

nih record



ABOVE • Pictures can be worth a thousand words in conveying health messages. See story below.

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People Get Ready

NIH Team Races to Prepare for Pandemic Flu

By Belle Waring

NIH is developing a continuity of operations plan (COOP) for pandemic avian influenza (bird flu). The effort is being led by Dr. Pierre Noel, assisted by a team of 10 working groups. The goal is to maintain critical operations and protect patients, visitors and employees, as well as animals and ongoing work.

"We need a critical number of employees to maintain operations [in the event of an emergency]," Noel says. "A lot of people ask, 'What if panflu does not occur?' The answer is: We are working through a process that will apply to any emergency on campus. Even if panflu never occurs, we will still be much better off because of this effort."

Chief of hematology in the Clinical Center's department of laboratory medicine, Noel was appointed last winter as pandemic flu COOP coordinator (see *NIH Record*, Mar. 10, 2006). An Air Force Special Operations Command flight surgeon and an advisor on weapons of mass destruction, disaster planning and biodefense, Noel also recently accepted a detail as acting associate director for security and emergency

SEE PANDEMIC FLU, PAGE 8

Images Boost Health 'Literacy'

Bu Explores Use of Posters in Chinese Public Health

By Belle Waring

Say you have a public health problem whose scale is vast: a population of 500 million, with 90 percent living in the countryside, where the literacy rate is 5 percent and life expectancy is 35 years. Malnutrition is stark. Disease and mortality rates are atrocious—millions of cases of cholera, smallpox, typhoid, malaria, TB and schistosomiasis ("snail fever"). Meanwhile, the country is emerging from decades of conflict, foreign invasion and civil war.

This was China, 1949.

"Most major diseases have a long history," says Dr. Liping Bu, professor of history at Alma College in Alma, Mich., and an NLM visiting



In 1965, a massive public health campaign used posters touting "barefoot doctors," who served China's peasant population.

SEE CHINESE POSTERS, PAGE 6

Extraordinary Is the Norm for Director's Pioneers

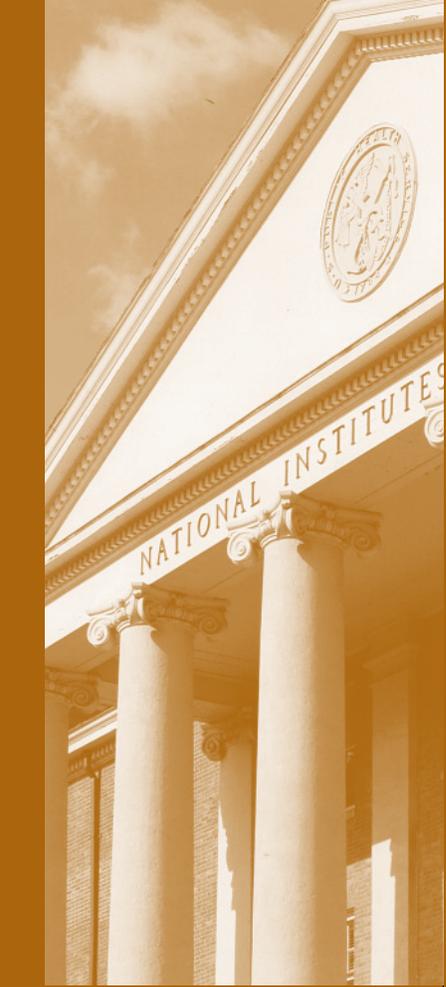
How can NIH help extraordinarily innovative scientists explore ideas that have the potential for unusually high impact? One way is through the NIH Director's Pioneer Award program, part of the NIH Roadmap for Medical Research. NIH director Dr. Elias Zerhouni announced the newest cohort of Pioneer Award recipients at a ceremony in Masur Auditorium on Sept. 19.

"This is a diverse group of forward-thinking investigators whose work could break new ground in many areas of medical research," he said. "The awards give them the intellectual freedom to pursue exciting new research directions and opportunities in a range of scientific fields, including computational biology, immunology, stem cell biology, nanotechnology and drug development. And reflecting the nature



2005 Pioneer Award recipient Dr. Erich Jarvis

SEE PIONEERS, PAGE 4



briefs

APAO Solicits Awards Nominations

The NIH Asian and Pacific Islander American Organization will continue its tradition of honoring employees with significant contributions in the following categories: 1) an employee in the field of management who has made an outstanding contribution to the advancement of Asian and Pacific Americans; and 2) an NIH APA researcher/scientist who has made significant accomplishments in biomedical research.

The awardees will be honored with a plaque from APAO at its annual holiday award luncheon on Tuesday, Dec. 12 in Wilson Hall, Bldg. 1.

A review committee composed of APAO members from several ICs will evaluate the nominations. All nominations must be received electronically by Friday, Oct. 27 for consideration. To nominate someone, send a 1-page statement and, if applicable, a CV to Lucie Chen (category 1 nominations) chenlu@mail.nih.gov or Dr. Kuan-Teh Jeang, (category 2 nominations) kjeang@mail.nih.gov.

For more information about the awards or APAO, contact Prahlad Mathur, (301) 435-4618.

Conference To Explore Future of Nursing Research

The National Institute of Nursing Research concludes its year-long celebration of 20 years at NIH with a scientific symposium titled, "Nursing Research: Looking to the Future," on Wednesday, Oct. 11 at Natcher Auditorium from 8:30 a.m. to 3 p.m. There is no charge to attend. Guest speakers include former Congressman John E. Porter; Dr. Roger Bulger, acting deputy director, NCMHD; and Dr. Linda Aiken, director of the Center for Health Outcomes and Policy Research at the University of Pennsylvania. For more information contact Allisen Stewart, (301) 496-0207. To view the agenda and list of speakers, visit <http://ninr.nih.gov/ninr/> and click the 20th anniversary icon.

