

# nih record



ABOVE • A Smithsonian museum features NHGRI genome science; see below.

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### 'A Complex Conundrum'

## NIMHD Seminar Tackles Men's Health Disparities

By Belle Waring

**T**his is a man's world. Or is it?

This is a world where African-American men have a shorter life-span than any other group in the U.S. And among U.S. Latino men 25 to 44 years of age, AIDS has been a leading cause of death for more than a decade.



Dr. Brian M. Rivers of Moffitt Cancer Center

"There are groups within ethnic groups who carry the burden of disease," says Dr. Miguel Muñoz-Laboy of Temple University's School of Social Work. He recently spoke at "Men's Health Disparities: A Complex Conundrum," hosted by NIMHD as part of the NIH Health Disparities Seminar Series, held in Masur Auditorium.

Muñoz-Laboy was joined by Dr. Brian M. Rivers of Moffitt Cancer Center and

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### Science & Learning

## Genome Exhibit Educates People of All Ages at Smithsonian

By Dana Steinberg

The human body is remarkable and certainly complex. The entire human genome—the body's genetic blueprint that contains 3 billion base pairs of those twisting molecules known as DNA—can fit inside every cell in our bodies. Relating the intricacies of this science to a general audience could be tricky. But NHGRI's new exhibit, "Genome: Unlocking Life's Code" at the Smithsonian's National Museum of Natural History in Washington, makes genomics accessible to all, engaging and fun.

A collaboration between the Smithsonian and NHGRI, the colorful exhibit includes high-tech interactive displays, animations, 3-D models, videos with personal stories and straightforward explanatory text in each gallery. Volunteers, on hand to lead activities and answer questions, enhance the visitor experience.

The exhibit explores how the genome relates to health care and disease. One display explains that trillions of microbes—from fungi to

SEE EXHIBIT, PAGE 8



Dr. Jon Lorsch assumes the helm of NIGMS.

PHOTO: MELINDA URBINA

## Meet the Newest IC Director: NIGMS's Jon Lorsch

By Emily Carlson

Cook, gardener and even tugboat captain are jobs that appeal to Dr. Jon Lorsch. As the new director of NIGMS, he could find himself carrying out all these functions—at least metaphorically. He wants to whip up new recipes for funding discoveries, grow emerging scientific areas and guide the \$2.4 billion institute so that it's well-positioned to meet the needs of science and society.

SEE LORSCH, PAGE 4



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NIH...Turning Discovery Into Health

## briefs

### FAES Fall Courses Announced, Open House Set for Aug. 20

The Foundation for Advanced Education in the Sciences, Inc. (FAES) Graduate School at NIH announces courses for the fall 2013 semester. The majority of the evening classes sponsored by FAES will be held on the NIH campus.

Classes will begin the week of Sept. 9. An open house will be held on Tuesday, Aug. 20 from 4 p.m. to 7 p.m. in Bldg. 10, (classroom 4) Rm. B1-C-208; registration will be accepted. Tuition is \$145 per credit hour and courses may be taken for credit or audit.

Fall catalogs are available in the Graduate School office in Bldg. 60, Suite 230, the Foundation Bookstore in Bldg. 10, Rm. B1-L-101 and the business office in Bldg. 10, Rm. B1-C-18. To have a catalog sent, call (301) 496-7976 or visit [www.faes.org](http://www.faes.org).

### NIH Safety & Wellness Day, Aug. 28

NIH Safety, Health and Wellness Day will be held Wednesday, Aug. 28, rain or shine, at Natcher Conference Center from 10 a.m. to 2 p.m. Everyone is welcome to enjoy the activities and learn about safety, health and wellness opportunities at NIH.

The Office of Research Services, Division of Occupational Health and Safety and the Division of Amenities and Transportation Services, with support from the Office of Research Facilities, are combining efforts to increase workplace health protection and promotion. The focus of this year's event is promoting worker health and safety training to all NIH personnel in an effort to enhance employee nutrition, wellness, physical fitness, safety awareness and reduce work-related injuries and illnesses.

A wide range of exhibits will be presented as well as an opportunity for NIH personnel, who work with hazardous chemicals, to complete mandatory hazard communication training, which is required before Dec. 1. (Office workers who encounter hazardous chemicals only in non-routine isolated instances are excluded).

Learn about the R&W Fitness Centers and participate in free fitness assessments and class demonstrations provided by the fitness staff. R&W clubs including Judo, Country Line Dancing and the Bicycle Commuter Club will be there to discuss how to get involved. Also learn more about the new R&W wellness pilot program. AED/CPR training will be offered along with a poster session relating to research on health, nutrition, physical fitness and/or safety.

More than 50 exhibitors, including federal agencies such as the Occupational Safety and Health Admin-

istration, Centers for Disease Control and Prevention, Food and Drug Administration and the Defense Intelligence Agency, will showcase nutrition, fitness and occupational health and wellness information and activities. Plan to stay for lunch and choose from a menu that will include healthy choices for purchase while you relax and listen to music.

For more information, visit [www.ors.od.nih.gov/sr/dohs](http://www.ors.od.nih.gov/sr/dohs). Individuals who need reasonable accommodation to participate should contact Carole Harman at (301) 402-8180 and/or the Federal Relay at 877-709-5798. A special shuttle route will run between Bldgs. 33, 10, 29 and Natcher. For staff located off campus, there will be free parking in the MLP-11 parking garage off of Rockville Pike during the event.

### Supply Center Announces Clearance Sale

The NIH Supply Center and its Self Service Stores have served scientists at NIH since 1943, providing laboratory products and office supplies. Items are purchased wholesale from vendors and offered to NIH'ers at wholesale cost.

