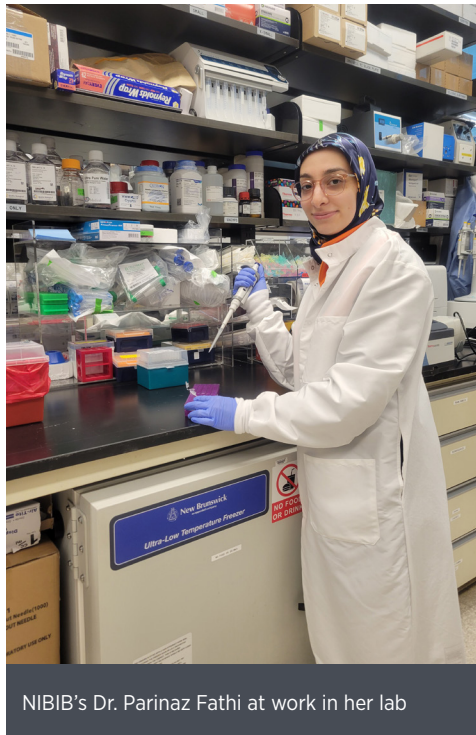


**MAKER IN THE MAKING**  
**Bioengineer Uses Molecules to Study Disease**

BY AMBER SNYDER

*NIH offers various opportunities for early-career researchers, many of whom go on to establish full-fledged careers here. As part of its intramural makers series, the NIH Record is highlighting an independent research scholar whose work will establish her as an inventor in her own right.*

This mechanical engineer-turned-bioengineer is building her role as an NIH Maker. In her unit for nanoengineering and microphysiological systems (UNEMPS) at the National Institute of Biomedical Engineering and Bioengineering, Dr. Parinaz



NIBIB's Dr. Parinaz Fathi at work in her lab

Fathi uses biological nanoparticles and miniscule organ models to study autoimmune disorders and cancer.

She received her undergraduate degree in mechanical engineering, but realized her interests leaned more toward biomedical fields.

“I liked my mechanical engineering classes but wanted [a career] with more immediate benefits to people,” she recalled.

Fathi went on to earn master’s and doctoral degrees in bioengineering and came to NIH as a postdoc in 2020. She began in Dr. Kaitlyn Sadtler’s lab, intending to start research projects in her chosen fields, but supply chain issues during the pandemic slowed her progress. In the meantime, Fathi spent time working on Covid-related research with Sadtler.

Fathi chose to see the delay as an opportunity rather than a setback.

“It gave me a chance to pivot and adapt

SEE FATHI, PAGE 8

**‘NOT OUT OF THE WOODS’**  
**Ambassador Nkengasong Discusses Global HIV/AIDS Response**

BY SUSAN SCUTTI

Dr. John Nkengasong issued a dire warning in his David E. Barmes Global Health Lecture in June, held at the Natcher Conference Center. Nkengasong, senior bureau official for global health security and diplomacy at the U.S. Department of State, gave a talk titled, “Global HIV/AIDS Response: Then,



Ambassador John Nkengasong gives the Barmes Lecture.

SEE NKENGASONG, PAGE 4

**Take-a-Hike Day Helps Staff Define Wellness Individually**

BY KRISTINE DURU AND MAHELATE SOLOMON

About 1,100 attendees gathered across multiple locations for NIH’s 16th annual Take-a-Hike Day on June 6. On the Bethesda campus, runners, walkers and rollers lined up outside of Bldg. 1 to take on the 3.2-mile perimeter trail.

“You, our staff, are our most important asset,” said kickoff speaker NIH Deputy Director for Management Dr. Alfred

SEE HIKE, PAGE 6



Take-a-Hike participants start their journey.



Asian heritage, culture celebrated. See p. 12.

**ALSO THIS ISSUE**

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**UNITE Hosts Workshop**

July 18-19

UNITE is hosting a virtual workshop on identifying ways to address the negative impacts of structural racism on health outcomes and in biomedical and behavioral research. Join the event, Interdisciplinary Approaches to Understanding and Addressing Structural Racism and Health, July 18-19.

ENDING STRUCTURAL RACISM



During this workshop, participants will join break-outs to collaboratively identify:

- Methodologies and measures for studying structural racism and health disparities
- Consequences of structural racism that affect health
- Strategies for productive cross-disciplinary partnerships
- Interventions to address the impact of structural racism on health

Researchers, clinicians and community partners are welcome. Participants include experts in social and natural sciences, law and criminal justice, education, public policy and social work, as well as biomedical, behavioral and public health.

Register at [bit.ly/UNITE-2024](https://bit.ly/UNITE-2024).

