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The Second Best Thing About Payday

nih record

ABOVE • *Have you seen this architectural detail on campus? Enter contest on p. 12.*

features

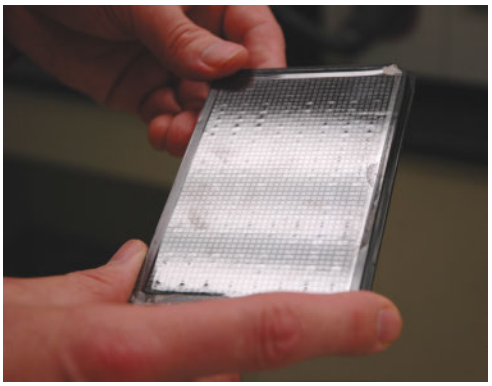
departments

Molecular Libraries: Creating a Unique Research Tool

Roadmap 'Pathways' Boldly Go Where No Others Have

By Carla Garnett

What if you glanced around at your workload and figured that—even if you toiled away at a superhuman pace—you'd still need 10,000 years to get the job done? Essentially that's what's facing Dr. Christopher Austin and his colleagues at the NIH Chemical Genomics Center (NCGC). And rather than shrink from seemingly insurmountable odds, Austin and dozens of scientists like him are rallying around their gargantuan objective: To learn what happens to all the proteins in the human body when they are exposed—individually—to all the known chemicals in the universe.



One of hundreds of 1,536-well microtiter plates that NCGC uses for all of its screening

For record-keeping purposes, that's testing each of about 500,000 proteins against each so-called small molecule; the number of known small molecules is like, 10 megazillion or something (expressed actually as 10 to the 50th power). If you're trying to do the math, it's probably easier to just keep adding zeroes. Austin, however, will tell you that it's exactly

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Kids Rule

Studies Show Children Are Prime Force In Language Change

By Belle Waring

We know that when tots start talking, they learn fast—words tumble out of the mouths of our babes. Yet because we live in language the way fish live in water, we may take its acquisition for granted. There's more to it than naming things—grammar, too, must be learned. Rules of structure deploy words in action the way a fish's backbone gives it swimming power. Yet since language is a living, breathing thing, rules can change.

Who drives the changes? Teachers? Lawyers? Stand-up comedians?

Try kids.

Dr. Elissa Newport of the University of Rochester recently traveled to NIH to discuss her studies of young, emerging sign languages around the world and of children learning languages in a laboratory setting, showing that children are a prime force in developing and

SEE **KIDS RULE,** PAGE 4

A Year After Katrina, Grantee Looks Forward to Normalcy

By Bill Grigg

Nearly a year ago, immunologist Dr. Seth Pincus fled Children's Hospital in New Orleans in the wake, literally, of Hurricane Katrina.

He had stayed with patients in the uptown hospital throughout the August 2005 hurricane. In the chaos—and loss of power and other services that followed—he helped get patients moved to safe facilities elsewhere. As the hospital's research director, he agonized over giving pentobarbital to laboratory rats and mice (so they would not die of dehydration and starvation), as well as leaving behind hundreds of fragile blood and tissue samples. He used liquid nitrogen to freeze what he could, then left and set up temporary base in Baton Rouge.

Returning to Children's as soon as possible to see what could be retrieved, he found the cardboard sample holders thick with mold—so much that 3 weeks of steady work were

SEE **KATRINA,** PAGE 8

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briefs

Upcoming AIDS Symposium

The 24th annual Symposium on Nonhuman Primate Models for AIDS will be held Oct. 4-7 in Atlanta. The meeting will focus on the latest AIDS-related findings in primate virology, immunology, pathogenesis, vaccines, therapeutics and genetics. Nonhuman primates are the most widely used models for AIDS vaccines because the disease progresses rapidly—in months rather than the decade typically seen in HIV-infected humans—making it effective to quickly and safely test candidate vaccines.

Featured speakers include Robin Weiss, professor of viral oncology at the University College London, and Jonathan Marks, professor of anthropology at the University of North Carolina at Charlotte. Weiss directs the study of retroviruses—including HIV, human retrovirus 5 and Kaposi's sarcoma-associated herpesvirus—at the Wohl Virion Centre. Marks is the author of *What It Means to Be 98% Chimpanzee: Apes, People, and Their Genes*.

The meeting will be hosted by the Yerkes National Primate Research Center at Emory University and is partially funded by the National Center for Research Resources and the National Institute of Allergy and Infectious Diseases.

For more information, visit www.yerkes.emory.edu/NHPM2006. The Yerkes NPRC is one of eight National Primate Research Centers supported by NCRR.

NIH Institute Relay, Sept. 21

The 23rd NIH Institute Challenge Relay will be held on Thursday, Sept. 21 in front of Bldg. 1, beginning at 11:30 a.m. The Recreation and Welfare Association, members of the original NIH Health's Angels running club and the Division of Employee Services, ORS, invite teams to participate. The relay consists of teams of five runners, each whom runs a half-mile loop around Bldg. 1. All institutes, centers, divisions and contractors are invited to enter as many teams as they wish. Each team must have men and women runners with at least two runners of the same sex. The fastest team will have their names engraved on the Allen Lewis NIH Memorial Trophy located at the Bldg. 31 Fitness Center. There is a $10 entry fee per team. Email Randy Schools (schoolsr@ors.od.nih.gov) with team name and participants. Volunteers are also needed; call Julie Harris at (301) 496-6061 or email harriju@ors.od.nih.gov if you would like to help out.