A clearance sale is on for the remainder of FY 2013—save 30 percent. Many products are being offered at reduced prices, so shop while supplies last. For a complete list of products, see clearance items at <http://nihsc.od.nih.gov/Promotions>.

To contact NIHSC customer service, call (301) 496-9120 or visit a store 8 a.m.-4 p.m. Monday through Friday: Bldg. 10, Rm. B2B41, (301) 496-2051 or Bldg. 31, Rm. B1A47, (301) 496-4430.



### R&W Hosts Night at the 'Big Train'

On July 19, the NIH Recreation & Welfare Association hosted a "Night with the Bethesda Big Train," part of the Cal Ripken Baseball League. As part of the activities, ESPN baseball analyst Tim Kurkjian (c) was on hand to answer questions from fans on a variety of baseball topics. Ken Sonnenberg (l) of NINDS threw out the first pitch prior to the game. "A great time was had by all in attendance, though fans went home disappointed as the Big Train lost to the Baltimore Red Birds 5-0," said R&W President Randy Schools (r).

## NIMH's Ameli Has Novel Approach to Managing Stress

By Sarah Krosnick

Mind full or mindful?

With the amount of stress and responsibility in the world, Dr. Rezvan Ameli of NIMH believes that one must choose the latter to maximize well-being. According to her, mindfulness can be defined in various ways, ranging from the broad (Thich Nhat Hanh's definition, "To be aware...it is to be in touch with your felt experience in each moment") to the specific (Dr. Jon Kabat-Zinn's definition, "Mindfulness is paying attention, on purpose, in the present, and non-judgmentally, to the unfolding of experience moment by moment").

Ameli believes mindfulness to be a three-pronged mental state requiring intention, attention and acceptance. Intention is the first step in becoming mindful, because, as she explains, "With intention as a base, the aim is then to cultivate attention and acceptance."

In addition to practicing focused attention, at the core of mindfulness is the ability to accept all experience and suspend judgments and expectations. In the same vein, one should not fixate on the expected outcome of mindfulness because, Ameli warns, "It is a little like Catch-22. If you become invested in the results of mindfulness, you will diminish its effectiveness."

Ameli treats mindfulness as "a practical tool...[that] can be integrated into everyday home, work and social life with relative ease." Although mindfulness can be practiced both formally and informally, she suggests that "any amount of regular practice can be beneficial."

In order to aid others with the incorporation of mindfulness into daily life, Ameli accepted the invitation of the American Psychological Association, a nonprofit organization, to write *25 Lessons in Mindfulness: Now Time for Healthy Living*, to be released in August. She hopes the book will serve as an enjoyable read and "as a combination of a manual and a textbook" for the public, mindfulness devotees and mindfulness teachers.

By practicing mindfulness, one can improve his/her well-being. Ameli compares mindfulness to brushing one's teeth because "[in] the same way regular tooth-brushing assists in dental hygiene, regular practice of mindfulness



NIMH's Dr. Rezvan Ameli (at left, and standing above) teaches a class on mindfulness at NIH. In the session above, participants complete a class exercise.

PHOTOS: BILL BRANSON

can assist in mental hygiene." In fact, research shows the empirical benefits of mindfulness to be far-reaching. Ameli notes that some of the "initial reports of efficacy were for pain, anxiety, psoriasis and immune functions." fMRI studies have further proven that the brain is directly affected by mindfulness, resulting in increased gray matter, increased cortical activity and decreased amygdala activity, demonstrating a significant relationship between mindfulness and emotion regulation.

After learning of the positive effects of mindfulness at a work meeting more than a decade ago, Ameli decided to learn mindfulness by attending classes, workshops, trainings, lectures and retreats. Although she admits it was difficult to maintain a regular practice at the beginning, she gradually "began to notice [her] own transformation in handling various forms of stress: family, person, work and social." Although studying mindfulness has been a personal rather than professional journey for Ameli, she wanted to share her experiences with the NIH community and volunteered to teach mindfulness classes in cooperation with the NIH Recreation & Welfare Association.

Mindfulness, as taught by Ameli, encourages focused attention and a genuine positivity designed to promote both physical and mental health. Various meditative practices, yoga and the application of mindfulness to activities such as eating and walking are used to infuse mindfulness into daily life and can lead to feeling calmer and less stressed. Ameli's advice to her students is that it is a process that must be nurtured. "Learning and practicing mindfulness is not a 30-day diet to fix all problems," she said, but rather a persistent growing experience resulting in physical and emotional benefits. ●

## Enter Photo Contest Illustrating Safety

The 3rd annual "In Focus! Safe Workplaces for All" photo contest invites entries, which should display safe workplaces or activities.

First, second and third place photographs will be framed and displayed outside the ORS office. The images will also appear on posters and publications throughout NIH and be featured on the Division of Occupational Health and Safety web site. The three winners will receive recognition and a framed certificate from NIH leadership.

Submission is open until Sept. 30. To learn more about the contest, rules, panel of judges, selection process and to submit your photo, visit [www.ors.od.nih.gov/sr/dohs/HealthAndSafety/infocus](http://www.ors.od.nih.gov/sr/dohs/HealthAndSafety/infocus).

NIH director Dr. Francis Collins (l) and former NIGMS acting director Dr. Judith Greenberg join Lorsch for his swearing-in as NIGMS director.