Friedman Gives NIH Director's Lecture

The Wednesday Afternoon Lecture series—held on its namesake day at 3 p.m. in Masur Auditorium, Bldg. 10—features Dr. Jeffrey M. Friedman on Oct. 11. His topic is "Leptin and the Biological Basis of Obesity." Friedman is director of the Starr Center for Human Genetics in New York, the Marilyn M. Simpson professor at the Rockefeller University and a Howard Hughes Medical Institute investigator. For more information or for reasonable accommodation, call Sandeep Nair, (301) 496-1921.

Research Festival Set, Oct. 17-20

This year's NIH Research Festival will take place Oct. 17-20. The opening plenary session at 9 a.m. in Masur Auditorium, Bldg. 10, will feature two examples of this year's "Gains in Translation from Bench to Bedside" theme. Dr. Bill Gahl of NHGRI and Dr. Juan Bonifacino of NICHD will discuss disorders of lysosome-related organelles and Drs. Alan Heldman of Johns Hopkins and Steven Sollott of NIA will describe the development of the taxol-coated stent for treatment of coronary artery disease.

Other events include symposia; special exhibits on resources for intramural research; the Job Fair for NIH postdoctoral, research and clinical fellows, with an opening address "Embarking on the Future" by NIH director Dr. Elias Zerhouni; the festival food and music fair; and the Technical Sales Association scientific equipment tent show.

For more information visit <http://researchfestival.nih.gov>.

Talk on PTSD and Women

The women's health special interest group will host a talk on "Post-Traumatic Stress Disorder and Women," on Friday, Oct. 20 from 11:30 a.m. to 12:30 p.m. in Wilson Hall, Bldg. 1. Speaker will be Dr. Meena Vythilingam, staff physician, Mood and Anxiety Disorders Program, NIMH. If you need sign language interpretation, contact Vicki Malick at malickv@od.nih.gov at least 5 days before the seminar.

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*'Watts Up'***Some 'Energy Month' Suggestions for Employees**

"Watts up?" Energy Awareness Month. "Watts up" is the more than 30 million kilowatt-hours of electricity used last month at NIH. That comes to a bill of over \$4.5 million.

Despite this consumption, NIH is a leader in energy management. NIH purchases over 3 percent of its energy from renewable sources, which are non-fossil fuel sources. In the D.C. area, most energy is generated from burning fossil fuels, which releases contaminants into the air. These airborne contaminants lead to elevated rates of asthma and other respiratory diseases. Purchase of renewable energy reduces contaminant load and encourages increased availability of renewable energy sources.

NIH is also continually auditing existing facilities to identify opportunities to add sustainable features that use less energy. New facilities are also being designed to be "green" or to use less energy. For example, the new Visitor Center on Rockville Pike will have a "green roof" that will not only save energy, but also filter pollutants from stormwater runoff. Green roofs are made of a lightweight soil media, underlain by a drainage layer and an impermeable membrane that protects the building structure. The soil is dotted with a special mix of plants that, together with the soil, provides insulation to the building.

But everyone has a responsibility when it comes to energy conservation. Did you know that turning off two computers at night and on weekends is the equivalent of removing one car from the road for one year? So, look at your actions this month and challenge yourself to find ways to conserve energy in your job and at home. Turning off lights when you leave the room, shutting off equipment when you're not using it—these should come as naturally to you as putting on your seatbelt when you get in your car.

Even screen savers are energy hogs, so turn off your monitor instead. You can also switch computer settings to sleep mode and unplug equipment such as phone chargers that use energy even when not in use. Nationally, these energy "vampires" use 5 percent of our domestic energy. In the laboratory, close fume hood sashes to minimize airflow when not in use. Close or tilt window blinds to block direct sunlight in the warmer months and consider use of Metro, bikes or carpools. While your actions may seem insignificant, the combined efforts of all NIH employees have substantial, meaningful results.

NIH's Environmental Management System (NEMS) is a strategy that aims at minimizing our impact on the environment by challenging employees to use healthier alternatives in getting their jobs done. NEMS is sponsoring a lunch-time brown bag series on environmental topics. The film *Kilowatt Ours* will be shown to kick off the series at noon on Wednesday, Oct. 18 in Bldg. 50, Rm. 1328/1334.

In this film, you'll take a journey from the coal mines of West Virginia to the solar panels of Florida to discover solutions to America's energy problems. The 30-minute documentary provides a hopeful look at how energy conservation and renewable power can help improve the quality of life in the U.S. *Kilowatt Ours* also provides practical ideas for you to lower your energy bills at home, showcasing successful examples of homes that are saving hundreds—even thousands—of dollars annually on their energy bills. 🌱

*March Madness in October?***IC Directors To Compete in CFC Free-Throw Competition**

A brand-new laptop computer will be on the line when the IC directors match shots at a Combined Federal Campaign basketball free-throw contest. The winning director will receive the laptop to distribute to a deserving CFC campaign worker or contributor at his/her IC. Fresh from their biweekly meeting, the IC directors will take the court at 10:15 a.m. on Thursday, Oct. 12, in front of Bldg. 1.

The upcoming event is a result of NIDCR director Dr. Lawrence Tabak challenging his fellow IC directors to a contest to raise awareness of this year's CFC campaign, which NIDCR is spearheading. The NIH CFC campaign kicked off on Oct. 3.

The object of the contest is to make as many free throws as possible within 30 seconds. Tabak will be first up, followed by the other directors who will each take a turn. The director who completes the most free throws wins the competition (and the laptop). NIH director Dr. Elias Zerhouni will referee the event.