Wilson Returns to 'Treetops'

Luke Wilson, great-grandson of NIH benefactors Luke and Helen Woodward Wilson, recently visited NIH for a tour of the refurbished Bldg. 15K. In 1935, the Wilsons began donating the first of 92 acres of Bethesda land—part of their estate called "Treetops"—to what was then the National Institute of Health. A converted farmhouse that now houses research conducted by the National Institute of Mental Health, Bldg. 15K was completely overhauled in spring 2001 for use by several NIMH offices and clinical studies. At one of the six original fireplaces preserved during restoration, Wilson stands with friend Katy Adikes, a post-baccalaureate IRTA fellow with the Clinical Center's clinical bioethics department. Wilson said he had not been in the house since he was a small child and was curious about what had become of his family's former home.

Password Help Available

It's 4:12 a.m. and you can't sleep. You have this great idea and need to send an email to a few colleagues before work begins. Sadly you've forgotten one important thing—your NIH password.

What can you do? Take a few minutes and register now at iForgotMyPW.nih.gov. That will solve your problem, even at 4:12 a.m.

To register, go to http://iForgotMyPW.nih.gov and validate your NIH account. You will be asked to provide five unique answers to five questions. When you need to reset your password, you must first correctly provide three of those registered answers. If you have not registered and don't know your password, you must contact the NIH Help Desk for assistance.

To reset or unlock your account once you have registered, go to the site above, validate your account and select the function you need from the menu.

For more information call the Help Desk at (301) 496-4357.

Dr. Joan Reede discusses diversity, mentoring and developing scientists' careers.

Harvard's Reede Delivers Diggs Lecture

By Carla Garnett

Only by creative collaboration can the medical research community increase the number of underrepresented minorities in its ranks, said keynote speaker Dr. Joan Reede of Harvard Medical School at the 11th annual John W. Diggs Lecture and Scientific Poster Session held on July 28. The poster session was added this year to highlight contributions made to research by underrepresented minority scientists.

How do we create an inclusive and diverse environment? Reede said many organizations are asking the same question. Her institution, where she is dean for diversity and community partnership, and director of the minority faculty development program, has responded by "creating and sustaining bridges" through partnerships, consistency, communication and commitment.

"Careers are not linear," she said, explaining that most job paths—particularly those of scientists—do not progress from one point to another without a few side trips along the way. "Everybody's struggling with diversity. Institutions alone cannot solve this problem. We have to acknowledge that we are all in this together."

Reede briefly outlined the main concern, which is well known to recruiters of potential career scientists: supply and demand—not enough people in the pipeline. It's a problem that needs further study, Reede said, from several new angles. In the meantime, however, Harvard has had success in growing its scientific workforce diversity by instituting a number of bold approaches, including the Biomedical Science Careers Program (BSCP).

One of 16 programs Reede has helped develop at Harvard to address pipeline issues, BSCP identifies and provides mentoring for underrepresented minority students, trainees and professionals who are pursuing biomedical careers. The program was founded in collaboration with the Massachusetts Medical Society and the New England Board of Higher Education.

Reede emphasized, however, that Harvard did not rely on any one way to tackle the problem. "It's not just because of programs in my office," she noted. "It's because of a commitment by many institutions."

She said health—and health research—communities have to consider several issues: the role of diversity in health outcomes, and in education and training, and how and when students decide to enter and remain in a science career trajectory.

NIH deputy director for intramural research Dr. Michael Gottesman, who earlier in the program received the first Leadership in Scientific Diversity Award from the NIH Black Scientists Association, shared several lessons he said he's learned over the years about recruitment and retention of scientists:

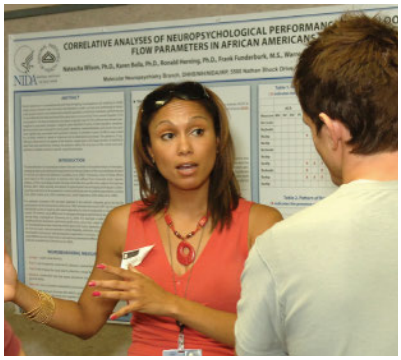
First, "there can be no interest in science unless people have the opportunity to work in a lab or clinic" setting, he said.

Next, "it's not sufficient just to bring people here. They have to be mentored."

And finally, "NIH has significantly revamped our search process" to broaden the way it looks for potential researchers, he concluded. "NIH is committed to diversity in our science and medical programs, and we're committed to doing a better job" of recruiting and retaining the best scientists.

Also recognized during the lecture was senior investigator Dr. Roland Owens, chief of the molecular biology section in NIDDK's Laboratory of Molecular and Cellular Biology, who received the Philip J. Browning Scientific Pioneer Award.

