

# NIH RECORD

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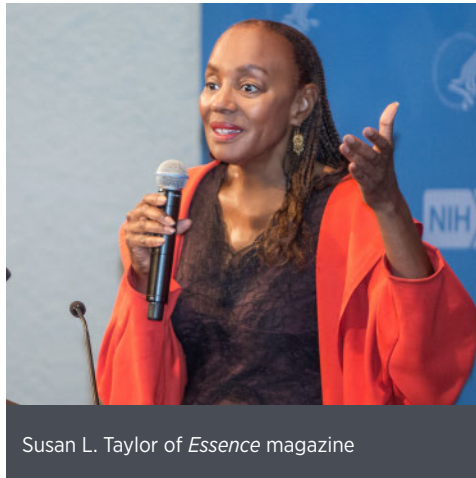
National Institutes of Health

## 'GIVE FROM OUR OVERFLOW' Taylor Calls on NIH'ers To Adopt, Share Healthy Behavior, Attitude

BY CARLA GARNETT

Susan L. Taylor was a 20-something, broke, exhausted newly single mom waiting in the emergency room, fully expecting the chest pain she'd had all week to be diagnosed as a heart attack. She was overwhelmed, over-burdened and under-employed. She was not, however, experiencing a heart attack. "You're having an anxiety attack," the doctor explained, "and you need to relax."

Still worried, but relieved and grateful her ailment wasn't worse, Taylor decided to walk home and save the \$5 in her pocket for food



Susan L. Taylor of *Essence* magazine

for her daughter. Wandering into a church service, she heard a sermon, a message unlike any she'd heard in her Catholic school upbringing—that with our mind we shape our world. That was decades, a successful 37-year publishing career and several more thriving ventures ago.

These days, at age 71 the chief editor emeritus of *Essence* magazine, Taylor focuses much of her energy traveling the globe, inspiring others "to focus our energy inward, where wisdom resides—and the courage needed to serve our own critical needs—so we can be of service to others." She came with a special message for NIH'ers.

"In this amazing, amazing institution dedicated to wellness—where your mandate is research and sharing critical information gleaned and instituting wellness in our communities—you have a mighty task," she said recently in Lipsett Amphitheater. "We need you to be healthy and strong, so you deliver well your work that can help people heal and thrive."

NIH's Office of Equity, Diversity and Inclusion invited Taylor to give her "Be Inspired" presentation as part of its "EDI365" commitment to promote dignity and respect every day of the year. The effort

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Patients rock with U2's *The Edge*. See p. 12.

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## BEETLE MANIA Insect-Borne Pathogens Threaten Crops

BY DANA TALESNIK

Wondering why the carefully tended vegetables in your garden have started to look rather lifeless? You're not necessarily losing your green thumb. The culprit might be a pathogen, transmitted by a beetle or other invasive critter, which can rapidly invade susceptible plants.



Dr. Roberto Kolter

viruses as Zika and dengue, but there are also numerous bacterial pathogens that affect

SEE KOLTER, PAGE 4



Out on Fishers Ln., you could stretch, before hiking, with a therapist.

## 'Take a Hike' for Your Health

BY DANA TALESNIK

It was a picture-perfect day on June 8, the kind of weather that makes you wish you had time to take a break from work to get outside. Luckily, NIH'ers had a great excuse to get out for a jog or stroll that afternoon: the 10th annual Take a Hike Day Walk/Fun Run.

More than 1,500 people registered for NIH's largest annual wellness event and

SEE HIKE, PAGE 6

**Woodruff To Speak at Caregiving Summit**

Judy Woodruff, anchor and managing editor of the *PBS NewsHour*, will present the keynote address at The Science of Caregiving: Bringing Voices Together Summit.

The event, organized by NINR and its partners, will be held on campus Aug. 7-8. Woodruff will open the summit on Aug. 7 at 12:30 p.m.



Judy Woodruff

Her experience caring for her oldest son has led to her dedication to raising awareness of the critical role of caregivers in our society.

The summit will provide perspectives across the spectrum of caregiving, including the importance of caregiving across the lifespan as well as current and future

directions for research to improve the health of patients and caregivers.

Gail Gibson Hunt, president and CEO of the National Alliance for Caregiving (a non-profit coalition dedicated to conducting research and developing national programs for family caregivers and the professionals who serve them), and Dr. Laura Gitlin, founding director of the Johns Hopkins Center for Innovative Care in Aging and professor at Johns Hopkins University School of Nursing, will serve as directors of ceremonies at the summit.

The event will bring together an audience of researchers, advocates, health care providers, educators and others interested in the science of caregiving. Cosponsors include NCI, NIA, NICHD, NIMHD, NCATS' Office of Rare Diseases Research and the NIH Offices of Behavioral and Social Sciences Research, Disease Prevention and Research on Women's Health.

Visit <https://www.ninr.nih.gov/caregivingsummit> for more information and to register.

**Annual Graduate & Professional School Fair, July 18**

The 2017 NIH Graduate & Professional School Fair will be held Tuesday, July 18 from 8:45 a.m. to 3:30 p.m. at the Natcher Conference Center. NIH summer interns as well as other college students in the D.C. area can prepare for the next step in their careers by exploring educational programs leading to graduate and professional degrees. More than 195 outstanding colleges and universities from across the U.S. will send representatives to recruit NIH trainees. The day will also include workshops and exhibits, which open from 9:45 a.m. to 2:15 p.m. For details, visit [https://www.training.nih.gov/gp\\_fair](https://www.training.nih.gov/gp_fair).



Newt Gingrich (r) shares a laugh with NEI clinical director Dr. Brian Brooks (c) as NEI director Dr. Paul Sieving looks on. The former speaker of the House spent several hours at NIH on June 20.

**Former House Speaker Gingrich Visits**

Former speaker of the U.S. House of Representatives Newt Gingrich visited NIH on June 20. He met with NIH director Dr. Francis Collins in Bldg. 1 before touring the Clinical Center with CC CEO Dr. James Gilman.

