NIH Launches Program to Transform Clinical, Translational Science

Designed to spur the transformation of clinical and translational research, a new NIH grant program called Institutional Clinical and Translational Science Awards (CTSA) was announced on Oct. 12 by NIH director Dr. Elias Zerhouni. The ultimate goal of the program, open to qualifying academic health centers across the nation, is to develop treatments more efficiently and deliver them more quickly to patients.

“We are truly at a crossroads in medicine,” Zerhouni said. “The scientific advances of the past few years, such as the completion of the Human Genome Project, dictate that we act now to encourage fundamental changes in how we do clinical research, and how we train the new generations of clinician scientists for the medical challenges of this century.”

The CTSA program is an NIH Roadmap for Medical Research initiative and will be led by the National Center for Research Resources. The awards will encourage institutions to propose new approaches to clinical and translational research, including new organizational models and training programs at graduate and post-graduate levels. In addition, it will foster original research in developing clinical methodologies such as informatics, laboratory methods, other technology resources and community-based capabilities.

Pioneer Awards Show Changes in Scientific Thinking

By Harrison Wein

The first annual NIH Director’s Pioneer Award Symposium in Masur Auditorium on Sept. 29 featured talks by all nine of last year’s recipients. A key component of the NIH Roadmap for Medical Research, the Pioneer Awards go to individual scientists with innovative ideas rather than to particular research projects. As NIH director Dr. Elias Zerhouni explained in his introductory remarks, the peer review process tends to keep one eye toward managing risk, thus favoring more conservative proposals. The Pioneer Awards are a “pilot experiment,” as he put it, to try to unleash more creative potential.

After only the first year of their 5-year awards, last year’s recipients took diverse approaches to their presentations, with some emphasizing the conceptual problems they were addressing and others offering several slides of data. One thing was consistent, however: a picture of researchers ambitiously pursuing innovative approaches to major biological questions.

Combined Federal Campaign Hosts Several Events

Giving is rewarding! NIH is kicking off the 2005 Combined Federal Campaign with two events in November for off-campus staff. Each will focus on the campaign theme, “Be an Everyday Hero.”

On Tuesday, Nov. 8, a Latin theme will heat up the lunchtime festivities to be held from 11 a.m. to 1 p.m. The event, open to all NIH employees located in the Rock Spring complex, will include continuous shuttle service for employees who work in Democracy, Rockledge.
briefs

Events Mark Indian/Alaskan Heritage Month

The fifth annual NIH American Indian and Alaska Native Heritage Month Program will feature two events this year. On Nov. 8, a symposium on research and training titled “Research in American Indian and Alaska Native Communities” will be held from 12:30 to 2 p.m. in Lister Hill Auditorium, Bldg. 38A, with a poster session to follow from 2 to 3:30 p.m. Featured at the symposium will be three projects from the Native American Research Centers for Health program, funded by NIGMS in collaboration with the Indian Health Service, and the NHLBI-funded Strong Heart Study. The event is sponsored by the NIH American Indian/Alaska Native Employee Council (AIANEC) and the Office of Equal Opportunity and Diversity Management.

On Nov. 9, Joseph Marshall III, a teacher, historian, Lakota craftsman and author, will give a storytelling presentation titled “Lakota Traditional Healing and Cultural Issues with Contemporary Health Care Delivery,” from 11:30 a.m. to 12:30 p.m. in Masur Auditorium, Bldg. 10. A reception will follow in the atrium. Marshall was reared on the Rosebud Sioux Indian Reservation. He has published 6 books including The Lakota Way: Stories and Lessons for Living and Thunder Dreamer: The Journey of Crazy Horse. Marshall also appeared in the TNT cable channel mini-series Into the West this year.

Sign language interpreters will be provided. Those who need reasonable accommodation to participate should contact Marianne Hamilton at (301) 435-0407 or Dr. Clifton Poody at (301) 594-3900 or visit the AIANEC web site at http://oecd.od.nih.gov/aiane/.

Holiday Auction Set, Dec. 2

The Clinical Center’s department of laboratory medicine will hold its 33rd annual Holiday Auction fundraiser on Friday, Dec. 2 in Bldg. 10, Rm. 2C310, which is the department’s conference room and library. All proceeds benefit the Patient Emergency Fund.

Organizers welcome volunteers and donations of items, and remind donors that their contributions are tax-deductible. There will be a white elephant sale table, bake sale, pizza lunch and silent auction. The bake sale, with coffee and tea and other goodies, begins at 9 a.m., followed by the silent auction and white elephant sale at 10. Pizza will be served at 11:30 a.m., and the silent auction ends at 2 p.m.

To make donations or volunteer call Tracey Bosworth, (301) 496-3386, Norma Ruschell, (301) 496-4475 or Meshaun Payne, (301) 496-3386.

Understanding NCI: Toll-Free Teleconferences

The NCI Office of Liaison Activities offers a monthly teleconference series on cross-cutting issues in cancer research. Members of cancer advocacy organizations, survivors, families and friends are encouraged to participate in each call to learn more about NCI’s programs and how advocates are involved. Callers will have the opportunity to ask questions of panel members. The Nov. 9 call at 3 p.m. (EST) explains “Why Advocates Should Care About Animal Models in Cancer Research: Mouse Models of Human Cancers (MMHCC)” and features Dr. Cheryl Marks, director, NCI’s MMHCC Program, and two program advocates—Paula Kim and Kathy Walters.

All you need to participate is a phone. No registration is required and participation is free. The toll-free number for live call-in is 1-800-857-6584, and the pass code is #683#. A playback in its entirety will be available an hour after the call ends at 1-800-677-8851 (toll-free) until Dec. 9 at 11:30 p.m. (EST). For more information, visit the Office of Liaison Activities web site at http://www.la.cancer.gov or call (301) 594-3194.