Diggs, former NIH deputy director for extramural research, died at age 59 in 1995. He was widely known as a mentor to scientists young and old and an active promoter of numerous research careers at NIH and beyond. Dr. Vivian Pinn, NIH associate director for research on women's health, spoke warmly of Diggs' friendship, painting a vivid picture of him at the lecture named in his honor. "Those of us who knew him miss him tremendously," she said. "May his flame of decency never be extinguished."



***Above, l**: Dr. Natascha Wilson, a postdoctoral fellow in NIDA's Molecular Neuropsychiatry Branch, is among more than 70 presenters discussing posters after the lecture.*

***Above, r**: Donald Glass, an M.D./Ph.D. student at Baylor College of Medicine, explains his research.*

***Below**: Dr. Roland Owens of NIDDK receives the Philip J. Browning Scientific Pioneer Award from NIDA's Dr. Michelle Evans.*

***Bottom**: NIH deputy director for intramural research Dr. Michael Gottesman (l) receives the first Leadership in Scientific Diversity Award from former NIH Black Scientists Association president Dr. Chad Womack, now of Howard University.*

PHOTOS: ERNIE BRANSON

KIDS RULE

CONTINUED FROM PAGE 1

Right:
Dr. Elissa Newport explained how children are a prime force in developing and expanding languages as they are in the process of being formed.

expanding languages as they are in the process of being formed.

The concluding 2006 Behavioral and Social Science Research Lecture, sponsored by OBSSR, Newport's talk was titled, "How Children Shape Language: Language Acquisition and the Emergence of Signed and Spoken Language."

Newport noted that since deaf children are not usually born to deaf parents, they acquire their primary languages from a variety of sources. Some of the best evidence about language learning therefore comes from observing how natural sign languages are acquired.

"Like any other languages of the world," she said, "sign languages evolve naturally, spontaneously, on the same timetable, with the same complexity in deaf communities."

Citing the work of two of her students, Ann Senghas and Marie Coppola, on the history of a Nicaraguan signing community, she reported: "After the 1980 Sandanista revolution, an educational system for the deaf was founded in Nicaragua and brought together children who formerly had probably used homesign systems (communication systems used just within their individual families). Once there was a community of signers, they developed a kind of sign in common that was grammatically very limited." Over time, to this cohort was added a second cohort of children who learned sign from the first cohort.

Video clips comparing the two showed how the second cohort signed with increased speed and grammatical complexity. "Effectively," she noted, "these children had become native speakers and made changes in the grammar to be both more complex and more regular." Just as in spoken language, there was an ongoing process of expansion. The younger the age at which they learned, the faster they signed; also, the later in this historical process they were exposed, the more complicated their signing was. Just as in hearing children, in deaf children there is a critical period for acquiring language; they also acquire languages better than adults, and can even surpass the people they learn from.

"Children go beyond their input," said Newport. Hearing or deaf, they do this within a sensitive/critical period. "If we look at the age when a learner is exposed to something and then look at ultimate competence, the age at which they do best is when there's a special sensitivity for learning," she reported. For sign languages as well as spoken languages, this period is early in life.

Studies that looked at American Sign Language (ASL) and at the acquisition of English as a second language both bore this out: All children did better than adults. "Some adults," Newport noted, "are talented at learning languages late in life, but we have no idea what predicts or underlies that. All children are talented at language learning."

Tested in various ways, language-acquisition outcomes confirmed: the later you are exposed, the less well you do.

What if you're exposed to ASL at the right time, but the input is not that great, and your parents are very ungrammatical and inconsistent? These children still do much better than parents.

"Is it magic?" she asked. "No: when you give children inconsistent input, they are especially likely to regularize," she said.

Her experiments in the lab using made-up languages showed that if you give adults inconsistent input, they don't get better; they don't make rules. As for 6- and 7-year-olds in experiments with adult controls, "Virtually every child," she said, "makes regular rules even with inconsistent input."

Children turn made-up languages into something more like natural languages, she noted: "They will not learn a made-up language and leave it be.

"Some force leads us to structure," she concluded. "If we have no access to auditory input, we develop language in other modalities

with some grammatical properties." Whether hearing or deaf, she said, there is some interesting timing in the brain creating the same grammatical properties.

The gift of language is unique to humans and part of it is in our biology, she noted.

"Children are remarkable language learners," she stressed. "Perhaps most remarkable, they don't always learn what they are exposed to. Children are prime forces in introducing structure and in changing language. There is something about when language is sifted through a child's brain that makes it richer, more complex and more consistent."

Asked whether children also make up new words (neologisms) in addition to creating structure, she noted: "Teens and adults may be ones who make individual new words and new constructions. But kids actually make languages what they are."

Kids, she said, make the rules.

Commissioned Corps Holds Promotion Ceremony

On July 11, 39 Public Health Service Commissioned Corps officers who work at NIH were honored at the fourth annual PHS Commissioned Officer Promotion Ceremony, held in Masur Auditorium.

NIH director Dr. Elias Zerhouni and Surgeon General Richard Carmona gave keynote remarks and officiated along with Rear Admiral Kenneth Moritsugu, family members and coworkers in the placement of promotion boards for each officer. Rear Admiral Richard Wyatt read personal statements describing rewarding aspects of the officers' professions, and Lcdr. Brent Bonfiglio read the "call to orders" for each rank.