## LORSCH

CONTINUED FROM PAGE 1

### Bio Highlights

Ph.D. from Harvard University (biochemistry); advisor: Dr. Jack Szostak

Postdoctoral fellowship at Stanford University (biochemistry); advisor: Dr. Daniel Herschlag

Joined Hopkins in 1999; became full professor in 2009

NIH funding from NIGMS, NIDDK, NIMH

Author of more than 60 research articles, book chapters, other papers

Editor/reviewer for numerous scientific journals

Grant review panel service including NIH's Molecular Genetics A

### Track Record

With more than 10 years of NIH grant support (see sidebar), Lorsch has used yeast to identify the mechanisms driving translation initiation, a major step in controlling how genes are expressed and, in turn, how protein molecules are made. He will continue this work at a lab housed in NICHD.

Lorsch is already an NICHD collaborator: When he started his own biochemistry lab at Johns Hopkins University School of Medicine in 1999, he sought out the genetics expertise of NICHD's Drs. Alan Hinnebusch and Thomas Dever.

"Jon asked about collaborating, and I jumped at the opportunity," recalled Hinnebusch, adding that the ongoing joint effort re-energized his own project. "Apart from everything he's bringing to NIGMS, he's going to be a great addition to the NIH intramural program because of his interdisciplinary approach to science."

While at Hopkins, Lorsch also invested a lot of his time advising a wide range of students and teaching numerous classes, for which he received all the teaching awards bestowed by the medical school. Most recently, his popularity among medical and graduate students led to an invitation to give the school's 2013 spring commencement address.

On a broader scale, he played a leading role in efforts to reform curricula for the medical and graduate schools to better match current knowledge and career opportunities. When the graduate school reform effort had to be discontinued due to different departments' goals, Lorsch refined his ideas and, together with former Hopkins Medicine vice dean for education Dr. David Nichols, published an article in the journal *Cell* outlining a new model for graduate education in the life sciences. It has since inspired reform efforts at institutions around the world.

"Jon is willing to engage in creative, visionary

thinking about the future," said Nichols, adding, "a lot of people give up in the face of opposition or exhaustion, but Jon is never exhausted and keeps plowing on."

### Leadership Strategy

Before he interviewed for the institute director job, Lorsch read the biography of former NIGMS director Dr. Ruth Kirschstein.

"Reading about her leadership was inspiring and influential in developing my thinking about NIGMS and how to lead it," Lorsch explained, adding that she'd be incredibly proud of her mentee, Dr. Judith Greenberg, who has kept the institute on course and moving ahead as acting director for 2 years.

Going forward, Lorsch plans to start a discussion with the research community about the evolving scientific—and funding—landscape.

Without a crystal ball to predict what the next major breakthroughs will be, Lorsch wants to ensure that the NIGMS research portfolio maximizes the public's investment in basic science by supporting an array of areas, a diverse biomedical workforce and curiosity-driven projects that often produce unexpected, innovative findings.

"These are challenging times in science and society and we need to make sure we're as effective and efficient as possible," he said.

As NIGMS director, Lorsch will draw on the same skills that make him an outstanding researcher and educator. In addition to gathering input from the NIH and extramural communities, he'll create opportunities that let people—and their ideas—excel.

"One magical thing about Jon is his intuitive ability to pair people up in ways that work well," said Dr. Sarah Mitchell, a former graduate student in Lorsch's lab at Hopkins. "He has an innate understanding of what people are interested in and encourages them to pursue those interests."

At times, Lorsch might try a joke, explaining, "If you can get people laughing together, you can get them working together."

One of the first projects on his to-do list is initiating a new strategic planning process to examine core institute goals and new approaches for implementing them and evaluating their success.

In talking about his short- and long-term objectives as NIGMS director, he enthused, "I'm excited to get started." 🎯



*The Division of Medical Arts has served the NIH community for over 50 years.*

PHOTO: ERNIE BRANSON

## Medical Arts Is Changing Way It Does Business

The Division of Medical Arts has served the NIH community for over 50 years. But reductions in workload, advances in technology, duplication in similar services and reductions in IC and ORS budgets require the division to change the way it does business. A restructuring will involve space, technology, workforce and establish a leaner and streamlined “storefront.” The storefront will be capable of providing services that support the NIH mission, to the extent that revenue continues to cover expenses.

As Medical Arts transitions through restructuring during the remainder of FY13 and into FY14, the Medical Arts Branch (MAB) will continue to provide:

- ❑ Express services such as scientific and event posters, programs and brochures, plaques, campus photos and custom framing
- ❑ Medical and visual information services such as:
  - Design Services—identity graphics, publication, poster, brochure, signage and exhibit design
  - 3D modeling and animation ranging from simple moving diagrams to photorealistic animations
  - Digital animations for presentations that can illuminate surgical procedures, educate patients and communicate complex research by showing a series of steps instead of a single static image
  - Illustrations—journal covers and publications, medical and biological drawings and technical charts, diagrams and laboratory equipment

“We encourage our current customers to continue utilizing MAB services during the transition,” said Tammie Edwards, chief of the branch. “As ORS works through the budget development process for FY14, we will have a better understanding of our ability—and of our customers’ ability—to ensure the future viability of medical arts. We will keep the community posted and will adjust our business plan accordingly.”

For more information, call (301) 496-3221 or visit [medarts.nih.gov](http://medarts.nih.gov).



## NIH Hosts Hispanic Serving Health Professions Schools

The Hispanic Serving Health Professions Schools (HSHPS) recently conducted a 2-day professional development and data systems workshop in Bethesda for junior faculty, postdoctoral students, doctoral students, master’s students and other health professionals interested in Hispanic health research.