STEP Forum on New Drugs

The staff training in extramural programs (STEP) committee will present a Science for All forum on the topic, “New Drugs to Fight Bad Bugs,” on Tuesday, Nov. 15 from 8 a.m. to noon in Natcher Bldg., Rms. E1/E2.

You get an infection, you take a pill, you’re cured, right? Maybe. Bacterial infections that fail to respond to drugs are appearing at an alarming rate. The recent appearance of drug-resistant staph infections in U.S. hospitals and multidrug-resistant tuberculosis around the world illustrates the urgent need for new antibiotics. Bacterial resistance to antibiotics is rising ever more rapidly and has outstripped the pace of new antimicrobial drug development. Why is this resistance occurring and what are the barriers to producing new antimicrobials? Clinical, pharmaceutical and government experts will participate in a timely discussion about eliminating roadblocks to new antibiotic drug development.

Use or Lose Reminder

Don’t forget to officially schedule your “Use or Lose” annual leave no later than Saturday, Nov. 26. Questions about “Use or Lose” leave should be directed to your administrative officer.
Alwine received his B.S. in chemistry from Elizabethtown College in 1969 and his Ph.D. in biological chemistry from Pennsylvania State University in 1974. His thesis work was done with Charles Hill working on herpes simplex virus genome structure and transcription. He then moved to the laboratory of George Stark in the biochemistry department of Stanford University where he began what would become a career-long fascination with SV40. During this period he also developed a technique for blotting and analyzing RNA which he named the Northern.

In 1977, Alwine joined George Khoury's laboratory at NIH as a staff fellow and continued his work on SV40. In 1980, he accepted an assistant professorship at the University of Pennsylvania School of Medicine. Alwine has continued his work with SV40 and has also returned to his studies of herpes viruses utilizing HCMV. At Penn, he has served as interim chair of microbiology; program director for the tumor virology program of the Abramson Cancer Center; director of the microbiology and virology program of the cell and molecular biology graduate group; and chairman of the cell and molecular biology graduate group.

Alwine has been the mentor for 16 Ph.D. students and 10 postdoctoral researchers; in 1997, he was honored with the Dean’s Award for Excellence in Graduate Student Teaching. Outside of Penn, he served as editor of Molecular and Cellular Biology for 10 years and on the editorial boards of several journals including the Journal of Virology. He has been a member of several NIH study sections and review groups. In 1994, he was elected a fellow of the American Academy of Microbiology.

The annual Khoury Lecture is part of the NIH Director’s Wednesday Afternoon Lecture Series. For more information or for reasonable accommodation, call Hilda Madine, (301) 594-5595 or email hmadine@nih.gov.
“This program will give research institutions more freedom to foster productive collaboration among experts in different fields, lower barriers between disciplines, and encourage creative new approaches that will help us solve complex medical mysteries,” said Zerhouni. “Ultimately, patients will be better served because new prevention strategies and treatments will be developed, tested and brought into medical practice more rapidly.”

Developed with input from the research community and in consultation with the trans-NIH CTSA project team, funding for the new initiative will come from the Roadmap budget and existing clinical and translational programs. This will be accomplished entirely through redirecting existing resources, including Roadmap funds.

“We are taking great care to preserve the investigator-initiated research support pool in these times of constrained budgets,” Zerhouni said.

NIH plans to award four to seven CTSA in FY 2006 for a total of $30 million, with an additional $11.5 million allocated to support 50 planning grants for those institutions that are not ready to make a full application. NIH expects to increase the number of awards annually so that by 2012, 60 CTSA will receive a total of approximately $500 million per year.

“Given the increasing complexity of clinical research methodology and technology, it is crucial that we encourage academic institutions to find more creative ways of preparing physician-scientists and developing multi-disciplinary approaches so we can more quickly transform discoveries into treatments that benefit patients,” said Dr. Stephen Katz, director of the National Institute of Arthritis and Musculoskeletal and Skin Diseases, and advisor to the Roadmap initiative Re-engineering the Clinical Research Enterprise.

For the purposes of this initiative, NIH is defining clinical research as studies and trials that involve human subjects. Translational research is to include two segments of the research continuum. The first is the process of applying discoveries made in the laboratory, testing them in animals and developing trials and studies for humans. The second concerns research aimed at enhancing the adoption of best treatment practices into the medical community.

The CTSA program will encourage institutions to develop the discipline of clinical and translational science by providing them with the resources to create a defined academic home. The program will allow for local flexibility so that each institution can determine whether to establish a center, department, or institute, or other interdisciplinary structure, depending on local and regional circumstances.

“We hope to increase the number of translational and clinical investigators by providing interdisciplinary training in a dedicated intellectual environment that offers clear career pathways, combined with opportunities to develop new approaches to clinical research,” said Dr. Barbara Alving, NCRR acting director. “The intent is to provide the much-needed catalyst to increase the efficiency and speed of clinical and translational research.”

To coincide with the CTSA launch, Zerhouni published a Sounding Board [opinion] article titled, “Translational and Clinical Science—Time for a New Vision,” in the Oct. 13 issue of the New England Journal of Medicine. In the article, Zerhouni said, “There is good reason to believe that the scope of knowledge and expertise needed to be an effective translational or clinical scientist can no longer be acquired ‘on the job,’ as was done in the past...there is a call for training in a wider range of skill sets that span biomedical and behavioral sciences and make use of far more advanced and more complex resources and methods than ever before.” The full text of the article can be found at http://content.nejm.org/cgi/reprint/NEJMsb053723v1.pdf.

The CTSA Request for Applications (RFA) calls for submissions by Mar. 27, 2006. Initial awards are expected to be made by fall 2006. The RFA and other information about the program are available at www.ncrr.nih.gov/clinicaldiscipline.asp.
Colwell To Give 2005 Barmes Lecture

Dr. Rita Colwell, distinguished professor at the University of Maryland and Johns Hopkins University Bloomberg School of Public Health, will deliver the David E. Barmes Global Health Lecture on Tuesday, Nov. 15 at 3:30 p.m. in Natcher Auditorium. She is former director of the National Science Foundation and is currently chairman of the National Science Foundation. She is also an honorary member of the microbiological societies of the U.K., France, Israel and Bangladesh and has held a number of honorary professorships. A geological site in Antarctica—Colwell Massif—was named in recognition of her work in the polar regions.

