JANUARY 3, 2014
VOL. LXVI, NO. 1
The Second Best Thing About Payday

nih record

ABOVE • *You'd exult too if you won the gingerbread house decorating contest. See back page for more.*

features

1
Great Science, Iffy Budget Prospects Occupy ACD

3
NIBIB Wows 'Em at Science Fair

5
NHLBI's Chung Seeks Ways to Slow Aging Process

11-12
Holiday Preparations Enliven Campus

departments

Briefs 2
Digest 10
Seen 12

The NIH Record is recyclable as office white paper.

Budget Uncertainty Again Clouds ACD Meeting

By Rich McManus

The 107th meeting of the advisory committee to the NIH director (ACD) Dec. 5-6 was much like the last half-dozen of these biannual events: brimming with scientific promise—especially regarding the BRAIN Initiative at NIH—but darkened by prospects of flat or reduced budgets.

At the outset of his state-of-the-NIH presentation to the group, NIH director Dr. Francis Collins described new guitar pick-shaped lapel pins (created by an outside group, United for Medical Research) popping up around NIH and even on Capitol Hill that tout "Hope at NIH." These arose not only out of Collins' reputation as a musician, but also as "insignia that we believe in what we are doing," said Collins.

"You want to pick NIH and you want to pick hope," he said, inviting the group to wear the symbols with pride.

Collins called 2013 "the worst year in recorded history in terms of NIH's ability to support grant applications." The success rate was between 1 in 6 or 7, or about 15 percent, which he called "unsustainable—there's nothing helpful about that…I can't tell

SEE **ACD MEETING**, PAGE 4

Dr. Patricia Hibberd (l) of Harvard chats with NCCAM's Dr. Jack Killen prior to her lecture.

Gut Reactions

Beyond Digestive Issues: Can Probiotics Boost Our Immune System?

By Dana Steinberg

In recent years, an increasingly wide variety of probiotics have sprung up on store shelves among the bottles of dietary supplements. They've also invaded our foods, from yogurt to pickles. Where did probiotics come from? Might they really have immune defense properties? Are they safe?

"It's getting hard to avoid them," said Dr. Patricia Hibberd, professor of pediatrics at Harvard

SEE **PROBIOTICS**, PAGE 6

Healing Power of Storytelling

NIH Observes Native American Heritage Month

By Belle Waring

Dr. Brenda Manuelito of nDigiDreams

When we hear the crows' parley or the dog's bark, we're reminded that animals communicate.

But we humans are the storytelling animals.

Long before Europeans came, Native Americans were telling stories to preserve their cultures, link the generations and explain how everything in Creation is connected. Stories had—and still have—sacred meaning.

The story of how narrative promotes the health and well-being of Native communities drew a large and diverse crowd to Lipsett Amphitheater recently for "Healing Our Community through Narrative: The Power of Storytelling."

Speakers were Dr. Ted Mala, director of tra-

SEE **STORYTELLING**, PAGE 8

The **NIH Record** is published biweekly at Bethesda, MD by the Editorial Operations Branch, Office of Communications and Public Liaison, for the information of employees of the National Institutes of Health, Department of Health and Human Services. The content is reprintable without permission. Pictures may be available upon request. Use of funds for printing this periodical has been approved by the director of the Office of Management and Budget through September 30, 2014.

To receive alerts to our latest issue, send an email to listserv@list.nih.gov with the words "Subscribe NIHRECORD" in the message body.

NIH Record Office Bldg. 31, Rm. 5B41
Phone (301) 496-2125 **Fax** (301) 402-1485

Web address http://nihrecord.od.nih.gov

Editor
Richard McManus
Rich.McManus@nih.gov

Associate Editor
Carla Garnett
Carla.Garnett@nih.gov

Staff Writers
Jan Ehrman
Jan.Ehrman@nih.gov

Dana Steinberg
Dana.Steinberg@nih.gov

Belle Waring
Belle.Waring@nih.gov

The **NIH Record** reserves the right to make corrections, changes or deletions in submitted copy in conformity with the policies of the paper and HHS.

NIH...Turning Discovery Into Health

nih record

briefs

STEP Forum on Benefits of Physical Activity

The staff training in extramural programs (STEP) committee will present "Move: Physical Activity Benefits Everyone," on Tuesday, Jan. 14 from 9 a.m. to noon in Lister Hill Auditorium, Bldg. 38A.

We are born to move...but are we moving enough? Research has revealed that physical activity offers huge health benefits, including reduced risk of several life-threatening diseases and improved mental health. Moderate forms of exercise may also help people with adverse health conditions. This forum will show that moving more can improve the health and well-being of everyone, from the couch potato to the avid athlete.

NIDDK Unveils New Web Site, Improvements Geared to Researchers

On Dec. 16, NIDDK launched a new web site that significantly improves upon its predecessor at www.niddk.nih.gov.

"NIDDK's health information has always been well received by more than 20 million online users annually," said NIDDK deputy director Dr. Gregory Germino, who helped spearhead the project. "Our goal with the revised web site is to provide the same level of clear and current information for researchers."

Content for NIDDK's new site was updated following more than 2 years of planning across the institute. Intramural investigators' publications and research areas are now more clearly presented to encourage research collaborations and help the public find opportunities to participate in clinical trials. Data and sample repositories are also more readily available. Meanwhile, health information and education program pages remain easy-to-navigate sources of reliable information.

