

# nih record



**ABOVE** • Minnie Mouse (aka Tiffany Webb) stopped by R&W's Halloween Party for the CFC. See story, more photos, p. 12.

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At Kinyoun Lecture

## Blaser Explores Link Between Obesity, Antibiotic Use

By Rich McManus

**E**vidence is mounting that the epidemic of obesity now girdling the globe might be traceable to alterations in the human microbiome introduced by widespread exposure to antibiotics, not only as medication for people but also possibly in our diet; farm animals are fattened for market with sub-therapeutic antibiotic treatment introduced in animal feed and water from an early age.

Such was the case made at this year's NIAID Joseph J. Kinyoun Lecture by Dr. Martin Blaser, Muriel and George Singer professor of medicine at New York University Langone Medical Center. His talk, "Early Life Microbiome Influences on Metabolism, Immunity and Disease Risk," argued that human exposure to antibiotics early in life induces permanent changes in



Dr. Martin Blaser gives Kinyoun Lecture at NIH.

SEE BLASER, PAGE 6

## Melanoma: Both Disease and Treatments Ramp Up

By Rich McManus

Among all the types of cancer affecting Americans, none is increasing faster than melanoma, the diagnosis of which has been steadily growing at a rate of about 4 percent each year since 1973. It is the sixth most common malignancy among men and the seventh most common malignancy among women. But that onslaught is being countered by a slew of new therapies, six of which have been approved since 2011.

"Immunotherapy [for melanoma] has never been as exciting as it is right now," said Dr. Rhoda Alani, who gave a Contemporary Clinical Medicine: Great Teachers lecture recently in Lipsett Amphitheater. "New therapies and targets are being anticipated on almost a monthly basis."

Alani is Herbert Mescon professor and chair in the department of dermatology at Boston University School of Medicine and dermatologist-in-chief at Boston Medical Center. No

Global Health

## From Ebola to E-Cigarettes: Experts Discuss Global Challenges

By Dana Talesnik

As Ebola rages on in West Africa, the world caught itself unprepared to quell the outbreak of this deadly, infectious disease. Meanwhile, in the battle to combat HIV/AIDS worldwide, U.S.-led efforts have helped save millions of lives but much work remains to eradicate this deadly virus. Still other global challenges, from air pollution to climate change, threaten countless lives. And safety debates continue over the growing global phenomenon of e-cigarettes. These provocative issues were



NIEHS/NTP director Dr. Linda Birnbaum

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NIH...Turning Discovery Into Health

## briefs

### Grenny Kicks Off Seminar Series, Dec. 4

The Deputy Director for Management (DDM) Seminar Series is set to offer another round of leadership and management presentations, beginning in December.

The ninth annual series will host speakers known for delivering meaningful insights into workplace concepts, challenges and solutions. The seminars will provide NIH employees an opportunity to advance their knowledge of best practices in a variety of leadership and management issues.

The first seminar will feature Joseph Grenny, "Crucial Conversations and Accountability" on Dec. 4 from 11 a.m. to 12:30 p.m. in Masur Auditorium, Bldg. 10. The series continues into the new year with three more seminars: Bonnie St. John, "Normal is Overrated—Aim Higher" on Feb. 12; Sian Beilock, "Performing Under Pressure When it Counts" on Apr. 9; and Simon Sinek, "Inspiring Trust and Loyalty in Organizations" on June 4. These presentations will focus on the science of leadership, managing successfully during high-stress or high-pressure situations and effective communication.

Presentations will be available via NIH Video-casting at <http://videocast.nih.gov/> for those who cannot attend or when Masur Auditorium reaches capacity.

Sign language interpreters will be provided. Individuals who need reasonable accommodation to attend should contact the NIH Training Center at (301) 496-6211 or the Federal Relay Service at 1-800-877-8339. For more information about the series and to view previous videocasts, visit [www.ddmseries.od.nih.gov/](http://www.ddmseries.od.nih.gov/).

### Use or Donate Leave Reminder

Don't forget to officially schedule your "Use or Donate" (formerly "Use or Lose") annual leave no later than Saturday, Nov. 29. Questions about "Use or Donate" leave should be directed to your administrative officer.

### Community College Day Set, Nov. 25

The NIH Office of Intramural Training & Education will host Community College Day 2014 on Tuesday, Nov. 25 from 8 a.m. to 4 p.m. at the Natcher Conference Center. Community college students and faculty will visit the NIH campus to learn about careers and training opportunities in biomedical and health care fields. For registration and more information visit [www.training.nih.gov](http://www.training.nih.gov).

### Storytellers Sought

Calling all storytellers in our community—NIH wants you. NIH's Office of Science, Outreach and Policy (OSOP) is partnering with national nonprofit StoryCorps to capture stories of the NIH community.

StoryCorps has recorded more than 50,000 conversations involving more than 90,000 individuals—oral histories that are archived at the American Folklife Center at the Library of Congress. On Dec. 8-10, StoryCorps will visit the NIH campus to record our stories. Participants sign up for a 1-hour slot; 40 minutes of the time will be dedicated to recording your conversation. People typically volunteer in pairs, since the recording is intended to be a conversation between two people who know each other well. Volunteers determine the topic of their discussion and often learn something new about each other in the conversation. Participants can be anyone in the community—two patients or participants in a clinical trial, a patient and doctor, two nurses, a researcher-mentor combination or a staff member and volunteer, for example.

"Our goal is to provide those connected with our community an opportunity to share their stories, which we hope to integrate into the NIH visitor experience," explained Daozhong Jin of OSOP. "We plan to share these stories via the NIH web site, social media channels and direct outreach activities."

