

# nih record



**ABOVE** • This 20-foot totem pole is part of the 'Native Voices' exhibition at NLM. See story on p. 9.

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*'Welcome to a Grand Adventure'*

## NCATS Holds First All-Staff Meeting, Others Expected

By Rich McManus

**I**t was with a sense of excitement and relief that NIH director Dr. Francis Collins and the 7-person leadership team of the new National Center for Advancing Translational Sciences assembled Jan. 4 in Masur Auditorium for the new entity's first all-staff meeting.

Many employees of the former National Center for Research Resources, which has been subsumed by NCATS, arrived by bus from off-campus sites for the meeting.



"This is one of the most exciting things that's happened at NIH in a very long time, and you are at the heart of that," said Dr. Thomas Insel, acting director of NCATS and director of NIMH. Acknowledging a period of disruption, uncertainty and "hardship for all of us" that preceded establishment of NCATS, he said

SEE NCATS MEETING, PAGE 6

NIH director Dr. Francis Collins and NCATS acting deputy director Dr. Kathy Hudson

## 'Nudges' Help People Choose Rightly, Says Thaler

By Rich McManus

So there are two kinds of beings in the world: humans, with their messy, faltering, blinkered and occasionally brilliant existences, and "econs," imaginary creatures invented by economists who are unfailingly rational, undistractable, self-interested—but also "unboundedly unscrupulous; they try to exploit humans."

The differences between these two species define the field of behavioral economics, according to one of its founding adherents, Dr. Richard Thaler of the University of Chicago, who visited NIH as a guest of the National Institute on Aging recently.

Whereas humans suffer from bounded ratio-



Dr. Richard Thaler

*'Haircut' Included*

## Reports Offer Details on NIH's FY 2012 Budget

Just before Christmas, the President signed into law the Consolidated Appropriations Act, which set NIH's FY 2012 budget at \$30,631,985,922.

Each year, NIH's Office of Legislative Policy and Analysis breaks down the NIH budget into a readable summary. Here are some details from OLPA's report and from the *Congressional Record*:

- The creation of the National Center for Advancing Translational Sciences (NCATS), with a budget of \$576,456,000.
- Up to \$10 million is provided within NCATS for the Cures Acceleration Network (CAN).
- The Clinical and Translational Science Awards (CTSAs) within NCATS are provided at least \$487,767,000, the same amount as requested in the FY 2012 President's Budget.
- The elimination of NCRR.

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SEE BUDGET, PAGE 4



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NIH...Turning Discovery Into Health



# briefs

**Professor, Author Roberto To Give DDM Seminar**

The Deputy Director for Management (DDM) announces the second DDM seminar of the 2011-2012 series "Management and Science: Partnering for Excellence." The event on Thursday, Feb. 16 from 11 a.m. to 12:30 p.m. in Masur Auditorium, Bldg. 10, will feature Michael Roberto, author of *Know What You Don't Know* and leading authority on how to improve strategic decision-making and avoid hidden catastrophes. He will discuss "Leaders as Problem Finders."

Videocasting and sign language will be provided. Individuals who need reasonable accommodation to attend should call (301) 496-6211 or the Federal Relay Service at 1-800-877-8339. For more information about the series, visit [www.ddmseries.od.nih.gov](http://www.ddmseries.od.nih.gov) or call (301) 496-3271.



**CC Gallery Features Chinese Art**

In time for the Chinese New Year, a dual media exhibit exploring Chinese brushpainting on paper and pottery by Tracie Griffith Tso is now on view at the Clinical Center, through Mar. 2. "Each piece of pottery is a complete painting in itself," said Griffith Tso, of Reston, Va. "You can have your art and eat on it, too." The "Inks to Earth" exhibition on the hospital's first floor consists of wheelthrown and handbuilt pottery pieces juxtaposed against rice paper and ink paintings. Subjects include bamboo, horses, cranes, koi, pandas, siamese cats, rabbits, plum blossoms and a selection of birds and insects. Twenty percent of proceeds of sales of the art will benefit the Patient Emergency Fund.

PHOTO: GUY ZOLLER



**Guillemín Gives Dyer Lecture, Feb. 8**

Dr. Karen Guillemín, associate professor of biology at the University of Oregon, will present the annual WALSH R.E. Dyer lecture at 3 p.m. on Wednesday, Feb. 8. Her talk is "Molecular Dialogues with the Microbiota: Insights from the Zebrafish Intestine."

Guillemín's main research interest is the molecular interactions between animals and microorganisms in their environment. In particular, her laboratory studies *Helicobacter pylori*, a pathogen of the human stomach, to understand the effect of bacterial-host cell interactions on host development and homeostasis. They also use a zebrafish model to examine the benefits to animals of microbial associations.

The R.E. Dyer Lecture features internationally renowned researchers who have contributed substantially to medical as well as biological knowledge of infectious diseases. Established in 1950, the lecture series honors former NIH director Dr. Rolla E. Dyer, a noted authority on infectious diseases.

**NIAID's Miller Wins Walter Reed Medal**



Dr. Louis H. Miller of NIAID has been awarded the 2011 Walter Reed Medal by the American Society of Tropical Medicine and Hygiene (ASTMH) for distinguished accomplishments in the field of tropical medicine. Chief of the malaria cell biology section in the Laboratory of Malaria and Vector Research, Miller is a past president of ASTMH and renowned for his work in malaria research. He has made several important discoveries about the strategies malaria parasites use to infect and survive in humans and mosquitoes. He also has found molecular targets that could aid both in the development of new drugs to treat malaria and of vaccines to prevent severe disease. In addition to his scientific accomplishments, Miller has a record of mentoring trainees, collaborating with African scientists and advocating for new programs in the field of malaria research. The Walter Reed Medal is the most distinguished recognition from ASTMH for accomplishments in the field of tropical medicine. It has been awarded every 3 years since 1936.