While in the CC, Gingrich sat in on a science briefing with researchers at the National Eye Institute, including NEI director Dr. Paul Sieving and clinical director Dr. Brian Brooks. Sieving gave Gingrich an overview of the institute and research under way.

Then, NEI Stadtman investigator Dr. Kapil Bharti of the unit on ocular stem cells and translational research gave a slide presentation on the latest developments in his regenerative medicine and stem cell research. Gingrich was able to see elements of the science first-hand, visiting Bharti's lab and viewing cell cultures via microscope.



At left, Gingrich learns about regenerative medicine from NEI's Dr. Kapil Bharti. At right, Gingrich is welcomed to Bldg. 1 by NIH director Dr. Francis Collins (r) and others.

PHOTOS: CHIA-CHI CHARLIE CHANG

**Feds Feed Families Under Way**

The 9th annual Feds Feed Families summer food drive is in full swing after kicking off on June 14. NIH'ers are encouraged to donate non-perishable food items to knock out hunger through Thursday, Aug. 31. All donations will be directed to the Children's Inn at NIH, the Safra Family Lodge and the Capital Area Food Bank. Food banks see a decrease in donations in the summer months, so now is the perfect time to help. Drop-off boxes are located in 11 on-campus and 18 off-campus buildings. In addition, staff can support the program by buying "Fighting Hunger" vouchers at Eurest cafeterias in Bldgs. 10 ACRF, 10 B1, 31, 35A, 41 and 45. All proceeds will be used to buy food items for donation. Last year, employees donated more than 30,000 pounds of food. No doubt we'll top last year's generosity this summer. For details, visit [www.ors.od.nih.gov/FedsFeedFamilies/Pages/default.aspx](http://www.ors.od.nih.gov/FedsFeedFamilies/Pages/default.aspx) or email [FedsFeedFamilies@nih.gov](mailto:FedsFeedFamilies@nih.gov).



At the 2017 Take a Hike Day on June 8, Feds Feed Families coordinator Shrylnee Speed (l) and ORS employee Tonya Walker staff a table promoting the food drive.

## 'ARCHITECTURE OF ASYLUM' NIH Stetten Museum Loans Objects to Exhibit on St. Elizabeths

BY MICHELE LYONS

Visit the National Building Museum for the exhibit "Architecture of an Asylum: St. Elizabeths, 1852-2017," featuring objects loaned by NIH's DeWitt Stetten Jr. Museum of Medical Research. The exhibit tells the story of the hospital for the mentally ill through the design, construction and development of its buildings and grounds.

St. Elizabeths (no apostrophe) opened as the Government Hospital for the Insane in 1852. Its design followed the Moral Treatment Plan for mental illness based on humane treatment and oversight and physical labor. Dr. Thomas Kirkbride (1809-1883) proposed the specifics of such a plan: only about 250 patients were to live in well-ventilated buildings set in bucolic scenery where they would provide farm labor to supply as much of the hospital's needs as possible. The exhibit tells how St. Elizabeths was initially a model of Kirkbride's plan and changed over the next 150 years as other approaches and technologies for mental health care came and went.

The exhibit incorporates architectural features from St. Elizabeths in its design, such as doorways and window frames, which add a sense of place. In addition to discussing the link between medical treatment and architecture, the exhibit also explores segregation, entertainment and recreation and the decline of the asylum era of treatment with photographs, models, maps and objects.

Two of those objects were loaned by the



Stetten Museum. The first was a handbook for students at the live-in nursing school, which was open from 1894 to 1952. The handbook, dating from about 1950, presented in straightforward terms the rules by which the student nurses were to live at St. Elizabeths, covering how they should keep their rooms, hang their clothes and play their music.

The second loaned object is a psychological test (shown above): the Complete Test Material for Form L Revised Stanford-Binet Scales. This is part of the Stetten Museum's collection of scientific instruments and psychological tests used at St. Elizabeths by researchers in the National Institute of Mental Health. The collection was donated to the Stetten Museum by Jason McEntee of NIMH. This particular kit measured memory, verbal and nonverbal skills to better develop treatment plans.

NIMH has a long history at St. Elizabeths, running the federal government's only civilian psychiatric hospital from 1967 to 1987, when administrative control was transferred to the District of Columbia. NIMH retained research facilities on the grounds of the hospital; the NIMH Neuroscience Center and the NIMH Neuropsychiatric Research

Hospital were dedicated on Sept. 25, 1989. They moved to the Bethesda campus in 1999. Currently, St. Elizabeths' grounds are becoming the headquarters site for the U.S. Coast Guard and Department of Homeland Security on the west side and a residential community with a sports and entertainment complex on the east side.

"Architecture of an Asylum: St. Elizabeths, 1852-2017" is connected by more than object loans to the Stetten Museum. Its curator, Dr. Sarah Leavitt, is a former historian with the Office of NIH History.

The National Building Museum is located at the Red Line's Judiciary Square Metro stop and is convenient to the lively restaurant scene on 7th St. NW. The exhibit will be open until Jan. 15, 2018. **R**



ON THE COVER: *Solomon's Seal emerging in the CRC courtyard*

IMAGE: BRANDON HARTZ

### The NIH Record

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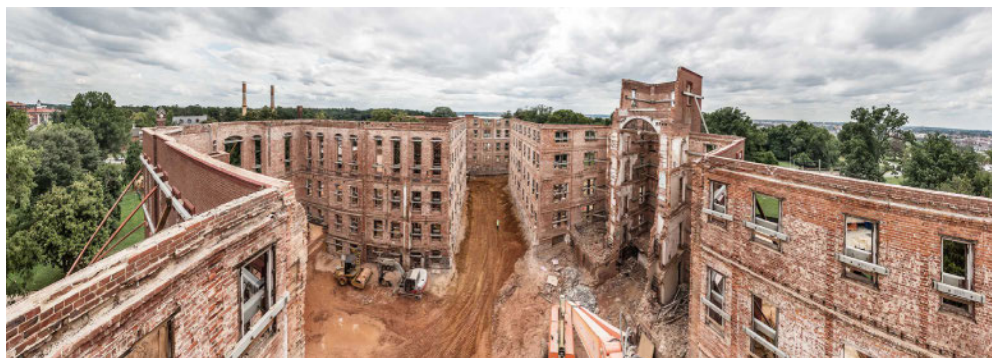
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The Center Building, circa 2016. Plans to retain as much of the interior of the building as possible were hampered by the discovery of original building materials and a structural system that were in far worse condition than expected. PHOTO: COLIN WINTERBOTTOM ©

At top is a testing kit featured in the exhibit, used by NIMH scientists. PHOTO: MICHELE LYONS

**NIH** National Institutes of Health  
*Turning Discovery Into Health*

hundreds of plant varieties.