The project is currently recruiting volunteers. If you or someone you know may be interested in having a story recorded and archived, visit [www.nih.gov/about/storycorps/](http://www.nih.gov/about/storycorps/).

### NCI's Greenwald Honored for Outstanding Research

*The Breast Cancer Research Foundation presented Dr. Peter Greenwald with the Jill Rose Award for distinguished scientific achievement on Oct. 9 at its annual*



*symposium & awards luncheon. Greenwald was recognized for his lifelong contributions in cancer prevention research and policy, including his founding of the National Cancer Institute's Division of Cancer Prevention and his role as associate director for cancer prevention at NCI's Division of Cancer Prevention and Control. In addition to his many scientific contributions, Greenwald has served on the BCRF scientific advisory board since 2002. The award was created in 1996 in memory of Jill Rose, a friend of BCRF founder Evelyn H. Lauder and a member of the foundation's advisory board.*



### Kumanyika To Give Gordon Lecture

The Robert S. Gordon, Jr. Lecture, part of the NIH Director's Wednesday Afternoon Lecture Series, will be given by Dr. Shiriki Kumanyika on Dec. 3 from 3 to 4 p.m. in Masur Auditorium, Bldg. 10. Her topic is "Research Directions for Solving the Obesity Epidemic in High-Risk Populations."

Kumanyika is professor emerita of epidemiology in the department of biostatistics & epidemiology at Perelman School of Medicine, University of Pennsylvania.

Although obesity prevalence is high in the U.S. population as a whole, rates increase significantly for both children and adults in most racial/ethnic minority groups and for low-income populations in America. This is a persistent observation in need of explanation that can point toward effective, long-lasting solutions.

Kumanyika will discuss how social, economic and physical environments can influence eating and physical activity. She will also expound on the difficulty of evaluating these contributions in ways that can inform specific interventions while still recognizing the need to move promising research forward.

Kumanyika earned a Ph.D. in human nutrition from Cornell University and an M.P.H. from Johns Hopkins University. Before assuming her current position, she served as associate dean for health promotion and disease prevention at the University of Pennsylvania, where she established a university-wide interdisciplinary master of public health program. She is the founder and current chair of the African American Collaborative Obesity Research Network, which seeks to improve the quality, quantity and effective translation of research on weight issues in African-American communities.

The Gordon Lecture is sponsored by the Office of Disease Prevention. To watch the seminar online, visit <http://videocast.nih.gov>.

Sign language interpreters can be provided. Those who need reasonable accommodation to participate should contact Jacqueline Roberts, [robertsjm@od.nih.gov](mailto:robertsjm@od.nih.gov), (301) 594-6747 or the Federal Relay (1-800-877-8339).

### NIDCD Speaker Series Presents Advances in Plain Language

Using plain English to talk about scientific advances can be a challenge, but not for NIDCD's Dr. Dennis Drayna, chief of the section on systems biology of communication disorders. He recently described the genetics of stuttering to help launch NIDCD's new speaker series "Beyond the Lab, Understanding Communication Disorders."

The series offers an opportunity to learn about research advances in communication disorders—conditions that will affect about one in 6 Americans. It is intended for those who might not have training or a background in biomedical research. The goal is to present the science in ways that everyone can understand and to underscore how NIH staff play a role in advancing scientific knowledge.



*NIDCD's Dr. Dennis Drayna*

Speaking to a standing-room-only crowd at the Porter Neuroscience Research Center, Drayna discussed his research focusing on several genes and the role they play in stuttering. Stuttering affects people of all ages, throughout the world, who speak any language. Roughly 3 million Americans stutter.

In 2010, Drayna and researchers in his lab, in collaboration with a group of international scientists, found the first 3 genes associated with stuttering—a common speech disorder in which sounds, syllables or words are repeated or prolonged, disrupting the normal flow of speech. Since then, Drayna's lab has found a fourth gene directly associated with the condition.

According to Drayna, the identified genes are associated with a metabolic function that occurs in every cell in our body, but gene mutations disrupt the normal function. His working hypothesis is that there is a group of cells in the brain that are dedicated solely to speech production and are uniquely sensitive to the metabolic defect caused by these mutations. Through additional research, Drayna hopes to identify these brain cells and their function, which could provide new insights into both stuttering and normal speech.

"Understanding the role that these genes play in stuttering gives us crucial information needed to develop a cure for this disorder," he said.

Planning for the next talk in the Beyond the Lab speaker series is under way for spring 2015.

### NCI's Rowland Honored

*Dr. Julia Rowland, a psychologist who is director of cancer survivorship in NCI's Division of Cancer Control and Population Sciences, won the Bernard Fox Award for Outstanding Contribution in Education or Research at the 16th World Congress of Psycho-Oncology in Lisbon, Portugal recently. Also an adjunct associate professor in the department of psychiatry at Georgetown University School of Medicine, Rowland has a long and distinguished career in psycho-oncology and cancer survivorship research. She has authored or co-authored 93 peer-reviewed papers and a further 24 editorials and commentaries in major oncology journals on different aspects of cancer survivorship, in addition to 43 book chapters.*



## MELANOMA

CONTINUED FROM PAGE 1



*“The melanoma community has never been more excited,” said Dr. Rhoda Alani. “The past 3 years have seen significant advances.”*

stranger to NIH, she was a Howard Hughes Medical Institute research scholar on campus in 1988-1989.

Melanoma kills about 9,000 people in the U.S. each year, she reported, and Americans have a 1 in 56 lifetime risk of developing the disease. Australians, by comparison, have a 1 in 17 lifetime risk for men, and 1 in 14 for women. About 75,000 new cases are diagnosed each year in the U.S., the great majority of which can be completely removed and cured by surgery alone.