Among the directors who have already accepted the challenge are: NIAID's Dr. Anthony Fauci, NIBIB's Dr. Roderic Pettigrew, NEI's Dr. Paul Sieving, NICHD's Dr. Duane Alexander, NIDDK's Dr. Griffin Rodgers, NIGMS's Dr. Jeremy Berg and NIAMS's Dr. Stephen Katz. CIT Deputy Director Al Whitley will also participate. Two "ringers" will come off the bench to shoot on behalf of their directors—Charles "Stretch" Sabatos will play for NINR's Dr. Patricia Grady and Fred "All World" Walker will play for NHGRI's Dr. Francis Collins.

So come out and cheer on the players and help support the CFC!



The CFC "Divas and Dudes" cheering squad will be on hand to boost the players' morale during the IC Directors' Free-Throw Competition.

PIONEERS

CONTINUED FROM PAGE 1



Above:

2004 Pioneer Award recipient Dr. Homme Hellinga (c) of Duke University Medical Center made a point about his work to 2005 awardees Dr. Giulio Tononi of the University of Wisconsin Medical School and Dr. Hollis T. Cline (far r) of Cold Spring Harbor Laboratory.

Top:

NIH director Dr. Elias Zerhouni (c) and NIGMS director Dr. Jeremy Berg (l) met with all three cohorts of award recipients during the lunch break of the second annual NIH Director's Pioneer Award Symposium.

of some of today's most cutting-edge research, a number of the projects have a strong interdisciplinary thread."

The 13 awardees, who will each receive \$2.5 million in direct costs over 5 years, are:

- Dr. Kwabena A. Boahen, associate professor of bioengineering at Stanford University, who will develop a specialized hardware platform for the detailed simulation of the inner workings of the brain's cortex.
- Dr. Arup K. Chakraborty, Robert T. Haslam professor of chemical engineering, chemistry and biological engineering at MIT, who will combine the application of theoretical methods rooted in statistical physics and engineering with experiments to determine principles governing the emergence of autoimmune diseases.
- Dr. Lila M. Gierasch, professor of biochemistry and molecular biology and chemistry at the University of Massachusetts, Amherst, who will investigate protein folding in the complex environment of a cell and explore how diseases may arise from folding mistakes.
- Dr. Rebecca W. Heald, associate professor of molecular and cell biology at the University of California, Berkeley, who will study how cells scale the size of their internal organelles.
- Dr. Karla Kirkegaard, professor and chair of microbiology and immunology at Stanford University School of Medicine, who will identify and validate targets for antiviral drugs leading to suppression of the growth of drug-resistant variants of dengue, West Nile, hepatitis C and polio viruses.
- Dr. Thomas J. Kodadek, professor of internal medicine and molecular biology at the University of Texas Southwestern Medical Center at Dallas, who will develop a chemistry-based approach to monitor and manipulate the immune system.
- Dr. Cheng Chi Lee, associate professor of biochemistry and molecular biology at the University of Texas Health Science Center at Houston, who will explore the physiology of suspended animation in non-hibernating mammals.
- Dr. Evgeny A. Nudler, professor of biochemistry at the New York University School of Medicine, who will develop new types of antimicrobial drugs and vaccines to treat and prevent drug-resistant infections.
- Dr. Gary J. Pielak, professor of chemistry at the University of North Carolina at Chapel Hill, who

will study proteins involved in neurodegenerative diseases at the atomic level inside living cells.

- Dr. David A. Relman, associate professor of microbiology and immunology and of medicine at Stanford University, who will explore the roles in health and disease of microbial communities indigenous to humans.

- Dr. Rosalind A. Segal, associate professor of neurobiology at the Dana-Farber Cancer Institute, who will focus on identifying the way complex sugars work to maintain neural stem cells in the developing and adult brain.

- Dr. James L. Sherley, associate professor of biological engineering at MIT, who will work to develop routine methods for the production of human adult stem cells from liver, pancreas, hair follicles and bone marrow.

- Dr. Younan Xia, professor of chemistry at the University of Washington, Seattle, who will develop nanomaterials as new tools for understanding and controlling cell communication.

NIH selected the 2006 Pioneer Award recipients through a special application and evaluation process. After NIH staff determined the eligibility of each of the 465 applicants, the first of three groups of distinguished experts from the scientific community identified the 25 most highly competitive individuals in the pool. The second group of outside experts then interviewed the 25 finalists on campus in August.

The advisory committee to the NIH director performed the final review and made recommendations to Zerhouni based on the evaluations by the first two groups of outside experts and programmatic considerations.

"In addition to supporting outstanding research, the Pioneer Award is an innovation in its own right. It is one way...of funding scientists with highly promising ideas that may be too novel, span too diverse a range of disciplines or be at too early a stage to fare well in the traditional peer review process," Zerhouni noted.

"I am particularly pleased that enthusiasm for the Pioneer Award led a record number of NIH components to contribute their own funds to the program this year, allowing us to support six more awards than the seven provided in the NIH Roadmap budget," he added. The 11 components that contributed funding were NCI, NHLBI, NIAID, NIBIB, NIDCR, NIGMS, NINDS, NIA, NIDA, NCCAM and the Office of Research on Women's Health.

Biographical sketches of the 2006 Pioneer Award recipients are available at <http://nihroadmap.nih.gov/pioneer/Recipients06.aspx>. 12

NIA Poster Day Honors Hughes, Showcases Research Talent

By Nancy Clark

The National Institute on Aging recently showcased the work of talented high school, undergraduate and graduate students during its 14th annual NIA Summer Program Poster Day at the Gerontology Research Center in Baltimore. The session, which featured a research competition among an ethnically diverse group of 48 students, was notable this year, too, in honoring Dr. Barbara A. Hughes, former director of the NIA Office of Minority Recruitment and Human Relations.