One common insect-borne disease, bacterial wilt of cucurbits, is of particular interest to Dr. Roberto Kolter, a microbiology professor at Harvard Medical School, who delivered the Wednesday Afternoon Lecture recently. His lab is studying the evolution of this fatal plant disease, an annual epidemic in the northeastern United States. It's a story of old world meets new world, microbiology and anthropology, food security and health.

Cucurbit crops—certain types of cucumbers, melons, squash, pumpkins and gourds—are vulnerable to a bacterium called *Erwinia tracheiphila*, spread by the common cucumber striped beetle.

Unfortunately for the cucurbit, the beetle co-evolved with this plant and it's the only kind this beetle will eat. *E. tracheiphila* evolved more recently and found a ripe population to invade. Once infected, the plant starts to wilt and its fate is sealed; the cucurbits die within a couple of weeks.

"Once you have a pest and a pathogen... the population has to be susceptible and it needs to be high density so the transmission can be fast and effective before [the host] population is decimated," said Kolter. "If the populations are genetically lacking in diversity, that really renders a much greater chance for that invasion to be remarkably successful."

Pathogens tend to attack dense, homogeneous populations, said Kolter, and are responsible for the loss of more than 10 percent of wheat, corn and other U.S. crops. This threat to food security is a consequence, he said, of being so dependent on crops that lack diversity.

One such pathogen that hit Europe hard caused the infamous Irish potato famine in the 19th century. Millions of people died when *Phytophthora infestans* caused potato blight. This pathogen migrated and invaded mainland Europe multiple times.

Land plants have existed for 400 million years, said Kolter, who has studied the evolutionary origins of plant pathogens. Some 175 million years ago, squash plants started to evolve separately, each with its own collection of herbivores, he said. Humans began to cultivate and domesticate these plants 10,000 years ago. Old world met new

★ ★ ★

*"Beetles eat and poop at the same time. When the beetle feeds on the plant and poops into the wounds, the plant gets infected."*

-DR. ROBERTO KOLTER

★ ★ ★

world about 500 years ago when European settlers brought cucumbers and melons to the eastern United States.

"Now you have a pathogen in the making, perhaps, that finds a host that had never been there that is now being planted in high densities and continues to do so for the next 500 years," Kolter said. "We think this probably is the time that dates the *E. tracheiphila* evolution."

In the case of the cucurbit, its bitter taste and spiny leaves ward off predators. But its defensive compounds also are toxic, deadly to many animals, which led to co-evolution with certain specialized beetles. *E. tracheiphila*, inflicted by beetles, grows in the xylem and clogs the plant's vascular system, blocking water and nutrients from reaching the shoots.

Kolter scientifically explained the process. "Beetles eat and poop at the same

time. When the beetle feeds on the plant and poops into the wounds, the plant gets infected...Our agricultural landscapes are conducive to the success of this pathogen even though it has evolved, as of now, only inefficient ways of transmitting the disease."

Interestingly, Kolter's team confirmed what they witnessed in the field. The beetle prefers eating infected, already wilting leaves but healthy flowers. The wilted leaves give off volatiles that attract the beetle, he said, and the healthy flowers produce another set of attractants.

In another curious observation, the pathogen attacked both the new world *Cucurbita pepo*—squash, pumpkin, gourds, zucchini—and the old world *Cucumis sativus* (cucumber) plants but was more virulent in cucumbers than the native squash. Kolter's lab is currently doing genomic testing to learn more but has confirmed that *E.*



Kolter shared his study of the evolution of plant pathogens throughout the world. In the U.S., pathogens are responsible for the loss of more than 10 percent of wheat, corn and other crops.

PHOTOS: CHIA-CHI CHARLIE CHANG

*tracheiphila* is temperature dependent, which explains its geographic restriction to the Northeast.

In a field with scarce funding, Dr. Lori Shapiro in Kolter's lab has turned to citizen science. Working with Prof. Rob Dunn of North Carolina State University, Shapiro is recruiting students to plant cucurbits in school gardens with the goal of involving 5,000 schools. Their program is slated to begin this growing season at 500 schools.

"This will be a great resource, not only for sequencing the strains," he said, "but also for following the bio-geography of the beetle and exposing children to real research."

To help control bacterial wilt of cucurbits, Kolter advises planting diverse vegetable varieties in our gardens. Hybridization is a good defense. "Maybe your squashes will be a bit smaller," he said, "but that's okay. Maybe they'll have more flavor." **R**

## NO LONGER A PIPETTE DREAM

### DSEIS Hosts Clinic for Affordable, Convenient Calibration

Nearly every NIH lab relies on pipettes for consistent, accurate and precise performance. Routine maintenance and calibration keep them functioning at their best.

That's just one reason the Laboratory Equipment Maintenance and Repair Branch in ORS's Division of Scientific Equipment and Instrumentation Services recently hosted a pipette calibration and repair clinic for intramural research labs. DSEIS viewed the clinic as a way to provide convenient, high-quality, centralized pipette maintenance service at a significant cost savings.

During the week-long clinic, a representative from Capital One Calibration performed maintenance on more than 300 pipettes—ranging from singles, multis and pipette aids to repeaters, single and multi-electronic.

The multi-step service included external examination for missing or broken parts, disassembly and inspection for wear, cleaning, replacement of defective/missing parts, reassembly, external cleaning and sampling to assure accuracy, repeatability and linearity.