Wyatt gave Zerhouni a Hurricane Katrina Operations coin in "recognition of his support for NIH Commissioned Corps officers who deployed for relief efforts in Hurricanes Katrina, Rita and Wilma." He acknowledged "the increased number of officers being promoted this year," and noted the future challenge of calling more officers to active duty annually to meet or even exceed the number of retiring officers.

Zerhouni noted how important the corps is, especially in response to Hurricane Katrina and how "during transformation of the Commissioned Corps, each agency's mission should be enhanced as a result of that transformation."

Carmona welcomed the opportunity to attend the ceremony to honor the career advancement of the promoted officers and said they "inspire him every day." He awarded Zerhouni the Surgeon General's Medallion for his support of the corps.

Officers honored were:

Nurse Officers: Capt. Reginald Claypool, Capt. Edwina Smith, Cdr. Lisa Barnhart, Cdr. Michelle Braun, Cdr. Chad Koratich, Cdr. Moira McGuire, Lcdr. Robyn Bent, Lcdr. Wanda Chestnut, Lcdr. Martin Hamilton, Lcdr. Michael Krumlauf, Lcdr. Laura Longstaff, Lcdr. Venetta Thompson.

Medical Officers: Capt. Judith Bader, Capt. Carlo Contoreggi, Capt. Thomas Eggerman, Capt. Sharon Jackson, Capt. Jeffrey Kopp, Capt. Mark Miller, Capt. David Ng, Capt. Calman Prussin, Capt. Pamela Stratton, Capt. John Tisdale, Cdr. Mark Roth, Cdr. Jaye Viner.

Dental Officers: Capt. Michael Arnold, Lcdr. Sheetal Patel.

Health Services Officers: Cdr. Elizabeth Scott, Lcdr. Janet Cliatt, Lcdr. Chauha Pham.

Veterinary Officers: Capt. Brent Morse, Capt. Kathy Perdue-Greenfield, Capt. Joseph Schech.

Pharmacy Officers: Capt. Christine Chamberlain, Capt. William Figg, Capt. Stacey Henning, Cdr. Richard Decederfelt.

Scientist Officers: Capt. Francois Lalonde, Capt. Richard Troiano, Lcdr. John Stansberry.

NIH director Dr. Elias Zerhouni (l) accepts the Surgeon General's Medallion from Surgeon General Richard Carmona. Below are the 39 officers promoted at the July 11 ceremony.

MOLECULAR LIBRARIES

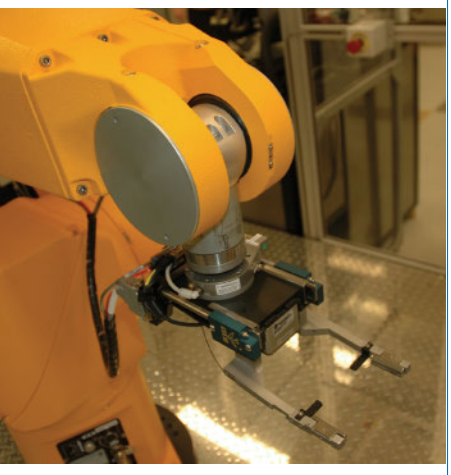
CONTINUED FROM PAGE 1

Top, l:
The room-size Kalypsys screening system used by NCGC features industrial refrigeration and storage units.

Top, r:
Drs. Chris Austin (r) and Jim Inglese pose inside the system, with a Staubli "anthropomorphic" robot arm that does the work of screening.

Below:
A close-up of the robot arm's gripper, which picks up and moves the 1,536-well plates from one station to the other within the screening system. A barcode reader on the gripper identifies the plate it's handling.

PHOTOS: CARLA GARNETT



projects like his that the NIH Roadmap (which gave birth to NCGC) was devised to do—provide resources for researchers "to boldly go where no one has gone before."

"NCGC is an icebreaker of sorts," director Austin explains. "We knew going in that it was pretty audacious, that NIH had not traditionally been in this area."

Essentially, the chemical genomics center is using small molecules to understand the human genome, biology and cell function. The ultimate goal is to provide research tools that any institution—academic organizations, non-profits and pharmaceutical companies—can use to develop medicines and other therapies for disease. Already the project has made tremendous strides.

"The Molecular Libraries and Imaging initiative has accomplished its anticipated mission to bring the power of small-molecule high-throughput screening (HTS) into the larger biomedical research community," says Dr. Linda Brady, director of NIMH's Division of Neuroscience and Basic Behavioral Science, and—along with Austin—a principal designer of the Molecular Libraries Screening Centers Network. The network falls under New Pathways to Discovery, one of the Roadmap's three core areas.

"[MLI] has empowered the research community to use small-molecule compounds in their research," Brady explains, "whether as tools to modulate genes and pathways, as imaging probes in basic or clinical applications, or as starting points for the development of new therapeutics for human disease. It is anticipated that these screening projects will facilitate the development of new tools and new drugs by providing early-stage chemical compounds that will enable researchers in the public and private sectors to validate new drug targets, which could then move into the drug-development pipeline. This is particularly true for rare diseases, which may not be attractive for development by the private sector."

