the web site at http://internships.info.nih.gov. Applications will not be accepted until the program opens. Applicants may want to view QuickHire Questions and Answers at http://www.hhs.gov/careers/quickhirefaq.html. To create your QuickHire resumé visit https://jobs.quickhire.com/scripts/hhs.exe, click on New Users.

In order to find out more about the MI program, potential applicants are invited to attend one of the information sessions (see box at left below). Note that the Feb. 5 sesssion has slightly different hours than the other four meetings. ■

Management Intern Information Sessions

All sessions are from 11:30 a.m. to 1:30 p.m., except on Feb. 5, which is 11 a.m. to 1 p.m.

Tuesday, Jan. 27, Natcher Bldg., Conf. Rm. G1/G2
Wednesday, Jan. 28, Executive Plaza North, Conf. Rm. J
Thursday, Jan. 29, Neuroscience Ctr., Conf. Rm. B1/B2
Tuesday, Feb. 3, Rockledge II, Conf. Rm. 9112
Thursday, Feb. 5, Bldg. 10, Medical Board Rm., 2C116

Wednesday Afternoon Lectures

The Wednesday Afternoon Lecture series—held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features the Margaret Pittman Lecture given by Dr. Leena Peltonen on Jan. 28; her topic is "Story of My Roots: Disease Mutations of a Population." See story on p. 1.

On Feb. 4, Dr. Andrew J. McMichael will lecture on "Immune Control of HIV: Virus Variability and Vaccine Design." He is director, Weatherall Institute of Molecular Medicine, professor of molecular medicine, John Radcliffe Hospital, head molecular sciences division, Nuffield department of clinical medicine, Oxford.

For more information or for reasonable accommodation, call Hilda Madine, 594-5595. ■

STEP Forum on Evaluating Programs

The staff training in extramural programs (STEP) committee is holding an Administrative Strategies forum on the topic, "What Works: Evaluating NIH Programs," on Tuesday, Feb. 3 from 1 to 5 p.m. in the Natcher Conference Center, Rms. E1 and E2.

With the ever-growing emphasis on performance-based government, we need to know how to evaluate NIH investments in extramural research. What is the state of the art in conducting reliable evaluations, both quantitative and qualitative, and what methods are best applied to each evaluation problem? What assessment strategies should we incorporate at a program's inception to guide future decisions? How do we currently evaluate ongoing programs and new initiatives to determine if they accomplish what they set out to do?

This STEP forum explores evaluation theory and practice and presents recent examples ranging from specific NIH program initiatives to the broader impacts of NIH-sponsored research.