DECEMBER 7, 2012
VOL. LXIV, NO. 25
The Second Best Thing About Payday

nih record

ABOVE • *What's this origami rabbit have to do with biomedical research? See story below.*

features

departments

Celebrating Veterans Day

Lt. Gov. Brown, Army Veteran, Speaks at NIH

By Belle Waring

How do you do justice to our veterans' honor and sacrifice?

In recognition of his public service—and for his high profile within the state—you salute Maryland Lt. Gov. Anthony G. Brown, himself a veteran.

On Nov. 8, Brown visited campus as keynote speaker of the first NIH Veterans Day Celebration in Kirschstein Auditorium, Bldg. 45.

Maryland Lt. Gov. Anthony G. Brown speaks at NIH's first Veterans Day Celebration, Nov. 8.

First came the posting of the colors by the Joint Forces Color Guard and the National Anthem by the Navy Brass Quintet. Then, introducing and welcoming Brown were NHLBI's Lt. Col. Cathy Troutman (ret., U.S. Army) and Colleen Barros, NIH deputy director for management. Chaplain Roosevelt Brown of Walter Reed NMMC offered the invocation.

SEE **VETERANS DAY,** PAGE 6

Demaine Finds the Math Behind Pleats And Folds, Mountains and Valleys

By Rich McManus

Although the Japanese art of origami originated centuries ago, only in recent decades have the underlying mathematics governing folding come to light. One of its most light-hearted yet deep-thinking adherents visited NIH on Nov. 2 to explain that mathematical algorithms lie behind not only the paper folds that yield a swan, but also the elegant folding techniques that allow space-based telescopes to unfurl and car airbags to deploy safely.

Dr. Erik Demaine

Dr. Erik Demaine may be the poster

SEE **DEMAINE,** PAGE 4

Army Capt. Dan Berschinski speaks at NIH.

Employment, Enjoying Life Are at Forefront of Disabilities Event

By Jan Ehrman

Don't tell Dan Berschinski he isn't capable. Or that he can't compete. He'll flex his muscles, maybe flash a broad, convincing smile, then prove you wrong.

Eight months after having lost both legs to an improvised explosive device in Afghanistan in 2009, Berschinki, an Army captain, platoon

SEE **DISABILITY AWARENESS,** PAGE 8

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NIH...Turning Discovery Into Health

nih record

briefs

STEP Forum on Dietary Salt, Dec. 13

The staff training in extramural programs (STEP) committee will present a Science in the Public Health forum on the topic "Dietary Salt: To Shake or Not to Shake?" on Thursday, Dec. 13, from 9 to 11 a.m. in Lister Hill Auditorium, Bldg. 38A.

Salt: Ancient currency and strategic commodity. Now—a common food additive, available on every kitchen table in the world. Emerging data highlight the continued controversy as to how much is best in your diet. Do you know how much sodium you consume daily? Can you have too little? Join us for a point/counterpoint debate on the current intake guidelines and the optimal daily sodium consumption.

Pittman Lecture Features Grandis, Dec. 12

Dr. Jennifer Grandis, University of Pittsburgh School of Medicine, will deliver the annual NIH Director's Margaret Pittman Lecture, on "Targeting Oncogenetic Pathways in Head and Neck Cancer," on Wednesday, Dec. 12 at 3 p.m. in Masur Auditorium, Bldg. 10.

Grandis' research program is dedicated to increasing understanding of the genetic alterations in the upper aerodigestive tract mucosa, which result in head and neck squamous cell carcinoma. The goal is to identify pathways that can serve as therapeutic targets for novel preventive or treatment strategies.

The lecture honors Dr. Margaret Pittman, NIH's first female lab chief, who made significant contributions to microbiology and vaccine development, particularly in the areas of pertussis and tetanus, during her long career at NIAID.

The lecture is part of the NIH Director's Wednesday Afternoon Lecture series. For information and reasonable accommodation, contact Jacqueline Roberts, (301) 594-6747.

NIH Chamber Singers Hold Concerts

The NIH Chamber Singers will present Songs of Joy!, a program of holiday songs celebrating both Christmas and Hanukkah, at several area locations. With music ranging from a 17th-century motet by J.P. Sweelinck, to a 20th-century choral fantasy by Gustav Holst, the singers have prepared a wide variety of musical offerings.

Concerts will be held Saturday, Dec. 8 at 3 p.m. at Marilyn J. Praisner Library, 14910 Old Columbia Pike, Burtonsville, Md., and Wednesday, Dec. 12 at noon in the atrium of the Clinical Research Center.

In addition to the Songs of Joy! program, the singers will present a concert version of the 1-act Christmas opera *Amahl and the Night Visitors* on Sunday, Dec. 9 at 11 a.m., at North Chevy Chase Christian Church, 8814 Kensington Pkwy., North Chevy Chase. There is no admission for this performance, as it will be included as part of morning worship. All are invited.

All concerts are free and open to the public. For more information, or for reasonable accommodation, contact Valerie Lambros at lambrosvc@mail.nih.gov or call (301) 594-7557.

Join the NIH-HHS Mentoring Program

NIH wants you to join the HHS Mentoring Program. Federal employees interested in serving as mentors and mentees across the NIH community are invited to join the December 2012 cohort.