Response was positive. In fact, the clinic was so successful that DSEIS plans to offer centralized maintenance clinics for other equipment and instruments.

Have an idea for a future clinic? Contact Jerry Tyus at (301) 496-4131 or [DSEIS\\_repairs@nih.gov](mailto:DSEIS_repairs@nih.gov).

For more information about DSEIS, visit <https://dseis.od.nih.gov>.

## PI, PI AGAIN

### Rescheduled Pi Day Celebrates Intersection of Math, Science

NIH held its third annual Pi Day on May 18. Wait. Is that right?

Typically, Pi Day is an annual celebration of the irrational number  $\pi$ —3.14...—observed, fittingly, on Mar. 14. This year, inclement weather forced the date change.

Still, on Pi Day and every day, NIH recognizes the importance of building a diverse biomedical workforce with the quantitative skills required to tackle future challenges.

With 10 lightning talks (3 slides, 1 idea, 4 minutes—get it?), a poster session, a data center tour and more, NIH Pi Day was marked by events and activities celebrating the intersection between the quantitative and biomedical sciences.

Dr. Bonnie Berger, Simons professor of mathematics at MIT with a joint appointment in computer science, was the keynote speaker. She spoke on the "Mathematics of Biomedical Data Science."

Reminding her audience that she was a mathematician, not a medical person, she discussed the exponential increase in genomic and biomedical data over the past two decades and how it is outstripping advances in computing power.

Extracting new science from these massive datasets will require not only faster computers, she said. It will also require algorithms that scale sublinearly in the size of the datasets. She then discussed the work she and her colleagues are doing to create a new class of algorithms that are able to scale with the entropy and low fractal dimension of the dataset by taking advantage of the unique structure of massive biological data to operate directly on compressed data. These new tools can be used to address large-scale challenges in genomics, metagenomics and chemogenomics.

NIH Pi Day also offered a behind-the-scenes tour of the NIH Data Center, a secure facility in Bldg. 12. Employees of the Center for Information Technology described how this smallish building houses all core Internet services for NIH, among other essential functions.

Other highlights of the day included a poster session—with presenters at the lightning talks as well as other NIH researchers—where, of course, pizza pie was served. The event ended with a workshop on reproducible science, promoting open and reproducible research using Python and GitHub, in the NIH Library training room.—**Melanie Modlin**

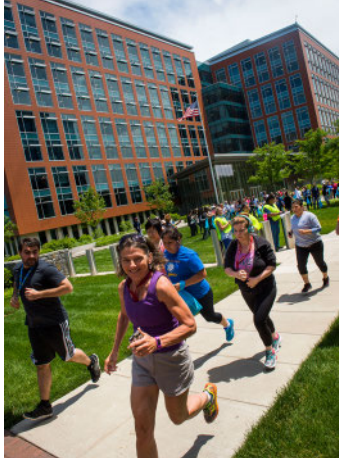


Dr. Bonnie Berger, a mathematician at MIT, serves as keynote speaker for NIH's rescheduled Pi Day event.



At left, Brian Ondov (l) shares information on his research with Angelo Wilson. At right, NLM director Dr. Patricia Brennan addresses the Pi Day assembly.

PHOTOS: CHIA-CHI CHARLIE CHANG



Above left, NIAID deputy director for science management Dr. John J. McGowan signals the start of the Fishers Ln. event. At center, spirits are high as hikers of all sorts—Children’s Inn crew and therapy dog Zilly included—are freed from their seats to enjoy the weather. At right, runners at Fishers Ln. start the race. Below, NHLBI director Dr. Gary Gibbons adds a bit of science to the sentiment.

## Hike

CONTINUED FROM PAGE 1

walked or jogged the 3.25 mile loop around campus or traversed paths at off-campus locations such as Fishers Ln.

“I don’t usually have time to do the whole loop, but today is such a nice day to get out and walk with my coworkers,” said NLM’s Heather Collins.

Some NIH’ers are hike veterans. D’Vonte Putney, a management analyst with NINDS, has participated annually for the past 8 years; he is NINDS representative to the NIH Health and Wellness Council, which helped organize the event. “It’s a great way to connect with people, walk and talk and have a self-reflecting period,” he said.

Others took the hike for the first time, such as OHR’s Lashawn Thomas, who said she enjoyed seeing the campus from the perimeter. “I didn’t realize it was that big!” she said. “It was a nice break from sitting at my desk.”

Putney tries to stay active by going to the gym and, lately, doing yard work. “I have a lot more energy when I’m active,” he said. “I also walk a lot for my job so I get my steps in.”

For Thomas, the event was a reminder to get outside and get moving. “I say I’m going to walk more, but I don’t always make the time,” she said. “This initiative brings people together and [inspired] me to do it.”

How much exercise is enough? The *Physical Activity Guidelines for Americans*



advises 150 minutes of regular, moderate physical activity or 70 minutes of vigorous activity weekly.

“The science is very clear,” said Dr. Peter Kilmarx, deputy director of the Fogarty International Center and representative of the Surgeon General’s office, during the event’s welcome outside Bldg. 1. “Just 22 minutes a day of physical activity can

significantly reduce the risk of diabetes, heart disease and other major causes of disability and death, but only about half of Americans get enough physical activity to reduce the risk.”

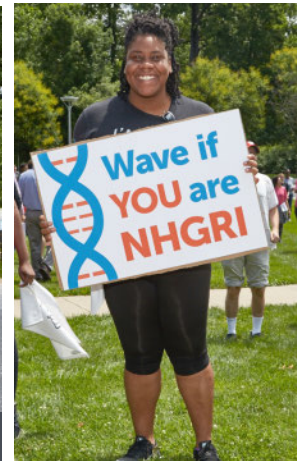
Kilmarx praised NIH’ers for embracing Step It Up, the agency-wide campaign to

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*“Sitting is the new smoking...  
 The more hours you log  
 sitting at your desk,  
 the shorter your lifespan.”*

-DR. GARY GIBBONS

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 increase use of stairs. In a recent survey, 70 percent of respondents had seen the motivational signs that inspired many to take the stairs more often.