Brady says one roadblock before the initiative was limited access by the public sector to small-molecule tools. "Small molecules have proven to be extremely important to researchers in exploring function at the molecular, cellular and *in vivo* level," she points out. "Such molecules have also been proven to be valuable for treating diseases; most medicines marketed today are from this class. A key challenge is to identify small molecules effective at modulating a given biological process or disease state. Currently, researchers must systematically screen [via HTS] tens or hundreds of thousands of small molecules to find a successful match between a chemical and its target. The capacity for HTS has been built within the pharmaceutical and biotechnology sectors for the purposes of drug development over the last 10 years, but similar resources did not exist in the public sector."

Enter NCGC. One of 10 high-throughput centers in the network—and the only NIH intramural facility—NCGC "doesn't exist anywhere else in the world on this scale," notes Austin. In the last 12 months, the center has run through 30 assays, generated more than 10 million results and entered the data into PubChem (the new database of small molecule structures and activities created at NLM as another part of the Molecular Libraries Initiative). NCGC collaborates with scientists at labs inside and outside NIH who bring assays to the center for screening and probe development.

"We are very interested in hearing from researchers who would like to work with us," says Austin, "and I encourage them to contact me if they have a project they feel would benefit from a chemical biology approach."

Research Associate Adam Yasgar works on a multimodal imager used for reading a wide variety of protein and cellular assay formats.

What distinguishes NCGC from outside centers is the risk-taking capability. Big pharmaceutical companies have similar set-ups, but their testing agendas are also narrowly tailored to hunt for potentially profitable drugs. It's NIH's ability to pursue and document basic knowledge about protein-chemical interactions that makes NCGC—and the network—so valuable. That's also what energizes the researchers working on it.

"When we started the network," Austin explains, "we knew that it would require all the NIH mechanisms working together to succeed. This is a highly unusual initiative in that it has had intramural and extramural components from the beginning, taking advantage of the strengths of each. NCGC and the extramural centers complement each other."

Administratively located within NHGRI, he continues, "our interests are more general than the other centers. Our mission is certainly to produce chemical probes of genes, pathways and cell functions relevant to health and disease. But the long-term vision is to put these individual results together to annotate the genome using small molecules and establish general principles by which small molecules interact with their targets. To do this at the current pace with current technologies would take 10,000 years—a lot longer than any of us want to wait.

"This is similar to the situation at the start of the Human Genome Project, when technologies available were not sufficient to meet the ambitious goals of the project when it started. So we are very focused on developing new paradigms to make the entire process of probe discovery more efficient. The first of these, which we call 'quantitative high-throughput screening,' is described in a paper published in *PNAS* (see sidebar). [However], the reason the Molecular Libraries Initiative as a whole, and the screening centers network, have worked is because they've been highly collaborative and cooperative." Expertise from 21 NIH institutes contributed to development of NCGC.

The infrastructure necessary to conduct the work is "highly automated, roboticized and, I'm afraid, expensive," Austin points out. Since June 2004, when NCGC began, he has gone from having 1 staffer, no projects and no lab to 27 staff members, 56 projects and (by October, if construction promises are kept) 15,000 square feet of lab space. Of the more than two dozen scientists working at NCGC, all but three were recruited from pharmaceutical or biotech firms, where these technologies were developed and are in routine use.

Housed in a huge multi-building complex adjacent to Shady Grove Hospital in Rockville, NCGC boasts top-of-the-line robots and computer equipment able to sample and assess more than a thousand compounds in a single maneuver.

Imagine a human lab tech individually pipetting tiny amounts ("a millionth of a milliliter!" Austin clarifies) of hundreds of thousands of small molecules into multiwell trays with meticulous precision. The project would literally take forever.

In NCGC's basement, a room-size triple-armed robot goes to work, complete with several sample-storing fridges, automated incubators and computers to control its movements. It goes through hundreds of thousands of small-molecule compounds in a matter of hours. Still, with all available equipment humming along efficiently, Austin estimates the center can complete only about 50 assays tested against the 100,000 small molecules in the compound collection per year. That's why the Roadmap also funds nine centers outside NIH—every facility that can perform a different aspect of the work allows scientists to chip away at that 10,000-year mark.

"It's like doing a jigsaw puzzle with 500,000 pieces—and most of the pieces don't have any pattern or picture on them to give you a clue about what goes with what," Austin said, pointing out NCGC features during a recent tour. He and his deputy, Dr. James Inglese, both left similar projects at private biotech/big pharma companies. Their enthusiasm for this work is palpable. Sure, putting together something of this magnitude is a monumental undertaking. But the Roadmap provides unique benefits—time, resources and freedom to explore.