NIDA director Dr. Nora Volkow announces results of 2011 Monitoring the Future survey.

## Survey on Teen Drug Use Shows Pot Up, Cigarettes, Alcohol Down

The 2011 Monitoring the Future survey, an annual measure of drug use and attitudes among the nation's 8th, 10th and 12th-graders, shows cigarette and alcohol use in all grades at their lowest point since the survey began polling teens in 1975. Although rates of decline have slowed over recent years, there are continued high rates of abuse of other tobacco products such as hookahs, small cigars and smokeless tobacco. Marijuana use continues at high levels, with more teens abusing marijuana than cigarettes, and prescription drugs continue to be abused at high levels.

NIDA director Dr. Nora Volkow welcomed the positive news about declining trends in cigarette and alcohol use, but said more must be done to decrease usage levels.

Concerns about the use of synthetic marijuana, known as K2 or spice, prompted its inclusion in the survey for the first time in 2011. Surprisingly, 11.4 percent of 12th-graders reported using the synthetic marijuana in the past year.

"K2 and spice are dangerous drugs that can cause serious harm," said Gil Kerlikowske, director of the White House Office of National Drug Control Policy. "We will continue to work with the public health and safety community to respond to this emerging threat. [In] the meantime, parents must take action. Parents are the most powerful force in the lives of young people, and we ask that all of them talk to their teens today about the serious consequences of using marijuana, K2, or spice."

There was mixed news seen in the non-medical use of prescription drugs. For opioid painkillers, Vicodin abuse was similar to or less than previous years, but there were no decreases seen for OxyContin. Abuse of the ADHD medications Adderall and Ritalin also remained about the same as last year among 12th-graders.

To help educate teens about the dangers of prescription drug abuse, NIDA has launched an updated prescription drug section on its teen web site, which includes interactive videos and other tools to help teens make healthy decisions and understand the risks of abusing prescription drugs: <http://teens.drugabuse.gov/peerx>.

## Balbus Represents HHS at Climate Change Summit

NIEHS senior advisor for public health Dr. John Balbus was on hand for the latest U.N. Climate Change Conference held recently in Durban, South Africa, as a representative of the Department of Health and Human Services. While delegates struggled with forging international agreement on how to stem climate change, Balbus and other public health experts worked on ways to better prepare their countries for the anticipated health effects of climate change, now and in the immediate future.

Balbus participated as a panelist in the event "U.S. Federal Actions for a Climate Resilient Nation," which highlighted executive branch and private sector actions on climate change. He also organized and led a panel discussion on "Saving Lives—Advances in Health Adaptation for Climate Change," featuring initiatives in the U.S. and Africa to better anticipate the health impacts of weather events, identify susceptible populations and integrate awareness of climate change across governmental and professional sectors.



Dr. John Balbus

PHOTO: STEVE MCCAIG

Balbus noted the record number of billion-dollar weather-related disasters that occurred in the U.S. during 2011, along with near-record levels of summer dryness and rainfall. While all of the events cannot be directly linked to climate change, he explained that the record level of weather stress reinforces the message that climate change has serious implications for human health. The 12 disasters in 2011 caused some 1,000 deaths in the U.S., as well as numerous injuries. Disaster response and all-hazards risk reduction are just two components of public health that are becoming increasingly of interest in preparing for the effects of climate disruption.

"The climate change and public health community has really started emerging," Balbus said. "It's becoming clear to more and more people that many of the measures we need to undertake actually improve health, with economic benefits that can offset the cost of climate change mitigation."

Balbus pointed to the upsurge in federal climate change and health efforts such as the interagency climate change and human health group co-chaired by NIEHS and workshops convened by the White House on the health implications of climate change adaptation measures in other sectors. A new National Climate Assessment, now under way and due for completion in 2013, as well as climate adaptation planning within HHS, will improve understanding of climate change health impacts across the U.S., he added.

Nine new NIH grants administered by NIEHS are supporting research on vulnerability to health effects of climate change, the effectiveness of interventions and the health implications of climate change adaptation measures.—Eddy Ball

## BUDGET

CONTINUED FROM PAGE 1

- The Common Fund is provided \$545,962,000.
- The elimination of \$300 million Global AIDS Transfer.
- \$193,880,000 is provided for continuation of the National Children's Study.
- An across-the-board "haircut" for NIH and other discretionary programs of 0.189 percent.

In addition to the bill language and general provisions, there is conference language that expresses conferees' wishes, expectations, concerns and directives. Major points within the conference report are the following:

- Intramural/Extramural. "In recent years, extramural research has accounted for nearly 90 percent of NIH's budget. The conferees strongly urge NIH to maintain at least that level in fiscal year 2012. NIH should also establish safeguards to ensure the percentage of funds used to support basic research across NIH is maintained."
- Director's Discretionary Fund. "The conferees request quarterly notification on obligations from the NIH Director's Discretionary Fund to the Committees on Appropriations of the House of Representatives and the Senate."

• NCATS discussion: "While the conferees welcome the creation of NCATS, they were disappointed by the way the administration requested it. The President's proposed budget for fiscal year 2012 included a vague description of NCATS but did not formally request funding for the restructuring or provide any details about which components of NIH would be consolidated into the new Center. The failure to do so caused unnecessary uncertainty about the proposal and contributed to the impression that it was being rushed. The conferees are also aware of concerns that the NIH process for evaluating the merits of the NCATS reorganization did not comply with the NIH Reform Act of 2006 with respect to the role of the Scientific Management Review Board (SMRB).