But advanced melanoma—when the disease has metastasized to other organs—remains a grave threat, limiting life expectancy for those affected to only 6-9 months. And dormant melanoma—maybe the surgeon didn’t get every last cell during excision—can reactivate suddenly.

Thanks to a better molecular understanding of how melanoma develops, due to such projects as NCI’s The Cancer Genome Atlas (TCGA), new treatments are being discovered that target the specific pathways by which melanoma gains a foothold within the body.

The recent excitement began in 2010, with a paper in the *New England Journal of Medicine* that “hit the ball out of the park for the melanoma community,” and made the front page of the *New York Times*, said Alani. It reported on an inhibitor of the BRAF pathway that had an initial 81 percent response rate that persisted, on average, for 7 months.

The problem is that melanoma wants to survive just as badly as physicians want to eliminate it; resistance to novel treatment begins almost immediately. “Virtually all patients develop resistance over time,” said Alani. “That’s the bane of our existence in 2014. There are several complex and variable pathways involved in the development of resistance.”

Investigators have used brute force in the effort to find better therapies, doing methodical reviews of every gene in the pathway leading to melanoma. “It’s important to understand the molecular characteristics of the tumor,” Alani said. “TCGA has been very helpful in understanding the genetic landscape.”

The BRAF kinase—the hero of the 2010 *NEJM* paper—became a molecular target in 2002, because it was linked to 60 percent of the melanoma cases under study. “It took only 8 years to get a drug (vemurafenib) and 9 years for approval—that’s fast,” Alani said.

Therapy with the new drug took only 15 days to virtually erase metastatic lesions in one patient, and garnered a 48 percent response rate in a clinical trial. Such success led not only to enthusiasm in the research community, but also heated debate over the ethics of not treating melanoma patients in the control arm of the study, Alani reported.

A newer drug, dabrafenib, approved in 2013, has even fewer side effects than vemurafenib, she added. The most recent approaches combine several inhibitors targeting multiple pathways; early trials of one show increased efficacy (a 76 percent response rate) and decreased toxicity.

Research in the field is moving so quickly that melanoma, which Alani said is many different diseases, is undergoing molecular reclassification. Future melanoma therapy, she said, will be similar to today’s HIV combination therapies.

“Ideally, we’d like to set the stage for truly personalized medicine,” she said. “We need to look more carefully at the broader landscape of other ‘driver’ mutations in melanoma, using TCGA.”

In 2012, 6 novel melanoma gene candidates were found, Alani noted. “But we want to do better than 6 new drugs,” she said. “The holy grail in melanoma, for a very long time, has been immunotherapy. But it’s very hard to harness the power of the human immune system.”

While targeted therapy acts quickly, and can yield spectacular results in the best cases within only a few weeks, immunotherapy is likely to be slower, but more durable, Alani explained.

Her prescription for moving forward? Combine agents, both serially and concurrently; blend both targeted and immunotherapeutic approaches; target paths other than the well-characterized MAP kinase pathway; and take advantage of a plethora of new T-cell targets.

“The melanoma community has never been more excited,” she said. “The past 3 years have seen significant advances.”

During a Q&A session, Alani added that, within the next 6 months, three companies are likely to market diagnostic tests based on biomarkers that will allow physicians to determine exactly what kind of tumor they are dealing with. Physicians in the lecture hall seemed gratified to have that advantage in prospect. 📌

## Spong Named NICHD Deputy Director

Dr. Catherine Spong is the new deputy director at the National Institute of Child Health and Human Development. A board-certified obstetrician/gynecologist, she has a commitment to the institute that spans two decades.

For the past 2 years, Spong served as the first NICHD associate director for extramural research and the first director of the Division of Extramural Research. During her tenure at NICHD, she has built an extensive research portfolio and administrative career that advanced scientific understanding of pregnancy and maternal and fetal health.

In addition, throughout her career, she has contributed to changes in medical practice in numerous capacities as a member of the Pregnancy and Perinatology Branch and later as chief of the branch. She has pioneered early research on the nature of Down syndrome and learning.



*Dr. Catherine Spong*

Spong serves as a maternal/fetal medicine specialist for the Clinical Center and for INOVA Alexandria Hospital. She works directly with expecting and new families, giving voice to the institute's research developments and communicating vital advances to parents, educators and health care providers.

"As a physician-scientist, she has made seminal contributions both to our scientific understanding and to the health and well-being of countless individuals around the globe," said NICHD director Dr. Alan Guttmacher.

## NIH Research Study Seeks Healthy Moms

Healthy moms ages 18-50 are invited to participate in an outpatient research study examining the role of reproductive hormones in postpartum depression. Eligible participants must be medication-free. Compensation is provided. Call to learn more: (301) 496-9576, TTY 1-866-411-1010. Refer to study 95-M-0097.



*Speakers at the White House summit included (from l) Anthony Robles, PCFSN member and NCAA wrestling analyst and expert, ESPN; NICHD director Dr. Alan Guttmacher; Shellie Pfohl, PCFSN executive director; and Curtis Pride, PCFSN member, Major League Baseball player (retired) and Gallaudet University head baseball coach.*

PHOTO: JEREMY SWAN

## NICHD Co-Sponsors White House Disability Summit

More than 50 million Americans, about 1 in 5 people, are living with a disability. People with disabilities tend to be less physically active than people without disabilities and have higher rates of corresponding health problems such as obesity, heart disease, hypertension and stroke.

To promote improved health and fitness for people with disabilities, NICHD and the President's Council on Fitness, Sports & Nutrition (PCFSN) recently co-sponsored a White House summit and research forum on the impact of exercise and healthy diets on children and adults with disabilities.