Hughes, who held a variety of positions at NIA from 1975 until her retirement in 1997, was recognized for her dedication to career development and minority outreach. She attended the session and shared her thoughts about opening up the research endeavor to a wider audience.

During her tenure at NIA she often thought of Dr. Martin Luther King's vision that all people, especially youngsters, should be given an opportunity to reach their potential. She believes that giving students an opportunity to work with mentors will enhance their potential to be outstanding future scientists. Hughes also said that NIA outreach efforts have enhanced the diversity of future scientists.

Arlene Jackson, NIA's current intramural recruitment specialist and a protégé of Hughes, was gratified that her mentor was able to be a part of the first annual Award of Excellence named in her honor. The award, Jackson noted, is a fitting tribute to Hughes' legacy in touching so many students' lives. "Young researchers need a place that they find motivating and where they can do meaningful work," said Hughes. "The NIA Summer Program allows students to explore, make mistakes and gives them exposure to things other students in more fortunate circumstances may already have."

The Summer Program encourages students and mentors to work together to produce solid scientific research in the diverse field of aging. Students' posters were based on topics ranging from research in genetics to discoveries in neurobiology.

NIA director Dr. Richard Hodes spent time with the students and reviewed posters. "The students were remarkable in their ability to present their work and to discuss its significance, a tribute to their own abilities and motivation and a reflection of their mentoring experience in NIA's summer program," he said. "The Poster Day encourages students to generate new ideas and novel approaches, fosters collaboration and places them in an environment that is supportive of their talents."

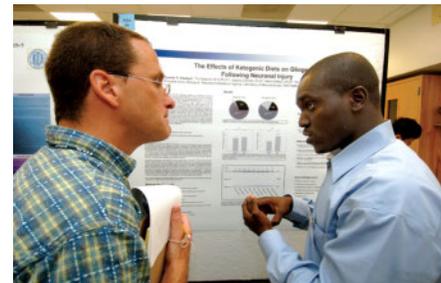
Among them was Shafaq Jameel, a senior at the University of Massachusetts and veteran of the Iraq War, and Daniel Camacho, a senior Minority Access to Research Careers student at the University of Arizona. Both said they felt their time at the program was worthwhile. Jameel's research poster, titled "Gamma Secretase Inhibits Tissue Repair in Mice," demonstrated that wound-healing was delayed by impaired notch signaling through her studies on mice. "The techniques I learned in lab environments here helped me convey my ideas more clearly and taught me how to critically analyze information and others' research more carefully," she noted. Her hope is that this type of research will help identify a drug that speeds up healing.

Camacho, whose poster on "The Characterization of a Panel of Cell Surface Receptors on the P815 Mouse Mastocytoma Cell Line," discussed ways to alleviate some of the disabling symptoms of rheumatoid arthritis. He found inspiration for his research based on spending time with older people at home in Arizona. "As scientific researchers, our job is to attack medical problems we see affecting the people in our lives. But before we can do that we must spend quality time getting our Ph.D.s and/or our M.D.s. This program will help us do that." Camacho hopes to apply to a graduate program in California.

Poster day winners were: Hakeenah F. Brown, a 2006 graduate of the University of Maryland-Eastern Shore, mentored by Drs. Ashani Weeraratna and Poloko Leotlela of the Laboratory of Immunology; Jeanne Seeberger, a 2006 graduate of Washington College, mentored by Dr. Sige Zou of the Laboratory of Experimental Gerontology; and Lauren Wilson, mentored by Drs. Dongyi Xu and Weidong Wang of the Laboratory of Genetics.

Wilson, a senior at Hamilton College in New York, presented a poster titled "Genetic Analysis of a New Component of the Fanconi Anemia Core Complex, Hip, in Chicken DT40 Cells." She noted, "My success has definitely given me some momentum to continue with my career and certainly helped solidify my interests." She plans a career in either epidemiology or public health.

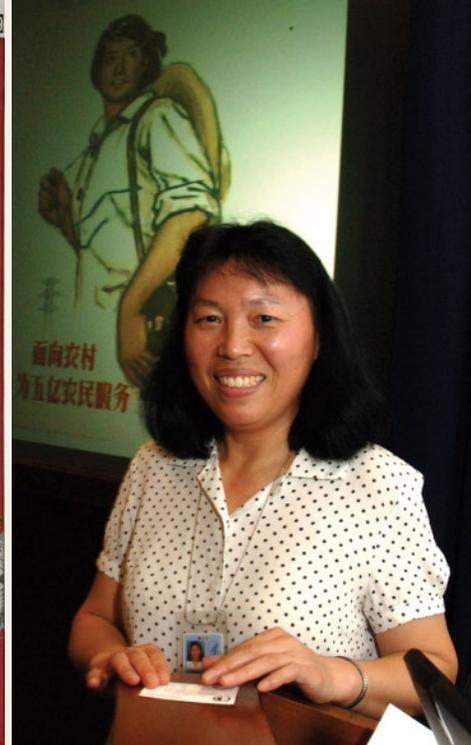
In presenting the awards, Dr. Michele Evans, deputy scientific director, noted, "This program is about encouraging all students of all backgrounds and scientific interests to develop their talents. They come away respecting themselves, each other, and their discipline and also perform outstanding science, contributing usable results." 🗨️



Top: Dr. Barbara Hughes (third from l) presents the first annual Barbara A. Hughes Award of Excellence to (from l) Jeanne Seeberger, Lauren Wilson and Hakeenah Brown.

Center: Georgetown University sophomore Raluca T. Tavaluc (r) and poster competition judge Dr. Poloko Leotlela of the Laboratory of Immunology discuss Tavaluc's poster on "Reduction in the Beneficial Effects of Caloric Restriction on DMBA-Induced Skin Tumors in Nrf2 Knockout Mice."