"More easily accessible information about funding and research training will help a new generation of scientists take the next step in their careers," said NIDDK director Dr. Griffin Rodgers. "People can also learn about the latest NIDDK-supported basic, clinical and translational advances."

The web site will continue to evolve using a data-driven approach that incorporates feedback from the public and a close study of how people interact with the new site. NIDDK leadership and staff are committed to maintaining the new site so it continues to be a useful resource for current and potential grantees, fellows, collaborators, media and the public.

Obesity Society Honors Two NIH'ers

The Obesity Society recently honored two NIH'ers, one for distinguished public service and one for excellence in pediatric research. Karen Donato (l), acting director of NHLBI's Division for the Application of Research Discoveries, received the society's Atkinson-Stern Award for Distinguished Public Service. Dr. Jack Yanovski (r) received the Oded Bar-Or Award for Excellence in Pediatric Research. Yanovski is chief of the section on growth and obesity in NICHD's Program on Developmental Endocrinology and Genetics.

Be Ready for Inclement Weather

The inclement weather season is off to quite a start this winter, with OPM issuing 3 weather-related operating statuses over a 2-week period in late November and early December. If the start of the season is any indication of what is to come, it is important to assess your emergency preparedness.

Key questions to consider: When was the last time you teleworked? If you are not a regular teleworker, consider selecting a day to ad hoc telework and ensure your equipment is ready to go. How will you reach your supervisor if you need to request unscheduled leave or telework? Winter weather can sometimes lead to power outages—what work do you have available to do offline? Are there documents waiting to be updated or events you can start planning?

Important resources to review: Know your tier designation and understand how it affects you in various operating statuses. Bookmark the NIH OHR Operating Status page for quick access.

In addition, new guidance on Washington, D.C., area dismissal and closure procedures was released by the Office of Personnel Management; it includes changes to delayed arrival announcements and emphasizes the importance of being telework-ready.

NIBIB-Supported Technologies Inspire Wonder at Science Fair

By Margot Kern

Science enthusiasts snacked on "instant" ice cream made with liquid nitrogen, tried their hands at virtual surgery, sat in the driver's seat of a new Tesla Model S electric car and learned about a prototype for the world's first reusable rocket, all during National Geographic's recent "Science of Everything" fair in Washington, D.C.

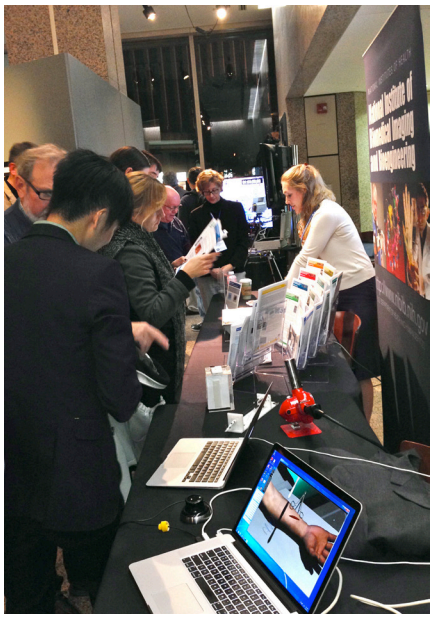
The fair was held at National Geographic's headquarters. More than 300 people arrived early to view demonstrations given by science innovators such as SpaceX, Tesla, National Geographic's Remote Imaging Lab, Nicecream Factory, Baying Hound Aleworks and the National Institute of Biomedical Imaging and Bioengineering.

NIBIB was delighted to be one of six exhibitors asked to participate in the fair. The institute showcased three technologies from the fields of materials science, medical robotics and computer simulation—demonstrating the breadth of NIBIB-supported research.

At the NIBIB booth, onlookers marveled as a synthetic polymer film developed by researchers at MIT danced atop a light box as if cast under a spell. When exposed to just a tiny amount of moisture, this novel film readily absorbs water molecules, causing the exposed surface to expand and the entire film to buckle. Then, just as the film begins to fold in on itself, its damp surface is exposed to air and the water evaporates, causing the film to quickly revert to its flattened state.

While these acrobatics may seem like a simple feat, the tiny film can lift up to 380 times its weight and can generate electricity when combined with a material that converts mechanical energy into an electric charge. Potential applications of the film include simulating the function of a muscle to control robotic limbs or generating power for nanoelectronic or microelectromechanical systems such as carbon monoxide detectors.

Attendees were equally enthusiastic to learn about a neurosurgical robot being developed by NIBIB-supported researchers at the University of Maryland. The worm-shaped robot can be used inside the strong magnet of an MRI and could help surgeons remove previously inaccessible brain tumors. A key facet of the robot is the system of shape memory alloy (SMA) pulleys and springs that control its motion. In addition to displaying the newest prototype, an engineer from UMD demonstrated how



Attendees at the fair leaned in (l) to learn about a synthetic polymer film that changes shape when exposed to water vapor and can move up to 380 times its weight. At right, visitors read about topics in medical imaging/bioengineering and attempt to suture a virtual wound using a surgery simulator at the NIBIB booth.

SMA wires can quickly return to a pre-deformed shape, such as a spring, when exposed to heat.

On the far end of the booth, adults and children lined up for a chance to suture wounds using an NIBIB-supported virtual surgery technology, developed by the company SimQuest. While viewing a highly realistic image of a patient's wounded arm, users maneuvered joysticks to control surgical instruments in an effort to close the wound. The joysticks provided force-feedback so that the users felt the weight of the instruments as they moved and experienced resistance when touching and stretching the patient's skin.