“Sitting is the new smoking,” said NHLBI director Dr. Gary Gibbons. NIH research shows that “the more hours you log sitting at your desk, the shorter your lifespan,” he said. “But the good news is: you can walk it



Runners, joggers, power walkers and strollers—movers of all paces—are flanked by cheerleaders and well-wishers.

## NIMH Holds 9th Annual Julius Axelrod Symposium

This year's Julius Axelrod Symposium was held to honor the recipient of the 2016 Society for Neuroscience (SfN) Julius Axelrod Prize, Dr. Robert Malenka. Over the last three decades, Malenka has made major discoveries that have laid the foundation for our understanding of the physiological properties, molecular mechanisms and functions of synaptic plasticity. His scientific reputation was established with his initial studies of long-term potentiation (LTP) and long-term depression (LTD) triggered by NMDA receptors in the hippocampus. These long-lasting activity-dependent changes in the efficacy of synaptic transmission play an important role in the development of neural circuits and may mediate many forms of learning and memory.

As both a psychiatrist and neurobiologist, Malenka has been at the forefront of applying knowledge gained from basic research to the understanding of a wide range of brain disorders including epilepsy, Alzheimer's disease, Parkinson's disease, drug addiction, depression and schizophrenia. He has trained and mentored more than 100 postdoctoral fellows and students including NIDA scientific director Dr. Antonello Bonci; Dr. Alison Barth, professor at Carnegie Mellon University; Dr. Karl Deisseroth, Chen professor at Stanford University; and Dr. Nicole Calakos, professor at Duke University.

The symposium was kicked off with a "Remembrance of Julie" given by former NIMH scientific director Dr. Steven Paul, president & CEO of Voyager Therapeutics, who talked in detail about his years with "Julie."

Paul reminisced about the extraordinary contributions to science and training that were made by Axelrod and the lineage of scientists who were fortunate to train in his laboratory.

Malenka delivered the keynote address, describing his relatively new work on deciphering the neural mechanisms of social reward.

Other speakers at the symposium included Dr. Yeka Aponte of the neural circuits and behavior unit at NIDA and Dr. Chris McBain of NICHD's Laboratory of Cellular and Synaptic Neurophysiology.



Dr. Robert Malenka

NIMH postdoctoral fellow Dr. Vincent Costa was awarded the 2017 NIMH IRP Fellows' Axelrod Award and spoke on his work in primates on understanding explore-exploit decision-making processes.

This year the symposium included a data blitz session consisting of brief oral presentations that highlighted the work of a number of talented NIMH IRP trainees including Matthew Coon, Dr. Amicia Elliott, Dr. Andrew Emery, Dr. Jennifer Glaus, Dr. Sarah Williams and Dale Zhou.

In addition, the symposium closed with a poster session/reception in which 37 exceptional NIMH IRP trainees shared their science with attendees.

The 10th annual Julius Axelrod Symposium will be held at NIH in spring 2018 to honor the 2015 Julius Axelrod Prize awardee Dr. Pietro De Camilli, chair of the department of cell biology at Yale University School of Medicine, and the 2017 recipient who will be announced at the annual SfN meeting in Washington, D.C., this coming November.



At the symposium are (from l) NIMH director Dr. Joshua Gordon; Dr. Steven Paul, president & CEO of Voyager Therapeutics; Malenka; NIMH postdoctoral fellow Dr. Vincent Costa; and Dr. Susan G. Amara, 2014 SfN Julius Axelrod Prize recipient and NIMH scientific director.



Dr. Peter Kilmarx, FIC deputy director and representative of the Surgeon General's office, points out the benefits of physical activity.

PHOTOS: JEFF ELKINS, LISA HELFERT

out...Even just a half hour of brisk walking a day can stretch out that lifespan more than 7 years. I'm glad you're walking the talk and living our mission."

This was the second time the Children's Inn at NIH hiked as a group, which included 20 residents and 7 staff. "The residents don't get to leave much so this was a nice experience for families," said Rosa Segura. Her colleague at the inn, Tonia Flores, added, "They got to see more of the campus and got a good workout."

Dr. Don Wright, acting executive director of the President's Council on Fitness, Sports and Nutrition, underscored the importance of physical activity for reducing the risk of obesity and chronic disease. He said the council has an online tool, the Zero to 60 campaign, with tips on incorporating exercise into daily living.

It sometimes seems tough to find time to exercise while at work. Kilmarx suggested walking to meetings or walking to meet a colleague rather than calling or emailing.

"Keep stepping it up every day of the week," he urged. "Keep on walking, running, wheel-chairing and taking the stairs."

And follow the mantras of the motivational signs along the Take a Hike Day path. One proclaimed, "Find your happy pace." Another read, "You got this."

ORS dedicated this year's hike to the late Thomas Hayden, former director of the Division of Amenities and Transportation Services, who conceived of the event to promote exercise at NIH. He died unexpectedly in summer 2013. **R**

## Taylor

CONTINUED FROM PAGE 1

emphasizes, among other things, workforce well-being, which in turn can help boost employees' level of service.

"Your behavior sets the standard for others to follow," said Joy Gaines, women's portfolio strategist in EDI, who introduced the program, "and let's face it, sometimes we all need a little encouragement and inspiration."

Taylor's visit also came on the heels of National Women's Health Week, an annual observance led by the Office of Women's Health in the Department of Health and Human Services since 1999. The week begins each year on Mother's Day and encourages women to make their health a priority.

"When we live in balance—eat to live, not only to satisfy our taste buds, exercise, take quiet, reflective time—we become healthy in body, mind and soul," Taylor said to the audience. "We are happy and can give from our overflow."



Taylor addresses a packed Lipsett Amphitheater.

PHOTOS: CHIA-CHI CHARLIE CHANG

under-resourced communities—are waiting for mentors. Over the years, CARES has sent out 135,000 mentors in 58 cities.


"The challenges you read about every day in the newspaper, the ones we are dealing with? They're not insurmountable," Taylor said. "No matter where your ancestors came from, this is not the hardest part of the journey. The hardest part has been done.

their own healthy behavior and attitudes—eat better and reduce stress, for example—so they're in position to reach back and encourage others.