The workshop was attended by more than 100 participants nationwide including Puerto Rico. Day 2 was hosted at the Clinical Center. Concurrent sessions were held on Toolkit for Success, Scientific Writing, Data Systems and Grantsmanship. Participants interacted with NIH researchers and toured the Clinical Research Center during the sessions.

The workshop aimed to help prepare participants to perform analytical studies of national and state health datasets to better contribute to Hispanic health care research and provision of adequate health care. It was funded by the HHS Office of Minority Health through the National Umbrella Cooperative Agreement Grant and cosponsored by NIH.

HSHPS provides a number of opportunities for health and diversity outreach. For more information contact Gerard Román, NIH Hispanic Employment Program manager, at [roman@od.nih.gov](mailto:roman@od.nih.gov), call (919) 541-3430, or visit [www.hshps.org](http://www.hshps.org).



**Top:**

*The Hispanic Serving Health Professions Schools brought more than 100 workshop participants to NIH.*

**Above:**

*NIH principal deputy director Dr. Lawrence Tabak (l), Gerard J. Román, NIH Hispanic Employment Program manager, and Dr. Valerie Romero-Leggott, president of HSHPS, chat during the workshop.*

**Below:**

*Román welcomes the group to NIH.*

PHOTOS: BILL BRANSON





## MEN'S HEALTH

CONTINUED FROM PAGE 1

### Top, l:

The panel at the men's health disparities workshop included (from l) Rivers, Dr. Scott D. Rhodes, Dr. Miguel Muñoz-Laboy and moderator Terrance Afer-Anderson.

### Top, r:

Muñoz-Laboy quipped, "There's nothing like an NIH presentation to test your masculinity."

PHOTOS: ERNIE BRANSON

Research Institute and Dr. Scott Rhodes of Wake Forest School of Medicine. Terrance Afer-Anderson of Virginia's department of public health, Norfolk district, moderated the panel.

The three NIMHD-funded investigators presented their ongoing research and outreach to improve the health of men from racial/ethnic minorities, as well as from gay, bisexual and transgendered communities.

"There's nothing like an NIH presentation to test your masculinity," quipped Muñoz-Laboy.

Since the globalization of the 1990s, he said, the world has shifted from industrial to informational. Economic polarization and isolation increase as more people work part-time where "there is no factory; it moved away." Meanwhile, the rise of the global drug market creates "a workforce traffickers can tap into," and "racialized hyper-incarceration."

There are studies that show that loneliness increases risk to cardiac health, but as for HIV exposure, "we don't know causal relations between social isolation, loneliness and situational risk." Factors that increase risk occur in clusters; for example, Mexican immigrant men go to places where they can pay for a dance and drink alcohol, which may up their risk. We know that isolation and depression correlate with an increased risk of HIV transmission. Now longitudinal studies are needed, he said.

Muñoz-Laboy has also examined drug use and sexual risk behavior among formerly incarcerated Latino men (FILM). Depression is a major problem among FILM, he said, and treating it must be a public health priority.

And to combat the high transmission rate of HIV among bisexual Latino men, Muñoz-Laboy launched the Latino BiCultural Project, a web site to reach out and "demystify" bisexuality in the Hispanic community.

Next, Rivers discussed men's health with a focus on prostate cancer disparities.

"This is the magnitude," he said. "Black men have a shorter life-span than anybody else in the U.S.; cancer and heart disease are the leading causes of death. In the context of prostate cancer, black men have the highest incidence rate in the U.S., and are more than twice as likely to die of this disease when compared to men of other racial and ethnic groups.

"The magnitude of these disparities differs across states in the U.S. due to the demographic composition," he continued. "In some instances, the severity increases three-fold at the state level over the national level."

To address these disparities, the African-American Men's Health Forum, a community-based health promotion and health education event, was implemented with a host of community partners in the Tampa Bay area. In 2009, the title of the event was changed to Men's Health Forum (MHF) in response to outcomes of an assessment conducted by the local health department highlighting the health needs of the burgeoning population of Hispanics and Haitians in the Tampa Bay area. The primary findings of the assessment included a gap in outcomes, awareness and access among men, particularly medically underserved men.

The MHF helps men understand their health status, offers free care and addresses some of the social determinants of health. It features ongoing workshops, language services and screenings, as well as community-based research and data collection. Realizing the need for standardized, evidenced-based prostate cancer information, Rivers is currently testing the impact of an application, PHIN or Personalized Health Information Navigator, delivered via iPads by patient navigators (someone to accompany, teach and advocate).

"Information is essential to improving informed or shared decision-making in the context of prostate cancer, but information-seeking is not uniform across social groups with lower socioeconomic status," he said. "These individuals commonly encounter major barriers in seeking prostate cancer information outside the medi-



*Rhodes discusses a community-based research partnership he developed to reduce HIV risk among especially vulnerable populations.*

cal encounter.” Future plans include conducting a longitudinal men’s health study to assess the determinants of health care-seeking and utilization and effective strategies for community education.

Wake Forest’s Rhodes studies HIV among Latinos and sexual minorities, “vulnerable populations who are disproportionately affected in the southeastern U.S.,” he said.

In North Carolina, HIV has a 40 percent higher incidence than it does nationally, with the rate among Latino men 3 to 4 times higher than among other men. Many of them may not understand immigration policies, eligibility for services or the U.S. system of health care, Rhodes said.

He developed a community-based research partnership to reduce HIV risk among an especially vulnerable group: immigrant Latino men who have sex with men (MSM). Currently he is testing a revised version of an educational HIV prevention program that he originally developed and is now being disseminated by the CDC, known as HoMBReS. The program is conducted in partnership with local adult Latino soccer teams. One representative from each team is trained as a *navigante* (health advisor and advocate).