In addition to the demonstrations, NIBIB provided a colorful array of NIBIB Science Fact Sheets, each of which explain the science behind a different medical imaging or bioengineering topic such as MRI, PET and CT scans, ultrasound, tissue engineering, robotics and computational modeling. During the fair, a large flat-screen TV looped an NIBIB video titled *Six Awesome Technologies Your Tax Dollars Are Paying to Create.* The video highlights NIBIB-supported technologies that have the potential to significantly impact the field of medicine and, ultimately, patients' lives.

"NIBIB funds many exciting technologies that have the potential to make profound differences in how we diagnose, treat and even prevent diseases," said NIBIB director Dr. Roderic Pettigrew. "Events like these are a great way to show the public the benefits that have emerged from some of NIBIB's investments."

He also praised the collaboration between NIBIB and National Geographic. "Like the National Geographic Explorers, NIBIB-supported scientists and engineers constantly push the boundaries of what we think is possible. Our involvement with this event is a great way to get the general public excited about scientific research and inspire younger generations to want to contribute to improving the world through scientific innovation."

At least one teenage girl at the event was taking note. While intently watching the MIT polymer nearly flip off its stage, she proudly exclaimed that she wanted to become an engineer and hoped that an internship at NIH might one day be in her future.

ACD MEETING

CONTINUED FROM PAGE 1

the difference between the 14th and 17th percentile, so it's got to be incredibly demoralizing" to the scientific community, he said.

He lamented the need "to tell 14,000 scientists to go home, and you may not use your email" at the outset of the 16-day government shutdown last October. As he walked through his own lab in Bldg. 50 after the furlough and found it dark, he said, "It was enough to make you cry."

"People came back totally fired up. The attitude is, 'You're not going to knock us down for long,' and that has been sustained since Oct. 16."—NIH director Dr. Francis Collins

But he was heartened by the workforce's enthusiastic return to NIH: "People came back totally fired up. The attitude is, 'You're not going to knock us down for long,' and that has been sustained since Oct. 16."

Collins warned at the time that NIH faced another 2 percent cut in mid-January, or about $600 million, on top of the $1.55 billion cut made last March, if sequestration continued to be the law of the land.

On a brighter note, Dr. Cori Bargmann, co-chair of the ACD BRAIN working group, reported that the "response to the BRAIN Initiative scientific program [outlined last September] has been quite positive" and now enjoys broad scientific credibility. Her group is scheduled to deliver its final report to the ACD in June 2014, including goals, critical technologies, mechanisms, timelines and milestones.

"The field is in a rapidly moving, rapidly growing phase," said Bargmann, who cautioned against an overemphasis on specific technologies or timeframes.

Princeton University president Dr. Shirley Tilghman, participating in her final ACD meeting, said the BRAIN Initiative "parallels the Human Genome Project in many ways…a former genome project critic is someone who just got a hit in a genome database." She expects the initiative to have a "profound effect across the field…many concerns will vanish with time."

Tilghman also seconded Bargmann's warning about misplaced goals: "This is not an engineering project." To focus on the means and not the end, she said, "would exert a crushingly negative effect on the creativity you are hoping to unleash."

Bargmann emphasized the anticipated benefits of the initiative to all of neuroscience: "This is *not* 'We had to kill neuroscience in order to save it,'" she argued. That acknowledged the kind of criticism summed up by a comment Bargmann heard made, facetiously, by Dr. Steven Hyman, former NIMH director who is president-elect of the Society for Neuroscience: "They're coming for my R01 and I'm getting a gun."

Bargmann also pointed out that the BRAIN Initiative at NIH "is a small program." Out of NIH's annual expenditure of $5.5 billion in neuroscience, the $40 million committed to the initiative in FY 2014 is less than 1 percent of the total, she explained. "Some perspective is needed; we are in an early, exploratory phase."

In her explanation of how the BRAIN Initiative at NIH is being funded, NIH deputy director for science, policy and outreach Dr. Kathy Hudson acknowledged, "It's an interesting and challenging circumstance to be describing funding decisions before the working group has issued its final report." She described current funding sources, implementation and governance steps and predicted that FY 2014 Requests for Applications would go out before Christmas. "Turning goals into RFAs will be a challenge," she said.

Dr. Clyde Yancy of Northwestern University, also advising the ACD for the last time, warned that NIH should, early in the game, garner the support of patient groups and the public about the promise of the BRAIN Initiative. He predicts politicization of the project "given its origin [President Obama]."

Concluded Collins, "We need to ramp up from what has really been kind of a modest beginning…I hope we travel a fairly steep ramp." He said the first year of the Human Genome Project was quite similar. "It will take some doing to convince decision-makers" to endorse robust BRAIN Initiative funding, he said.

The full ACD meeting, which was open to the public, can be viewed at http://videocast.nih.gov/summary.asp?Live=13383 (day 1) and http://videocast.nih.gov/summary.asp?Live=13385 (day 2).

NCATS Names McInnes Deputy Director

Dr. Pamela M. McInnes has been named deputy director of the National Center for Advancing Translational Sciences. She brings expertise in translational and clinical research, extensive extramural management experience and a record of accomplishment in trans-NIH and public-private collaborations. McInnes most recently served as director of the Division of Extramural Research at the National Institute of Dental and Craniofacial Research. Prior to NIDCR, McInnes spent 16 years at the National Institute of Allergy and Infectious Diseases.