"Lessons learned with NCATS should guide NIH as it considers another proposed restructuring, one that would involve consolidating NIDA, NIAAA and components of other institutes and centers into a new institute devoted to research on substance use, abuse and addiction. The conferees understand that NIH plans to adopt a more deliberate approach in evaluating the need for this institute.

"The conferees strongly recommend that this approach should include full consideration by the SMRB and that if the administration ultimately decides to seek such a restructuring, it should provide sufficient details in a formal budget request to Congress."

The conferees also "request NCATS to charter an Institute of Medicine work group to review, evaluate and identify issues related to the CAN authority and provide a report for use by the CAN board to help it identify ways to accelerate and expand the number of cures. The report should include a survey and inventory of activities at NIH, FDA, AHRQ, CDC, the Patent and Trademark Office, and in the private sector that relate to the CAN program."

NCATS was also directed to publish an annual report that includes a complete list of the molecules being studied; clinical trial activities being conducted; the methods and tools in development; ongoing partnerships; and "research activity of other entities that is or will expand upon research activity of the Center."

• Buildings & Facilities to receive \$125,581,000 to remain available until Sept. 30, 2016. For alterations and repairs, NIH would be given \$45 million and each project should not exceed \$3.5 million.

• Gun Control. A new general provision, which has been carried in the CDC account, is an HHS-wide prohibition of its funds to be used to advocate or promote gun control. ●

### FY 2012 Budget Table

NCI—\$5,081,788,000, of which up to \$8,000,000 may be used for facilities repairs and improvements at the Frederick Federally Funded Research and Development Center in Frederick, Md.

NHLBI—\$3,084,851,000

NIDCR—\$411,488,000

NIDDK—\$1,800,447,000

NINDS—\$1,629,445,000

NIAID—\$4,499,215,000

NIGMS—\$2,434,637,000, provided that not less than \$276,480,000 is provided for the Institutional Development Awards program.

NICHD—\$1,323,900,000

NEI—\$704,043,000

NIEHS—\$686,869,000

NIA—\$1,105,530,000

NIAMS—\$536,801,000

NIDCD—\$417,061,000

NINR—\$145,043,000

NIAAA—\$460,389,000

NIDA—\$1,055,362,000

NIMH—\$1,483,068,000

NHGRI—\$513,844,000

NIBIB—\$338,998,000

NCCAM—\$128,299,000

NIMHD—\$276,963,000

FIC—\$69,754,000

NLM—\$338,278,000

NCATS—\$576,456,000

OD—\$1,461,880,000 ("Funding shall be available for the purchase of not to exceed 29 passenger motor vehicles for replacement only.")

## OBSSR Holds AIDS Commemorative Symposium

The Office of Behavioral and Social Sciences Research recently held a symposium commemorating 30 years since the first U.S. reported cases of HIV/AIDS. The focus was on the contributions of behavioral and social science to HIV/AIDS research.

“Since 1981, the disease has advanced in various ways—from localized outbreaks to a global pandemic, from affecting special populations to nearly every population, and from an automatic death sentence to a treatable disease,” said Dana Sampson, senior program analyst at OBSSR. Much progress has been made—including a reduction in the number of AIDS cases, lower rates of mother-to-child transmission and extended survival for those infected, she explained. Despite these successes however, the rate of new infections remains high and continues to increase in certain populations.

NIAID’s Dr. Carl Dieffenbach highlighted the numerous advances made in three decades of HIV science, from understanding the basic biology of the virus to developing and/or improving tools for diagnosis, improving treatment and developing vaccines. Biomedical approaches alone are insufficient to achieve the goal; the linkage of behavioral and biomedical research is critical to attaining viral suppression.

“The key entry point to prevention and control is testing; thus, behavioral and social science research can shed light on how to test, how to test better and how to test more regularly,” he said.

Three scientists provided an overview of their efforts to deploy behavioral and social science in expanded HIV testing, in the development and implementation of prevention tools and in boosting adherence to treatment to control and ultimately end the pandemic.

UCLA’s Dr. Thomas Coates described a community-based voluntary counseling and testing (VCT) program aimed at reducing HIV acquisition in entire communities. Due to the long latency of the HIV virus, it can spread rapidly through a community without being recognized. Said Coates, “Interventions should aim to de-stigmatize and normalize testing and work toward enhancing the disclosure of infection status.”

Coates and his colleagues tested two approaches to VCT, community-based and clinic-based, in 48 communities in Africa and Asia. Over 3 years, more than 86,000 HIV tests were per-



*Symposium speakers included (above, from l) Dr. Robert Kaplan, Dr. Thomas Coates, Dr. David Bangsberg, Dr. Wafaa El-Sadr, Dr. Carl Dieffenbach and Dana Sampson.*

*At left, speakers’ panel takes audience questions in a session moderated by Dieffenbach.*

formed and more than 140,000 post-test support visits occurred. The program successfully reached a relatively young group of adults, including hard-to-reach populations.

Dr. Wafaa El-Sadr of Columbia University presented data showing the growing number of people surviving with HIV/AIDS in low- and middle-income countries and explained that these successes were achieved through hard work in the face of suboptimal HIV treatment coverage. Despite widespread successes in prevention, the virus is still being transmitted. New infection rates vary by region and population, so different strategies are needed including testing, condom use, male circumcision, prevention of mother-to-child transmission, vaginal gels and anti-retroviral therapy (ART). The efficacy rates of these strategies vary wildly. In sum, even the best biomedical interventions are not 100 percent effective. El-Sadr said efficacy improves when people are offered the entire package, from pre-test counseling to ongoing support for those who test positive and retesting of those who test negative.