"Physical activity and good nutrition are important for all people to lead healthy lives," said Dr. Ralph Nitkin, acting director of NICHD's National Center for Medical Rehabilitation Research. "For individuals with disabilities, physical activity and nutrition are of special significance, as obesity or a general lack of physical fitness may have a more immediate impact on their physical function and participation.

"By focusing on their specific physiological, psychosocial and nutritional needs—and with the help of their families," he continued, "we have a unique opportunity to support people with disabilities, reduce secondary complications and improve overall health."

The first day of the event featured personal reflections from people with disabilities about the importance of physical activity in their lives. Educators and community leaders also spoke about their experience implementing model programs such as "I Can Do It, You Can Do It!" This 8-week mentoring program, created by Dr. Margaret Giannini, a past director of HHS's Office on Disability, helps individuals with disabilities make healthy choices about nutrition and physical activity.

The research forum on the second day included discussions led by NIH scientists, grantees and federal colleagues about a variety of related topics, from movement challenges and special nutritional needs to motivational techniques and outcome measurement.—Katie Rush



## BLASER

CONTINUED FROM PAGE 1

*Above, from l: NIAID's Dr. Steve Holland asks a question at the Kinyoun Lecture. Blaser fielded an unusually robust round of questions following his talk.*

*NIAID director Dr. Anthony Fauci introduced Blaser, noting that Blaser's recent book—Missing Microbes—is a good read. "I hope I'm not breaking any ethics rules by saying that," Fauci quipped.*

PHOTOS: BILL BRANSON

the microbiome, with obesity being a type of changed physiology imposed by the drugs.

Using epidemiologic data from the Centers for Disease Control and Prevention in 2010, Blaser showed the astonishing congruence in U.S. maps indicating prevalence of obesity and high use of antibiotics—they share a virtually similar geography. "There is a lot of consistency between them," he said. "The observation is quite striking."

Back in 1989, no state had more than a 14 percent rate of obesity among adults. By 2010, no state had a rate below 20 percent. "That's only 21 years," Blaser said. "Something extremely powerful must be going on to explain this."

Data from 35 years' worth of NHANES (National Health and Nutrition Examination Survey) studies show that obesity rates are going up progressively, beginning at ages 2-5. "The obesity epidemic is rooted at least in part in childhood," Blaser said.

"What could be big enough to account for such a change not only in the U.S., but also all over the world?" he asked.

Blaser does not dispute that antibiotics are a major asset, "one of the miracles of modern science." But they are being overused, he said. "Antibiotic use in the U.S. is enormous."

In 2010, some 258 million prescriptions for antibiotics were filled, or about 833 per 1,000 people. Blaser said that, by age 20, the average American has had 17 courses of antibiotics. That doesn't take into account fetal exposure—data show that 50 to 60 percent of pregnant women in the U.S. take antibiotics.

Blaser cited a CDC study conducted in 2014 by Dr. Lauri Hicks and her colleagues that tied the highest antibiotic prescription rates to America's poorest counties.

"The poorest people, and the least educated people, appear to be getting the most antibiotics," said Blaser. "That's something that hasn't been observed before and is perhaps part of the puzzle as to why obesity is seen so much in poor people."

Antibiotic use in livestock is also an important part of the story, he said. "Most antibiotics used in the U.S. are used on the farm."

During the 1940s, farmers found that adding sub-therapeutic doses of antibiotics to feed and water promoted livestock growth. It was later discovered that "it works from chickens to cows, and with any anti-bacterial agent you use," Blaser said. "The younger in life [the animals] start the antibiotics, the more profound the effect on growth rate and feed efficiency."

Blaser reviewed data from 8 studies in mice that were fed antibiotics in his laboratory. Research showed that antibiotics: change body composition, including microbiota; promote the metabolic syndrome (a disorder of energy use and storage that can lead to obesity, high blood pressure, diabetes and heart failure) and fatty livers; and down-regulate genes governing immunity.

"There is an early developmental window," said Blaser, "where, with perturbation of the microbiota, even if it returns essentially to normal [by withdrawing antibiotics], the effect is lifelong."

He said that type 1 diabetes, like obesity, is also increasing around the world, "doubling about every 20 years." That observation is borne out in the mouse model—early life administration of antibiotics fuels type 1 diabetes in mice.

From animal studies, Blaser returned to human epidemiologic studies. One such study, of early life microbiome disruption, conducted on 10,000 children in the 1990s, showed that early antibiotic use was associated with adiposity.

Cesarean birth, which deprives newborns of full exposure to the mother's microbiome, is associated with more adiposity later in development, Blaser said. At the instant of birth, he explained, a newborn's passage through the birth canal bathes a child in its mother's vaginal microbiota, some of which is swallowed. This confers an irreplaceable metabolic and possibly immunologic advantage to the baby. But 32 percent of U.S. births occur by C-section, and the number is rising, he said. At a time when the microbiome is at its most dynamic (up to age 3), modern medical practice is short-circuiting a developmental process nature has spent eons perfecting.

Blaser cited two more studies: One, published in *JAMA Pediatrics* just a week earlier, showed that, among 65,000 children in Atlanta ages 2-5, antibiotic exposure increased risk of obesity. The other, conducted in Denmark over 10 years, linked increased antibiotic use to higher risk of inflammatory bowel syndrome, especially Crohn's disease.

He concluded his talk with several recommendations:

- ◆ Use antibiotics on the farm only to treat illness.
- ◆ Increase research about the consequences of antibiotic use in humans.
- ◆ Educate the public and professions about risks of antibiotic exposure.
- ◆ Use narrow (vs. broad) spectrum treatments. He said that we need to develop new narrow-spectrum agents and new diagnostics.
- ◆ Pursue remediation by replacing acutely lost actors ("scientifically developed probiotics, not the kind marketers promote") and enhancing depleted actors (prebiotics).
- ◆ Pursue reversal by archiving vanishing organisms and replacing disappeared organisms and pathways.
- ◆ Monitor whether interventions are working.