Mimicking Calorie Restriction

NHLBI's Chung Seeks to Slow Aging

By Eric Bock

Dr. Jay H. Chung

Right now, there are two ways to slow the aging process: eat less and exercise more. NHLBI's Dr. Jay H. Chung may have identified a third way. His studies indicate how resveratrol, a naturally occurring compound found in red wine, may slow aging by mimicking the effects of calorie restriction.

A senior investigator in the Laboratory of Obesity and Aging Research, NHLBI, Chung reviewed progress made in understanding how certain compounds may mimic the effects of calorie restriction in a recent lecture held in Lipsett Amphitheater.

He described obesity as partly a "disease of aging." As people grow older, the body's ability to metabolize energy declines. This contributes to weight gain, particularly around the midsection. People with this type of fat, known as visceral fat, are at increased risk for type 2 diabetes, Alzheimer's disease and heart disease, among others.

Twenty-one years ago, scientists surmised that resveratrol was responsible for red wine's health benefits. It was thought that resveratrol activated sirtuin 1, a protein thought to protect against aging by repairing damaged DNA and to switch off certain genes. With age, SIRT1 levels decline.

Chung's research indicated otherwise. He found that resveratrol inhibited phosphodiesterases (PDEs), enzymes that regulate cell energy use, and that resveratrol activated SIRT1 indirectly as a result of inhibiting PDEs.

Out of 11 PDEs, Chung focused on PDE4 because it is the dominant PDE in skeletal muscle, the main site of glucose metabolism. To confirm whether the metabolic benefits of resveratrol were mediated by inhibiting PDEs, Chung's team gave mice rolipram, a PDE4 inhibitor. This led to an increase in levels of cyclic AMP, which normally rise when blood glucose levels are low such as in fasting. Essentially, inhibiting PDE4 mimicked the effects of a low-calorie diet and increased the activity of SIRT1 in skeletal muscle.

Despite the promising results, Chung cautioned that a person would have to drink 667 bottles of wine to produce resveratrol's benefits. Besides the compound's low potency, resveratrol could affect many other biological pathways in the body. Some of these interactions could be detrimental.

Chung is initiating a clinical trial at the Clinical Center to evaluate the glucose-lowering mechanism of roflumilast, the PDE4 inhibitor that is FDA-approved for another indication, in obese, pre-diabetic individuals.

C-SPAN Broadcast Originates at NIH

C-SPAN's Washington Journal *hosted its full 3-hour program on the NIH campus Dec. 6. The show focused on the impact of sequestration on certain areas of research. NIH director Dr. Francis Collins (r) was the first guest, followed by four institute directors who appeared for 30-minute segments that included discussion with host Steve Scully and Q&A from callers.* Washington Journal *features elected officials, government administrators and journalists as guests, answering questions from the host and from members of the public, who call in to the studio or submit questions via email and social media.*

PHOTO: MAGGIE BARTLETT

NIH Hosts Symposium on Intimate Partner Violence

A trans-HHS symposium on intimate partner violence was held at NIH recently. The goal was to identify gaps in research in screening and counseling for IPV in primary health care settings and to shape priorities in the national research agenda. Ultimately, the department's goal is to promote effective strategies for health care practitioners for screening and counseling. Symposium participants, including keynote speaker Dr. Jacquelyn Campbell (shown above) of Johns Hopkins University School of Nursing, reviewed the current body of evidence on screening and counseling research for IPV across the lifespan and identified gaps in research for screening and counseling for IPV in primary health settings. In addition, participants discussed effective IPV screening guidelines and appropriate counseling and intervention tools for health care practitioners.

PROBIOTICS

CONTINUED FROM PAGE 1

Right:
Hibberd said studies are needed in animals, humans, in vitro and in simulation to understand the host and microbe response to probiotics.

PHOTOS: ERNIE BRANSON

Medical School and chief of the division of global health in the pediatric department at Massachusetts General Hospital, speaking at a recent NCCAM lecture. "They're in chocolate…cookies, sauerkraut, special teas and most recently in bread."

Probiotics are live microorganisms. When administered in adequate amounts, they presumably confer a health benefit on the host. They are often associated with promoting gastrointestinal health, alleviating such digestive issues as diarrhea, irritable bowel syndrome and ulcerative colitis. Newer trials are looking at their effects on the immune system, from relieving allergies to eradicating antimicrobial-resistant organisms.

The first rumblings of probiotics came more than a century ago when Russian biologist Ilya Mechnikov gave fermented dairy products to Bulgarian peasants. From this experiment, Mechnikov, who won the Nobel Prize in 1908 for his work on immunity, found health properties from the intake of lactic acid bacteria. All those years ago, he recognized that microbes in food helped change flora in the body and inserted good bacteria into the gut.

The term probiotics occasionally popped up in the literature over the last century but the field really took shape over the past decade. Yet despite the more than 100 probiotics-related research trials per year, many questions remain unanswered, particularly about their long-term safety. Meanwhile, millions of people take probiotics every day, said Hibberd.

"What was such a simple concept before 2008—take a probiotic, get a beneficial effect, feel better—now has become a highly complex proposition," she said. Hibberd said studies are needed in animals, humans, in vitro and in simulation to understand the host and microbe response to probiotics.