Roadmap's MLI Initiative Marks Milestones

Some accomplishments of the Molecular Libraries and Imaging initiative since the Roadmap was announced in 2002 include:

- Established large-scale molecular libraries, screening and informatics infrastructures for public sector. The components were integrated and became operational at the end of 2005.
- Offered public-sector medical researchers access to automated screening technology, diverse compound libraries and information on biological activities of small molecules. To date, 74 assays received from the research community are being implemented by the 10 screening centers; 65,842 compounds with unique structures have been distributed to the screening centers for testing.
- Made biomolecular screening data and assay protocols available to the public. As of August 2006, 962,380 substances have been tested in 49 biological and biochemical assays by MLSCN centers; 3,936 bioactive compounds have been identified; screening data together with assay protocols have been deposited into PubChem.
- Developed novel chemical probe as a research tool. Bioactive compounds identified through screening are being evaluated by the centers; some of these have since been developed into chemical probes.
- Identified bioactive compounds for drug discovery projects for rare disease. NCGC has completed a screening assay for a drug target for Gaucher disease. 48,125 compounds were tested and three distinct chemical series were found to have inhibitory activity. The project has high potential to produce a drug candidate for treatment of this rare disease.
- NCGC announced July 24 the development of a new paradigm for profiling every compound in chemical libraries. Traditional high-throughput screening measures the biological activity of chemical compounds at just one concentration. The new approach, however, called quantitative high-throughput screening, or qHTS, tests the biological activity of chemical compounds at seven or more concentration levels spanning four orders of magnitude. The multi-concentration screen produces a pharmacological characterization of all the compounds that is far more complete and reliable than traditional methods. A paper published online in the *Proceedings of the National Academy of Sciences* describes the new method.

KATRINA

CONTINUED FROM PAGE 1

required to get rid of it. But a lot of the samples he had frozen with liquid nitrogen were still fine.

When CSR Scientific Review Administrator Mary Clare Walker called to tell him that, if he was too burdened, he shouldn't feel he needed to carry out his commitment to chair a November meeting of the HIV/AIDS vaccine study section, he says he nearly cried. "Please," he said to her, "I want to do it. It's the only semblance of normality I have left!"

He did chair the November meeting. And the March and July ones. He also did a full load of reviews of re-submissions. CSR director Dr. Toni Scarpa praised his dedication: "As a chair with review experience that spans a decade, Dr. Pincus understands the delicate and vital dynamics of peer review in his study section," he said. "Grant applicants benefit from this kind of continuity and we are very grateful he served despite the overwhelming situation. It is heartening to note that Dr. Pincus is one of many NIH heroes who give so much to ensure the vitality of NIH peer reviews."

Pincus also managed, in his spare time, to help NIH understand the unique needs of its researchers in New Orleans. He estimated that Children's suffered $50 million in losses, but added that it was "pretty lucky to be on high ground, whereas Tulane and LSU were in the flood zone. We gave space to 80 investigators. We gave them a place to come in and start to get back to work."

About 280 principal investigators in New Orleans had support from NIH grants when Katrina struck. "Some of the best have taken their work and their grants elsewhere," Pincus said. "Drug company-financed clinical trials were often so disrupted that they have been abandoned."

Right:
Katrina-survivor and NIH grantee Dr. Seth Pincus says he learned the hard way about protecting research samples, animals and subjects from disaster.

Initially, NIH helped out by extending the deadlines for research applications for those hit by Katrina, and by offering aid from some of the institutes. NIH also used administrative supplements to help out, on a case-by-case basis.

In July, after receiving assessments of what research remained or was being revived, NIH offered a simplified method by which its grantees still working in New Orleans could obtain 1-year extensions of their grants, with the possibility of an additional $50,000 supplement to cover unexpected storm-related costs.

With that aid, Pincus said, he's looking forward to forgetting about Katrina and carrying out "a normal program of research" once again.

Forgetting Katrina? Well, not quite. Pincus learned the hard way about protecting research samples, animals and subjects from disaster, and he's gotten fairly evangelical about it. He has devised a number of disaster preparation suggestions that were published in *The Scientist* last December. To them he would add an opportunistic footnote. Remember all that mold he was fighting? Now he and other researchers in New Orleans are planning a long-range study of the impact of mold on human health. He is telling potential funding groups that New Orleans—where the Centers for Disease Control and Prevention reported that 46 percent of the homes inspected showed mold growth—presents a major opportunity for such a study.

milestones

Kelty Retires After 20 Years as NIA Director of Extramural Affairs

By Linda Joy

After growing up in New York City, Miriam Friedman Kelty moved to tiny Yellow Springs, Ohio, to attend Antioch College. Her earliest academic interests were music and art, yet from the periphery, psychology and biology caught her attention. She finished her education criss-crossing the Atlantic to the University of Paris and back to Rutgers University for a doctoral degree in psychology and psychobiology.

It was with this eclectic blend of education, experience and travel that Kelty came to Bethesda in 1968. She became a research psychologist at the National Institute of Mental Health and now, nearly 38 years later, she is bidding farewell to her government career but not to her favorite NIH activities and friends.

For the past 20 years, Kelty has been director of extramural affairs at the National Institute on Aging, where colleagues admire and will miss her. "Her contributions have been immeasurable," says NIA director Dr. Richard Hodes, who paid tribute to her at a recent meeting of NIA's advisory council.

Reflecting on her NIH career, she says, "NIH is a wonderful workplace. As an intramural investigator, I had the freedom to pursue my own ideas and draw on extraordinary resources to support my work. In the extramural environment, I was exposed to a very broad range of science and colleagues who were both scientists and teachers of other scientists. NIH provides an opportunity to appreciate what is going on nationally and internationally in developing and mature areas of science."