To NIH'ers—specifically women and people of color—she said to "fire the judge, the inner critic that makes us believe that we are deficient in some way, when the opposite is true. We are more than enough! Be mindful, change the inner dialogue to a positive one," Taylor emphasized.

"Realize that working here, you're doing the work of life, saving, healing and nourishing lives," Taylor said. "We have a responsibility as the able, stable ones in our community. We cannot win the battle for wellness with broken, exhausted troops. Be your own best friend and give yourself to yourself before you give yourself to others. This is all of our primary responsibility."

Take time to be still, appreciate all that you have and use the enormous power inside yourself, she advised, reminding the assembly of what an attitude adjustment did for that frightened young divorced mother in the ER who couldn't make ends meet and thought she might be dying.

"I didn't always have it all together—still don't as a matter of fact," Taylor concluded. "I'm doing this work because I'm a bridge. I'm a bridge between people like you—people in positions of power, people at the White House—and other people who have no voice, who are struggling along the margins and who need us to awaken to our own wellness so that we can do the larger critical work we were sent here to do...Gratitude makes everything that you have more than enough. Be in gratitude all day long and watch how your life begins to change." 

• • •

*"...Gratitude makes everything that you have more than enough. Be in gratitude all day long and watch how your life begins to change."*

—SUSAN L. TAYLOR

• • •

Founder & CEO of the National CARES Mentoring Movement, Taylor linked NIH's mission directly to the work of the nonprofit organization she and her *Essence* team established after Hurricane Katrina—known then as *Essence CARES*—to help rebuild and restore communities hardest hit by the storm. The movement has since flourished beyond its original purpose and geographic area to help "break the cycle of generational poverty and end the state of emergency among our struggling young," Taylor explained.

Armed with impact videos outlining crisis points, she came to NIH seeking volunteers to join the effort by donating just 1 hour a week to a child in need.

CARES recruits mentors, then trains and deploys them around the country. Citing national data, Taylor said more than 15 million young people—most of them in

But, we've got to be fit, focused, organized and disciplined in order to carry on and build upon the gifts that our foreparents gave to this nation and the world."

Three years ago, her organization launched a second tier called "The Rising—Elevating Education, Expectations and Self Esteem."

Working with 60-some educators and other partners, The Rising developed a 10-pillar empowerment curriculum adaptable to different cultural communities. The model is currently up and running in schools in south side Chicago, Detroit and south Florida.

"You're more than you seem," said Taylor, reciting the core principle that aims to help youngsters see beyond their current circumstances to nourish their potential.

Taylor was quick to point out, however, that would-be helpers must first develop



## Largest Ever U.S. Senate Delegation Visits NIH

U.S. Sen. Roy Blunt (R-MO), chair of the Labor, HHS, Education and related agencies appropriations subcommittee, led a visit by 8 other appropriations committee members and staff to NIH on the afternoon of June 5.

In addition to Blunt were subcommittee members Sen. Lamar Alexander (R-TN), Sen. James Lankford (R-OK), Sen. John Kennedy (R-LA), ranking members Sen. Patty Murray (D-WA), Sen. Richard Durbin (D-IL) and Sen. Jeanne Shaheen (D-NH) and members of the full committee Sen. Susan Collins (R-ME) and Sen. John Boozman (R-AR). It was the largest group from the upper legislative body to visit NIH at one time.

NIH director Dr. Francis Collins welcomed the delegation at the Porter Neuroscience Research Center, where he briefly described NIH's BRAIN Initiative. In addition, NIA director Dr. Richard Hodes talked to the group about Alzheimer's disease research.

Next, they traveled to the NIAID Vaccine Research Center, where NIAID director Dr. Anthony Fauci and VRC director Dr. John Mascola provided an overview of the facility and its role in the discovery of new vaccines for emerging and re-emerging diseases, including HIV/AIDS, influenza, Ebola and Zika.

Group members heard how structure-based design is being used to develop universal influenza vaccine candidates as well as a vaccine for respiratory



Collins and Sen. Patty Murray (D-WA) in the meeting at the Porter Bldg.



NIA director Dr. Richard Hodes (foreground) briefs a group that includes NIH director Collins and nine lawmakers (shown clockwise around the table) Murray, Lankford, John Kennedy (R-LA), Richard Durbin (D-IL), John Boozman (R-AR), Jeanne Shaheen (D-NH), Lamar Alexander (R-TN), Susan Collins and Blunt. At right, alongside Durbin, Rosenberg describes his research.

PHOTOS: DANIEL SOÑÉ



NCI patient Melinda Bachini, a 48-year-old paramedic and mother of six, chats with (from l) Dr. Steven Rosenberg, NIH director Dr. Francis Collins, Sen. Roy Blunt (R-MO), NIH principal deputy director Dr. Lawrence Tabak and Sen. James Lankford (R-OK). Below, Sen. Susan Collins (R-ME) talks at a science briefing.

syncytial virus, a respiratory infection that can cause severe illness in infants and the elderly.

Afterwards, the delegation set off for the Clinical Center, where they were greeted by CC CEO Dr. James Gilman and NCI acting director Dr. Doug Lowy, en route to a briefing on NCI's immunotherapy research.

Dr. Steven Rosenberg, chief of the Surgery Branch in NCI's Center for Cancer Research, has pioneered development of effective immunotherapies and gene therapies for patients with advanced cancers. His studies of the adoptive transfer of genetically modified lymphocytes have resulted in regression of metastatic cancer in patients with melanoma, sarcomas and lymphomas. He talked about leading ongoing studies to replicate the success for other cancer types and discussed recently published results of a regression in metastatic bile duct cancer.

Rosenberg described how immunotherapies for the treatment of cancer patients work and shared a patient's story.

The group met briefly with Melinda Bachini, a 48-year-old paramedic and a mother of six from Billings, Mont., who was diagnosed with



widespread bile duct cancer and had progressed through all available treatments before coming to NCI. She was treated with cell transfer therapy in October 2013 and had a dramatic cancer regression, which continues today.