NIDCR and the Fogarty International Center jointly sponsor the Barmes lecture, which honors the late David E. Barmes. He was a special expert for international health in the NIDCR Office of International Health. Prior to joining NIDCR, he had served in management positions on oral health, non-communicable diseases and health promotion for the World Health Organization in Geneva.

Two NIH'ers Honored by ASTRO

The American Society for Therapeutic Radiology and Oncology (ASTRO) honored two National Cancer Institute employees at its 47th annual meeting last month. Dr. C. Norman Coleman (1), associate director of NCI's Radiation Research Program in the Division of Cancer Treatment and Diagnosis, and director of the Radiation Oncology Sciences Program, was awarded the Gold Medal. Dr. Francis J. Mahoney, chief of NCI's Radiotherapy Development Branch, received ASTRO's Honorary Member Award. The Gold Medal, ASTRO's highest honor, is bestowed on members who have made outstanding contributions to the field of radiation oncology, including research, clinical care, teaching and service, according to the society's web site. An honorary membership is the highest ASTRO award given to distinguished cancer researchers and leaders in disciplines other than radiation oncology, radiation physics or radiobiology. Founded in 1958, the society's mission is to advance the practice of radiation oncology. ASTRO has more than 7,500 members, making it the largest organization of its kind.

Wedensday Afternoon Lectures

The Wednesday Afternoon Lecture series—usually held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features Dr. Arthur E. Johnson on Nov. 9, speaking on, “Maintenance of Membrane Integrity During Protein Trafficking at the ER Membrane.” He is distinguished professor, Texas A&M University System Health Science Center.

There will be a special Tuesday NIH Director's Lecture on Nov. 15 at 3 p.m. in Masur, given by NCCAM director Dr. Stephen Straus. He will discuss “From the Bedside to the Bench and Back Again: To Understand, Treat, and Prevent HSV and VZV Infections.” See story on p. 7.

On Nov. 16, the George Khoury Lecture will feature Dr. James C. Alwine, professor, department of cancer biology, University of Pennsylvania School of Medicine. He will lecture on “How DNA Viruses Deal with Stress.” See story on p. 3.

There’s no lecture Nov. 23 due to Thanksgiving recess.

For more information or for reasonable accommodation, call Hilda Madine, (301) 594-5595.
I & II, 6700B, 6610 and Fernwood. Get ready to see flamenco dancers, dine on a tasty selection of foods and desserts from local restaurants and sway to saucy Latin music provided by Mariachi Las Americas. CFC mascots Sassy and Salsa, the dancing Dalmatians, will lead the conga line. Be sure to purchase a raffle ticket for a chance to win fabulous door prizes. For more details, see http://cfc.nih.gov/cfc/rockspring.asp.

On Tuesday, Nov. 15 from 11 a.m. to 1 p.m., the final luncheon will be held for those NIH'ers who work along Executive Blvd. Prizes, music, food and fun are planned. For more details, visit http://cfc.nih.gov/cfc/executive.asp.

Kick-Off Event a Success

On Oct. 5, hundreds of CFC keyworkers were treated to a gala kickoff at the NIH firehouse, complete with inspirational speeches and a blues guitarist livening up the festivities. Keyworkers are NIH employees who volunteer their time to make the CFC a success. At the firehouse they had an opportunity to meet representatives of local charities and hear some real NIH everyday heroes tell their stories. Afterwards they gathered at outdoor tables to meet fellow keyworkers over lunch. Local TV news reporter Jill Sorensen served as an inspired master of ceremonies for the event.

In his opening remarks, NIH director Dr. Elias Zerhouni called NIH “the National Institutes of Hope.” He noted, “It is very important to continue to do what we do best—give hope.”

As leader of the 2005 NIH campaign, NIAID director Dr. Anthony Fauci reminded everyone that NIH is not only about big discoveries but “NIH is a team and a family with generosity and passion of spirit.” He encouraged everyone to give to their passion by making a payroll deduction to help those who are less fortunate.

“Everyday hero” Ardell Jackson of NIAID’s intramural Administrative Management Branch and Margaret McCluskey of the NIAID Vaccine Research Center presented their stories. Jackson, a volunteer since high school, related how he mentored a troubled young boy who was going down a self-destructive path. The boy has since turned his life around and will graduate from college next spring. Said Jackson, “It’s made a difference in his life…and in my life.”

Taking action and making a difference is a lifelong theme for “everyday hero” McCluskey, manager of clinical operations at the VRC. She has worked with Rwandan refugees, trauma-scarred Kosovos, kids in Chicago and, most recently, Katrina survivors from Mississippi. McCluskey said, “None of us is immune to need.” She encouraged the audience to take action to make a difference because “thoughts don’t change fates—actions do.”

She reminded those listening, “When you receive the CFC envelope, there are several choices. You can open it, read it and put it into a pile for later. Or you can sign it and reach out. Thoughts that don’t turn into decisions stay just thoughts. If each of us makes a personal decision to help we will have found our way…of being heroes every day.”

Clockwise, from top:

Several charities set up information booths at the kickoff. Margie Zarbon (l) tells a keyworker about Global Impact, a not-for-profit organization that represents more than 50 charities that provide disaster relief, education, health training and economic programs in developing nations.

Margaret McCluskey of the Vaccine Research Center, who has volunteered in Rwanda, Kosovo, and most recently in Mississippi, shares her insights gained through helping others.

Ardell Jackson, NIAID assistant coordinator, speaks about his dedication to assisting others, including how he helped a troubled boy.