Bottom: Gunnar Kwakye (r), a 2006 University of Maryland-Eastern Shore graduate, shows his poster "The Effects of Ketogenic Diet on Gliogenesis Following Neuronal Injury" to poster judge Dr. Robert Brosh, Jr., of the Laboratory of Molecular Gerontology.



CHINESE POSTERS

CONTINUED FROM PAGE 1

Above, left:
“Declaration of War on SARS” uses the 1960s image of the clenched fist in this 21st-century poster.

Above, right:
Dr. Liping Bu, professor of history at Alma College in Alma, Mich., and an NLM visiting scholar

scholar. Her recent History of Medicine seminar, “Public Health and Chinese Society from the 1930s to SARS,” focused on one aspect of modernization: the importance of posters in public health education and propaganda in a society with high illiteracy.

Her samples came from NLM’s recently acquired Chinese public health collection, a trove of some 7,000 items—including posters, scrolls, pharmaceutical ads and puzzles. The collection is “unique,” Bu said, “and I’ve not seen anything comparable in China, the U.K. or other U.S. collections regarding public health and modernization.”

Since her research is ongoing and the collection is large, so far she’s studied “only” 3,000 items. The posters were designed and printed by Chinese local and central governments and tie public health concerns to political, social, economic and military engagements. Themes include combating disease; linking health to productivity (typically after 1949); knowledge about the body; sanitation; maternal/child health and changing the image of women, e.g., as “barefoot doctors.”

She found “the techniques of poster design and printing extremely rich,” while noting “a surprising continuity in health education and propaganda from nationalist to socialist governments despite major differences in those systems.”

Perhaps that’s because images work. Posters grab us; they pop. Bu called them “powerful, effective and fast in conveying health information to the illiterate, and vivid in teaching new things. They brand indelible images in the masses’ minds about the causes of diseases,

the importance of health and how to do health work.” And compared to books and printed pamphlets, posters are more accessible and less expensive.

Some highlights:

Declaration of War on SARS: Produced in 2003, this poster, said Bu, “is not typical of today’s Chinese society, which is very much about going after money.” She observed how the image of the muscular health worker, fist in the air, dates back to the cultural revolution of the 1960s and “the power of the people.” The depiction of the virus with its bristling corona is fairly realistic (SARS is a coronavirus), but there is one mutation: SARS bugs in the poster have a frowny face, owing to their fear that a People’s War has been declared against them.

Body as Factory: In the 1930s, people were trying to understand the human body and how to depict its inner workings. “One theory,” Bu explained, “was that the body is like a factory.” Arms appear as winches and cranes, lungs as bellows and the liver as furnace. And the brain? That’s where the desk jobs—the executive functions—are.

Americans Dropped Germs: In the early 1950s, during the Korean War, Bu noted, there was a “patriotic public health movement” against germ warfare. Posters produced by the local government of Shandong province (roughly 100 miles from Korea) show bombs accompanied by flies and mosquitoes, obnoxious pests. “This shows,” said Bu, “how the enemy is always demonized.”



Americans Dropped Germs: A Korean War-era poster warns against germ warfare and demonizes the enemy.

Eliminate the Four Pests: A line of advancing workers bears a mosquito net, insecticide sprayer and flyswatter. This is emblematic of a 1960s campaign against “the four pests”—rats, flies, mosquitoes and sparrows.

Facing the Countryside and Serving 500 Million Peasants: In 1965, said Bu, while 85 to 90 percent of the population lived in rural areas, 80 percent of health care workers remained in cities. A massive public health campaign was born, using a three-tiered approach that included “barefoot doctors,” so called because they worked on the communes that supported them. They received a short course in first aid, giving inoculations and performing simple procedures. To be trained, they had to be literate; women’s inclusion was signal. In fact, Bu said, “only 40 percent of barefoot doctors were women, but the public image was female.” This helped to advance the image of women as workers of equal status with men. “As a tool for mass education,” said Bu, “this poster attracts an audience to relate to the barefoot doctor in real life.”

It is difficult to quantify the effect posters had on public health in China. What is true is that they played a key role in educating an illiterate population in a period when “diseases that had plagued China for a long time, such as cholera, typhoid fever and smallpox, were eradicated,” said Bu, while “snail fever, malaria and TB were almost eradicated.” TB is now making a comeback, she noted.

The image’s power to teach is still so robust that every online medical encyclopedia, including NLM’s MedlinePlus, has pictures and diagrams too numerous to count, while NLM’s historical image database includes thousands of contemporary public health posters. In the exchange of information on medicine and health, the image remains indispensable. ●

Five Grantees Win 2006 Lasker Awards

All five winners of the 2006 Albert Lasker Medical Research Awards—considered the nation’s most distinguished honor for outstanding contributions to basic and clinical medical research—are NIH grantees.

The Lasker Award for Basic Medical Research went to Dr. Elizabeth Blackburn of the University of California, San Francisco, Dr. Carol Greider of Johns Hopkins University School of Medicine and Dr. Jack Szostak of Harvard Medical School, who predicted and discovered telomerase. This enzyme synthesizes the ends of chromosomes, protecting them and maintaining the integrity of the genome. Its discovery has reinvigorated studies of cancer and aging.

The Lasker Award for Clinical Medical Research went to Dr. Aaron Beck of the University of Pennsylvania School of Medicine for developing cognitive therapy, which has “transformed the understanding and treatment of many psychiatric conditions,” according to his citation.

Dr. Joseph Gall of the Carnegie Institution’s department of embryology won the Lasker Award for Special Achievement in Medical Science. He was cited for a distinguished 57-year career as a founder of modern cell biology, including invention of *in situ* hybridization, a technique for pinpointing single genes in genomes containing many thousands.