"Partnering for Excellence" through building a confidential, interactive relationship is the cornerstone of this program. The program's emphasis on developing core, leadership and management competencies at various levels will ensure a beneficial experience for both mentors and mentees.

This free program features:

- Peer-to-peer and senior-to-junior mentoring relationships
- Online application and matching system to connect individuals
- Online mentor-mentee orientation
- 1-year mentoring relationship commitment
- Professional development events and activities

As a tool in employee development, the Mentoring Program does not supplant the NIH scientific mentoring and customized IC leadership mentoring programs available to employees in some institutes and centers. Instead, it is intended to fill any gaps where those programs do not exist and enables NIH-wide or even across-HHS relationships.

For more information, visit http://trainingcenter.nih.gov/HHS_Mentoring.html or email nihhhsmentoringprog@od.nih.gov.

Eighteen from NIH Named AAAS Fellows

Seventeen NIH scientists and one recent retiree have been named fellows of the American Association for the Advancement of Science. Election as a fellow is an honor bestowed upon AAAS members by their peers.

This year, 702 members have been awarded this honor because of their scientifically or socially distinguished efforts to advance science or its applications. New fellows will be presented with an official certificate and a gold and blue (representing science and engineering, respectively) rosette pin on Feb. 16 during the 2013 AAAS annual meeting in Boston.

From the section on biological sciences:

Dr. Rafael Daniel Camerini-Otero, NIDDK—For major contributions to understanding DNA recombination in vertebrates, particularly meiotic recombination, and elucidating the roles of *in vivo* molecules critical to this process.

Dr. Elaine A. Ostrander, NHGRI—For distinguished contributions to canine genomics and genetics leading to discoveries in mammalian development and disease susceptibility.

Dr. Michael Aaron Resnick, NIEHS—For seminal contributions in understanding the molecular basis of DNA repair by homologous recombination.

Dr. Yun-Bo Shi, NICHD—For outstanding contributions to the field of postembryonic development, particularly to the research on thyroid hormone receptor and its *in vivo* function and mechanisms.

Dr. Wei Yang, NIDDK—For distinguished contributions to the field of DNA replication, repair and recombination, particularly for providing the structural basis of these fundamental biochemical processes.

Dr. Keji Zhao, NHLBI—For distinguished contributions to the field of epigenetics and chromatin, particularly for developing ChIP-Seq and MNase-Seq and bringing epigenetics studies to genome-wide scales.

From the section on chemistry:

Dr. John M. Schwab, NIGMS retiree—For championing the role of organic chemistry in human health and for his passion in nurturing the careers of young scientists at the chemistry-biology interface.

From the section on medical sciences:

Dr. Edward A. Berger, NIAID—For distinguished contributions to the field of virology, particularly for discovery and characterization of HIV co-receptors.

Dr. Ronald N. Germain, NIAID—For distinguished theoretical and experimental contributions to the field of immunology, particularly the applications of systems biology and advanced imaging technologies.

Dr. John Joseph O'Shea, Jr., NIAMS—For distinguished contributions to the field of immunology, particularly for the discovery of the Jak3 kinase and its importance in human disease.

Dr. Lawrence E. Samelson, NCI—For outstanding contributions to the field of lymphocyte signal transduction, including pioneering studies integrating cellular and molecular imaging with genetic, biophysical and biochemical research approaches.

From the section on neuroscience:

Dr. Elisabeth Adams Murray, NIMH—For pioneering research on memory, emotion and decision-making in non-human primates, elucidating fundamental functions of the medial temporal lobe and prefrontal cortex.

From the section on pharmaceutical sciences:

Dr. Rao S. Rapaka, NIDA—For outstanding service as an innovative and creative research administrator at the National Institutes of Health and for distinguished scholarship in drug abuse research.

From the section on psychology:

Dr. Alex Martin, NIMH—For distinguished contributions to the field of cognitive neuropsychology, particularly with respect to our understanding of the neural bases of semantic memory.

From the section on social, economic and political sciences:

Dr. Richard Michael Suzman, NIA—For developing the demography and economics of aging, particularly the landmark Health and Retirement Study of cohorts from ages 50 to death, now replicated internationally.

From the section on societal impacts of science and engineering:

Dr. Kathy L. Hudson, NIH/OD—For facilitating public engagement and media dialogue on the social and ethical issues attendant to the emerging field of genomics.

From the section on statistics:

Dr. Barry I. Graubard, NCI—For outstanding research on statistical survey methods, statistical methods for epidemiology and collaborative studies affecting public health.

Author Rock To Present DDM Seminar, Dec. 13

The first lecture in the 2012-2013 Deputy Director for Management Seminar Series "Management and Science: Partnering for Excellence" will feature David Rock, author of *Your Brain at Work* on Thursday, Dec. 13 from 11 a.m. to 12:30 p.m. in Masur Auditorium, Bldg. 10.

Rock will examine the "Neuroscience of Leadership Development" and how understanding your brain can positively affect the workplace. Videocasting and sign language will be provided. Individuals who need reasonable accommodation to attend should call (301) 496-6211 or the Federal Relay Service at 1-800-877-8339. For more information, visit www.ddmseries.od.nih.gov or call (301) 496-3271.