As scientists continue to study the microbiome, we're learning more about the microbial community living on and in us. Hibberd said probiotics might be beneficial by inserting good bacteria into our GI tract. But with so many kinds of organisms throughout the body, probiotic functions may vary in different parts of the body.

"Probiotics are not going to do the same thing in everybody, certainly in terms of altering organisms present in the GI tract," she said, "but they may have similar effects based on function."

Hibberd is researching the potential for probiotics to improve immune response in the elderly. Preliminary studies show the common probiotic Lactobacillus GG (LGG) boosts the immune response to mucosally administered vaccines. In a current study, Hibberd and her lab partners administered LGG to adults over age 65 to observe whether it would improve their response to the flu vaccine. They are in the early stages of analysis of the microbiome and immune response of study subjects. But they have already found some interesting results on the transcription profile of LGG in subjects receiving the probiotic.

The goal of their research, she said, "is to prevent, treat, mitigate or cure infectious diseases at the extremes of age or [given] immune compromise."

Other population studies have shown probiotics may have a large impact if they're introduced in the first 3 years of a child's life, she said, but further study is needed. So much affects what colonizes the GI tract in children—the mother, birth process, feeding, antibiotic exposure—and these variables must be taken into account during studies of probiotic effects.

"Probiotics may have effects we're not even thinking about," she said. "We do need to think beyond the positive beneficial effects so many people are focused on, in part because of the definition of probiotics." Such studies will not only involve the ability of probiotics to prevent or treat disease but also help determine which population groups might best respond to them.

Current and future research into probiotics will require looking at the potential for improving immune response while evaluating their long-term safety. "Since 2001, when probiotics were such a simple concept, enthusiasm has persisted but the scientific basis and mechanism studies still lag," Hibberd said. This remains an emerging field with many unanswered questions. It will take a multidisciplinary approach, she said, "to figure out whether probiotics are hype or reality."

The five NIH'ers who were recently elected fellows of AAAS are (from l): Dr. Toren Finkel, Dr. Herbert M. Geller, Dr. Matthew Philip Hoffman, Dr. Peter Charles Preusch and Dr. Ranjan Sen.

Five from NIH Named AAAS Fellows

Five NIH scientists are among the 388 new fellows named to the American Association for the Advancement of Science. The honor recognizes their efforts toward advancing science applications that are deemed scientifically or socially distinguished. The winners, their section and citation are:

From the section on biological sciences: Dr. Ranjan Sen, chief, Laboratory of Molecular Biology and Immunology, National Institute on Aging, "For distinguished contributions to the fields of transcription factor biology and molecular immunology specifically related to immune system development."

From the section on dentistry and oral health sciences: Dr. Matthew Philip Hoffman, chief, matrix and morphogenesis section, Laboratory of Cell and Developmental Biology, National Institute of Dental and Craniofacial Research, "For outstanding contributions to the advancement of sciences in the field of salivary gland biology."

From the section on medical sciences: Dr. Toren Finkel, chief, Center for Molecular Medicine, National Heart, Lung, and Blood Institute, "For discovering how reactive oxygen species function as intracellular signaling molecules and implications thereof in metabolism and aging."

From the section on neuroscience: Dr. Herbert M. Geller, senior investigator, developmental neurobiology section, National Heart, Lung, and Blood Institute, "For distinguished contributions to the field of neuroscience, particularly of neural cell biology, as well as outstanding endeavors to promote mentoring and training."

From the section on pharmaceutical sciences: Dr. Peter Charles Preusch, chief, Biophysics Branch, National Institute of General Medical Sciences, "For innovative administration of NIH programs in the areas of biochemistry, biophysics and pharmacology; drug discovery, development and delivery; membrane protein structure and function; and training of researchers across all areas of the NIH mission."

New fellows will be presented with an official certificate and a gold and blue (representing science and engineering, respectively) rosette pin on Feb. 15 during the 2014 AAAS annual meeting in Chicago.

The American Association for the Advancement of Science is the world's largest general scientific society and publisher of the journal *Science*. AAAS was founded in 1848 (and began inducting fellows in 1874) and includes 261 affiliated societies and academies of science serving 10 million individuals.

Annual Leave—Use It or Donate It!

At this time of year, employees should review their annual leave balances, with the carryover (240 hours for non-SES members) limitation in mind. Annual leave in excess of the carryover limitation is considered "use or lose" leave and must be used before the end of the leave year (Saturday, Jan. 11, 2014) to avoid forfeiture.

Donate any "use or lose" leave you do not plan to use. This will help protect the income of colleagues who are experiencing medical emergencies.

Employees may donate leave to the NIH Voluntary Leave Bank or a Voluntary Leave Transfer Program (VLTP) participant. These programs allow employees to donate accrued annual or restored leave to others who are faced with a personal or family medical emergency. Employees who have been approved for either program have exhausted their own leave and have a medical emergency that prevents them from working.

Donations are made in ITAS at https://itas.nih.gov.

After login, select "Donate to Leave Bank" or "Donate to VLTP." If you select Leave Bank, identify type of leave and amount of hours you wish to donate. Click "OK." If you select VLTP, choose the name of an approved recipient, identify type of leave, amount of hours and click "OK."

Details on the Leave Bank can be found at www.hr.od.nih.gov/benefits/leave/vlbp, or contact the NIH Leave Bank Office at (301) 443-8393 or LeaveBank@od.nih.gov. Find info on VLTP at https://intrahr.od.nih.gov/vltp/default.htm.