“NIH is proud to have supported the work of these five outstanding researchers who are being honored for their contributions to our understanding of cell biology, cognitive therapy, and telomere and telomerase research,” said NIH director Dr. Elias Zerhouni.

PANDEMIC FLU

CONTINUED FROM PAGE 1

response in the Office of Research Services.

“Regarding personnel and physical security, he covers the waterfront,” says Marie Lagana, CIT’s planning, evaluation and communications director. Lagana, currently on detail to Noel, served as his point person for a recent test of IT/telework readiness (see box on p. 9).

Avian influenza is an infection caused by bird viruses. Influenza A (H5N1) virus is a subtype that occurs mainly in birds, is highly contagious among them and can be deadly to them.

Of the few avian influenza viruses that have crossed the species barrier to infect humans, H5N1 has caused the largest number of detected cases of severe disease and death in humans. The cumulative number of confirmed human cases currently reported to the World Health Orga-

nization shows a mortality rate over 50 percent. Normal seasonal human flu viruses have a death rate of less than 1 percent.

People infected with H5N1 usually have been exposed via direct contact with H5N1-infected poultry or H5N1-contaminated surfaces, not by a cough or sneeze. However all influenza viruses have the ability to change and researchers are concerned that H5N1 virus one day could be able to infect humans, morph into a new virus to which humans have no natural immunity and spread easily from one person to another.

If this novel virus then “learns” to spread from human to human via a cough or sneeze, an influenza pandemic (worldwide outbreak of disease) could begin. Multiple waves of illness could occur, with each wave lasting 6-8 weeks.

While HHS has an official plan, NIH (with 18,000 employees and more than 6,500 contractors) is developing an NIH-specific plan. That is why Noel stresses that in this team effort, credit should go to the people in the working groups “who are going out of their way to prepare.”

Here’s an update:

- NIH Pandemic Flu COOP was submitted to HHS in March 2006.
- NIH established panflu working groups to look at: Clinical Center/public health; human resources (leave guidance); acquisitions (logistics and contracts); IT and telework; intramural research animals (animal care); facilities; extramural (grants); communications and NIH COOP panflu management plans.
- The working groups have reported on corporate NIH policies and services and have identified IC responsibilities for panflu preparations.
- Noel has kept NIH management apprised of planning progress, briefing executive officers, scientific directors and steering committees that advise the NIH director.
- IT infrastructure and service has been upgraded to better support emergency telework if required.
- The IT/telework test on Aug. 25 of network, email, videocast, help desk and critical NIH sys-

Panflu COOP Meeting, Oct. 19

On Thursday, Oct. 19, NIH will hold a Pandemic Flu Operational Continuity Conference open to all employees. The conference will be held in Masur Auditorium, Bldg. 10 from 9 a.m. to noon and will address the plans and strategies to sustain mission-critical functions in the event of a pandemic flu outbreak.

Issues to be discussed include: emergency communications, continuity of operations management, acquisition strategy, Clinical Center, facilities, information technology, emergency telework, emergency leave guidance, extramural research and intramural research animals.

Vaccines vs. Antivirals in Bird Flu

What’s the difference between a vaccine and an antiviral drug?

A vaccine inoculates a person with an antigen to stimulate the body to mount an immune response. Once immunized, the body “remembers” the virus and so can fight it more effectively. An antiviral drug is medicine given to ward off infection, or to treat those already infected. The antiviral needs to be started early enough—usually within the first 2 days of infection—to be effective.

Is there a vaccine for H5N1 influenza (bird flu)?

An effective vaccine is not yet available, but NIAID has begun clinical trials to evaluate vaccine candidates. Preliminary data indicate that in 113 healthy volunteers, the immune response knocked out the virus. Studies are ongoing.

tems affirmed overall IT capability to continue essential functions if there is a disruption to regular NIH worksites. Additional testing may be conducted as ICs work to refine their continuity of operations plans.

Other issues being addressed include:

- Defining leave authorities. In the event of pandemic flu, schools, stores and other public venues may be closed and people may be asked to consider “social distancing.”
- Establishing contingency plans for facilities.
- Ensuring critical contracts are identified and alternative sources of goods are available to obtain such items as animal care supplies.
- Ensuring the continuation of essential grant award and management activities.
- Developing an NIH-specific web site to provide up-to-date information on the status of NIH during an emergency.

Calvin Jackson, chief of NIH’s News Media Branch, says, “We realized very early on in the planning process that we needed a web site to address the concerns of NIH employees, contractors and our neighboring community. We’re diligently working on the development of this site, which we are hoping will serve as a one-stop shop for pandemic flu information.” In the near future, a special link will be available on the employee information page located at <http://www.nih.gov/employees.html>.

Meanwhile, assuming that 30-40 percent of employees may be absent from work during the peak of panflu, now is the time to resolve any local IT problems and communications gaps. Even if you didn’t participate in the recent IT/telework test, you can still update your laptop and exchange cell phone numbers.

This is a work in progress, not set in stone, Noel emphasizes. “There are multiple algorithms,” he observes, “that are constantly being looked at. If a plan doesn’t fit with reality, it gets reinvented.”

NIH Tests Work-from-Home Scenario

What would happen if the Washington region were crippled by a 6-8 week pandemic flu outbreak, requiring NIH and most offices and public venues to shut down except for critical operations?

In the event of an outbreak, NIH may implement “social distancing” measures for most employees and contractors, who would telework from their homes in an attempt to limit spread of the virus. Designated personnel would be asked to report to campus to maintain critical functions.

With the advent of telework, VPN and parachute accounts and other forms of remote access, communications with employees and NIH computers should not come to a halt in this situation. Many important functions could be continued if a robust system for accessing the NIH IT infrastructure were in place.