Finally, the delegation visited with NIMH director Dr. Joshua Gordon, who provided an overview of his institute's research, and Dr. Carlos Zarate, chief of NIMH's Experimental Therapeutics & Pathophysiology Branch and section on the neurobiology and treatment of mood disorders.

Zarate talked about developing novel medications for treatment-resistant depression and bipolar disorder. He, too, presented a patient whose story profoundly moved the senators.



## 'ADVANCING HEALTH EQUITY'

### NINR's Grady Delivers Keynote for 1st Indigenous Nursing Research Summit

NINR director Dr. Patricia Grady delivered the keynote address at the inaugural International Indigenous Nursing Research Summit of Florida State University's new Center for Indigenous Nursing Research and Health Equity (INRHE).

INRHE's mission is to "attain health equity through research, education and service by partnering with indigenous peoples, communities, organizations and supporters globally."

In her presentation "Advancing Health Equity in a Diverse World," Grady discussed the challenges and opportunities facing the health community, including health disparities and health inequities.

Among NIH's efforts to advance health in all populations, Grady highlighted the establishment of the NIH Tribal Health Research Office in 2015.

Grady also noted NINR's support of research

focused on improving the health of minority and indigenous populations, including research on breastfeeding, the mothering experience, beliefs regarding health care access and cancer pain among indigenous and Native American populations.

In her remarks discussing the future of nursing science and NINR's commitment to a diverse nursing science workforce, Grady noted that NINR is "guided by the philosophy of Dr. Sarah McFarlane, who says we must 'Think globally, act locally and collaborate internationally' to engage and facilitate fully invested representative communities of nursing science."

Also at the event, Dr. John Lowe, INRHE director, and his elder, Chief Jim Henson of the United Keetoowah Band of Cherokee Indians, dedicated the future INRHE site, including a traditional Native American blessing.



NINR director Dr. Patricia Grady (c) participates in the blanket wrapping ceremony with Dr. Judith McFetridge-Durdle (l), dean of the FSU College of Nursing, and Dr. Kay Edwards, associate dean of academic programs and professor at Florida Atlantic University Christine E. Lynn College of Nursing.

PHOTO: FSU PHOTOGRAPHY SERVICES/BILL LAX



At left, Jaroslav Sebek (second from left), Division of Environmental Protection, explains the NIH policy on ULT freezer management to a member of the NIH intramural community, Jerry Tyus and Anju Vergheese, both of ORS's Division of Scientific Equipment and Instrumentation Services, welcome members of the NIH intramural community to the ULT Freezer Show.



### Hands-On ULT Freezer Show Brings Cool to Campus

More than 50 intramural principal investigators, lab managers and other research staff from a range of NIH institutes, offices and centers attended a recent DSEIS Presents: The ULT Freezer Show.

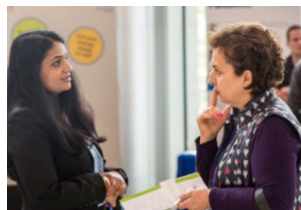
Hosted by the Office of Research Services' Division of Scientific Equipment and Instrumentation Services (DSEIS), the show offered an opportunity for the intramural community to get up close and personal with ultra low temperature (ULT) freezers that meet NIH energy-efficiency requirements.

Representatives from four vendors displayed the latest generation of new energy-efficient ULT freezers that consume about half the electricity as new standard efficiency ULT freezers. Each

energy-efficient unit can save NIH \$500 per year in electricity and cooling costs and reduce annual greenhouse gas emissions by 3,800 lbs. of CO<sub>2</sub>.

During the show, DSEIS staff provided details on options for acquiring freezers and other lab equipment and instruments as well as information about ULT freezer maintenance.

Jaroslav Sebek of ORS's Division



Vergheese, chief of the DSEIS Sales and Rental Branch, discusses ULT freezer options with NIDDK biologist Minoos Shakoury-Elizeh.

of Environmental Protection was on hand to discuss NIH policy on management of ULT freezers, the benefits of using energy-efficient ULT freezers and the new Energy Star rating for ULT freezers.

An NIH Supply Center representative was available with information about resources for the intramural research community.

The ULT Freezer Show is the first in the NIH ORS DSEIS Presents series of on-campus events for the intramural research community. Each event will feature a different type of lab equipment or instrument that intramural researchers use in their work. Stay tuned for future DSEIS on-campus events.

For equipment sales and rental, contact Anju Vergheese at (301) 496-9748 or email [rental@ors.od.nih.gov](mailto:rental@ors.od.nih.gov). For maintenance, repairs and fabrication, contact Jerry Tyus, (301) 496-4131 or email [DSEIS\\_repairs@nih.gov](mailto:DSEIS_repairs@nih.gov). **R**

### Volunteers Needed for Study of Stuttering

NIDCD researchers are studying the genetic factors in stuttering. If you are 8 or older, currently stutter and have other family members who also stutter, you may be interested in participating. There are no study visits. You will be asked to provide a recorded speech sample and saliva sample for genetic testing. Compensation is provided. For more information, call 1-866-444-2214 (TTY 1-866-411-1010) or learn more online at <http://go.usa.gov/x2FCh>. Refer to study 97-DC-0057.

## Engels Named Chief of NCI Branch

Dr. Eric Engels has been appointed chief of NCI's Infections and Immunoepidemiology Branch. He is an international leader in research on cancer among immunosuppressed individuals, including persons with HIV and transplant recipients, and on the epidemiology of non-Hodgkin lymphoma. He has served as acting chief of IIB since April.

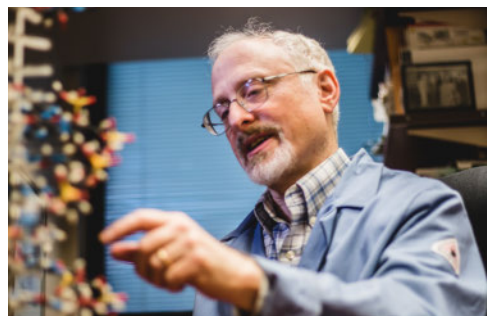


Dr. Eric Engels

Engels earned a B.A. in mathematics from the University of Virginia and a medical degree from Harvard Medical School. He trained in internal medicine at Brigham and Women's Hospital and completed clinical training in infectious diseases and earned an M.P.H. from Tufts University School of Medicine.