WISER Survey Now Extended to Jan. 15

Though it may look like the annual HHS employee satisfaction survey, the WISER Survey seeks to add to our knowledge base about diversity at NIH and address issues about personal success, diversity, inclusion and mentoring. Without this new information, we will not be able to identify some of the barriers faced by employees and trainees and make improvements. Paper and online versions of the survey can be found at http://WISER.nih.gov. Help us create an inclusive and supportive environment for research at NIH. For more information, contact WISER@mail.nih.gov or (301) 827-4000.

STORYTELLING

CONTINUED FROM PAGE 1

***Right**:*
Dr. Brenda Manuelito (l) and Dr. Carmella Rodriguez learned the art of digital storytelling to explore stories of survival and hope.

PHOTOS: ERNIE BRANSON

ditional healing at the Alaska Natives Medical Center and director of tribal relations for Alaska's Southcentral Foundation; and Drs. Brenda Manuelito and Carmella Rodriguez from nDigiDreams, LLC. The program was co-sponsored by the Office of Equal Opportunity and Diversity Management and the trans-NIH Native American/Alaska Native communications and information work group.

A long-term friend of NIH with service to the Fogarty board, the Council of Public Representatives and NLM, Mala is an Iñupiaq Eskimo and the first male Alaska Native physician. He began with the love story of his Native father and Russian mother, how by age 7 he was orphaned and then survived a state boarding school where "I may have been raised by wolves," he said. "I give you all this as prologue to different Native Americans. We've all had a different journey."

Of the more than 500 federally recognized tribes, almost half are in Alaska. Mala said he would not dwell on the stark health disparities among Native peoples: "The most important part of the story is...how we stood up and fought against it and did something about it... We discovered something called Nuka."

"Nuka"—a Native word for a large, strong, living structure—is the name given to the health care system Southcentral Foundation created in 1982. Managed and owned by and for Alaska Native people, SCF's Nuka System of Care offers one-stop health care for physical, mental, emotional and spiritual wellness.

Normally, by federal statute and by custom, the Indian Health Service provides health care to tribal members. But, as Mala explained, "the government said, 'Okay, we know what we're doing is not that great. So you go do it yourselves.' So we're the first ones in the nation, that I know of, that took over our own health care."

The SCF Nuka System now has 58,000 "customer-owners," 1,600 employees and sees 2,000 patients a day. It offers a full-service hospital, primary care and specialty clinics, health education and home-based services. Mala is in charge of integrated care, which includes traditional healing practices such as storytelling. The focus is on building relationships and sharing responsibility for one's health.

"Some of you know the Baldridge [National Quality Award]," he said. "We're the first Native American group to win it...We have tribes and people all over the world coming to look at what we're doing.

"As one great country, we need to heal each other," he continued. "We'll design together and go on this journey together and this is really the success story that I want you to hear."

Meanwhile, as NIH worked with Native communities to develop information portals, many user groups asked for these to be enhanced with stories. NIH tapped Manuelito and Rodriguez, co-founders of nDigiDreams, LLC, a training company specializing in instructional technology and digital storytelling (see sidebar).

Since 2008, Manuelito and Rodriguez have been teaching community-based digital storytelling workshops and have co-created 1,200 digital stories with 80 tribes in 15 states. In addition to their ongoing collaboration with NLM, they have now expanded to federally funded programs within CDC, SAMHSA and other agencies.

"We are creating an indigenous storytelling movement and we're planting seeds of healing and hope through first-person narratives," said Manuelito. She is the great-great-granddaughter of Chief Manuelito and is Diné, or Navajo.

She and Rodriguez, who also has ancestral ties to the Navajo, teach intergenerational digital storytelling workshops throughout Indian country. They showed several 3- to 5-minute clips created, with their help, by the storytellers. These describe turning points in the narrators' lives.

Here's how they work: Folks from 8 to 82 are encouraged to brainstorm in a story circle, then taught to write and edit scripts. Rodriguez audio-records the digital storytellers who make their own musical tracks and provide still images for voiceovers. (One traditional drummer and singer used Rodriguez's car, the quietest spot available, for a recording studio.) A local screening rounds out the process.

Their current research includes examining the efficacy of storytelling in programs of recovery.

"The Anishnaabek Healing Circle Access to Recovery Program has made a service code for digital storytelling to include it as one of their services available for recovery patients," said Rodriguez. This program is funded by SAMHSA.

One current application is educating victims of

Dr. Ted Mala, an Iñupiaq Eskimo, described "Nuka," a Native word for a large, strong, living structure.

violence about a federal assistance program.

"Our children score off the charts for the number of adverse childhood experiences," according to a Montana digital storyteller in the Bureau of Indian Affairs Victim Assistance Program. "Seventy-five percent are now suffering extremely high levels of unresolved trauma."

"I am looking at the micro perspective," Manuelito said, "in the making of the digital stories, the journey an individual takes…In some pilot research we did last week, we documented physical and emotional changes for several individuals who went through the digital storytelling process.

"There was a 74-year-old elder in the Indian community," she continued, "and she told a beautiful story about healing from grief and through the making of her digital story you could see her standing taller and smiling broader. I walk in both worlds, like Dr. Mala, and I know the importance of evidence-based practices and information. We [Rodriguez and I] are going back into a doctoral program with all the work we're doing to help build these programs."