The *navigante* prepares teammates to approach the health care system and works to counter masculine stoicism (“I’m a man; I can’t ask for help”) with companionship, education, referrals and events such as condom distribution. The program had an 85 percent retention rate and was found to be effective to reduce men’s sexual risk.

Rhodes and his team have adapted the program for Latino gay and bisexual men, MSM and transgendered people. He noted that outreach efforts tend to be successful when they both dovetail with community assets and harness community strengths.

During the discussion, all three speakers called for an overarching approach.

Social determinants of health disparities include: health policy; the construction (or decline) of communities; access to health care and education; pov-

erty; racism; homophobia; acculturation; and even something as basic as the location of grocery stores.

“The problem is that funding is disease-specific,” said Muñoz-Laboy. “Stop this silo mentality. And to lead to sustainable change, we have to deal with the criminal justice system.

“The frustrating part is that we know enough, we know a lot, about what men need to do,” he continued, “but very few people have come up with solutions to mobilize men. Women tend to mobilize for children’s benefit. How do we mobilize men?”

“We need more effectiveness studies that will allow for the examination of social determinants and health outcomes among men,” said Rivers. Via the Men’s Health Forum, “more than 10,000 men have been reached. It’s not true that men don’t care. The tides are turning and we must change our messaging.”

“We need to challenge racism and homophobia,” said Rhodes. “Compound-ed with the lack of jobs, poverty, lack of education—all are related to many health outcomes.”

## NIH’s Commuter Benefits Program Honored

NIH was honored at the 16th annual Employer Recognition Awards ceremony hosted by the Metropolitan Council of Governments’ Commuter Connections program to recognize employers whose commuter benefits programs were judged to be the best in the region. Winners were named in the incentives, marketing and telework award categories; NIH took first place for incentives.

“NIH was selected because NIH provides the most encouragement and incentives to use alternative transportation in the region,” said Joe Cox, chief of transportation services in the Division of Amenities and Transportation Services, ORS.

The citation reads, “Since 1993, the National Institutes of Health has been providing its employees with incentives to encourage the use of transportation alternatives. Approximately 12,500 of its 23,000 employees participate in [NIH’s] commuting alternatives program. The NIH provides incentives including transit subsidies. In an effort to promote teleworking, the NIH developed the telework & flexible work schedules working group and sponsored a Telework Festival. It also offers on-site facilities for bicyclists and walkers. NIH is also one of the first federal agencies to offer a Bicycle Subsidy Program as an incentive, and...is a champion for Commuter Connections’ Bike to Work Day, with 590 employees participating in this year’s event.”

Commuter Connections focuses on making alternatives to drive-alone commuting practical, attractive and cost-effective. For more details on this year’s winners, visit [www.commuterconnections.org](http://www.commuterconnections.org).



*On hand from ORS at the award ceremony were (from l) Diane O’Neil, customer relations manager, Division of Information and Technology; Kenny Floyd, director, Division of Environmental Protection; Susan Cook, director, Division of Amenities and Transportation Services (DATS); Joe Cox, DATS chief of transportation services; DATS transportation specialists Louise Davis and Rusty Mason; and Michelle Mejia, DATS quality assurance.*



## EXHIBIT

CONTINUED FROM PAGE 1

### **Above:**

*Visitors take in some of the interactive attractions of the “Genome: Unlocking Life’s Code” exhibit at the National Museum of Natural History in downtown Washington, D.C.*

PHOTOS: DON HURLBERT, SMITHSONIAN INSTITUTION

viruses to mites—live on our bodies and, in fact, outnumber human cells 10 to 1. But fear not; they help us carry out life processes. And, over time, research on the many thousands of species of microorganisms will help us learn how to restore the microbiome when people get sick.

“People are engaged in this topic,” said Dr. Carla Easter, deputy chief of NHGRI’s Education and Community Involvement Branch (ECIB). “Teaching genomics is not easy. It’s a word not common in our vocabulary. Now, with the genomic revolution, people are more familiar with it in health care discussions and the National Museum of Natural History is utilizing genomic technology to enhance their research.”

The exhibit commemorates the anniversaries of two scientific achievements: the 10<sup>th</sup> anniversary of completion of the Human Genome Project in 2003 and the 60<sup>th</sup> anniversary of James D. Watson and Francis Crick’s discovery of DNA’s double helix structure in 1953, which laid the foundation for modern medical advances. NIH’s Human Genome Project sequenced the genome of a composite of individuals that will eventually lead to a greater understanding of mutations that cause disease. More immediately, it will help researchers personalize medicine and improve diagnostic testing.

“Two years ago, we had a meeting with Dr. [Wayne] Clough, the Smithsonian’s secretary, looking for ways to build stronger programmatic relations and outreach,” recounted Vence Bonham, chief of ECIB. “Out of that meeting came the idea for a collaborative exhibit on genomics. We brought together two teams, NHGRI and the Smithsonian’s natural history museum, to work for 22 months as one team. Together we developed content, artifacts and concepts—collaborating to develop this exhibit.”

The various displays explore genomics as it relates to us as individuals, as members of a family and as part of biodiversity in our universe. Learn how researchers sequence a genome and how that data can transform our lives. Explore genomic ancestry

from personal stories on video to archaeological evidence. Discover how genomics affects evolutionary changes and our natural world.