DEMAINE

CONTINUED FROM PAGE 1

Above:
Demaine was able to illustrate some of his concepts by gestures and body language.

PHOTOS: BILL BRANSON

boy for home-schooled Canadian artist-scholar prodigies. In an enthusiastic introduction to his talk, Dr. Michael Gottesman, NIH deputy director for intramural research, noted that Demaine entered Dalhousie University at age 12, got his bachelor's degree at 14 then earned his Ph.D. at the University of Waterloo, "Canada's MIT."

Demaine joined MIT's faculty at age 20, Gottesman continued, making him what is thought to be the school's youngest professor ever. At age 23, Demaine received a MacArthur Foundation "genius" grant. While NIH frequently hosts math whizzes, widely cited scientists and even artists, they rarely come in a single package, Gottesman noted.

"He is a generous and gregarious collaborator...and an artist too," he added. Demaine's art, which grows directly out of his science, is currently on display at the Renwick Gallery in Washington, D.C., and is also represented at the Museum of Modern Art in New York City, among other institutions.

Demaine himself is a lanky, genial, pony-tailed tour guide through a world that, though highly abstract, is clearly full of play and imagination. It's just that the play involves words such as bidimensionality, hinged dissections and hyparhedra. Making his first visit to NIH, Demaine, now 31, gave two talks on Nov. 2, a morning session for scientists and a general-audience talk in the afternoon.

The "easy" session began with an explanation of folding algorithms that underlie a wide variety of commonly observed phenomena. "Linkage folding" is what your arm and elbow can do, or what robotic arms are capable of aboard space stations. The algorithms get harder as one progresses from 1 dimension through dimensions 2, 3, 4 and 5.

"For the past 13 years, we've gone from art to science to art, back to science. We get more productive art by doing science and we get better science by doing art."

Examples of 2-dimensional folding include stents, unfolding telescopes and airbags, which can start out essentially flat in their compacted versions, then bloom into useful shapes. Three-dimensional folding includes solids, Transformer-type toys and sheet-metal fabrication.

"Mathematics is really fun, beautiful and hard," Demaine said, "and so is the art."

His presentation relied heavily on slides, videos and Demaine himself cutting up flat pieces of paper along one straight line to yield examples of origami. But there are biological ramifications of his work as well. He is anxious to know why proteins fold so easily; the pure geometry of how it occurs fascinates him.

"I believe that nature is a computer," he declared.

The largely youthful crowd that came to hear Demaine's afternoon talk was treated to illus-

Making his first visit to NIH, Demaine gave two talks on Nov. 2, a morning session for scientists and a general-audience talk in the afternoon. His art, which grows directly out of his science, is currently on display at the Renwick Gallery in Washington, D.C., and is also represented at the Museum of Modern Art in New York City, among other institutions.

trations of two algorithms for origami design, both available as free software. He showed how "TreeMaker" designs a folding of a square into a stick figure that can morph into a lizard or scorpion, and how "Origamizer" designs a folding of a square of paper into a complex 3-D rabbit. Demaine and his team have proven, mathematically, that any 3-D structure can be created from a flat sheet.

Wondering whether robotic paper, which essentially shapes itself, is possible, Demaine and his collaborators created an example, which he demonstrated on video.

The transitions from idea to prototype flow freely in Demaine's world, and he acknowledged that science and art constantly feed one another.

"You get art using mathematics as a tool," he said. Sculpture has been the result of his inquiries into folding concentric circles, in which there are pleats and folds, mountains and valleys. "We build [sculpture] to find out what is possible.

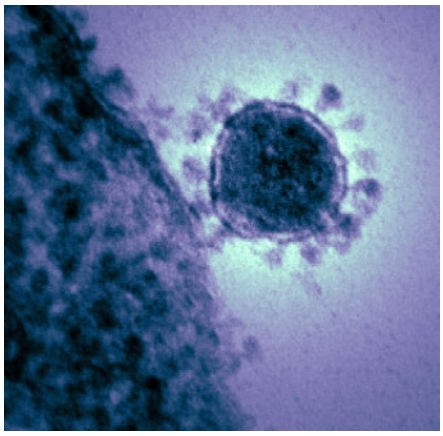
"For the past 13 years, we've gone from art to science to art, back to science," he said. "We get more productive art by doing science and we get better science by doing art."

To learn more about this mutually beneficial feedback loop, visit www.erikdemaine.org or watch his NIH afternoon talk at http://videocast.nih.gov/summary.asp?Live=12051.

NIAID Scientists Begin Study of New Coronavirus

In September, just days after receiving reports that a newly identified coronavirus had claimed the life of a person in Saudi Arabia, NIAID and its international partners began discussing potential studies of the virus. Their plans took on greater urgency 8 days later when the United Kingdom reported treating the same viral infection in a man who had recently traveled in Saudi Arabia. This patient survived.

These first two cases sparked fears among scientists of a new SARS-like outbreak. SARS—severe acute respiratory syndrome—also is caused by a coronavirus, which in 2003 spread rapidly from person to person, sickening more than 8,000 people and killing more than 900 worldwide. Until SARS, most scientists viewed coronaviruses as relatively harmless causes of the common cold.