Harvard’s Dr. David Bangsberg focused on adherence to ART and prevention to end AIDS. Several meta-analyses of ART adherence in sub-Saharan Africa have yielded surprising results, showing rates as high as 75 percent compared to 55 percent in richer regions of the world. Even in the face of resource scarcity and obstacles to adherence, social capital plays a role in adherence. That is, people rely on relationships to overcome barriers to adherence and adherence fulfills responsibility to those who have helped an individual overcome those barriers.

OBSSR director Dr. Robert Kaplan closed the symposium by noting how much we have learned from the HIV/AIDS epidemic, from the basic mechanisms of behavior change to the importance of interventions that combine biomedical, behavioral and social components. ●



## NCATS MEETING

CONTINUED FROM PAGE 1

### **Above, from l:**

*Dr. Thomas Insel, the new acting NCATS director, addresses employees. Joining him onstage at Masur Auditorium were Dr. Chris Austin and Dr. Josephine Briggs.*

### **Below:**

*NIH director Dr. Francis Collins (second from r) poses with the NCATS leadership team, including (from l) Dr. Steve Groft, Dr. Jane Steinberg, Erin Shannon, Austin, Briggs, Hudson and Insel.*

PHOTOS: MICHAEL SPENCER

the meeting was the first of several gatherings to assure “that we’re all working on the same team.”

“We want to tap into your creativity, your ideas and your expertise...so that wonderful things can happen,” said Insel, who expressed relief that the “cone of silence” that had prevented the sharing of more details was finally lifted on Dec. 23 when NCATS was formally enacted in law.

“Welcome to a grand adventure,” said Collins. “We haven’t done something like this at NIH in a long while, maybe not ever...We know we have the right people assembled to make [the NCATS mission] happen...We are a new player in this busy field, and a powerful one.”

Collins called the dearth of new medications in the pharmacological pipeline “a vexing problem, ripe for revolution.” The failure rate for new small molecules as potential therapies is greater than 99 percent, he said, and it takes about 14 years for a new compound to gain approval. Combined with an average cost of \$2 billion per success, the challenge constitutes “a huge problem to look at,” he added.

“The time is ripe for a new paradigm,” he said, assuring that “the drug companies are ready for a new era of open access.”

Collins said, “The pipeline itself is a scientific problem...If we continued down the same pathway, the dismal statistics would continue.” Until now, he added, “there has not been a hub for this kind of engineering attitude about the pipeline itself.”

Like Insel, Collins acknowledged the audience’s uneasiness. “I’m sure all of you are feeling both excitement and uncertainty—we understand that.”

Insel introduced the new center’s leadership, which assembled onstage beneath a slide of the NCATS organization chart. Erin Shannon, former NCCR executive officer, is now NCATS’s acting executive officer. Dr. Jane Steinberg of NIMH is now acting director of the NCATS Office of Grants Management and Review. Dr. Steve Groft continues as director of NIH’s Office of Rare Diseases Research, now a part of NCATS.

Dr. Kathy Hudson, who is NIH deputy director for science, outreach and policy, will serve as acting deputy director of NCATS and acting head of the center’s policy, communications, technology transfer and strategic alliances operation.

NCATS has two divisions. The Division of Pre-clinical Innovation is headed, on an acting basis, by Dr. Chris Austin, who is also director of NHGRI’s NIH Center for Translational Therapeutics. The new Division of Clinical Innovation will be headed, again on an acting basis, by Dr. Josephine Briggs, who directs NCCAM.

“This is an invitation to do things a little differently,” said Insel, “not just the same entity with a new name...the best science is our emphasis.”

Hudson said she has been “dreaming about this day for months” and been “kept up many



nights” worrying about whether NCATS would gain approval. She briefly described three initiatives NCATS has already undertaken: an effort to rescue/re-purpose existing drugs that may have efficacies unforeseen by their developers; pre-clinical toxicity testing of compounds, or so-called “human tissue on a chip,” with the Defense Advanced Research Projects Agency as a partner; and a target-validation project in which many ICs will collaborate to identify drug-able targets.

She also announced the debut of the NCATS web site at [www.ncats.nih.gov](http://www.ncats.nih.gov).

Insel assured the new NCATS workforce that everyone will be paid on time, will report to the same supervisors they had prior to Dec. 23 and will remain in their same workplaces, at least for now. He said Collins would be able to select a new NCATS director from an outstanding list of candidates and anticipates other recruitments as well.

NCATS will borrow the NIDDK council on a short-term basis to approve outlays during the interim while an NCATS council and the CAN (Cures Acceleration Network) board recruit members. The NCATS grant code will move from “RR” to “TR” and program officers will be the same for NCATS as for NCCR “in almost every case,” Insel added.

“It’s kind of nice that the launch of NCATS meshes with the beginning of a new year,” he noted. “We know that there will be some trial and error.”

The 90-minute session ended with about a dozen questions from the audience. Collins said he is hoping that NCATS breeds “a new synthesis of perspectives” and a “new scientific culture... the traditional extramural-intramural divide is not statutorily impenetrable, although many think that it is.” Insel divulged that NIH retained the services of a headhunter in the search for an NCATS director and said the prime criterion is someone “with a real passion for this area of science.” Hudson said she will “rely on everybody in this room to be ambassadors for NCATS.”

“This is just the beginning for us,” concluded Insel, who said the new leadership team would be making the rounds of the new center within days. “You have lots of additional colleagues that you didn’t have before Dec. 23.”

### Longtime NIMH Grantee Receives Award

Longtime NIMH grantee Dr. Enola K. Proctor of Washington University recently received the Knee/Wittman Lifetime Achievement Award in Health and Mental Health Practice from the National Association of Social Workers (NASW) Foundation.