Activities and information also invite visitors to ponder the ethical, legal and environmental implications of advances in genomic science. Guests can contribute to the discussion via an ongoing research project. In an area known as the Genome Zone, there’s a list of questions on the wall: “What’s unique about your genome? Anything you want to remain a mystery? What do you hope scientists will discover about human health and medicine using the genome?” Visitors can text their brief answers, which become part of an online word cloud, and track the responses at <http://research.nhgri.nih.gov/SocialGenome>.

“This is also a social genomics research project,” said Bonham. “It will provide an opportunity for the exhibit visitor to participate in social science research conducted by a group of social and behavioral investigators at NIH.”

Funding for the exhibit came entirely from private donors.

When walking through the exhibit, it’s inspiring to see children of all ages engaged in hands-on learning. “The [exhibit’s] technology is engaging and, more importantly, friendly so people aren’t intimidated to learn about something so impactful,” said Easter. “Having young kids [spending time] in the exhibit is a wonderful start and an opportunity to build on their baseline knowledge.”

Genome: Unlocking Life’s Code opened in June. It will remain at the National Museum of Natural History until September 2014, after which it will travel to major cities across North America for the next several years.

For more information, visit [www.genome.gov/Smithsonian/](http://www.genome.gov/Smithsonian/). 

## 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:** Who monitors bike parking? I know the official NIH Bike Commuters guidelines say not to park bikes at railings, but outside Bldg. 49 there are at least a dozen bikes chained to the railing. Half of those riders don't go into 49, but to other buildings. There are bike racks all around, including MLP-9, but they all park at the railing. What can be done?

**Response from the Office of Research Services:** Monitoring of bike parking is administered by NIH Police patrol units. Violations fall under Manual Chapter 1411, "Bicycles, Bicycle Racks and Locker Facilities" (<http://oma.od.nih.gov/manual-chapters/management/1411/>). If you see a bicycle secured to a railing, light post or signpost, you may report it to the NIH Police non-emergency line at (301) 496-5685.

"Bicycles parked at any such prohibited location will be tagged [as abandoned after 24 hours] by the NIH Police. The tag will serve as a notification to the owner of the violation. The owner will be given 5 calendar days to remove the bicycle. If the bicycle has not been moved at the conclusion of the 5-day period, it will be considered abandoned and will be removed in accordance with the Code of Federal Regulations [41 CFR, Subchapter B, Parts 102-36 and 102-41 (Appendix 1)]. Bicycles removed in this manner...will be stored for 30 calendar days. Any person whose bicycle has been removed may reclaim it by calling (301) 496-3020 within 30 days. They must contact the Division of Police directly. At the conclusion of the 30-day period, the bicycles will be disposed of in accordance with the Code of Federal Regulations."

**Feedback:** Why does NIH charge for health and wellness services? Sure, they offer the occasional "free" class, but you have to pay to use the fitness center, pay to join classes, pay for special programs, etc. I was hoping to kick-start a healthier me with the Fit+ program they are offering this summer, but the cost of \$60 is prohibitive to me. You would think that of all places, the National Institutes of Health would do more to help its workforce live a healthy lifestyle.

**Response from ORS:** The Division of Amenities

and Transportation Services oversees the NIH fitness and wellness programs. These services are provided through the Recreation & Welfare Association. As a non-profit organization, the R&W Fitness Program has specific costs that are underwritten by memberships and fees. The resources include fitness centers, wellness services, fitness classes, health and wellness programs, including the Fit+ Program.

NIH is sensitive to the costs associated with providing these services and will continue to work with R&W to offer a wide variety of fitness and wellness classes and workshops at a minimal cost, if any. However, NIH does not currently have the resources to provide additional fitness and wellness activities, free of charge, for all NIH employees and contractors.

NIH does work with R&W and other partners, including the ICs, to provide free fitness demonstrations as well as free health and wellness related information, seminars and programs. For example, there is a heart walk trail ([www.ors.od.nih.gov/pes/dats/wellness/activities/Pages/activities.aspx](http://www.ors.od.nih.gov/pes/dats/wellness/activities/Pages/activities.aspx)) and free shower/locker facilities throughout campus ([www.ors.od.nih.gov/pes/dats/fitness/Pages/showers\\_locker.aspx](http://www.ors.od.nih.gov/pes/dats/fitness/Pages/showers_locker.aspx)) for those who want to participate in their own fitness activities. If you have further questions related to health and wellness services at NIH, contact DATS at (301) 402-8981. 📞

### NIH Officers Deployed for July 4th Celebration

Each year, hundreds of thousands of people converge on the National Mall to enjoy 4th of July festivities. They arrive en masse to listen to music, watch parades and take in the sights and sounds of Washington D.C. An unlucky few seek medical care for a variety of reasons, which can vary from mild to severe. Health care during events of this size and scope can be substantial.

To address these issues, the National Park Service partners with the Department of Health and Human Services to provide health care. Multiple medical support teams were deployed to Independence Day activities this year. NIH offered nine officers to augment HHS's robust response: Capt. Jeffrey Kopp, Capt. Joann Mican, Capt. Susan Orsega, Cdr. Sally Hu, Cdr. Paul Kruszka, Cdr. Colleen Lee, Cdr. Megan Mattingly, Lcdr. Stefanie Glenn and Lcdr. Eric Zhou.

To prepare, the officers volunteered multiple days to train for responses to any emergency—large or small. The weather on July 4 was hot and humid. Despite the enormous crowd, the event went well. Ultimately, the training ensured this year's celebration was safe and fun for the hundreds of thousands of attendees.