She described how one of the workshop participants gave them eagle feathers and said: "'These are because of the work that you're doing.'

"And as a Native person," Manuelito said, "that's my evidence-based information that we're doing good work."

The videocast is archived at http://videocast.nih.gov/summary.asp?Live=13318.

NLM Opens Traveling Exhibition, 'Native Voices'

In the heart of North Dakota's Indian country, people are exploring the National Library of Medicine exhibition Native Voices: Native Peoples' Concepts of Health and Illness.

A traveling version of Native Voices, a companion to the large exhibition in the library's rotunda, recently opened at a tribal college in Fort Totten, ND. The exhibition honors the Native tradition of oral history by featuring a collection of interviews with Native Americans, Alaska Natives and Native Hawaiians. Visitors can listen and learn Native concepts of health and medicine and explore the relationship between wellness, illness and cultural life.

Cankdeska Cikana Community College, chartered by the Spirit Lake Dakota Nation, is the first stop for the traveling exhibition. During exhibition opening events, college president Dr. Cynthia Lindquist, who was an advisor on the Native Voices project, said, "It showcases role models—tribal leaders, tribal elders, spiritual people and medicine people from across the country."

NLM director Dr. Donald Lindberg said, "Native American people have much to teach us about health, prevention of illness and managing life." He told the opening-day audience he has a hidden agenda—he's hoping the exhibition encourages more Native Americans to enter health professions.

The traveling exhibition consists of iPads filled with interviews as well as visual displays. Content is divided into themes including the role the individual plays in his or her health; the impact of the community; respect for nature and tradition; and the intersection of traditional healing and western medicine. After North Dakota, the exhibition will travel to sites in Alaska, Hawaii, Oklahoma and other locations nationwide.

Visitors and news media explore NLM's traveling exhibition Native Voices: Native Peoples' Concepts of Health and Illness. The exhibition opened recently at Cankdeska Cikana Community College in Fort Totten, ND, on the Spirit Lake Indian Reservation.

PHOTO: ADAM SHAPIRO

While the exhibition includes interviews from across the country, a companion project funded by NLM gives members of the Spirit Lake Dakota Nation the chance to add their voices and share poignant, personal stories of healing and hope. In the days before the exhibition, eight people attended a workshop and learned the art of digital storytelling from Drs. Brenda Manuelito and Carmella Rodriguez, co-founders of nDigiDreams, a consulting and training company.

With their "hands and heart," as Manuelito says, participants crafted scripts, provided pictures, voice and music and edited them together under nDigiDreams tutelage. The end result is powerful stories on topics that include suicide prevention, alcoholism and life lessons passed down from relatives.

Manuelito says the storytellers have gotten positive feedback. "They say they have people running up to them and hugging them because their stories are stories of survival and hope."—**Shana Potash**

digest

A study in mice shows how a breakdown of the brain's blood vessels may amplify or cause problems associated with Alzheimer's disease. The results suggest that blood vessel cells called pericytes may provide novel targets for treatments and diagnoses.

Study Breaks Blood-Brain Barriers to Understanding Alzheimer's

A study in mice shows how a breakdown of the brain's blood vessels may amplify or cause problems associated with Alzheimer's disease. The results, published in *Nature Communications,* suggest that blood vessel cells called pericytes may provide novel targets for treatments and diagnoses. The study was co-funded by the National Institute of Neurological Diseases and Stroke and the National Institute on Aging.

Alzheimer's disease is the leading cause of dementia. Brains from Alzheimer's patients typically have abnormally high levels of plaques made up of accumulations of beta-amyloid protein next to brain cells, tau protein that clumps together to form neurofibrillary tangles inside neurons, and extensive neuron loss.

Vascular dementias, the second leading cause of dementia, are a diverse group of brain disorders caused by a range of blood vessel problems. Brains from Alzheimer's patients often show evidence of vascular disease, including ischemic stroke, small hemorrhages and diffuse white matter disease, plus a buildup of beta-amyloid protein in vessel walls.

In this study, researchers show that pericytes may be a key to whether increased beta-amyloid leads to tangles and neuron loss.

Pericytes are cells that surround the outside of blood vessels. Many are found in a brain plumbing system called the blood-brain barrier. It is a network that exquisitely controls the movement of cells and molecules between the blood and the interstitial fluid that surrounds the brain's nerve cells.

Gene-Silencing Data Now Publicly Available

For the first time, large-scale information on the biochemical makeup of small interfering RNA (siRNA) molecules is available publicly. These molecules are used in research to help scientists better understand how genes function in disease. Making these data accessible to researchers worldwide increases the potential of finding new treatments for patients.

The National Center for Advancing Translational Sciences collaborated with Life Technologies Corp. of Carlsbad, Calif., which owns the siRNA information, to make it available to all researchers.

The siRNA molecules, which can selectively inhibit the activity of genes, are used in RNA interference (RNAi) research. RNAi is a natural process that cells use to control the activity of specific genes.

Scientists have harnessed the power of RNAi to study the function of many individual genes by reducing their activity levels or silencing them. This process enables researchers to identify genes and molecules that are linked to particular diseases. To do this, researchers use siRNAs, which are RNA molecules that have a complementary chemical makeup, or sequence, to that of a targeted gene. While the gene is silenced, researchers look for changes in cell functions to gain insights about what it normally does. By silencing genes in the cell one at a time, scientists can explore and understand their complex relation to other genes in the context of disease.