At the Jan. 11 event held in Washington D.C., Proctor was honored for her work to

improve the delivery of mental health services as well as her efforts in implementation science—the study of how to best move research findings into practice settings to meet real human needs. Her work has focused on mental health community care, especially for low-income older adults. Her scholarship has significantly advanced the field of mental health research and brought a much-needed social work perspective to it.

Since 1995, Proctor has led Brown School’s Center for Mental Health Services Research (CMHSR), part of Washington University. An NIMH-funded endeavor, CMHSR conducts clinical, epidemiological, service-related and quality-of-care research projects that aim to facilitate better interactions between mental health care and social services. In addition to NIMH funding, Proctor has received funding from NIA, the Agency for Healthcare Research and Quality, AARP and the American Heart Association.

Proctor has served on NIMH’s National Advisory Mental Health Council. She also served as a strategic planning expert for OBSSR and as an external reviewer for the Institute of Medicine. Among her many other awards, Proctor was honored with NASW’s President’s Award for Excellence in Social Work Research and has earned accolades from the National Alliance for the Mentally Ill.



*Grantee Dr. Enola Proctor (l) poses with NIMH’s Denise Juliano-Bult at the National Association of Social Workers Foundation Awards ceremony.*



### NIDA’s Shaham Named to Journal Post

*Dr. Yavin Shaham, senior investigator, chief of the Behavioral Neuroscience Branch and chief of the neurobiology of relapse section, National Institute on Drug Abuse, was recently appointed senior editor of the Journal of Neuroscience. He will cover behavioral/systems/cognitive neuroscience.*

## THALER

CONTINUED FROM PAGE 1

nality, bounded willpower and are easily distracted, econs “never overeat, never have hangovers and they save for retirement,” Thaler observed.

In his popular new book *Nudge: Improving Decisions About Health, Wealth, and Happiness*, co-written with White House advisor Cass Sunstein, Thaler borrows the advantages of the econ worldview to tutor erring humans, who need help in the form of small nudges to make choices that benefit them and society.

“*Nudge* asked, ‘What are the implications for public policy?’ of these two perspectives,” said Thaler, who proceeded to give examples, from around the globe, of subtle attempts to tilt human behavior in ways that would appeal to that all-sensible creature and master architect of a more perfect society, the econ.

Still wondering what constitutes a nudge? Consider an example from Amsterdam, where authorities grappled with the challenge of untidy public men’s rooms. A clever designer etched the image of a fly near the center of the porcelain urinals. Subsequent sharpshooting led to an 80 percent reduction in wet floors.

“The fly is a nice example of a nudge,” said Thaler. “It is some feature of the environment that attracts our attention and influences our behavior.”

Another nudge: in a school district in upstate New York, authorities relocated the salad bars in school cafeterias, resulting in a 300 percent increase in salad consumption.

In both nudges, a benefit results from slightly (and cheaply) modified conditions that are unlikely to be interpreted as overt behavior modification.

Thaler said his book unites two concepts that normally are totally at odds: libertarian paternalism. Libertarian means you call the shots; it is choice-preserving. Paternalism, to the authors, “helps people choose what’s in their best interest, as defined by themselves. It’s possible to achieve both goals.”

One of the most useful tools for achieving a nudge is “choice architecture,” Thaler explained. Choice architects design the environments in which people make decisions. A well-designed choice structure will produce better decisions, so since you have to structure choices in some way, “why not pick something good?” he asked.



“People don’t always do that, but good design is just a matter of trying.”

By locating a salad bar near the cash registers, nudgesters in New York yielded healthier food choices. But the potential applications that can take advantage of choice architecture are bounded only by the imagination.

“You can apply the principles of good design in any domain,” said Thaler, who is an advisor to the behavioral insight team that British Prime Minister David Cameron has established in the U.K. to help implement these sorts of ideas to create effective public policy.

Thaler said good design is characterized by four components and gave examples of each in action.

▼ **Defaults:** Set them correctly at the outset—or as Thaler put it, “Pad the path of least resistance”—and you can get a desired result. Take organ donation, for example. In the United States, citizens opt in by signing some form. In other countries, consent for organ donation is presumed unless you deliberately opt out. While the latter nations in principle have more available donors, since very few people take the trouble to opt out, this comes at a cost: more families object at the moment of crisis, Thaler said. His preference? Prompted, or mandated, choice—you are simply asked whether you want to be a donor when you renew or obtain a driver’s license, as is now done in Illinois and California.

▼ **Feedback:** “You can’t learn without it,” said Thaler. His example was the problem with compliance in health care—making sure patients take their meds. “Many medications give patients no feedback that they are improving [statins, for example, make no one feel noticeably better], so compliance wanes.” A French designer crafted an inhaler that changes to a sickly color if it goes unused. The pallor is both a reminder to use it

### Right:

Thaler met prior to his talk with Dr. Richard Suzman (l), director of NIA’s Division of Behavioral and Social Research, in Wilson Hall.

PHOTOS: ERNIE BRANSON

and, because the vibrant color returns after use, “it taps into a child’s desire to help others [even an inanimate disk] feel better.”

❑ **Expect error:** Some people—not Thaler—might call this idiot-proofing. Examples include differently sized and shaped nozzles for gasoline versus diesel pumps, so the user knows by look and feel which is appropriate. Another example is what behavioral researchers in Mumbai, India did to reduce pedestrian fatalities near train tracks. Using a combination of painted rails (to improve a pedestrian’s perception of depth and speed), alarming ads in train stations and a change in the sound of trains’ horns, authorities put a dent in the 10 deaths the system was experiencing daily. “It turns out you can nudge people in unusual and creative ways,” Thaler said.