**Top:** Cdr. Sally Hu (l) and Park Ranger Berger (r)

**Above:** Lcdr. Eric Zhou (l), Hu and Lcdr. Jessica Cole at the Humphrey Bldg. headquarters for the National Independence Day celebration.



Battery-operated ultrasound patch delivers therapeutic ultrasound to heal venous ulcers.

PHOTO: DREXEL UNIVERSITY

### Ultrasound Patch Heals Venous Ulcers

In a small clinical study, researchers administered a new method for treating chronic wounds using a novel ultrasound applicator that can be worn like a Band-Aid. The applicator delivers low-frequency, low-intensity ultrasound directly to wounds and was found to significantly accelerate healing in five patients with venous ulcers. Venous ulcers are caused when valves in the veins malfunction, causing blood to pool in the leg instead of returning to the heart. This pooling, called venous stasis, can cause proteins and cells in the vein to leak into surrounding tissue, leading to inflammation and formation of an ulcer.

The technology was developed by researchers at Drexel University with funding from the National Institute of Biomedical Imaging and Bioengineering.

Venous ulcers account for 80 percent of all chronic wounds found on lower extremities and affect approximately 500,000 U.S. patients annually, a number that's expected to increase as obesity rates climb. It's estimated that treatment for venous ulcers costs the U.S. health care system more than \$1 billion per year.

Standard treatment for venous ulcers involves controlling swelling, taking care of the wound by keeping it moist, preventing infection and compression therapy—a technique in which patients wear elastic socks that squeeze the leg to prevent blood from flowing backwards. Despite these measures, wounds often take months and occasionally years to heal.

“Right now, we rely mostly on passive treatments,” said Dr. Michael Weingarten of Drexel, a researcher in the study. “With the exception of expensive skin grafting surgeries, there are very few technologies that actively stimulate healing of these ulcers.”

In an upcoming article in the *Journal of the Acoustical Society of America*, the Drexel researchers report that patients who received low-frequency, low-intensity ultrasound treatment during their weekly check-up (in addition to standard compression therapy) showed a net reduction in wound size after just 4 weeks.

### Removing a Protein Enhances Defense Against Bacteria in CGD Mice

Deletion of a protein in white blood cells improves their ability to fight the bacteria *staphylococcus aureus* and possibly other infections in mice with chronic granulomatous disease (CGD), according to an NIDDK study. CGD, a genetic disorder also found in people, is marked by recurrent, life-threatening infections. The study's findings appear online in the *Journal of Clinical Investigation*.

A team of NIDDK researchers compared three groups: CGD-afflicted mice with the protein Olfm4, CGD-afflicted mice in which the protein had been deleted and healthy mice in which the protein had been deleted. Olfm4, also known as olfactomedin 4, is sometimes helpful in limiting tissue damage but can also hinder white blood cells' ability to kill bacteria.

The researchers found that the white blood cells in mice without the protein could better withstand *staphylococcus aureus* infection, a major threat to patients with CGD.

“Although treatment for CGD has greatly improved over the past several years, the disease remains challenging,” said Dr. Wenli Liu, staff scientist and lead author. “Our research suggests a novel strategy that might pave the way toward developing new treatments to fight against common and often deadly infections.”

### Therapy for Severe Vasculitis Shows Long-Term Effectiveness

Administering the drug rituximab once weekly for 1 month provides the same benefits as 18 months of daily immunosuppressive therapy in people with severe forms of vasculitis, or inflammation of the blood vessels, a study has found.

Researchers from the Immune Tolerance Network (ITN), an international clinical trials group funded by the National Institute of Allergy and Infectious Diseases, found that rituximab is as effective as the standard therapy at inducing and maintaining disease remission. The findings appeared Aug. 1 in the *New England Journal of Medicine*.

In addition to these results, the online version of the study is the first to contain direct links to TrialShare External Web Site Policy, a new data analysis and sharing portal developed and managed by the ITN. The site provides access to the study's raw data and statistical analyses, allowing researchers to re-analyze the data and develop new hypotheses. Currently, TrialShare houses data from eight ITN clinical studies.

# milestones

## Swanson, Former Lab Chief at RML, Dies

Dr. John L. Swanson, who in the 1980s helped revitalize NIAID's Rocky Mountain Laboratories (RML) by championing the latest tools and methods in microbiological investigation, died suddenly on July 8 in Missoula, Mont. He was 76 years old.

Swanson came to RML in 1979 from the University of Utah, recruited by former NIAID director Dr. Richard Krause. Swanson is credited with starting internationally recognized research programs at RML on the bacteria that cause gonorrhea, chlamydia and Lyme disease.

"He succeeded in building a very strong program in bacterial pathogenesis," recalled Dr. Harlan Caldwell, chief of the Laboratory of Intracellular Parasites (LICP) at RML. "He was a cornerstone at RML, an important part of our history."

Swanson—known as a meticulous investigator, great mentor and rigorous manuscript reviewer—served as chief of the former Laboratory of Microbial Structure and Function at RML from 1979 to 1997. He retired from RML in 2001, but retained the title of scientist emeritus in LICP until 2003. He remained in western Montana during his retirement.

"John played a leading role in the development of RML and his work casts a long shadow," said Krause. "His skill at electron microscopy was masterful...NIAID and RML owe much to him."

Swanson hired and mentored many successful investigators, some of whom remain at RML. "John gave incredible independence to beginning postdocs, each typically having their own small lab space and choice of organism and project," recalled RML researcher Dr. Patti Rosa, whom Swanson hired.

Rosa appreciated Swanson's effort to build working relationships among RML staff. Regular interactions included discussions at weekly research presentations by laboratory staff, as well as morning coffee, lunchtime croquet tournaments and golf with anyone who would join him.