Transmission electron micrograph of the newly discovered coronavirus

PHOTO: NIAID

As of Nov. 30, the World Health Organization had reported 9 laboratory-confirmed cases of infection with the novel coronavirus, including 5 deaths. For the latest news, visit www.who.int/csr/disease/coronavirus_infections/en/index.html.

In response to the outbreak, Drs. Heinz Feldmann and Vincent Munster at NIAID's Rocky Mountain Laboratories (RML) in Hamilton, Mont., have begun studies of the coronavirus in Syrian hamsters and rhesus macaques. Their partners at Erasmus University in The Netherlands are conducting similar tests in ferrets and cynomolgus macaques. The groups are coordinating their work to determine which species may be the most suitable to study as a model of human infection. The same four animal species are used to study other human respiratory diseases, most notably SARS, influenza and hantavirus.

The new coronavirus is closely related to coronaviruses isolated from bats, suggesting that these animals might be its natural carrier. RML's virus ecology unit conducts research on viruses that originate from bats, such as Ebola and Nipah; this new coronavirus underscores the need for NIAID research on infectious disease ecology and natural carriers, or reservoirs, of infectious agents.

"The virus appears to cause severe lung and kidney damage," said Feldmann, who in 2003 was among a group of scientists who tracked the spread of the SARS virus from its origin in southern China to a Hong Kong hotel, where it affected several guests.

"We want to mimic human infection in an animal model to understand how this novel coronavirus causes disease and whether there is a potential for transmission of the virus among humans," he said.

Once the scientists learn how the virus spreads in an animal model, they will begin working on countermeasures such as antiviral treatment and vaccines to assist preparedness efforts.

"Several weeks passed between the cases, so we still are not sure whether there is potential for this new coronavirus to infect more people," said Munster, who heads the virus ecology unit. "Our studies will provide valuable knowledge that should help us if this disease is indeed similar to SARS."—**Ken Pekoc**

VETERANS DAY

CONTINUED FROM PAGE 1

***Above**:*
Brown stands center stage in Masur Auditorium, surrounded by fellow veterans at NIH's first formal observance of Veterans Day.

***Below**:*
A Golden Retriever reclines on active duty with Hero Dogs, a Maryland non-profit that raises, trains and matches service dogs with injured or disabled military veterans at no cost to the veteran.

PHOTOS: OFFICE OF THE GOVERNOR OF MARYLAND, JEREMY SWAN

NIH principal deputy director Dr. Lawrence Tabak tendered a special recognition to all veterans, including the guest speaker.

"First and foremost," said Tabak, "as a colonel in the U.S. Army Reserves, Lt. Gov. Brown is the nation's highest-ranking elected official to have served a tour of duty in Iraq. He knows firsthand what veterans face, both when they are deployed as well as when they return to their homes and families."

Elected with Gov. Martin O'Malley in 2006 and reelected in 2010, Brown is a leader in providing all Marylanders with better health care, with a special focus on veterans services and resources.

"My 25 years of military service, including a tour of duty in Iraq in 2005," he said, "has made me more aware of the debt we as a people owe to our veterans.

"Veterans Day is a special day for all Americans, and especially for the 30,000 active military and 460,000 veterans who call Maryland home," Brown continued. "It's a day that we honor those men and women who have served—and those currently serving—on our behalf and pay tribute to those veterans who are not with us to celebrate."

Alongside O'Malley, Brown worked with the Maryland General Assembly to pass the Veterans Behavioral Health Initiative. This set aside $2.3 million for behavioral health services and also created the Veterans Behavioral Health advisory board to help connect care providers with veterans.

Another new program—thanks in large part to Brown's efforts—is the Maryland Veterans Network of Care, launched in 2009. This online resource provides Maryland's vets with a virtual one-stop shop of every local, state and federal resource for behavioral health treatment.

Maryland was the first state in the country to launch this program.

And in July of this year, Brown also helped kick off the Maryland Homefront initiative to make home ownership more affordable for veterans and military families.

"When I was in Iraq," said Brown, "I learned that no matter where people live, whether Baghdad or Baltimore, they want the same thing for their families—safe neighborhoods, good schools, access to health care and the opportunity to earn a living and raise a family."

NIAID's Mike Nealy (sergeant, U.S. Marine Corps) and Sara Crocoll (captain, U.S. Air Force) offered a remembrance. Service members and veterans in the audience then rose to sing the official songs of the Armed Forces: "The Army Goes Rolling Along," "The Marines' Hymn," "Anchors Aweigh" and "The Air Force Song."

Undergirding the tributes in speech, ritual and song is NIH's commitment to recruit and hire veterans. As Tabak outlined NIH's own veteran profile:

- We currently have more than 950 veterans employed.
- More than 100 of those were hired in fiscal year 2012, as a direct result of special outreach and recruitment efforts.

Brown greets Colleen Barros, NIH deputy director for management, as NIH principal deputy director Dr. Lawrence Tabak looks on.

• More than a quarter of the veterans at NIH—roughly 265—are pursuing careers as scientific professionals.