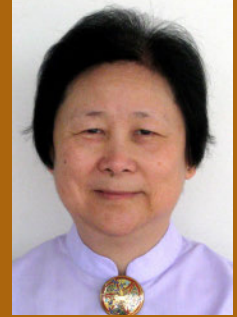
Blaser called recent FDA regulations on antibiotic use in farm animals, which are voluntary, a "baby step" in the right direction, and hopes they will be enforced in order to "diminish our assault on the microbes of our domesticated animals."

He predicts a new algorithm for child health based on analysis of a newborn's filled diapers: "What are the microbes they have that are globally important? If they're lacking, we can administer them."

Blaser's full talk can be seen at <http://videocast.nih.gov/summary.asp?Live=14598&bhcp=1>. 📺

## NICHD's Loh To Give Roberts Lecture, Dec. 11

Dr. Y. Peng Loh, chief of NICHD's section on cellular neurobiology, will give the fall seminar in the Anita B. Roberts Lecture Series: Distinguished Women Scientists at NIH. Her talk, "Neurotrophic Factor  $\alpha 1$ : A Key Regulator of Neuroprotection, Depression and Cancer Metastasis," will be held on Thursday, Dec. 11 at 3:30 p.m. in Lipsett Amphitheater, Bldg 10. The series is sponsored by the NIH women scientist advisors committee and Office of Research on Women's Health and highlights outstanding research achievements of women scientists at NIH.



Loh is internationally recognized for her contributions toward understanding the mechanisms underlying the enzymatic processing, intracellular trafficking and sorting of pro-hormones and neuropeptides to secretory granules of the regulated secretory pathway. She revolutionized the field by discovering many non-enzymatic roles of the pro-hormone processing enzyme carboxypeptidase E (CPE). Recently, she identified secreted CPE (now named neurotrophic factor  $\alpha 1$ ) as a new signaling molecule with important neurotrophic functions in mediating neuroprotection, preventing stress-induced depression and in neural stem cell differentiation in the developing brain. Additionally she has discovered a splice variant form of CPE (CPE- $\Delta N$ ) that induces metastasis in cancer cells and is a powerful biomarker for predicting future metastasis in cancer patients. Loh's pioneering work has led to more than 200 publications and, together with her mentoring service to the NIH community, has earned her numerous awards including the FASEB Excellence in Science Award, the Public Health Service Superior Service Award, Women in Endocrinology Mentor's Award for Outstanding Research and Mentoring and the NIH Director's Award for Mentoring.

The seminar series is dedicated to the memory of Anita B. Roberts, chief of NCI's Laboratory of Cell Regulation and Carcinogenesis from 1995 to 2006, honoring her role as an exceptional mentor and scientist. Prior to her death in May 2006, she spent 30 years at NIH performing pioneering work on transforming growth factor beta and its role in wound healing, carcinogenesis and autoimmune disease.

The lecture is open to all and will be followed by a question-and-answer session. Sign language interpreters will be provided upon request. Those who need reasonable accommodation should contact Margaret McBurney at (301) 496-1921 and/or the Federal Relay (1-800-877-8339) 5 days before the lecture.

## NCI Fellowship Program Graduates Ten

The first year of the revised Sallie Rosen Kaplan Postdoctoral Fellowship for Women Scientists in Cancer Research program came to an end recently with a brief graduation ceremony to celebrate this milestone. Participants for the program were competitively selected from the current NCI female postdoctoral trainee pool. The goal of this 1-year program was to strengthen leadership skills through workshops and seminars, mentoring and coaching, and providing a community of peers to retain and to help transition them to independent research careers. The highlight and core of the program was a "Design Your Life" course. The course taught participants to take an active role in designing answers to the concerns in their lives and to embody the change they wish to see in the workplace. Said one graduate, "I am much more willing to jump in, take risks, make connections, and that has helped me be more productive, happier and more excited about my career." The graduates are (from l) Kristin Guertin, Carrie House, Joy Gary, Rena Jones, Monica Markovski, Ashley Felix, Anna Coghill, Catherine Volle, Kristin Litzelman and Fatima Ali-Rahmani.





## GLOBAL HEALTH

CONTINUED FROM PAGE 1

### **Above:**

*Speakers at the recent symposium on global health included Pulitzer prize-winning author Laurie Garrett (l) and Dr. Deborah Birx, ambassador-at-large and coordinator of U.S. government activities to combat HIV/AIDS.*

PHOTOS (EXCEPT GARRETT): BILL BRANSON

the focus of a lively symposium, “Hot Topics in Global Health,” held Sept. 11 in Natcher Bldg.

### **Infectious Diseases: Ebola and HIV/AIDS**

The Ebola epidemic is ravaging West Africa and threatening to unfold in other parts of Africa. Laurie Garrett, a senior fellow at the Council on Foreign Relations, speaking via Skype, lamented the lack of a global health infrastructure to prevent or address such a pandemic.

“I’m angry about the global health negligence that has permitted the explosion of this epidemic in West Africa,” said Garrett, a Pulitzer Prize-winning author. “We are at a very dangerous point and infuriating juncture for global health today.” She warned that an unchecked Ebola epidemic could threaten the stability of West Africa and have dire global security and economic implications.