Early in her career, Kelty conducted research on brain and behavior interactions, specifically on hormones and reproductive behavior in birds and research on sleep in animals and humans. She was also involved in developing standards for the provision of mental health services in the late 1960s at NIMH. She was elected a fellow of the American Association for the Advancement of Science in 1986 and a fellow of the American Psychological Association in 1976.

In the 1970s, Kelty worked for the congressionally mandated National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. She contributed to reports on research with fetuses, children, prisoners, people who have questionable capacity to consent and other vulnerable populations. The best known among the many products of the commission is the 1979 Belmont report on ethical principles for research with humans. Later at NIH, she drew on her expertise in bioethics to develop the bioethics interest group and bioethics resources web sites.

At her retirement party, Dr. Miriam Kelty (l) accepts a certificate of recognition from NIA deputy director Dr. Judith Salerno.

In 1978, Kelty returned to NIH to work as a scientific review administrator at what is now the Center for Scientific Review. She was responsible for initial administrative and scientific review of research in child and adult development and aging. She led the creation of a separate study section for aging research as chief of the 20 behavioral, neuroscience and epidemiology study sections.

"My biggest contributions during my NIH career were at the interface of science and administration," she reflects. "As an SRA and division director in what is now CSR, I oversaw review of the rapidly growing field of neuroscience and developed new study sections to handle the expansion of the emerging field. I ventured into new territory when I became involved in electronic research administration."

In 1986, she moved into the position she would hold for the next 20 years, director of extramural research for NIA. She helped shape operations and the research agenda of the then-young institute, focusing on basic aging processes, age-related diseases and special problems and needs of older persons.

Chances are that if you know Kelty, she has had a positive effect on your career. She has mentored many young scientists from as early as elementary school through post-graduate stages and beyond.

"I have a long history of mentoring," she says. "As a psychologist, I have a commitment to human potential. Both the individual and the field benefit when people are able to achieve what they want."

Kelty has participated in networks for grants associates, extramural associates and the extramural staff training program as a speaker and mentor. "We talk a lot about how to develop your career at NIH," she says.

Old friends will still see her on campus in occasional consulting jobs, but she intends to enjoy traveling with her husband, Edward, and rediscovering an old passion—art, pottery and sculpture in particular.

training

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.

SPSS: Basics	9/6-7
NIH Portal for Users Hands-On	9/6
NIH Network Design	9/6
Statistical Analysis of Microarray Data	9/6-7
Podcasting at NIH	9/7
Ingenuity Pathways Analysis, version 4.0	9/8
Working from Home - Understand the Technologies	9/8
Meet Your PC – What's Inside the Box	9/11
AFNI Bootcamp	9/11-15
NIH IT Enterprise Architecture 101	9/13
Introduction to Descriptive & Inferential Statistics	9/13-14
Effective Management of Telecommunications Requests	9/14
Breeze 5	9/14
ScienceSlides - How To Improve Your Scientific Presentation	9/18
Labmatrix Advanced Query Builder	9/18

NIH Training Center Classes

The Training Center supports the development of NIH human resources through consultation and provides training, career development programs and other services designed to enhance organizational performance. For more information call (301) 496-6211 or visit http://LearningSource.od.nih.gov.

Travel for Admin. Officers/Approving Officials	9/5
Review, Update on EEO Policies	9/11
Writing Statements of Work	9/12-14
Basic Time and Attendance Using ITAS	9/12-13
Writing & Managing Executive Correspondence	9/20-21
NIH Foreign Travel (NBS) Travel System	9/25-26
Purchase Card Training	9/25
Delegated Acquisition Training Program	9/26

Bldg. 36 has slowly been munched into a pile of rubble during a demolition process that has lasted months. The building's removal makes way for phase 2 of the Porter Neuroscience Research Center, the first portion of which is already hosting research conducted by the National Institute of Neurological Disorders and Stroke in Bldg. 35.

Baker Joins NIAMS

Dr. Carl Baker has joined the National Institute of Arthritis and Musculoskeletal and Skin Diseases as program director of skin biology and diseases. His portfolio in the institute's extramural program includes keratinocytes and skin stem cells, hair follicle development and disorders, wound healing, immunology and immune-mediated disorders of skin, genetic diseases of skin and the development and testing of therapies for skin diseases. Before joining NIAMS, he spent 24 years at the National Cancer Institute, most recently as chief of the cellular regulation and transformation section, Laboratory of Cellular Oncology, Center for Cancer Research.

volunteers

Healthy Children Needed

Healthy child volunteers (ages 8-12) are needed for a brain-imaging study of attention. The study consists of two visits. All procedures are non-invasive; no blood draws will be performed. Compensation is provided for each visit. For more information call Meryl Wagman at (301) 402-3893.

Don't Sleep Enough?

We are in need of men and women ages 22-50 with a body mass index (BMI) of 30-50 who sleep 6 hours or less on average to participate in a new research study at the National Institute of Diabetes and Digestive and Kidney Diseases (refer to study 06-DK-0036). You will receive free medical and sleep evaluations and compensation will be provided. If you want to contribute to the understanding of the relationship between sleep and body weight and have the time to participate in approximately 7 short visits within 1 year, call 1-800-411-1222 or visit clinicaltrials.gov for more information.

Can Chocolate Help Your Health?