James Mabry’s selection of blues tunes gives the kickoff a lively start.

Local news reporter Jill Sorensen was master of ceremonies at the 2005 CFC Kickoff.

PHOTOS: ERNIE BRANSON
Straus Lecture Travels from Bench to Bedside and Back

We have all heard the terms "from bench to bedside" or "translational research"—taking the discoveries of the laboratory to the patient. But translational research is more than that; it is also taking clinical observations back to the laboratory to produce research results to use at the bedside. An upcoming NIH Director’s Lecture will focus on the cycle of translational research as viewed through studies of the herpes simplex and varicella zoster viruses led by Dr. Stephen Straus, senior investigator, Laboratory of Clinical Infectious Diseases, NIAID, and director, National Center for Complementary and Alternative Medicine.

On Tuesday, Nov. 15 at 3 p.m. in Masur Auditorium, Bldg. 10, Straus will share insights from more than 20 years of translational research of these common human herpesvirus diseases. He will take the audience from molecular biology, to pathogenesis, to treatment and prevention of these diseases and their complications and show how work progressed because of lessons he and his colleagues learned from their patients, in addition to laboratory studies. This research ultimately led to the development and testing of novel drug and vaccine strategies for genital herpes and shingles.

Dionne Joins NINR as New Scientific Director

The National Institute of Nursing Research has appointed Dr. Raymond Dionne as new scientific director of its Division of Intramural Research. He comes to NINR from the National Institute of Dental and Craniofacial Research.

Dionne is nationally recognized for his research on pain management, specifically variability in patients who experience pain and the mechanisms underlying how medication administered pre- and post-operatively reduces pain. His research program, together with his experience in managing clinical studies and mentoring young investigators, will be instrumental in advancing NINR’s intramural program.

NINR director Dr. Patricia Grady said, “Dr. Dionne’s experience as chief of NIDCR’s Pain and Neurosensory Mechanisms Branch will make him a valuable addition to our team. We look forward to him providing leadership to NINR’s ongoing efforts to build a cutting-edge intramural program that contributes to nursing science through the investigation of bio-behavioral mechanisms associated with the symptoms of acute and chronic illness.”

NIAAA’s Kunos Wins Award

Dr. George Kunos, scientific director for the National Institute on Alcohol Abuse and Alcoholism, received the 2005 Mechoulam Award from the International Cannabinoid Research Society. The award recognizes outstanding contributions to research on cannabinoids, chemicals—like those derived from marijuana—that stimulate the brain’s reward system by binding to cannabinoid-1 (CB-1) receptors.

Kunos is a leader in the field investigating endocannabinoids—endogenous, or naturally occurring, lipid-like compounds produced by the brain and other tissues. His work with knockout mice demonstrated that endocannabinoids acting on CB-1 receptors mediate the rewarding and pleasurable properties of alcohol, contributing to alcohol dependency and abuse. Endocannabinoids also have an important role in obesity, regulating both appetite and peripheral fat metabolism. Such findings are now being translated into clinical research. An ongoing clinical study at NIAAA’s Intramural Research Program is examining whether a novel medication that blocks CB-1 receptors could potentially help heavy drinkers overcome the craving for alcohol.

The award was presented to Kunos during the society’s recent annual symposium in Clearwater, Fla. The award is named after Raphael Mechoulam, an Israeli medicinal chemist renowned for discovering endocannabinoids and, earlier, for identifying delta-9-tetrahydrocannabinol (THC) as the psychoactive principle of marijuana.
Zerhouni observed, “There was no shortage of bold ideas.” Here’s a brief survey of the presentations:

• Larry Abbott, a mathematical physicist at Columbia University, began the talks by speaking about the mathematical modeling of neural systems. He sees a great divide within neuroscience between the sensory and the motor systems. What lies between them is thinking: choices and decision-making. Abbott explained his ambition to build a mathematical network with some of the properties of the brain. Mathematicians can now build quite good networks of complex activity, he said, but sensitivity to the outside world is still lacking. His goal is to get these networks to pay attention to the outside world and to be able to formulate a response.

• George Daley of the Harvard Stem Cell Institute explained how he aims to discover the principles underlying the epigenetic code—that is, what determines how genetic information is used. Stem cells promise to reveal the interplay of genes during development in ways scientists haven’t yet been able to address. Daley’s strategy is to alter cell culture conditions to reproduce critical cell fate transitions in vitro. His lab has already been able to reproduce several of these transitions.

• Homme Hellinga of Duke University Medical Center is designing proteins with desired functions, a process he calls synthetic biology. He showed how a receptor can be used as a biosensor for a variety of compounds by redesigning its binding site. The process, which involves complex computational design in 3-D space, can already reengineer proteins to bind metabolites, drugs, explosives and pollutants. Eventually, Hellinga hopes to be able to design complete biological pathways, such as signal transduction circuits that can survey the cell’s chemical environment and respond to changing conditions.

• Mike McCune of the University of California at San Francisco explained how Macaque monkeys infected with SIV, the simian equivalent of HIV, develop a rampant inflammatory response after infection and subsequently die of immunodeficiency. African green monkeys, in contrast, have a high viral load but don’t develop an inflammatory response and don’t develop immunodeficiency. There is a balance, McCune said, between antiviral immunity, which attempts to clear the virus from the system, and proviral inflammation. While much of the research community’s focus has been on antiviral immunity, McCune’s hope is to improve survival by reducing humans’ inflammatory response to HIV. He pointed out that a better understanding of the human immune system is emerging from the study of HIV pathogenesis that will affect our thinking about many other diseases that cause chronic inflammation.

• Steve McKnight of the University of Texas Southwestern Medical Center is studying yeast as they cycle between oxidative and glycolytic metabolism. McKnight’s hypothesis is that circadian rhythms evolved from a “metabolic cycle” like that seen in cultures of baker’s yeast, and he hopes his studies will shed light on circadian rhythm. Using a microarray analysis of gene expression during metabolic cycling of a dense yeast culture, his lab has already identified many periodic genes that “cycle spectacularly.”