• More than 260 of our NIH veterans are also living with disabilities.

"These men and women are still fighting for America on the front lines," Tabak said, "but now their enemies are illnesses and health conditions such as Alzheimer's, obesity and re-emerging infections."

Following the celebration, exhibitors included the USO, with its comprehensive long-term care programs to support wounded, ill and injured troops; the Yellow Ribbon Fund, with caregiver programs, mentoring, support and scholarships for wounded warriors and spouses; and the Hero Dogs.

The mission of Hero Dogs, a Maryland non-profit, is to raise, train and match service dogs with injured or disabled military veterans at no cost to the veteran.

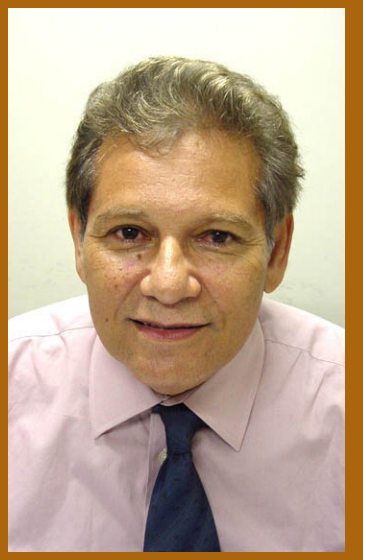
A plucky Golden Retriever was on active duty, picking up the cell phone and coins deliberately dropped onto the floor and then returning them to his trainer's hands.

These programs and others are eligible for donations via the Combined Federal Campaign.

The NIH Veterans Day Celebration was organized by the Veterans Recruitment/Retention Force, with the assistance of the Office of Human Resources.

To learn more about the VRF, visit www.jobs.nih.gov/veterans.vrf.htm.

Carvalho To Deliver Inaugural Neva Lecture, Dec. 12



Dr. Edgar M. Carvalho

Dr. Edgar M. Carvalho will deliver the first annual NIAID Franklin A. Neva Memorial Lecture. His talk, "The Influence of HTLV-1 in the Immunologic Response and Clinical Manifestations of Helminthic Infection," will be held on Wednesday, Dec. 12, at 10 a.m. in Lipsett Amphitheater, Bldg. 10.

The new lecture series honors Neva, a noted virologist, parasitologist, clinician and former chief of NIAID's Laboratory of Parasitic Diseases. He helped grow parasitology research at NIH from a small area of focus to a program that is now spread among four different NIAID laboratory groups and involves approximately 400 NIAID scientific staff at laboratories in Bethesda and abroad.

Carvalho is a professor of medicine and clinical immunology at the Federal University of Bahia Medical School in Brazil and head of the immunology division of the university's hospital. For the last 25 years, his research has focused on neglected tropical diseases such as leishmaniasis, schistosomiasis, strongyloidiasis and human T-cell lymphotropic virus type 1 (HTLV-1) infection. He has helped define the epidemiology, immunology, pathogenesis and clinical manifestations of these diseases. His work has led to novel and effective forms of therapy for leishmaniasis and HTLV-1 infection that currently are in use today.

His lecture will focus on his HTLV-1 research, which began in 1997: Carvalho partnered with Neva to study the influence of the virus on the immune responses of patients with strongyloidiasis. Their collaboration resulted in several important publications and, eventually, the establishment of Carvalho's HTLV-1 multidisciplinary clinic in Bahia, where infectious disease specialists, neurologists, hematologists and urologists work together to improve the diagnosis, understanding, therapy and control of HTLV-1 infection.

Carvalho earned his M.D. in 1977 and his Ph.D. in 1986, both from the Federal University of Bahia. He did postdoctoral work at Cornell University. He is a member of the Brazilian Academy of Sciences, the American Society of Tropical Medicine and Hygiene and the American Association of Immunologists. He has received the Sendas Award for Outstanding Research in Immunology of Tropical Disease and Brazil's National Order of Scientific Merit.

Carvalho and Neva were collaborators until the latter's retirement, and they remained close friends until Neva's death in 2011.

The lecture is co-sponsored by the Laboratory of Parasitic Diseases, the Franklin A. Neva Memorial Fund established by his family and the Foundation for the NIH.

DISABILITY AWARENESS

CONTINUED FROM PAGE 1

***Above**:*

At NIH's annual Disability Employment Awareness Month Program are (from l) keynote speaker Kirk M. Bauer; Kimberly Kirkpatrick, OEODM Disability Program manager; NIH principal deputy director Dr. Lawrence Tabak; NIDDK's Dr. Anne Elizabeth Sumner; OEODM Director Debra Chew; Berschinski; and the Office of Intramural Research's Larry Chloupek.

Below:

Bauer reported, "The disabled are the largest minority group, but also have the highest unemployment rate."

PHOTOS: ERNIE BRANSON

leader and Purple Heart recipient, was skiing in Vail. Surgeries, extended hospitalization and 2 years of grueling rehabilitation (including prosthetic leg training) at Walter Reed Army Medical Center enabled him to swim, lift weights and get healthy. In time he was participating in triathlons and the 2011 Marine Corps Marathon.

Any more doubts about his capability?