Engels joined the Division of Cancer Epidemiology and Genetics in 1998 as a senior staff fellow, became an investigator in 2000 and was tenured in 2007. In addition, he has served as chair of the DCEG technical evaluation of protocols committee and a member of the senior advisory group since 2011.

Engels received an NIH Merit Award in 2012 in recognition of his research resulting in "improved understanding of the cancer risk and burden in immune-compromised populations." In 2015, he was recognized by DCEG with the annual mentoring award.



Dr. Kenneth A. Jacobson

## ACS Honors NIDDK's Jacobson

Dr. Kenneth A. Jacobson, chief of NIDDK's Laboratory of Bioorganic Chemistry, received the American Chemical Society's Bristol-Myers Squibb Smissman Award during its 253rd national meeting in San Francisco recently.

The award is given to a living scientist whose research, teaching or service has had a substantial

impact on the intellectual and theoretical development of the field of medicinal chemistry.

Jacobson's research focuses on the relationship between drug structures and biological activity, specifically to develop drugs that act as agonists or antagonists of G protein-coupled receptors (GPCRs). The study of GPCRs, including purinergic receptors, provides promising avenues for the development of new drug therapy for treating chronic diseases. More than 35 compounds from the Jacobson lab are available commercially as research tools and are used to advance research in hundreds of laboratories.



Dr. Linda Porter

## APS Lauds NIH's Porter for Public Service

Dr. Linda Porter, director of the NIH Office of Pain Policy, recently received the John and Emma Bonica Public Service Award from the American Pain Society (APS). The award—which is named for John Bonica, a leading force in the development of the pain treatment movement, and his wife Emma—honors outstanding contributions by an individual or organization to the field of pain through public education, dissemination of information, public service or other efforts to further knowledge about pain.

Porter was recognized for her work in advancing the federal pain research agenda and moving forward the National Pain Strategy. She was honored at an awards reception held recently during APS's annual meeting in Pittsburgh.

Porter earned her undergraduate degree in physical therapy from McGill University and her Ph.D. in neuroanatomy from Boston University School of Medicine.

Before coming to NIH, she served on the faculty of the Uniformed Services University of the Health Sciences for 15 years. She joined NINDS in 2003 as a program director in the systems and cognitive neuroscience cluster. There she was responsible for

managing the institute's pain research portfolio. She also played an essential role in promoting the objectives and activities of the NIH Pain Consortium, a trans-NIH entity whose mission is to advance the NIH pain research agenda.

In 2011, Porter became director of the NIH Office of Pain Policy. The position was one of two created by NIH based on recommendations in the 2011 Institute of Medicine report *Relieving Pain in America*. The office supports and guides the activities of the NIH Pain Consortium and those of the interagency pain research coordinating committee (IPRCC), a congressionally mandated advisory committee to the HHS secretary.

Porter co-chaired development of the National Pain Strategy report and currently co-chairs the strategy's implementation committee. She also co-chairs the committee that oversees development of the Federal Pain Research Strategy on behalf of IPRCC.



Dr. Richard Hodes and Dr. Arlene H. Sharpe

## NIA Director Hodes Receives Immunology Award

NIA director Dr. Richard Hodes was honored May 12 with the Lifetime Achievement Award from the American Association of Immunologists (AAI). He remains active in research as senior investigator and chief of the immune regulation section in NCI's Experimental Immunology Branch, with research focused on cellular and molecular events that regulate the immune response.

The award, presented by AAI president Dr. Arlene H. Sharpe of Harvard Medical School, is the highest honor bestowed by the AAI Council upon an AAI member. It recognizes a member for a career of scientific achievement and for contributions to AAI and fellow immunologists.



Onstage with The Edge (second from l) are Clinical Center patients (from l) Amanda Lee, Farrah Mackenzie, Robert McDermott and Ann Ness.

## Collins, NCI Staff Accompany Patients to U2 Concert

PHOTOS: DIANE BAKER, LORI WIENER

When rock band U2 played FedEx Field on June 20 as part of a tour celebrating the 30<sup>th</sup> anniversary of its album *The Joshua Tree*, a contingent of NIH staff and patients were on hand to enjoy both the concert and some pre-show festivities.

Just as he did 6 years ago when U2 played at Baltimore's M&T Bank Stadium, NIH director Dr. Francis Collins and his wife Diane Baker accompanied young Clinical Center patients who enjoyed backstage access and a chance to meet band members.

Collins has struck up a friendship with U2 guitarist David Howell Evans, known professionally as The Edge. Evans' daughter Sian, now 19, is a leukemia survivor and he remains interested in scientific

research, especially concerning angiogenesis and diet with respect to cancer prevention.

Indeed, the day before the FedEx concert, Collins and The Edge had a chance to meet and play guitar together in Washington, D.C. The guitarist was in town not only for the concert but also to visit Capitol Hill and lobby for more research.

At FedEx Field, the patients and their parents/guardians got a taste of the rock star life, handling expensive drums and guitars on stage and taking part in the pre-show catered dinner. In addition to Collins and his wife, chaperones included Dr. Nirali Shah of NCI's leukemia program and Dr. Lori Wiener, head of the psychosocial support and research program in NCI's Pediatric Oncology Branch.

The NIH entourage traveled together by van to the show and returned around midnight to the Clinical Center having had an exhilarating evening of music and camaraderie.



Above, Ness shows off the swag she got at the show as NIH director Dr. Francis Collins looks on. Below, she rocks out on drums on the U2 concert stage at FedEx Field.



Mackenzie enjoys the U2 drum kit while her father Andrew Mackenzie looks on.



LEFT: The Edge pauses for a photo with Lee. ABOVE: The Edge (c) poses with the NIH entourage. RIGHT: The Edge has a chat with McDermott.