Garrett said countries have refused landing rights to flights going in and out of Liberia, Guinea and Sierra Leone—the hub of the Ebola outbreak—so medical personnel can’t get in, compounding the shortage of doctors and health care workers. Also scarce are hospital beds, so many people are dying at home. Further, the number of Ebola cases is likely triple what’s being reported, as high as 12,000-15,000 people infected and at least 6,000 dead, and growing daily. Garrett said, so far, the only strong responder on the ground has been the French agency Doctors Without Borders.

“We’re right at the cusp of whether this epidemic will come under control or whether it’s going to become a permanent, endemic feature in these countries,” said Garrett. To combat Ebola, she said, we need genuine leadership; a central bank account that can receive donations; trained medical personnel; patient screenings; supplies; real-time information; and a vaccine

and treatment drug with a timeline for delivery. “We know how to stop Ebola; we’ve done it before, more than once,” she said. “You find it fast and you move in with a heavy response.”

In 2003, the United States moved in with a heavy response to fight HIV/AIDS by creating PEPFAR—the President’s Emergency Plan for AIDS Relief—the largest effort by any nation toward combatting a single disease worldwide. Thanks to PEPFAR, 6.7 million men, women and children worldwide are on anti-retroviral therapy; and more than 1 million babies have been born HIV-free. Last year alone, some 57.7 million people were tested for HIV, while prevention services reached 21 million people.

“The great news about PEPFAR has been [the reversal] of the terrible declines in life expectancy due to this pandemic in sub-Saharan Africa,” said Dr. Deborah Birx, ambassador-at-large and coordinator of U.S. government activities to combat HIV/AIDS. She said PEPFAR currently is devoting much of its resources toward the program for vulnerable children and hard-to-reach populations. By increasing transparency, accountability and impact, Birx said, PEPFAR has attracted new investors and recently launched the Accelerating Children’s HIV/AIDS Treatment Initiative to double the number of children on treatment.

To eradicate HIV/AIDS, “We need a cure and a vaccine, and I know NIH is working on both of those,” Birx said. But we need to ramp up commitment. “We’re at a moment in time where we can utilize our resources in the most concentrated, effective way and get control of this pandemic, or we’re going to end up...where there’s not enough resources globally to ever contain it again.”

### **E-Cigarette Use Sparks Debate**

The growing popularity of e-cigarette use is sparking health debates around the world; further study is needed to gauge the potential risks to users and bystanders. E-cigarettes are battery-powered devices that heat a liquid containing nicotine, flavorings and other chemicals, which the user inhales as an aerosol, explained Dr. Michele Bloch, chief of the Tobacco Control Research Branch at the National Cancer Institute.

In the United States, more than one-third of adult cigarette smokers have tried e-cigarettes, said Bloch. A key concern is the potential for increased e-cigarette use by children and youth. In 2011, among U.S. high school and middle school students who had never smoked, 79,000 reported having tried e-cigarettes; in 2013, the number jumped to 263,000.

Some say that because e-cigarettes emit fewer chemicals than regular cigarettes, they are safer. Propo-





*NCI's Dr. Michele Bloch also spoke at the symposium.*

nents also argue that e-cigarettes can help people quit smoking. But others argue that e-cigarettes have not been proven to help people quit and could be harmful if they deter or distract people from quitting smoking completely. Further, they may be a gateway to cigarette smoking or other drug use and may “renormalize” cigarette smoking, particularly among youth, said Bloch.

“Nicotine-containing products comprise what we might call a continuum of risk in their delivery,” said Bloch, with conventional cigarettes at the high end of the spectrum, the nicotine patch at the low end and e-cigarettes somewhere in between. “E-cigarettes may deliver fewer toxicants but they do expose people who are around them to nicotine and other toxic chemicals...They may provide the user with nicotine in a less hazardous form, but they may or may not reduce harm at the individual or population level.”

E-cigarettes are widely available around the world but some countries are implementing regulations or banning them. A recent World Health Organization report calls for tougher rules for e-cigarettes, including prohibiting unsubstantiated health claims, banning the use of e-cigarettes indoors where smoking is banned and restricting advertising, promotion and sponsorship, especially ads aimed at youth.

### Addressing the Environment

WHO estimates that at least 13 million deaths each year could be prevented by improving environmental conditions. Some researchers estimate nearly two-thirds of U.S. cancer cases, and 1 in 5 cancer cases worldwide, are related to environmental factors—from smoking and sun exposure to air, water and soil pollutants.

Environmental factors play a role in many diseases worldwide, including cardiovascular disease, respiratory infections, as well as birth defects, obesity and mental health disorders, said Dr. Linda Birnbaum, director of the National Institute of Environmental Health Sciences and the National Toxicology Program. She said epigenetic changes may not be evident early in life but pollutants have long-lasting, often trans-generational effects.

Birnbaum also cited a steady rise in diabetes, asthma and autism in recent years. “All of these [conditions] are happening too rapidly to be explained by changes in our genes,” she said. “It has to be related to changes in our environment and their interaction with our genes.”

Indoor air pollution is a silent killer. Millions die annually from cooking with solid fuels, said Birnbaum, and half of the deaths among young children are from pneumonia from inhaling soot in their homes.

NIEHS is collaborating with WHO on addressing cookstove and other indoor air pollution; childhood environmental health; and climate change effects. Birnbaum said more extreme temperatures and rising precipitation will cause mounting food- and water-borne disease, respiratory problems, anxiety, infectious diseases and other health problems particularly among poor and other vulnerable populations. Reducing greenhouse gas emissions and other public health measures could help alleviate some of the environmental health burden, she said.

“You can’t change your genes,” Birnbaum concluded, “but you can change your environment. That offers a pathway to improve health for all.”