On Aug. 25, this is exactly what the IT/telework working group of the NIH pandemic flu planning team wanted to test. Employees were encouraged to participate in a remote-access testing event, teleworking from home and other locations to simulate an emergency situation.

On average, NIH has 761 employees teleworking at least once a week, with 180 employees teleworking up to 3 times a week. For the event, a target population of 5,000 teleworkers was originally planned. Although the mark wasn’t reached, approximately 1,500-1,800 employees did participate, providing a significant increase from the normal telework population. This simulation allowed staff to measure successes and deficiencies in the IT infrastructure and service built to support an emergency telework situation in the future.

The test included simultaneous remote use of networks, email, videocasting, Outlook meeting requests, help desk and other critical systems. It confirmed overall capability to continue essential functions. Although problems were identified, lessons were learned and the test was a success with 76 percent of personnel able to “perform regular duties” and 20 percent able to perform their duties “with some problems.”

Future remote-access testing may be conducted to ensure a robust NIH response in the event of a flu outbreak or other disruptive event.

CIT Computer Classes

All courses are given without charge. For more information call (301) 594-6248 or consult the training program's home page at <http://training.cit.nih.gov>.

Validating Information Models Using Natural Language	10/18-20
Seeking Information on the Web	10/19
Breeze 5	10/19
NIH Portal for Community Managers	10/23
Word Topics: Reviewing and Tracking	10/24
Analyzing Microarray Data Using the mAdb System	10/24-25
Advanced QVR Training	10/30
NIH Portal Document Directory: Building an Enterprise-Wide Repository	10/31
Network Security and Firewalls	10/31
Introduction to mAdb	10/31
NIH Biowulf - a Supercluster for Scientific Applications	11/2
Introduction to the QVR System	11/2

PRAT Program Accepts Applications

The NIGMS Pharmacology Research Associate (PRAT) program is now accepting applications for positions to begin October 2007. This competitive research fellowship program supports training at NIH or FDA laboratories for postdoctoral candidates. It focuses on the pharmacological sciences and related research areas such as molecular pharmacology, signal-transduction mechanisms, drug metabolism, immunopharmacology, chemistry and drug design, structural biology, endocrinology, bioinformatics and neuroscience.

PRAT fellowships are 3-year appointments that include competitive salaries as well as supply and travel funds to support research in preceptors' laboratories. Applicants must identify a preceptor in their application. Preceptors may be any tenured or tenure-track scientist at NIH or FDA who has agreed to host the applicant. Postdoctoral fellows who have more than 1 year of research experience at NIH or FDA are not eligible. Applications must be received by Dec. 15. For more information or application materials, contact the PRAT program assistant at (301) 594-3583 or email prat@nigms.nih.gov.



"Narrow Arches, Mexico," (above) shot by longtime club member John Boretos, was black-and-white photo of the year in 2005.

Annual Photography Competition, Oct. 10

The NIH Camera Club will hold its annual NIH-wide photography competition on Tuesday, Oct. 10 at 6:15 p.m. at Classic Residence, 8100 Connecticut Ave., Chevy Chase. Categories are black-and-white prints, color prints and color slides. Fee is \$1 per image and entrants can submit four images per category. Cash prizes will be awarded. The R&W-sponsored organization meets once a month on Tuesday evenings at the Classic Residence. At the meetings, a professional from the area shares photographic expertise and images, then judges photos on a topic such as nature or architecture or photojournalism. For more information about the club or contest, contact Brenda Hanning at hanningb@mail.nih.gov.

FNIH Sponsors Charity Run, Walk

The Foundation for the National Institutes of Health will hold its inaugural Halloween-themed BOO! Run for Life! 10K run and 2-mile walk on Sunday, Oct. 15 at 7:30 a.m. in West Potomac Park at Ohio Drive near West Basin Drive. The event is being organized by friends and family of Dean R. O'Neill to benefit FNIH and the Dean R. O'Neill Renal Cell Cancer Research Fund. Costumes are optional. Online registration at www.BooRunForLife.com closes on Oct. 13.

Proceeds from the race will promote renal cell cancer research at NHLBI. Kidney cancer is on the rise in the United States. Most common in male adults over the age of 40, the disease is considered by many as one of the more under-researched cancers. Nearly 30,000 people are diagnosed with kidney cancer each year, half of whom develop metastatic disease that is associated with an extremely poor outlook for recovery. The run/walk will help raise funds to help researchers find an effective cure.

milestones



Former NIDCD Scientist Fex Mourned

Dr. Jörgen Fex, 82, died Aug. 15 in Kensington. He was a former laboratory chief and acting scientific director at the National Institute on Deafness and Other Communication Disorders.

“Jörgen Fex was a pioneer in hearing and deafness research. He explored the underlying biochemical processes in the neurotransmission systems of the inner ear and understood the future promise of molecular genetics in human deafness,” said NIDCD director Dr. James Battey, Jr.

Fex was NIDCD’s acting scientific director during its formative years and was instrumental in developing many program initiatives, especially those related to the molecular genetics of hearing. As a scientific mentor he fostered creativity and excellence among his junior colleagues. Several of his former research fellows are currently active in the fields of neurotransmission and the biology of the inner ear and are leaders in the hearing research community.

Fex was born in Stockholm and received his undergraduate degrees from Uppsala and Stockholm universities and his medical degree from the University of Lund in 1952. From 1952 to 1956, he practiced medicine in Lund with specialties in neurology and electromyography and soon thereafter shifted his focus to basic research. From 1956 to 1962, he studied at the Nobel Institute for Neurophysiology at the Karolinska Institute in Stockholm, where, under the mentorship of Nobel laureate Ragnar Granit, he received his doctorate in neurophysiology. From 1962 to 1964, he was docent professor at the Karolinska Institute.