• Chad Mirkin of Northwestern University described several projects in his attempt to build a suite of nanoengineering tools. One is “dip-pen nanolithography.” Adapted from atomic-force microscopy, the technique uses an array of “pens” to deliver reagents to a surface in particular patterns. Chemical manipulations at the tips can also control molecular orientations.
Nanoarrays built with different patterns and combinations of molecules can help researchers explore cooperation and interaction between molecular structures. Mirkin’s lab has already built nanoarrays of virus particles to explore how their structures interact with cell surfaces in culture.

• Rob Phillips of the California Institute of Technology hopes to use mathematics and physics to transform an empirical understanding of biological events into a quantitative understanding—in other words, to recast biological models in mathematical terms. As an example, he explained how the forces resulting from the looping and bending of DNA molecules have biological consequences. His lab is trying to predict gene expression in the lac operon by computing the statistical weights of different states of its DNA loop. They are also studying the mechanical forces involved in packing long chains of DNA into virus capsids. By varying osmotic pressure and DNA length and then measuring how the DNA ejection rate changes, they hope to gain a quantitative understanding of how these viruses inject their DNA into bacteria. Phillips is applying his new thinking about the interface between physics and biology to write a textbook about the physical biology of the cell.

• Stephen Quake of Stanford University is developing a technology called microfluidics. He designs microchips that use tiny volumes of fluid and contain a maze of channels, valves and collection wells. He can design these chips for ultra-sensitive gene expression analysis, for cell culture experiments with single cells and to grow protein crystals for protein structure studies. These small volumes not only consume tiny amounts of precious supplies, but also the fluid physics in such small volumes actually favor certain types of experiments, like protein crystal formation.

• Sunney Xie of Harvard University aims to develop the technology to view single molecules inside live cells. The research community has until recently been looking exclusively at data capturing large numbers of molecules at once. To understand how molecular machines actually work, however, we need to see single molecules working in real time inside live cells. Xie’s group has recently been able to observe the production and degradation of single proteins in live E. coli cells for the first time. They hope to advance and apply the techniques they have developed to examine many fundamental processes in biology.

This year’s 13 Pioneer Award recipients, who were named at the symposium, are pursuing a similarly expansive range of projects, from Giulio Tononi’s exploration of why we sleep to Nathan Wolfe’s collaboration with subsistence hunters in regions of high biodiversity to monitor the entry of novel viruses into the human species.

In introducing the new recipients, Zerhouni said, “The Pioneer Award to me is like the scientific freedom award. We want to give them the freedom to explore.”
Researchers, Public Health Educators Give Back

Candid presentations by a host of researchers, physicians and public health experts of color marked the recent Blacks in Government Health Symposium held at BIG’s 27th annual training conference in Orlando. The symposium, cosponsored by the BIG National Health Initiative and the National Center on Minority Health and Health Disparities, focused on successful public health interventions and taking charge of your own wellness.

Anecdotal data says many African Americans tend to take care of others—family members, coworkers and friends—before tending to their own health needs. Experts talked about how innovations in research have improved health within majority populations, but have not significantly closed health gaps among African Americans, Hispanics and other minority groups. Despite research and technological advances in medicine that have helped people manage chronic illnesses once thought deadly, communities of color still lag behind majority populations in morbidity and mortality rates for such disorders as diabetes, asthma, obesity and many cancers.

More than 300 people attended the symposium. Health and research presenters included many with ties to NIH: former NIDDK intramural investigator Dr. Wayne Bowen, now professor of molecular pharmacology, physiology and biotechnology at Brown University, discussed breast cancer and neurodegenerative diseases; Dr. Edward Treadwell, a professor of medicine at East Carolina University who participates in the NIEHS-funded Carolina Lupus Study, offered overwhelming evidence on the misdiagnosis of lupus in people of color; former NHLBI sickle cell disease investigator Dr. Marilyn Gaston, an ex-assistant U.S. surgeon general, provided evidence-based research on diabetes; former NIEHS grantee and advisory council member Dr. Peggy Shepard, co-founder of West Harlem Environmental Action, Inc., discussed how New York’s first environmental justice organization was created to improve environmental health and quality of life in communities of color; and NCMHD Project EXPORT grantee Dr. Lovell Jones, professor at the University of Texas M.D. Anderson Cancer Center’s departments of gynecologic oncology, and biochemistry and molecular biology, showed data on the disproportionate rates of cancer among people of color, as well as limited access to proper health care and demonstrations of bias in health care delivery systems.—Kay Johnson Graham

Scientific Review Administrators Hold Retreat

An all-day retreat for all 430 scientific review administrators at NIH took place Sept. 29 at the Natcher Conference Center. The theme was “Core Values of Peer Review in Changing Times.”

CSR director Dr. Antonio Scarpa and NIH deputy director for extramural research Dr. Norka Ruiz Bravo offered their goals for shortening the review cycle and using evidence and fact to drive changes in review procedure, respectively.

Attendees learned about the new electronic grant submission using the SF 424 (R&R) and also the transition to a new way to reimburse peer reviewer expenses. SRAs shared techniques for recruiting reviewers and ensuring adequate gender and minority representation on review panels, then heard tips on how to organize and run reviews of grant applications for complex, multi-center studies.

Kevin Eikenberry shared his approach to convincing staff to accept change in work procedures, showing how critical it is for leadership to provide a clear vision of the goal for the changes. Dr. Lloyd Fricker spoke about the importance of peer review for the health science research grants process, and outlined potential problems and pitfalls of the review process.

Audio files and transcripts of all plenary sessions and the Q&A are available at the OER extramural intranet.
NIEHS’s Phelps Pedals Through America’s Heartland

By Colleen Chandler

It was no luxury vacation for NIEHS extramural program analyst Jerry Phelps this past summer.