❑ **Create incentives:** The traditional regulatory model governing federal health insurance—issue rules, watch industry evade them, repeat—yields worse results than a model built on disclosure, Thaler said. “My regulatory principle is that if someone is collecting data on your usage, you should own or have access to that data,” he explained. Once deciphered and interpreted—and there’s an app for that (“usually written by a 12-year-old,” quipped Thaler)—that data provides a basis, a nudge, for improved decision-making by consumers. “Consumers will move to safer, more effective providers,” he said.

“We’re all humans, and humans err,” Thaler concluded. “Let’s design a health care delivery system that helps humans achieve better health.” 🗣️

### NCI Symposium on Translational Genomics

Registration is open for the Second Symposium on Translational Genomics sponsored by the National Cancer Institute Center of Excellence in Integrative Cancer Biology and Genomics. The event will take place Mar. 15-16 in Natcher auditorium.

The symposium will provide a forum for the advancement, implementation and exchange of information on noncoding RNAs, next-generation sequencing and epigenomics and genetic variation for translation into clinical practice with the ultimate goal to improve the health of patients with cancer.

View a list of speakers and register online at <http://web.ncifcrf.gov/events/TranslationalGenomics>. Registration is free but seating is limited. For more information contact Laura Hooper at [hooperl@mail.nih.gov](mailto:hooperl@mail.nih.gov).

### Kuller To Give Gordon Lecture, Feb. 15

Dr. Lewis H. Kuller, distinguished university professor of public health at the University of Pittsburgh, will present the annual Robert S. Gordon Lecture on Wednesday, Feb. 15. His talk is titled, “The Obesity Epidemic: Why Have We Failed?”

Kuller is nationally recognized for his contributions to the study of cardiovascular disease. He played a key role in the development of non-invasive techniques such as ultrasound and coronary tomography to detect heart disease in people without symptoms. In addition to his professorship, he directs the Pittsburgh site of the multicenter Cardiovascular Health Study (CHS), which led to a new risk factor index to improve coronary heart disease prediction. He is a co-principal investigator on the CHS Cognition Study, a large dementia study that has identified risk factors and brain changes with magnetic resonance imaging to predict dementia many years later.

The Gordon Lecture is given by a scientist who has contributed significantly to the field of epidemiology or clinical trials research. Established in 1995, it honors a former assistant surgeon general of the Public Health Service and special assistant to former NIH director Dr. James Wyngaarden.



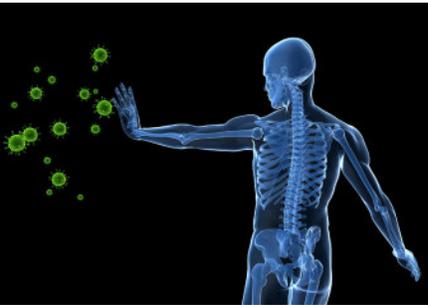
### NLM’s ‘Native Voices’ Exhibit Remains Open

“There’s nothing else like this,” says NIH postdoctoral fellow Alika Maunakea during a visit to the National Library of Medicine’s exhibition “Native Voices: Native Peoples’ Concepts of Health and Illness.” The exhibition explores health and medicine from the perspective of contemporary American Indians, Alaska Natives and Native Hawaiians. Honoring the Native tradition of oral history, the exhibition features interviews with Native people who provide insight into topics such as the role of nature and spirituality in Native health and the relationship between traditional healing and Western medicine in Native communities.

Visitors also can explore art and artifacts including a 20-foot tall healing totem (above) and a model of the famous voyaging canoe Hōkūle’a. The totem is the work of master carver Jewell Praying Wolf James and the House of Tears Carvers in Washington state. Numerous Indian tribes blessed the totem as it traveled across the country to NLM. The exhibition, on the first floor of Bldg. 38, is open 8:30 a.m.-5 p.m. Monday-Friday, except federal holidays. Visitors can view the exhibition independently or request a guided tour by calling (301) 594-1947 or completing an online request form at [www.nlm.nih.gov/nativevoices/visit/tour-request.html](http://www.nlm.nih.gov/nativevoices/visit/tour-request.html). There is also an online version of the exhibition at [www.nlm.nih.gov/nativevoices](http://www.nlm.nih.gov/nativevoices).



PHOTO: FRAN SANDRIDGE



*Researchers at NIAMS have developed a new way to see structures within viruses that were not clearly seen before.*

### **Novel Approach Found to View Inner Workings Of Viruses**

Since the discovery of the microscope, scientists have tried to visualize smaller and smaller structures to provide insights into the inner workings of human cells, bacteria and viruses. Now, researchers at NIAMS have developed a new way to see structures within viruses that were not clearly seen before. Their findings were reported in the Jan. 13 issue of *Science*.

Cryo-electron microscopy (cryo-EM) is a technique that allows scientists to image very small particles such as structures on the surface of viruses. This method has been useful in helping researchers understand how vaccines work. But, despite the success of cryo-EM, scientists have been unable to clearly visualize structures inside of viruses because radiation is used to image them. "With lower doses of radiation, it is not possible to see inside the organism," said lead author Dr. Alasdair Steven of NIAMS's Laboratory of Structural Biology Research. "However, higher doses of radiation damage the virus, destroying the very structures that we would like to view."

Working in collaboration with the group of Dr. Lindsay Black at the University of Maryland Medical School, Baltimore, Steven and his team were able to turn the problem of radiation damage into an asset. Viruses, one of the simplest life forms, are made up of nucleic acids (DNA or RNA) and the proteins encoded by the nucleic acid instruction manual. The researchers realized that proteins inside the virus are more sensitive to damage than DNA.