Berschinski's accomplishments were featured during the 2012 Disability Employment Awareness Month Program, held recently in Masur Auditorium.

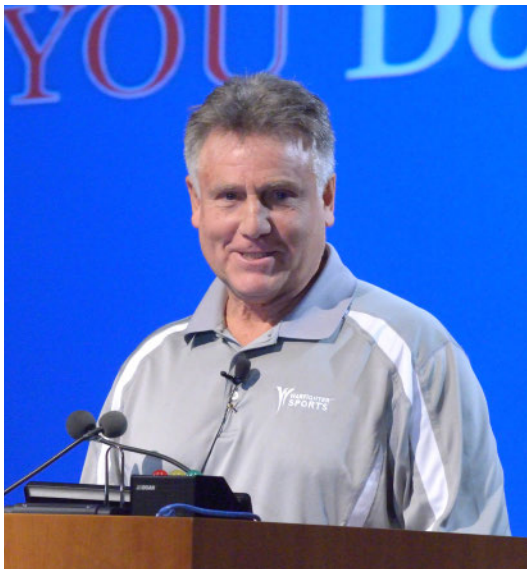
NIH principal deputy director Dr. Lawrence Tabak provided welcoming remarks for attendees at "A Strong Workforce Is an Inclusive Workforce: What Can You Do?" He said there are about 50 million employees with disabilities in the U.S. "The need is to focus on capability, not disability," he said, imploring all persons to strive for diversity "that makes NIH [and all organizations] a stronger workforce."

Keynote speaker Kirk M. Bauer, like Berschinski, is no stranger to arduous, life-changing experiences. He survived an enemy ambush in Vietnam in 1969, but lost a leg and suffered additional injuries.

Since then, his accomplishments have known few boundaries. For the past 30 years he has served as executive director of Disabled Sports USA, a non-profit organization that aids more than 60,000 people a year. He has also served on the President's Council on Physical Fitness and Sports and was also named by President George W. Bush to represent the U.S. at the Paralympic Games in Torino, Italy and Beijing, China. Further, he led establishment of the Warfighter Sports program, which provides sports rehabilitation for wounded warriors, in 2003.

While Bauer noted that recent progress has been made in hiring adults with disabilities, the job is not yet complete. "The disabled are the largest minority group, but also have the highest unemployment rate," he noted, adding that about two-thirds of these individuals do not currently have work.

As an example of what can be accomplished by the physically challenged, Bauer showed a film in which five wounded warriors (from the Iraq and Afghanistan wars) climbed Alaska's Mt. McKinley, carrying their equipment and battling freezing temperatures, heavy snow and the constant threat of avalanche. He compared their efforts and perseverance to qualities that should be showcased in the employment arena. Like these achievers, "always give your best on the job and in life. Understand the mission, the role and your skills. Give your very best so you can get back to living your dreams," Bauer advised.



NIDDK's Sumner addresses the audience.

Berschinski, now an owner and CEO of his own company who has plans to hire adults with disabilities, also spoke. A supporter of Disabled Sports USA and an advocate for improved protective equipment for troops, he inspired the audience with his tale of how sports helped him get his life back in order following his injury. Along with technological advances in rehabilitative medicine, "it's been the biggest factor [for me]," he explained, giving him the self-confidence to go forward.

Berschinski credited NIH and other organizations that have helped create advances in rehabilitation medicine and fostered policies leading to equal opportunities in the workforce for people with disabilities.

"Medicine always trickles down," he said. "When I was lying in that Afghan dirt, I just knew that NIH would have a hand, somehow, in bringing me back here."

Overweight Volunteers Needed

NICHD is looking for men and women ages 35-70 who are overweight and have abnormal glucose levels. After an initial screening visit for general health assessment, participants will undergo treatment with a cortisol-blocking medication (mifepristone) or a non-active pill (placebo) for 7 days. Each participant will take both study agents with a gap of 6 to 8 weeks between the two. Testing before and after treatment with the study medications will include blood drawing over 24 hours, urine collection, an oral and an intravenous glucose tolerance test and 1- to 2-day overnight inpatient stay. Compensation will be provided. For more information, call 1-800-411-1222 (TTY 1-866-411-1010) and refer to study 11-CH-0208.

Bavendam To Lead NIDDK Women's Urology Program

NIDDK recently welcomed Dr. Tamara Bavendam as the new senior scientific officer for women's urologic health in the Division of Kidney, Urologic and Hematologic Diseases (KUH). She will oversee a research portfolio that focuses on urinary incontinence, overactive bladder, chronic urologic pelvic pain syndromes, urinary tract infections and urinary reflux. She will also initiate a patient education program in women's urology. Bavendam spent the past decade at Pfizer, Inc., in New York City, where she was senior medical director in the global medical affairs division.

At Pfizer, Bavendam oversaw large clinical trials and supported the development of patient-reported outcomes tools. She also laid the groundwork for a public health initiative to promote lifelong bladder health in women.

Before joining Pfizer, she was in academic practice in Seattle at the University of Washington, where she developed a female urology program. She went on to develop a multidisciplinary Women's Health Center at MCP Hospital in Philadelphia while on the faculty of MCP Hahnemann School of Medicine.