Instead, he packed up the bare essentials—which in this case included his bicycle—and headed for St. Paul, Minn., where he met up with a group of 31 people to embark on the Great Mississippi River Ride.

Members of the group made their way south from St. Paul, following a path along the mighty Mississippi that took them through small towns virtually invisible from the interstate. Total distance: 1,201 miles, weaving through 17 cities in eight states over 16 days. That’s an average of 75 miles each day.

Besides the changing landscape they witnessed, which ranged from heavy foliage and trees to corn and soybean fields, riders encountered a variety of wildlife and met local residents. “The beauty and diversity of this country and its people are best seen on the back roads at 20 miles per hour,” Phelps said.

The route was planned to meander along the Mississippi to New Orleans. But, it seems, Mother Nature had other plans. Hotel rooms along the southern part of the route were in big demand by Hurricane Katrina evacuees, and most riders decided to end the trip 500 miles shy of New Orleans rather than take up valuable resources, Phelps said.

Phelps’ wife, Beth Anderson, an extramural program analyst at NIEHS, grew up in the Midwest. She describes her husband as a very active person who sets arduous goals and pursues them with commitment. Anderson and Phelps’ daughter, Emily, drove along the route, meeting up with Phelps each evening and at rest stops. They, too, enjoyed the sights in America’s heartland. “The views on back roads, through the rolling farmland, are spectacular in a wholesome way,” Anderson said.

Phelps said he enjoyed talking to the local people, who were always curious about the trip. He and another rider appeared on the cover of the Sun Times Aug. 26 in Ozora, Mo. Anderson said she has no doubt her husband was asking as many questions as he was answering.

“Jerry’s very social nature turns something like this into an opportunity to expand his horizons for meeting people out of our everyday sphere. Not only did he meet people on the tour, but almost every day he had some interesting encounter with someone along the road—frequently local cyclists,” Anderson said.

NINR Director Grady Honored

The Medical University of South Carolina honored Dr. Patricia A. Grady (l), director of the National Institute of Nursing Research, with the degree of doctor of science, honoris causa, at recent ceremonies in Charleston. Dr. Raymond Greenberg, president of MUSC, conferred the honorary doctorate on Grady. Dr. Gail W. Stuart, dean and professor of nursing at the MUSC College of Nursing, cited Grady’s extraordinary contributions to our nation’s health. “She has helped bring critical research from the laboratory to the bedside and into our communities,” she said. “Dr. Grady has established herself as a role model for faculty in the College of Nursing and as a source of inspiration for professionals of all disciplines.”
Diabetes Branch Chief LeRoith Retires

By Jane DeMouy

A spirited love of science, an inquisitive collegiality and just the right amount of serendipity have made Dr. Derek LeRoith an international expert in insulin-like growth factor-1 (IGF-1). After a 26-year career with NIDDK, he moved in September to Mt. Sinai School of Medicine to open a lab and a new diabetes patient care center.

He has long had a dual interest in both research and clinical care. After an initial stint in NIDDK labs (then known as the National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases) as a visiting scientist, LeRoith left NIH in 1983 to teach at the University of Cincinnati's College of Medicine and to direct the university's diabetes outpatient clinics in Ohio.

"I was anxious to get him back. He was so good," remembers Dr. Jesse Roth, the NIDDK scientific director who convinced LeRoith to return as a senior investigator in 1984. Other senior scientists in the branch were studying insulin, and LeRoith directed his talents to the complementary study of the IGF system at what turned out to be a propitious time: the new science of molecular biology was just beginning to influence endocrinology. LeRoith had an affinity for the new technology, and his study of the peptide's cell biology began to widen understanding of the role of IGF-1 in normal growth and development.

Within 2 years, he was chief of the branch's molecular and cellular physiology section, and was investigating his suspicion that IGF-1 played a role in tumor formation.

"His tumor work was just terrific," says Roth, who calls LeRoith a leader in developing understanding of IGF-1's role in cancer. Dr. Lothar Hennighausen, chief of NIDDK's Laboratory of Genetics and Physiology, and a mammary gland expert, agrees. "Derek was the first to demonstrate a clear link between IGF-1 and cancer."

The two researchers got acquainted and started an NIDDK collaboration when LeRoith was on sabbatical in Israel and Hennighausen was on sabbatical in Germany. Studying the physiology of IGF-1 in transgenic mice, LeRoith found that IGF-1 controlled normal mammary development, linking the peptide to breast cancer.

Through the late nineties, the cell biology of IGF-1 and its influence on various cancers was LeRoith's major focus. Some of his papers detailing the expression and mechanisms of IGF-1 are classics that have been cited hundreds of times. Today, IGF-1 studies are "prime-time," LeRoith says, with multiple pharmaceutical companies looking for antibodies to block IGF-1 receptors in patients with cancer. Widespread in the body, IGF-1 also plays a role in aging, the immune system and diabetes, where LeRoith has focused more of his work in recent years.

Ardent about science, and with an easygoing, down-to-earth style that draws collaborators to his scientific inquiries, LeRoith says the advent of molecular biology and the development of transgenic mice as a major research tool were the sources of his most exciting research experiences.

"Being able to play with genes in the lab, to successfully clone them, was exhilarating," he explains. Working with knock-out mice when the technology was cutting edge, and not widely used in endocrinology, was another high.

"I love it when interesting results alter the theories that have always been accepted. NIH allowed me to do this risky kind of work."

"NIH is the perfect place for that," agrees Dr. Charles Roberts, professor of pediatrics at Oregon Health Sciences University, a longtime friend and former colleague who came to NIH to collaborate with LeRoith as a special expert in molecular biology. "Derek took full advantage of the NIH environment: he pulled together talented people and used the resources of the intramural program to produce an important body of work."