*The 49<sup>th</sup> meeting of the Association of Vision Science Librarians took place at NIH.*

PHOTO: JOSH DUBERMAN

### Association of Vision Science Librarians Meets at NIH

The 49<sup>th</sup> meeting of the Association of Vision Science Librarians took place Oct. 27-29 at NIH, sponsored by the National Eye Institute, with support by the NIH Library. Members from across North America, including Puerto Rico and Canada, attended; members from around the globe, including several sites in China and India, participated virtually despite the challenges of time zone differences.

The association includes 159 individual librarian and institutional library members in more than 25 countries around the world. They serve ophthalmology departments, schools and colleges of optometry, professional vision and medical societies, hospitals and eye care delivery centers with information resources and services. The association publishes standards for vision libraries, establishes core competencies for vision librarians and advocates for improved access to and standards for the vision literature.

The meeting began with a 1-day symposium, “Ocular Genetics for Optometry and Ophthalmology Librarians,” with talks by NEI researchers and clinicians, staff of the EyeGENE program and NIH Library staff, an informationist and a bioinformatics specialist. The focus was on understanding genetics and epigenetics and translational opportunities taking basic genetic findings into clinical trials of gene therapy and other therapeutic interventions for inherited blinding eye diseases.

Discussions and presentations included a range of topics, from creative use of historical material to 3D printers, preservation of slides of clinical cases to AVSL’s participation in an Elsevier Foundation “Innovative Libraries in Developing Countries” grant, which supports 8 resource centers in India, Nepal, Egypt, Guatemala and South Africa.



*Dr. Ashley Wilder Smith is chief of the Outcomes Research Branch in NCI's Division of Cancer Control and Population Sciences.*

### Smith Named Branch Chief at NCI

Dr. Ashley Wilder Smith has been named chief of the Outcomes Research Branch in NCI's Division of Cancer Control and Population Sciences. The branch supports research activities that measure, evaluate and improve patient-centered outcomes of cancer care delivery across the cancer care continuum.

Dr. Robert Croyle, DCCPS director, said, "I'm thrilled that Dr. Smith has accepted this important leadership role as we scale up our health services and outcomes research efforts."

Smith joined DCCPS as a cancer prevention fellow and then formally joined the Outcomes Research Branch in 2006 as a behavioral scientist and program director. Her research focuses on improving understanding of patient-reported outcomes and quality care for cancer patients, survivors and their families. She is particularly interested in evaluating and improving health-related quality of life; identifying and addressing gaps in cancer care and outcomes among adolescent and young adult cancer survivors; and addressing health and lifestyle behaviors in health care settings.

Smith earned her M.S. and Ph.D. degrees in health psychology in 1999 and 2002, respectively, from the University of Pittsburgh. She also earned her M.P.H. in epidemiology from Pitt during her NCI Cancer Prevention Fellowship. She has received several awards for leadership and excellence in research from NIH, the American Psychological Association, the American Society of Preventive Oncology and the NCI Cancer Prevention Fellowship program.

### Shum To Direct NIDCR Extramural Research

Dr. Lillian Shum has been selected as director of NIDCR's Division of Extramural Research (DER). She will provide leadership and guidance for the planning, development, implementation and evaluation of NIDCR's investment in biomedical and behavioral sciences.



Serving as DER's acting director since earlier this year, Shum is a scientist administrator with broad knowledge and experience in dental, oral and cranio-

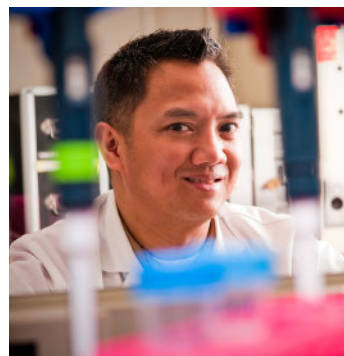
facial sciences. She is an alumna of the NIH Executive Leadership Program and represents NIDCR on trans-NIH and interagency working groups such as the NIH Common Fund's High Risk-High Rewards Program and its Metabolomics Program.

Shum has been with NIH for 19 years and has held leadership positions for the past 11 years. In 1995, she joined the intramural program of the National Institute of Arthritis and Musculoskeletal and Skin Diseases as a bench scientist conducting research in growth and transcription factor regulation of cranial neural crest cells, stem/progenitor cell differentiation and apoptosis and craniofacial skeletal development. In 2003, she became director of NIDCR's Mineralized Tissue Physiology Program in DER. Five years later, she was promoted to chief of the Integrative Biology and Infectious Diseases Branch, where she managed a portfolio of basic and translational research.

Shum earned her Ph.D. from the University of North Carolina at Chapel Hill, specializing in cell biology, developmental biology and anatomy. She completed two postdoctoral fellowships: one at the Center for Craniofacial Molecular Biology at the University of Southern California, and another at the University of California San Francisco School of Dentistry.

### NINR's Saligan Named AAN Fellow

*Dr. Leorey N. Saligan, a tenure-track investigator in NINR's Division of Intramural Research, was recently selected as an American Academy of Nursing fellow.*



*AAN fellows are nurse leaders who have made significant contributions to nursing and health care. As a nurse scientist, he directs clinical trials, translates genomic discoveries into clinical practice to reduce distress associ-*

*ated with multiple symptoms and engages individuals and their families to promote self-care. Saligan is a practicing family nurse practitioner. He received a B.S. in nursing from Liceo de Cagayan University in the Philippines and a Ph.D. in nursing from Hampton University. He is the recipient of several awards, including a NINR Leadership Award, the Hasselmeier Award for Research Initiatives and the RADM Faye G. Abdellah Publication Award for Nursing Research. He serves as an officer in the Public Health Service. The 2014 class of AAN fellows was inducted during the academy's recent annual meeting.*



### Team USPHS Cares Completes AIDS Walk

For the 6th year, Team USPHS Cares participated Oct. 25 in the Walk to End HIV (formerly AIDS Walk Washington), a fundraising walk and 5K run benefitting Whitman-Walker Health. This was the 28th annual walk. Overall, the event raised more than \$600,000, with more than 315 teams signed up. Team USPHS Cares, shown above at Freedom Plaza on Pennsylvania Ave. in downtown D.C., is coordinated annually by a group of 10 Commissioned Corps officers, including NIH'ers. "The AIDS Walk is an event that not only serves as a great opportunity to support a good cause, but also serves as a way to build stronger camaraderie among officers," said one supporter. "There is so much to learn from one another as professionals, people and, last but not least, Commissioned Corps officers."