### **32 Million Americans Have Autoantibodies That Target Their Own Tissues**

More than 32 million people in the United States have autoantibodies, which are proteins made by the immune system that target the body's tissues and define a condition known as autoimmunity, a study shows. The first nationally representative sample looking at the prevalence of the most common type of autoantibody, known as antinuclear antibodies (ANA), found that the frequency of ANA is highest among women, older individuals and African Americans. The study was conducted by NIEHS. Researchers at the University of Florida also participated.

Earlier studies have shown that ANA can actually develop many years before the clinical appearance of autoimmune diseases such as type 1 diabetes, lupus and rheumatoid arthritis. ANA are frequently measured biomarkers for detecting autoimmune diseases, but the presence of autoantibodies does not necessarily mean a person will get an autoimmune disease. Other factors, including drugs, cancer and infections, are also known to cause autoantibodies in some people. The findings appeared online in the Jan. 11 issue of *Arthritis and Rheumatism*.

### **Vitamin D May Improve Bone Health in People Taking Anti-HIV Drug**

Vitamin D may help prevent hormonal changes that can lead to bone loss among those being treated for HIV with the drug tenofovir, according to the results of an NIH network study of adolescents with HIV. The findings were published online in *Clinical Infectious Diseases*.

Tenofovir is widely used to treat HIV infection. However, the drug causes symptoms that resemble those of vitamin D deficiency, causing bones to lose calcium and reducing bone density. The study found that large monthly doses of vitamin D reduced blood levels of a hormone that stimulates calcium release from bones.

"What we've found suggests vitamin D could be used to counteract one of the major concerns about using tenofovir to treat HIV," said Dr. Rohan Hazra of NICHD, which funds the networks. "People in their teens and twenties may be on anti-HIV treatment for decades to come, so finding a safe and inexpensive way to protect their long-term bone health would be a major advance."

### **Cause of Rare Immune Disease ID'd**

Investigators at NIH have identified a genetic mutation in three unrelated families that causes a rare immune disorder characterized by excessive and impaired immune function. Symptoms of this condition include immune deficiency, autoimmunity, inflammatory skin disorders and cold-induced hives, a condition known as cold urticaria.

The study, published in the online edition of the *New England Journal of Medicine* on Jan. 11, was led by Dr. Joshua Milner of NIAID and Dr. Daniel Kastner of NHGRI.

The mutation discovered occurs in a gene for phospholipase C-gamma2 (PLCG2), an enzyme involved in the activation of immune cells. The investigators have named the condition PLCG2-associated antibody deficiency and immune dysregulation, or PLAID.—compiled by Carla Garnett

# feedback

Want to know more about some aspect of working at NIH? You can post anonymous queries at [www.nih.gov/nihrecord/index.htm](http://www.nih.gov/nihrecord/index.htm) (click on the Feedback icon) and we'll try to provide answers.

**Feedback:** There are often a large number of non-numbered "red permit" parking spots available throughout the day while what appears to be an increasing number of cars with red tags in spaces for general parking. Those of us with black or other colored parking permits are often unable to park in the garages. Why not let non-red permits park in unrestricted red spots after a certain time of day (perhaps 11 a.m.), similar to open parking in carpool spaces after 9:30 a.m.? Is NIH looking at other options to maximize parking in the garages?

**Response from the Office of Research Services:** NIH has the same difficult task of managing parking as all facilities in large, highly populated metropolitan areas. "Traffic Demand Management Plans" require businesses as well as developers to demonstrate how they will mitigate impact on traffic. Policy has also restricted parking spaces at NIH, disallowing increases to the limited number of parking spaces currently available to employees.

With limited availability of parking spaces, NIH has to establish priority to the use of its current parking spaces and provide alternatives to commuting by single-occupied vehicles. NIH also looks at the use of alternative transportation for sustainability and to comply with Presidential initiatives to reduce greenhouse gases. Priority has been given to carpool and vanpool parking.

Senior NIH leaders and executives, in an effort to maximize the NIH mission, have been given preferred parking because of their critical and essential positions. The preferred parking spaces have not increased and have remained the same for over 20 years. These "red permit" preferential parking spaces become available at 3 p.m. for general employee parking. Carpool spaces become available for general employee parking at 9:30 a.m.

The overall parking policy at NIH is guided by Manual Issuance 1410. The parking staff will look at the manual issuance, particularly as it relates to time limitations on parking spaces, but any change in policy would need to go through a process that includes review and consideration by institutes and centers.

**Feedback:** How is the deer and duck/geese population controlled on the NIH campus? If these animals are removed from campus, where are they taken?

**Response from ORS:** To help reduce goose feeding, droppings and negative employee interactions on campus, the Division of Occupational Health and Safety (DOHS) developed and implemented a Goose

Management Program. The program involves numerous weekly surveys to determine goose feeding areas on campus. DOHS has placed coyote decoys and Mylar tape in various locations on campus where feeding has been observed. These decoys dissuade geese from landing and feeding, thus reducing problems with goose waste. To enhance the effectiveness of decoys, they are moved on a regular basis dictated by survey observations.

With regard to deer, DOHS has advised key personnel to reduce feeding and harbor-age areas to the extent feasible considering existing environmental and community agreements, and regulatory requirements, and to utilize ornamentals that are rarely or seldom damaged by deer and avoid use of plantings on campus that are frequently damaged.

Geese and deer are not removed from the campus.