To date, LeRoith's bibliography boasts 509 papers, many of which have shaped detail of the expression and mechanisms of IGF-1 in transgenic mice, LeRoith found that IGF-1 controlled normal mammary development, linking the peptide to breast cancer.

But all that work did not make Derek a dull boy. Colleagues describe him as a very genuine, open person who is also a lover of life, full of personality and good humor. "You knew if you got him going on a certain topic, you'd get some funny stories," says Betty Diggs, executive director of the American Diabetes Association's Washington, D.C., chapter. Roberts calls him "a wild and crazy guy," a description best illustrated by...
LeRoith’s appearance at an Endocrine Society meeting held in Las Vegas. To howls of laughter from his IGF colleagues, LeRoith took the podium for his keynote speech outfitted in an Elvis costume, complete with spangles and full wig. “He’s a good wise guy,” says Roth.

A native of South Africa, LeRoith is just as well known for wearing “desert garb, Israeli-style.” Friends swear he sports his trademark shorts and sandals 10 months of the year. “My suspicion is that he only owns one pair of long pants,” jokes Roberts.

However many serious discussions of challenging scientific questions he’s been part of over the years, however many genes and knock-out mice he’s studied, LeRoith has never lost sight of other important perspectives: shepherding young scientists into successful research careers and bringing the benefits of the bench to the bedside. “He really did have a good grasp of the science-medicine connections,” says Roberts. “He always asked ‘What’s the clinical connection?’”

He has combined his love of mentoring and his concern for improving clinical practice with considerable administrative skills, say colleagues, to foster scientific communication and to translate state-of-the-art science to practitioners. Since 1990, he has administered the Mid-Atlantic Diabetes Research Symposium, a popular program that brings young scientists together annually to share their work in poster sessions.

During the same period, he has also put together a “Diabetes Update” for clinicians every other year. “He wanted to provide the most current information from the best minds available at the time,” says Diggs of ADA, a co-sponsor of the biannual event. A “superb speaker” who was much in demand, LeRoith was able to translate complex scientific findings into knowledge that clinicians could use in practice. “They walked away understanding what he was talking about—it’s a rare gift,” she adds.

Appointed chief of the Diabetes Branch in 1999, LeRoith initiated an intramural diabetes interest group that drew researchers from ICs outside NIDDK to encourage more inter-institute collaborations. He also founded a group called Cadre to promote diabetes education in primary care, and since 2000, has worked on conferences for the Endocrine Fellows Foundation. He has personally nurtured more than 80 fellows over his NIH career.

Now he has taken his enthusiasms to Mt. Sinai, where he will run the division of endocrine metabolism, which will emphasize basic research in diabetes. He will also establish a center for diabetes intensive care in an effort to improve diabetes care long-term.

“It’s a good time to go,” LeRoith says, although it’s sad to say goodbye to the friends and colleagues he’s had for 26 years. “I will also miss coming to work in shorts and sandals every day,” he adds. “Now he’ll have to buy two suits and two ties,” notes Roth.

LeRoith got his M.D. and Ph.D. from the University of Cape Town. He has given visiting professor lectures at numerous institutions, including the USSR Academy of Sciences and Ben Gurion University of the Negev, Beer Sheva, Israel.
NIH Alumni Hold Annual Meeting

The NIH Alumni Association held its annual meeting Sept. 24 in the Cloister (Bldg. 60) with speakers Dr. Margaret Chesney (l), deputy director of the National Center for Complementary and Alternative Medicine, who discussed “What You Need To Know About NCCAM and Alternative Medicine,” and John Dattoli (r), acting associate director for security and emergency response, ORS, who updated members on NIH security. John Burklow, NIH associate director for communications, also spoke on NIH happenings and the role of his office. Dr. Rita Colwell, chairman, Canon U.S. Life Sciences, Inc., distinguished professor, University of Maryland and Johns Hopkins University Bloomberg School of Public Health, has been selected as NIHAA’s 2005 Public Service Awardee. She was not able to attend the meeting and will receive her award later. The meeting also introduced newly elected officers J. Paul Van Nevel, who will continue as president, Dr. Artrice Bader, vice president, Dr. Janet Newburgh, secretary, and Steven Berkowitz, treasurer. The NIHAA is now in its 17th year and membership is open to past and present NIH staff. For more information call (301) 530-0567 or visit www.fnih.org/nihaa/nihaa.html.

How To Ease Commuting Woes

Long commutes, heavy traffic, poor road conditions and crowded Metro trains mean you may arrive at work or back at home feeling stressed. Raise awareness of your personal commuter stress and learn strategies for attending to the road and responding to other drivers in a calm manner. Attend the seminar “The Calm Commuter: Strategies to Ease Your Daily Commute” to assess the effect that commuting has on your life; analyze the factors that contribute to commuting stress; maximize the positive aspects of commuting; and learn strategies to mitigate the stress. Class is Wednesday, Nov. 16, noon to 1:30 p.m., Bldg. 31, Rm. C10.

Women’s Baseball Team Needs Players, Coach

The Lasers are a women’s baseball team comprised mainly of players from NIH. The team is located in Rockville and plays in the Eastern Women’s Baseball Conference, which has four additional teams in Montgomery County, Northern Virginia, and suburban Baltimore. The Lasers play one game most weekends, May to September. Games are professionally umpired on full-sized fields. The Lasers recently completed their first season in the EWBC, and are preparing for next season. The team will train in the Rockville area over the fall, winter and spring, indoors and outdoors. The Lasers have a core roster of women 18-52 years old, from all walks of life and with a range of previous baseball and/or softball experience. The team is recruiting more players, plus an experienced and committed coach/manager (man or woman). If you are interested, contact Susan McCarthy at mccarths@mail.nih.gov.

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Are You a Trauma Survivor?