PHOTO: LATONIA FORD



At the annual 10-miler are (from l) Lt. Jennifer Freiman, Lt. Shane Decker, Capt. Shelley Hoogstraten-Miller and Cdr. Evan Shukan. At right, acting surgeon general Radm. Boris Lushniak carries a PHS flag on the run.

### NIH'ers Participate in 30th Army Ten-Miler

Recently, 35,000 runners—approximately 240 of them representing the Public Health Service—ran in the 30th annual Army Ten-Miler. Officers came from all over the country, with a large contingent representing NIH. The officers carried 10 PHS flags as they ran the course through downtown D.C. The Commissioned Corps effort was coordinated by two NIH'ers, Capt. Shelley Hoogstraten-Miller and Cdr. Evan Shukan, with assistance from two organizers-in-training, Lt. Jen Freiman and Lt. Shane Deckert. Not only were they responsible for coordinating the runners, they also ensured there were cheering squads representing PHS at sites along the route. They also organized a Hooah tent for after the race and a post-race debriefing. Those who ran also had the honor of striding alongside acting surgeon general Radm. Boris Lushniak and two other flag officers, Radm. Newton Kenig and Radm. Sarah Linde.

The day began before daybreak outside the Pentagon. Many NIH Commissioned Corp officers used the opportunity to engage in physical activity and demonstrate healthy living. Lushniak provided motivational words about putting into action the surgeon general's fitness team initiative. As the sun rose, the first waves of runners—reserved for Wounded Warriors—began the race. All proceeds from the race go to benefit Soldier MWR programs. Some PHS officers also wore placards honoring Lcdr. Yves Brian Parker, who recently passed away.—Cara Kenney

## feedback

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

**Feedback:** Can email notifications be sent when there are access issues at pedestrian gates? The gate at Cedar Ln./ Bldg. 31 has not worked for 3 days on and off, and one does not know about the issue until you walk there in the afternoons or try to get in in the mornings. Then we have to walk to another gate which takes an extra 15-20 minutes, and it makes it very difficult for the driver who is picking up and dropping off NIH staff. This has occurred previously but not to this extent. Please consider some options to notify the pedestrian gate users.

**Response from ORS and ORF:** The Office of Research Services and the Office of Research Facilities apologize for any inconvenience with the pedestrian portal gates. As soon as the door/security teams know about a malfunctioning portal, they send out a team to repair it. However, sometimes these gates malfunction in the middle of the night or on a weekend and there is no way of knowing that it broke down unless someone attempts to use it, it does not function and, most importantly, the employee actually reports the problem, which often doesn't happen. For that reason, among other resource issues, a listserv is not possible.

One new solution should minimize inconvenience to the NIH staff—the installation of a second pedestrian entrance is now operational behind Bldg. 31 at Cedar Ln. Now, should a mechanical failure occur on one door, the second is available. This additional portal also reduces the waiting time some staff experience during peak periods.

Whenever you experience a portal malfunctioning, we urge you to call the ORF maintenance line at (301) 435-8000 and put in a ticket. This is the best recourse to getting any pedestrian gate fixed quickly. If your issue isn't resolved in a timely manner, please don't hesitate to use the ORF Issue Escalation Process found at <http://orf.od.nih.gov/PropertyManagement/MaintenanceServiceRequests/Pages/IssueEscalationProcess.aspx>.

**NIH Staff Get in the Spirit  
R&W Hosts Halloween Party  
For CFC**

The NIH Recreation and Welfare Association hosted a Halloween party for the Combined Federal Campaign on the Bldg. 31A patio.

The event, held on Oct. 30, featured a costume contest, an open air photo booth and food from Hard Times Café, Chick-fil-A and Ben and Jerry's.

Representatives from various charities were on hand to share information about their services with NIH employees. Among the charities attending were Special Love, L-Dubs Love, Friends of Patients at the NIH, Washington Humane Society, St. Ann's Center for Children, Youth and Families, USO, Generation Hope, Bethesda Cares, NIH Children's Inn, Foundation for NIH and the Northern Virginia Meditation Service.

R&W held a costume contest for staff who dressed up. Judges awarded prizes to Shirley Flottum for scariest costume, Erin Butler for best character impersonation and Jayme Gemmell for most creative costume. Winners received a travel mug and lanyard.

PHOTOS: BRYAN EWSICHEK, ERIC BOCK



*Above, Kim Barone (l) and Racheal Morrison get into the Halloween spirit. At right, Rob Drucker, representing the Foundation for NIH, dressed up as an ancient Egyptian.*



*Even vampiresses support the CFC—Shirley Flottum (above) received the prize for scariest costume.*

*OD's Erin Butler (above, l) models her prizing-winning Goofy costume.*

*At left, Wendy Baker (l) and Jayme Gemmell, who took home the prize for most creative costume, enjoyed the party.*

**Below:**

*At left, Monica Hanson (l) and Kallie Wasserman smile in the open air photo booth.*

*Karen Sellers cheers for her favorite football team.*