NCATS and Life Technologies are providing all researchers with access to siRNA data from Life Technologies' Silencer Select siRNA library, which includes 65,000 siRNA sequences targeting more than 20,000 human genes. Simultaneously, NCATS is releasing complementary data on the effects of each siRNA molecule on biological functions. All of this information is available to the public free-of-charge through NIH's public database PubChem.

Aquatic Comb Jelly Floats into New Evolutionary Position

In a study that compares the genomes of aquatic life forms, researchers have found evidence to shuffle the branches of the tree of life. For more than a century, scientists thought that complex cell types, like neurons and muscles, evolved only once, after simple animals that lack these cell types branched from the rest of animals on the evolutionary tree. A team of researchers from the National Human Genome Research Institute has provided new evidence from the genomic study of a ctenophore species—a comb jelly—that challenges this long-held view.

The cornerstone of the study, published in the Dec. 13 online issue of *Science*, is the researchers' sequencing, assembly, annotation and analysis of the genome of *Mnemiopsis leidyi*, a comb jelly native to the coastal waters of the western Atlantic Ocean. Whole-genome sequencing data shows that comb jellies branched from the rest of the animals before the sponge, a simple animal without complex cell types, according to the study. — **compiled by Carla Garnett**

NIH Revels in Charitable, Holiday Spirit

Santa Arrives at Inn via Armored Car

Santa Claus and the missus visited the Children's Inn at NIH last month. After catching a lift via armored car (above, l) from the Montgomery County Police Department, the jolly old elf chatted and posed for photos with guests, including (above, r) Domenic Cenci, 11. A local television news station also noted the visit. Below, Santa and Mrs. Claus sit a spell with the Lopez family from Chile.

PHOTOS: DAVE ROLOFF/MCPD

NSO Quintet Performs at CRC

The National Symphony Orchestra's Brass Quintet performs holiday music in the north atrium of the Clinical Research Center on Dec. 17. The visit, sponsored by FAES, was part of the NSO's Sound Health Initiative.

PHOTO: ERNIE BRANSON

R&W Hosts 'Nutcracker' Performance

Ballerinas greet young patrons Nanako (l), age 3½, and her sister Nagisa, 2, after an annual performance of the Nutcracker *sponsored by the NIH Recreation and Welfare Association for guests at the Children's Inn at NIH and members of NIH's international community who are part of the International Women's Club. The show takes place at the American Dance Institute.*

R&W Coordinates Bethesda's Annual Goodwill Dinner

More than 500 people—including 200-plus children and teenagers—attended the annual Goodwill Dinner in Bethesda, cosponsored recently by the NIH R&W Association and Bethesda Hyatt Hotel. The event brings together those in need from Bethesda Cares and the Center for Children and Families. More than 50 volunteers (shown above) help serve. Below are event participants (from l) Randy Schools, president of the R&W, Ofcr. Oliver Janney of Bethesda Community Services and John Fineran. Each attendee received a backpack with longjohns, hats, gloves, hand warmers and poncho. More than 150 families received toys and gift cards. This is the 25th year of the dinner.

seen

Top Gingerbread House Hardly 'Despicable'

The Despicable Me *gingerbread house shown at lower right was the top vote-getter in the Clinical Center's 10th annual gingerbread house decorating contest. The "Minion" character from the film* Despicable Me *was a feature of multiple entries in the contest, which drew a record number of submissions in 2013—more than 50. A Facebook page allowed online viewers to vote for their favorite houses as well. In the photo at right, Clinical Center director Dr. John Gallin (l) presented the top honor to (from l) Patricia McDonald, Lisa Duncan, Nicole Ritzau and Mankaa Abongwa, all of whom are nurses on the 3NE patient care unit. The contest includes a food drive for the Children's Inn at NIH and this year also featured a children's book drive. At top, visitors to the display enjoy the creativity of CC employees. Many who passed through the exhibit snapped photos on their cellphones.*

PHOTOS: LENA S. HALE, ERNIE BRANSON

On hand for the judging of parking booth holiday decorations were (from l) Louise Davis, transportation program manager, ORS; Cristen Cravath, family program and community outreach coordinator at the Children's Inn at NIH; and inn guests Francisco Ramirez, 23, Amairani Ramirez, 18, and Jesus Ramirez, 4, all of Colorado; and Mandie DiCarlo, 17, and her aunt, Winnie Scholier, of New Jersey.

Inn Guests Rank Parking Booth Décor

Employees of Colonial Parking have been in the habit in recent years of decorating some of their campus parking booths in the spirit of the holidays. On Dec. 17, a group of residents at the Children's Inn at NIH rode around campus evaluating the décor. They gave their top prize to the lot 4A booth, between Bldgs. 31 and 1.

The booth was swathed in gift wrap from top to bottom, with the message "Merry Xmas NIH" painted on the windows. Extra touches included garlands wrapped around the barriers, which were also topped with gift boxes, lights strung up around the booth and Santa in a canoe atop a card reader.

When the youngsters from the inn showed up on a chilly afternoon, booth attendants invited them inside to see a special treat: they had made a video presentation on an iPad documenting, in both still photos and videos, the decoration effort. Set to the music of *Jingle Bells*, the short film included such subtitles as "Work Time & Fun Time."

"We did the decorating day by day, when work was slow," said one attendant.

"I like your festive decorations," said one parking patron, exiting the lot. "It really looks nice!"