**Feedback:** With budget cuts imminent, why doesn't NIH as a whole try to conserve more? I see constant wasting of resources—electricity, water, paper, recyclables, etc. There are often empty labs and offices with lights on—turning off the light when you leave is so easy to do. I see people leaving water running (as if the lab glassware will be any cleaner for it). This is especially bad in the animal rooms, when the technicians are filling water bottles. Even if they are not actively filling the bottles, the water is still running. People print out reams of single-sided papers and then half of it ends up in the trash or recycle bin. Even though recycle bins are everywhere, it seems the trash can is more popular for bottles, cans and paper. If we all cut back just a little on our consumption, I'm sure we can set an example for money-saving rather than money-spending. This was typed using only the light from my office window (lights off).

**Response from ORS:** Thank you for your interest in sustainability and conservation. You bring up many good points. Sometimes within large organizations where energy, water, paper and other resources are not directly paid for by the consumers, people do not think about the costs associated with their actions. Wasting energy, water and money from improper material and waste handling means wasting money that could otherwise go to research.

NIH promotes sustainability and going greener through the NIH Environmental Management System (<http://nems.nih.gov>). NIH has programs in place to promote recycling, energy conservation, water conservation, sustainable buildings and more. Each IC has created a Green Team to promote green behavior within their ICs. Saving energy and water, reducing waste and practicing sustainability require active change and leadership. Your actions can make a difference and set the example for others to follow.



## Hamlisch Performs Annual Holiday Concert

*Renowned composer and conductor Marvin Hamlisch (r) presented his seventh annual holiday concert at NIH—and his first in the Clinical Center's atrium—on Dec. 20. He delighted an audience of patients, families,*

*visitors and NIHers with his talents. Joining him was vocalist Gary Mauer (l), who has appeared in Broadway's The Phantom of the Opera and Les Miserables. NIH director Dr. Francis Collins welcomed the composer, praising his commitment to music as a healing art. "That is what this place is about," he said, "bringing the healing arts that are so amazingly represented here by the dedicated staff and the many people that come here putting their trust in the cutting-edge medicine that takes place here at the CC."*



## Joiner Is NEI 'Pathway' Grant Recipient

By Dustin Hays

Dr. Wilsaan Joiner, a postdoctoral fellow in the National Eye Institute's Laboratory of Sensorimotor Research, was recently awarded a Pathway to Independence Award (K99/R00). The achievement is a first for the NEI Intramural Research Program.

The K99/R00 is designed to help extraordinary young scientists establish their own research labs. The K99 portion provides 1 to 2 years of funding for postdocs while they pursue novel research with help from a mentor. The R00 portion provides an additional 3 years of funding and starts when the postdoc acquires a tenure-track, or equivalent, research position.

Joiner aims to expand knowledge of the neural mechanisms that allow stable visual perception. Working with a non-human primate model, he will use a combination of behavioral, electrophysiological and anatomical approaches to understand how the brain perceives a steady world despite the eyes constantly shifting from point to point to interpret any given scene.

Joiner told a group of fellows attending NEI's Focus on Fellows retreat that he credits his success to careful planning, utilization of NIH career development resources and a little luck. He strongly recommended that fellows attend NIH Office of Intramural Training and Education-sponsored workshops and seminars, which he said helped him communicate his research when applying for jobs and funding.

Joiner took a grant-writing class offered by the National Institute of Mental Health. Each student writes a grant during the class, which spans several months. Joiner's grant project became what he eventually submitted for K99/R00 funding. "I encourage everyone to take a grant-writing class and submit a grant. The writing experience and going through the grant submission process are worthwhile if you plan to pursue a research position in academia," he told the group.

"The NEI intramural program staff was very helpful in submitting my application, especially David Whitmer and Dr. Cesar Perez-Gonzalez," said Joiner. "And, of course, I had tremendous support from my mentor, Bob Wurtz."

Joiner said most of his colleagues assume his grant is what got him the job offer he received and accepted from George Mason University, but he said that's not the case. In fact, GMU offered the job before his grant was awarded. He said that during his job search, potential



employers seemed impressed that he had taken a grant-writing course and had applied for funding.

Joiner encourages postdocs to consider early on in their fellowships what skills they need to make themselves more marketable. He felt teaching ability would be

important and pursued opportunities at nearby American University.

"Demonstrating continuity in your career is an important element of grant applications," Joiner said. "Reviewers will want to see you have the skills and experience needed to successfully achieve the specific aims you list in your proposal." A backup plan is also crucial in case your primary research goals fail to materialize—an important lesson he learned from grant reviewers.

Joiner is currently a postdoc in the laboratory of Dr. Robert Wurtz. He begins his post as assistant professor at George Mason's Volgenau School of Engineering bioengineering department in August 2012. ●

*Dr. Wilsaan Joiner, a postdoctoral fellow in the National Eye Institute's Laboratory of Sensorimotor Research, was recently awarded a Pathway to Independence Award.*



## Arizona State University Honors NINR's Grady

Dr. Patricia Grady, director of the National Institute of Nursing Research, was recently honored by Arizona State University's College of Nursing and Health Innovation with a 2011 Discover Award at the college's annual Dream-Discover-Deliver Awards event.

Now in its fourth year, the Dream-Discover-Deliver Awards feature three honorees dedicated to improving health care and the health of the American public, each of whom, according to the college, "pursue big dreams, lead innovative changes and achieve

their goals." Grady was recognized for her embodiment of the college's vision to discover excellence in research and evidence-based health care.

Grady gave brief remarks at the event, discussing how NINR-supported research is affecting the quality of care and patient outcomes and future directions for nursing and nursing science. She noted, "At NINR, we know that the future of health care rests squarely on the nursing and nursing science communities—on your drive, your intellect and expertise and on your passion for scientific inquiry and its translation into evidence-based practice and health care policy."