Though Bavendam said she "was raised with the skills to be an Iowa farm wife," she opted for medical school, receiving her degree from the University of Iowa College of Medicine. She completed post-graduate training in urology at the University of Iowa and a fellowship in female urology and urodynamics at the Southern California Kaiser Permanente Medical Center in Los Angeles. Her research has focused on urinary incontinence, lower urinary tract symptoms, overactive bladder and painful bladder syndrome/interstitial cystitis.

"Dr. Bavendam's wealth of experience in women's urology and patient-reported outcomes will help NIDDK advance research in common, consequential and costly diseases ranging from urinary incontinence to interstitial cystitis," said KUH director Dr. Robert Star. "We are pleased that she has decided to bring her talents and expertise in women's urology to NIDDK."

In her new position, Bavendam said she wants to gradually move the research fields and subsequent educational outreach efforts to highlight prevention "that improves the lives of women at risk for, or suffering from, urology disorders."

Bavendam is a past president of the American College of Women's Health Physicians and the Society of Women in Urology. She has been cited as a "Best Doctor in America" and "Best Doctor in Philadelphia for Women."

digest

Migraine-Associated Brain Changes Not Related to Impaired Cognition

Women with migraines did not appear to experience a decline in cognitive ability over time compared to those who didn't have them, according to a 9-year follow-up study funded by NINDS, NIA and other institutions. The findings appeared in the Nov. 14 issue of the *Journal of the American Medical Association*.

Women with migraines did not appear to experience a decline in cognitive ability over time compared to those who didn't have them, according to a 9-year follow-up study funded by NINDS, NIA and other institutions.

The study also showed that women with migraine had a higher likelihood of having brain changes that appeared as bright spots on magnetic resonance imaging.

"An important message from the study is that there seems no need for more aggressive treatment or prevention of attacks," said Dr. Mark Kruit, a principal investigator and neuroradiologist from Leiden University Medical Center, The Netherlands, which led the study.

Kruit and associates evaluated MRIs for changes in the white matter, brainstem and cerebellum that appeared on the scans as bright spots known as hyperintensities. Previous studies have shown an association between such hyperintensities and risk factors for atherosclerotic disease, increased risk of stroke and cognitive decline.

Scientists Develop Treatment to Fight Auto-Immune Disease in Mouse Model

In a mouse model of multiple sclerosis (MS), researchers funded by NIH have developed innovative technology to selectively inhibit the part of the immune system responsible for attacking myelin—the insulating material that encases nerve fibers and facilitates electrical communication between brain cells. Results were reported in the Nov. 18 online *Nature Biotechnology*.

Autoimmune disorders occur when T-cells—a type of white blood cell within the immune system—mistake the body's own tissues for a foreign substance and attack them. Current treatment for autoimmune disorders involves the use of immunosuppressant drugs that tamp down the overall activity of the immune system. However, these medications leave patients susceptible to infections and increase their risk of cancer as the immune system's normal ability to identify and destroy aberrant cells within the body is compromised.

Supported by NIBIB, NINDS and other institutions, researchers have come up with a novel way of repressing only the part of the immune system that causes autoimmune disorders while leaving the rest of the system intact.

The new research takes advantage of a natural safeguard employed by the body to prevent autoreactive T-cells—which recognize and have the potential to attack the body's healthy tissues—from becoming active.

PCBs, Other Pollutants May Delay Pregnancy

Couples with high levels of PCBs and similar environmental pollutants take longer to achieve pregnancy in comparison to other couples with lower levels of the pollutants, according to a preliminary study by researchers at NIH and other institutions.

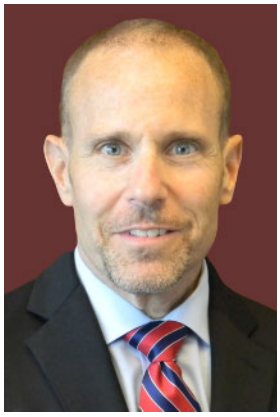
PCBs (polychlorinated biphenyls) are chemicals that have been used as coolants and lubricants in electrical equipment. They are part of a category of chemicals known as persistent organochlorine pollutants and include industrial chemicals and chemical byproducts as well as pesticides. In many cases, the compounds are present in soil, water and in the food chain.

The compounds are resistant to decay and may persist in the environment for decades. Some, known as persistent lipophilic organochlorine pollutants, accumulate in fatty tissues.

Another type, called perfluorochemicals, are used in clothing, furniture, adhesives, food packaging, heat-resistant non-stick cooking surfaces and the insulation of electrical wire.

Exposure to these pollutants is known to have a number of effects on human health, but their effects on human fertility—and the likelihood of couples achieving pregnancy—have not been extensively studied. The study was published online in *Environmental Health Perspectives* and is available at http://ehp.niehs.nih.gov/2012/11/1205301/.—**compiled by Carla Garnett**

milestones



Stein Heads NIDA's Office of Science Policy, Communications

Dr. Jack Stein has been appointed director of the Office of Science Policy and Communications (OSPC) within the National Institute on Drug Abuse. He is responsible for overseeing the science policy, strategic planning, program evaluation, communication and public liaison activities of the institute.