The National Center for Complementary and Alternative Medicine seeks volunteers to participate in a 6-week study evaluating the effect of dark chocolate on blood pressure and the blood's glucose and insulin levels. Participants will help researchers learn more about chocolate's impact on hypertension and diabetes. Participants will be asked to take dark chocolate and a placebo (inactive treatment). To participate, you must be: persons with hypertension (high blood pressure) who can be safely taken off anti-hypertensive medications; age 21 to 65; not taking other medications or nutritional supplements for any illnesses besides hypertension or high cholesterol. Compensation and dark chocolate will be provided. For more information, call (301) 496-3244.

Have Unusual Hemoglobin?

Do you have an unusual type of hemoglobin in your red blood cells? Call 1-866-444-2214 (TTY 1-866-411-1010) for details on study 05-DK-0085. Travel assistance may be provided and compensation is available.

Muscular Leg Pain?

If it is caused by blocked arteries and it occurs with activity but improves with rest, call NIH at 1-866-444-2214 (TTY 1-866-411-1010) for more information on a new study.

Follicular Lymphoma Vaccine Study

Your own body may be your best defense. Patients who have not had chemotherapy are asked to call for a lymphoma vaccine study. Phone 1-866-444-2214 (TTY 1-866-411-1010).

Children, Adolescents Needed

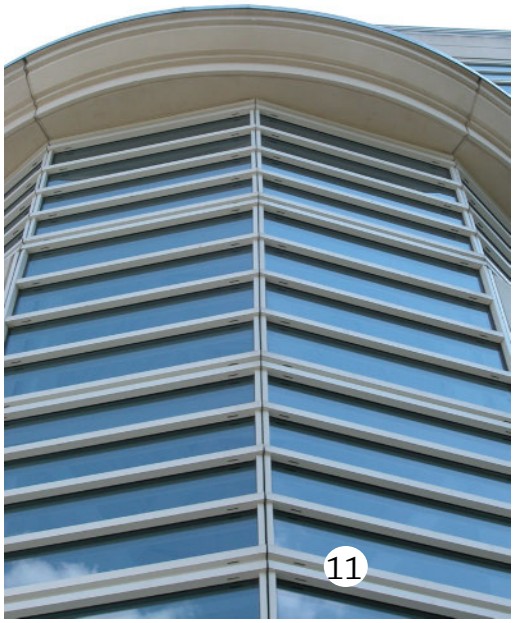
NIH invites healthy children and adolescents who are overweight to participate in a clinical study. Parents, call 1-866-444-2214, or TTY 1-866-411-1010, for information. Participants will be compensated.

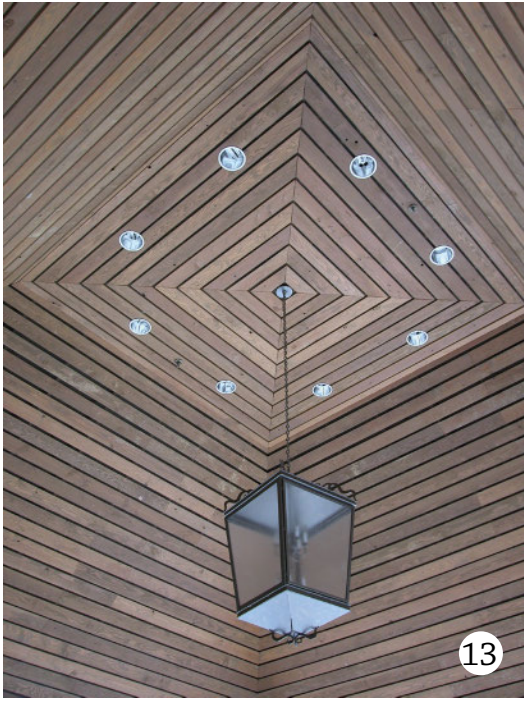
Rheumatoid Arthritis Study

Participate in a study that seeks to gain information on how people with RA evaluate effectiveness of treatments. Compensation is provided. Call 1-866-444-2214 (TTY 1-866-411-1010).

Couple Weds at Children's Inn

On July 17, on a steamy, hot day, Michael McMahan, 25, married Rhonda Gray in the gazebo behind the Children's Inn. McMahan is being treated at NCI after his Ewing's sarcoma relapsed. The McMahans are from Georgia. Michael played guitar while his bride walked up the path to the gazebo with her oldest son, Jordan. Rev. Dr. Ray Fitzgerald, director of the CC spiritual ministry department, performed the ceremony. Michael was first diagnosed in December 2004. After treatment, which included chemotherapy and radiation, his tumors stopped growing in August 2005. He relapsed in June. Michael is currently undergoing chemotherapy and may have a stem cell transplant.





Name That Spot!

Architectural Details and Natural Nooks

Welcome to the second of a two-part contest (see *NIH Record*, Aug. 11, 2006). Tell us where these images are on campus. Email your answers for both parts of the contest to staff writer Belle Waring (waringb@od.nih.gov) by Sept. 1. The entrant with the most correct answers wins an *NIH Record* T-shirt (in the event of a tie, the first correct entry wins). The winner will be announced in the Sept. 22 issue.

PHOTOS: BELLE WARING