At the request of Nobel laureate Sir John Eccles, Fex moved to Canberra, Australia, to become a senior research fellow at the John Curtin School of Medical Research. Two years later, he joined NIH as a visiting scientist working with Ichiji Tasaki, chief of NIMH’s Laboratory of Neurobiology at the time. After a brief period in which he served as professor of anatomy and physiology at Indiana University, Fex returned to NIH, where he formed and led a team of international colleagues as chief of the Lab-

oratory of Otolaryngology at NINDS. Later, he joined NIDCD when it was established in 1988.

Fex was knowledgeable in many areas of science and medicine and was an avid reader of history, philosophy and literature in several languages including Swedish, Italian, French and German. While pure research was his passion, he also focused on his fellow man. One of his proudest accomplishments was when, while still in the clinical field, he liberated patients who had been incorrectly diagnosed and institutionalized for mental illnesses they did not have.

Fex retired at 76 but stayed busy by enjoying literature, music, tennis and assisting colleagues with editing scientific papers.

He is survived by his wife of 49 years, Harriet Fex, their three children, and a brother. ☛

NIDA’s Volkow Receives 2006 Star Of Science Award

Dr. Nora Volkow, director of the National Institute on Drug Abuse, received the Star of Science Award from the Children’s Brain Research Foundation (CBRF) on Aug. 30 in Chicago. The award recognizes her outstanding achievements as an international leader in drug addiction research and brain imaging and her research demonstrating that drug addiction is a brain disease that affects behavior.

The Star of Science Award—presented annually by CBRF—honors a scientist whose work in brain and nervous system research helps to enhance the lives of children and their families.

CBRF acknowledged Volkow’s pioneering use of brain imaging to investigate the toxic effects of drugs in the human brain, and how they lead to addiction. The foundation also noted her important contributions to the connections between obesity and the brain, the brain changes that occur as humans age and the treatment of attention deficit hyperactivity disorder. Volkow’s studies have documented changes in the dopamine system affecting the actions of frontal brain regions involved with motivation, drive and pleasure and the decline of brain dopamine function with age.

As NIDA director since 2003, Volkow has made it a priority of the institute to reduce drug abuse and addiction and improve the nation’s prevention and treatment interventions. By determining the genetic and environmental factors that make some individuals—including children and adolescents—more vulnerable to drugs of abuse than others, new strategies can be developed for improved prevention, early detection and treatment models.



NIDA director Dr. Nora Volkow receives the 2006 Star of Science Award from last year’s winner, Dr. Bennett Leventhal.



New 'Captain' Anchors NIGMS Division

Once the captain of her college swim team, Dr. Catherine Lewis now takes the helm of the NIGMS Division of Cell Biology and Biophysics.

As CBB director, Lewis oversees more than 1,800 basic

research and training grants totaling about \$630 million. The research ranges from characterizing molecules and cellular components to understanding the mechanisms of cellular processes. One of four NIGMS scientific divisions, CBB also supports the development of new research tools and methods and houses the Protein Structure Initiative, a 10-year effort to speed the protein structure determination process.

"Cathy Lewis is both a skillful administrator and a forward-thinker who has a broad knowledge about the field and a keen sense of how it needs to advance," said NIGMS director Dr. Jeremy Berg. "Under her leadership, the division will help chart exciting new courses for the nation's cell biology and biophysics research."

Lewis, whose list of honors includes two NIH Director's Awards, has served as acting director of CBB since January, when former director Dr. James Cassatt retired.

She started her NIH career as a staff fellow at NIDDK in 1983 after earning a Ph.D. in biochemistry from Princeton University. She joined NIGMS 6 years later, initially serving as a program director in its Division of Genetics and Developmental Biology for grants related to chromosome structure and mechanics. She also was a project officer for the NIGMS Human Genetic Cell Repository, which contains nearly 10,000 well-characterized human cell lines. Lewis later took on additional responsibilities in CBB and became chief of the division's Biophysics Branch in 1997.

"The biophysical tools developed over the last 10 years have allowed us to make major discoveries about basic life processes," said Lewis. "I see a lot of opportunities to continue this new generation of discovery at the subcellular level."

Some of this progress will likely stem from the NIH Roadmap for Medical Research initiative that Lewis leads to develop high-resolution imaging probes to capture the actions of individual molecules in living cells.

Other new CBB activities include establishment

of a repository that will make materials generated by the PSI available to the scientific community and the formation of research centers that will study the three-dimensional details of how HIV proteins and host cellular proteins interact.

Aside from "experimenting" with different plants in her garden, many activities outside the sciences occupy the new division director's free time. With a college minor in art history, Lewis said she enjoys viewing the latest exhibits at art galleries both here and wherever her family travels. While she no longer swims competitively, she still dives into the open lap lanes at the community pool every summer.—Emily Carlson



NIH'ers Race in 'Dragon Boat' Championships

The Washington, D.C. Dragons attended the U.S. National Dragon Boat Championship Races in Tampa, Fla., recently. The team placed second in both the 250-meter and 500-meter sprints to earn the overall silver medal for mixed club crew. The crew included NIH Paddling Club members Ana Arostegui (row 1, 1st from l), Phan Winter (row 2, 3rd from l), Bill Freed (row 4, 7th from l), Jane Daye (row 5, 1st from l), Steve Schmidt (5th row, 2nd from l) and David Winter (row 5, 3rd from l). The championship is held once every 2 years. Paddling teams from across the United States race traditional Chinese boats in sprints over a 3-day period. In the photo above, the D.C. Dragons (in the foreground) finish in second place in the 500-meter final. For more information on the NIH Paddling Club, contact David Winter at dwinter@niaid.nih.gov.