Swanson was born in Hastings, Neb. He attended Hastings College and the University of Nebraska and went on to earn an M.D. from the University of Nebraska College of Medicine. He interned at University Hospital in Omaha and completed a residency in anatomical pathology at Peter Bent Brigham Hospital in Boston before being drafted into the U.S. Army in 1966. While in the Army, Swanson served at the Armed Forces Institute of Pathology and at Walter Reed Army Institute of Research in Silver Spring.

He is survived by his wife Deirdre and four children.



# volunteers

## Pioglitazone Severe Asthma Clinical Trial

Patients with severe asthma may be eligible to participate in a study at the Clinical Center. The purpose of this study is to determine if a widely used agent for diabetes can improve asthma. Eligible patients will receive a comprehensive evaluation. There is no cost for participating in the study. For more information, contact our research coordinator, toll free, at 1-877-NIH-LUNG (1-877-644-5864), ext. 2 or via email at [LungStudy@nhlbi.nih.gov](mailto:LungStudy@nhlbi.nih.gov). You may also contact the NIH Patient Recruitment and Public Liaison Office via TTY 1-866-411-1010.

## Volunteers Needed with Chronic Liver Disease

NIDDK seeks volunteers 18 and older with chronic liver disease such as hepatitis, fatty liver and cirrhosis to join a research study. Fatigue is common in people with liver disease and can severely affect quality of life. Researchers want to learn what causes fatigue in people with liver disease. You do not need to have fatigue to participate in this study. You will complete a sleep diary for 1 week, answer questionnaires and have blood draws. You will spend 1 night at the Clinical Center where your sleep will be monitored (sleep study). Study-related procedures are provided at no cost. Compensation may be provided. For more information, call 1-866-444-2214 (TTY 1-866-411-1010) and refer to study 13-DK-0142.

## Overweight Male Volunteers Needed

Healthy volunteers are needed to participate in a study to collect information about changes in your energy expenditure when exposed to different environmental temperatures. Currently, we are seeking Caucasian men ages 18-35 with a BMI (body mass index) of 30-40 kg/m<sup>2</sup>. BMI may be calculated with a formula found at [www.nhlbi.nih.gov/guidelines/obesity/BMI/bmicalc.htm](http://www.nhlbi.nih.gov/guidelines/obesity/BMI/bmicalc.htm). The study requires a 2-week inpatient stay at the Clinical Center. Compensation is provided. Call (301) 594-6799 for more information. Refer to study 12-DK-0097.

## Postpartum Depression Studies

Healthy women ages 18-50 who had postpartum depression in the past are invited to participate in outpatient research studies. There is no cost for participation. Compensation is provided. Call (301) 496-9576 (TTY 1-866-411-1010) or visit online at [patientinfo.nimh.nih.gov](http://patientinfo.nimh.nih.gov). Refer to study 95-M-0097.



## Opening Symposium Set Porter Neuroscience Research Center Phase II Nears Completion

PHOTOS: FRANK KUTLAK

Construction on the second and final phase of the John Porter Neuroscience Research Center—PNRC II—is nearing completion. A special neuroscience conference and building dedication are being planned for October. Occupancy begins in November.

Begun in fall 2010, the new building will house about 650 scientists from 9 institutes and centers, including NINDS, NIMH, NICHD, NEI, NIDCR, NIDCD, NIA, NCCAM and NIBIB. Construction was made possible by funding from the American Recovery and Reinvestment Act of 2009.

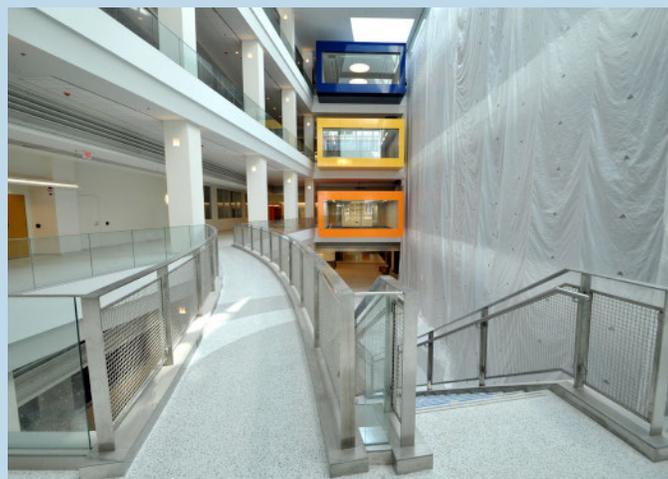
Composed of five floors—basement, ground, 1st, 2nd and 3rd floors with interstitial levels—PNRC II consists of 370,000 gross square feet. The building features several energy-efficient and sustainable design elements, including photovoltaic roof panels and geothermal (groundwater) source heat pumps.

Phase 2 expands the vivarium facility currently operating in phase 1, and provides behavioral, tissue culture and electrophysiology laboratories as well as such lab-support space as break rooms, meeting rooms, offices and lockers.

Phase 2 will also contain an imaging suite, seminar rooms, conference rooms and a coffee shop.



*Above, PNRC II is about 2 months away from its dedication; at right, the newly restored Lincoln Dr. crosswalk leads to the building's south entrance; below, one of the building's "green" features—geothermal wells are being connected to a valve box in the west yard and piped into the building.*



*Above left shows the architect's rendering of the PNRC II atrium; at right, art is realized. Below more interior images show (from l) the building's typical lab workstations and view of the expanded vivarium.*