The Mood and Anxiety Disorders Program, NIMH, seeks volunteers to participate in research studies that involve brain imaging. If you experienced an event such as physical assault, sexual abuse, accident, disaster or other trauma, you may qualify to participate. Compensation is available. For more information call Holly Giesen at (301) 435-8982 (TTY 1-866-411-1010).

Epilepsy Research Study

For people age 18 or older with documented epilepsy and an EEG without signs of seizures. This study will evaluate whether or not lack of sleep increases the usefulness of magneto-encephalography (MEG) in recording seizure activity. There is no cost for participation or any tests associated with the research. Transportation assistance is provided. Call 1-800-411-1222 (TTY 1-866-411-1010). Se habla español. Refer to study 04-N-0115.

Exercise Study Volunteers Wanted

The Uniformed Services University of the Health Sciences is looking for healthy, 18-45 year old men and women interested in completing an IRB-approved research project. Project entails completing a step test with knee bends, and blood draws on two other days. If interested call (301) 295-1371. Volunteers will be compensated for their participation.

Lyme Disease Study

Do you think you have Lyme disease? People with active Lyme disease are invited to participate in a study at NIH. Evaluation and treatment provided. For information call (301) 496-8412.

Healthy African Americans, Africans

Healthy African Americans and Africans with low white blood count needed. You can help researchers at NIH understand why individuals with low white blood count remain healthy. Call 1-800-411-1222 (TTY 1-866-411-1010) and refer to study 03-DK-0168. Compensation is available.

Weight and Insulin Study

The Uniformed Services University of the Health Sciences is conducting a study examining weight and stress responses to exercise in African American men and women between the ages of 18 and 45. Volunteers will be compensated for their participation. Call (301) 295-1371 or email humanperformancelab@usuhs.mil.

Research Malaria Vaccine Study

Doctors at NIH are conducting a study to test the safety of a research malaria vaccine and its ability to generate immunity. Males or non-pregnant females, healthy, between ages 18 and 50 and who have never been exposed to malaria may consider participating. All study-related tests and medicines are provided at no cost, and you are compensated. The research vaccine will not infect you with malaria. Call 1-800-411-1222 (TTY 1-866-411-1010). Refer to study 05-I-0133.

Severe Systemic Lupus Erythematosus?

If you have severe lupus or someone you love has severe lupus, call for study information: 1-800-411-1222 (TTY 1-866-411-1010). Refer to study 04-C-0095.

CIT's Madeline Lee Mourned

Madeline Lee, an information technology specialist in CIT's Enterprise Business Intelligence Branch, died June 21 of ovarian cancer, just short of her 52nd birthday. Her entire 33-year federal career was at NIH.

A native Washingtonian, Lee graduated from Robert E. Peary High School in 1971 and subsequently obtained an entry-level position at NIH. From 1972 to 1979, she worked as a secretary at the National Institute of Allergy and Infectious Diseases.

She won a position in the NIH Stride program and enrolled at American University. From 1979 to 1982, she worked as a computer assistant at the Clinical Center. In 1982, she received her B.S. degree from AU in technology of management and graduated magna cum laude.

For the past 23 years, Lee worked in the information technology field as a computer programmer, rising to the position of IT specialist and expert for the Data Warehouse (DW) and nVision Travel Business Area.

Lee was an exceptional employee. Over the course of her tour at CIT, she received numerous awards and citations for her in-depth knowledge of her field, finesse, analytical ability and attention to detail when creating DW and nVision travel reports for Congress and other organizations.

Lee's many friends and colleagues remember her as a quiet, caring and loving spirit. "Madeline was a devoted staff member who provided both operational and technical support in the development and maintenance of the comprehensive decision support system for the NIH," said John Price, chief of her branch. "She consistently demonstrated accuracy and thoroughness, and earned the respect and admiration of team members for her mastery of knowledge on the NIH travel business processes and data management. She will be sorely missed, on many levels."

Lee is survived by her husband Donald, her son, Brandon, her father and mother, Mr. and Mrs. Art Ping Lee, five siblings, in-laws and many nieces and nephews.

Contributions in her memory may be sent to the Muscular Dystrophy Association, 6301 Ivy Lane, Suite 108, Greenbelt, MD 20770.
NIH Observes Hispanic Heritage Month

NIH recently paid tribute to the talents and accomplishments of its Hispanic community with several special events, adopting the 2005 nationwide theme for Hispanic Heritage Month, "Hispanic Americans: Strong and Colorful Threads in the American Fabric." The Wednesday Afternoon Lecture Series on Oct. 5 welcomed Dr. Margarita Alegria on the topic "Matching Services to Need: The Importance of Health Services Research for Reducing Disparities." NIH also hosted the Sept. 15 HHS Hispanic Forum that highlighted best practices in recruitment, outreach and retention. The sixth annual Hispanic Scientist Day on Oct. 6 concluded the celebration with talks by Drs. Ofelia Olivero and Teresa Estrada of NCI and Ana Chepelinsky of FIC, followed by a poster session in Lipsott Amphitheater.

Top:
At the Sept. 21 kickoff event, guest speakers (from l) Dr. Jose Tarcisio M. Carneiro of the HHS Office of Minority Health Resource Center, Dr. Maria Warda of Georgia Southwestern State University, Dr. Helen Hazuda of the University of Texas Health Science Center in San Antonio, and Dr. Enrique Caballero of Harvard University's Joslin Diabetes Center, discussed health progress and challenges facing the Latino community, including such issues as obesity and diabetes.

Middle:
Hispanic Employees Organization executive board president Dr. Ofelia Olivero (second from l) and president-elect Dr. Migdalia Rivera-Goba (r) congratulate several longtime NIH'ers (from l) Raymond Mejia, Dr. Arlyn Garcia Perez, Dr. Carlos Caban and Dr. Francisco Calvo for helping to create the NIH-HEO.

Bottom (clockwise from l):
Members of Raices de Borinquen perform a Puerto Rican cultural dance.
An ethnic food tasting offers delights to the palate following the program.