"With over two decades of professional experience in leading national drug and HIV-related research, practice and policy, Jack's diverse experiences and proven leadership make him ideally suited to direct this office," said NIDA director Dr. Nora Volkow.

Stein's appointment marks a return to NIDA, where he initially served as OSPC deputy director and later as deputy director for the Division of Epidemiology, Services and Prevention Research. Following this, he was director of the Division of Services Improvement, Center for Substance Abuse Treatment at the Substance Abuse and Mental Health Services Administration.

Immediately prior to rejoining NIDA, Stein served as chief of the Prevention Branch, Office of Demand Reduction, at the White House Office of National Drug Control Policy.

Stein has authored numerous articles, book chapters and reports on HIV prevention and substance use services. He is a graduate of Union College, where he earned a bachelor of science in biology. He holds a master's degree in social work from New York University and a doctoral degree in health services from Walden University.

NCI's Harford Honored In Jordan

Dr. Adel Balbassi (l), representing the Jordanian Minister of Health, presents an award to Dr. Joe Harford of NCI's Center for Global Health.

Dr. Joe Harford of NCI's Center for Global Health was an invited speaker at the First International Conference on Palliative Care held Nov. 7-8 in Amman, Jordan. The conference was sponsored by the Jordan Palliative Care and Pain Management Society under the patronage of the Minister of Health of Jordan.

At the conference's opening ceremony, Harford was presented with an award the citation of which reads, "For your continuous support to palliative care in Arabic countries." The award was presented by Dr. Adel Balbassi representing the Jordanian Minister of Health.

At the conference, Harford made a presentation titled "The Need for More and Better Palliative Care in Muslim-Majority Countries" based on his two recent publications on this topic.

In addition, Harford made a presentation titled "Global Training Opportunities in Palliative Care." NCI has supported training in palliative care through the Institute for Palliative Medicine of San Diego Hospice. This training has included both clinical fellowships and a program aimed at enhancement of leadership skills for physicians from low- and middle-income countries. Dr. Mohammad Bushnaq of Jordan is an alumnus of both of these NCI-supported programs and was the chief organizer of the conference in Amman, where he now serves as chairman of the Jordan Palliative Care and Pain Management Society.

Have a Family History of Alcohol Addiction?

The National Institute on Alcohol Abuse and Alcoholism is seeking men and women ages 21-30 with a family member (parent or sibling) with a history of alcohol addiction. Our study seeks to identify genes that are related to the response to alcohol in humans (study 11-AA-0180). Volunteers should be healthy and drug-free. Qualified participants will be reimbursed for their participation. The study involves a screening visit and two outpatient visits at the Clinical Center. For more details and to participate, call (301) 435-9397 or email AlcPGstudy@mail.nih.gov.

Former NINR Fellow Returns as Lasker Research Scholar

Former NINR postdoctoral fellow Dr. Jessica Gill has returned to NINR as one of the first NIH Lasker Clinical Research Scholars. Through a historic intramural-extramural partnership, NIH and the Lasker Foundation seek to nurture the next generation of great clinical scientists.

For a small number of talented, early stage researchers, the NIH Lasker Clinical Scholars program combines a period of independent research as a principal investigator in the Intramural Research Program with the opportunity for additional years of independent financial support either at NIH or at an extramural research institution. Lasker Scholars can take advantage of a unique combination of NIH funding for clinical research for upwards of 12 years.

"Receiving the Lasker Award is monumental to the development of my program of research," said Gill. "It allows me to develop research projects that identify mechanisms relating to psychological and neurological vulnerability following traumatic injury—here at the NIH, using methods not available anywhere else."

Gill's research program will examine the biological and neurological factors linked to the risk for post-traumatic stress disorder onset and the influence of traumatic brain injuries on this risk. It will follow patients during their immediate recoveries and for years afterwards to better understand the risk and resiliency factors related to these outcomes.

"Trauma patients often leave the hospital with no follow-up and no preventive care for these long-lasting deficits, resulting in substantial morbidity risks," she said. "I expect that my research will lead to new ways to identify trauma patients who are at high risk for psychological and neurological deficits and inform prevention interventions that will support their recovery."

Former NINR postdoctoral fellow Dr. Jessica Gill has returned to NINR as one of the first NIH Lasker Clinical Research Scholars.

Bethesda Little Theatre Makes Donations

The Bethesda Little Theatre (BLT) recently presented donations of profits from its performances to the NIH Patient Emergency Fund ($2,000) and to the NIH R&W Foundation ($1,200). On hand for the presentation were (from l) Heather Arcuri, Leslie McIntire, John Spouge, Adrienne Farrar, Alice "Frankie" Smyth, Heidi Grolig and R&W President Randy Schools. BLT was founded in 1980 as the NIH R&W Theatre Group. All members are volunteers and membership is open to both NIH employees and the public. Although they no longer perform at NIH, they remain active, presenting an annual musical revue in the area. Auditions are usually held in February or March, with the show opening 2 months later. The rest of the year, the group goes "on the road," performing at retirement homes, senior centers and nursing homes. For more information or to join, visit www.recgov.org/nihblt/html_bltg/html/index/index.html.