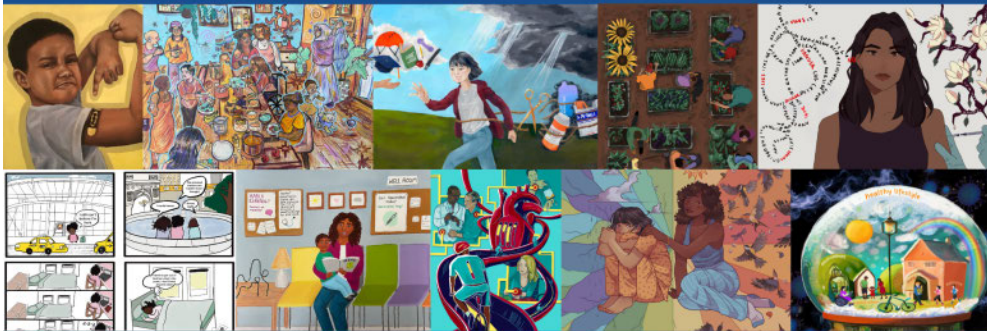


**Graduate and Professional School Fair Offers Network Opportunities, July 17**

The 2024 NIH Graduate and Professional School Fair will be held in person on Wednesday, July 17 at the Natcher Conference Center. There will be opportunities to connect with school and program representatives at the exhibitor sessions. Additionally, hybrid panel sessions will provide recommendations for getting into graduate or professional school.

The fair is focused on graduate and professional school applications and networking with representatives from programs across the U.S. It also provides an opportunity for NIH summer interns, especially those in college, and postbacs, as well as other college students in the D.C. area to prepare for the next step in their careers by exploring educational programs leading to the Ph.D., M.D., D.D.S.,

**“How Prevention Can Create Better Health for Everyone”  
ODP Art Challenge Awardees**



NIH National Institutes of Health  
Office of Disease Prevention

[prevention.nih.gov/YouthArtChallenge](https://prevention.nih.gov/YouthArtChallenge)

**Creative Submissions Poured in for Inaugural ODP Art Challenge**

Americans are seeing their youth struggle with complex issues like infections, mental health and gun safety. But, what do young people have to say about these matters? The Office of Disease Prevention (ODP) sought out the answer to this question by tapping into some of the most creative and artistic young minds through its first-ever nationwide art challenge.

More than 140 participants submitted pieces taking on ODP's inaugural challenge, “How Prevention Can Create Better Health for Everyone.” Drawings, paintings and digital compositions were among the various media artists used to express their ideas.

The young artists, spanning ages 13-22, demonstrated how prevention can help advance health equity by highlighting minority groups that often lack access to care.

This year's submissions also shed light on prevalent health issues impacting America's youth, such as addiction, loneliness and infections. Artists were graded on originality, creativity, quality, theme and impact, with finalists sharing \$17,000 in prizes for first, second and third place and honorable mentions.

The contest aimed to start conversations among young people about what individuals or communities can do to prevent disease and injury, support well-being and promote more equitable health outcomes for everyone. The winning artwork addressed topics from the importance of social support and community connections, vaccinations and heart-healthy habits, to the benefits of community gardens and multilingual, inclusive health care.

View the online gallery of winning submissions and read about the artists at <https://go.nih.gov/s7F1vcU>.—**Mahelate Solomon**

M.D./Ph.D. and other graduate and professional degrees.

More than 250 colleges and universities from across the U.S. send representatives of their graduate, medical and dental schools, schools of public health and other biomedically relevant programs with the aim of recruiting NIH trainees.

Visit <https://www.training.nih.gov/me/gfair/>.

**ENGAGE Seeks to Empower the Public**

NIH considers patients and other members of the public to be essential partners in research and is seeking public input on preferences, experiences and recommendations relating to increasing



ENGAGE co-chairs Suzanne Bakken (l) and Christin Veasley

community engagement in all phases of clinical research.

To accomplish this goal, NIH asked the novel and exceptional technology and research advisory committee (NEXTRAC) to form the ENGAGE Working Group, which includes patients, advocates, researchers, clinicians, non-profit representatives and other members of the public.

For more information and to submit your input:

- Visit the ENGAGE website: <https://partnersinresearch.nih.gov>
- Provide public feedback via this request for information at [go.nih.gov/hQWluB7](https://go.nih.gov/hQWluB7)
- NIH will host an informational webinar related to the RFI on July 17, which will also include significant time for public feedback. Details to come.
- Check out the ENGAGE blog at <https://osp.od.nih.gov/the-promise-of-nih-engage/>.



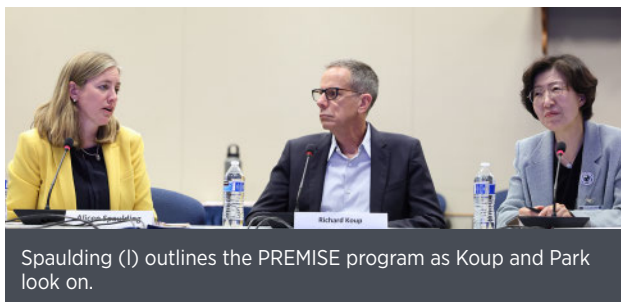
Taking part in the visit are (from l) Dr. Jennifer Bohl, VRC scientific liaison; Dr. Hye-Sook Jeong, director, KNIH Division of Vaccine Clinical Research; Dr. Richard Koup, VRC deputy director; Dr. Hyun-Young Park, deputy minister and KNIH director; Dr. Christina Harris, VRC deputy associate director for management and operations; Dr. Alicen Spaulding, VRC PREMISE senior advisor and team lead; Dr. Leo Serebryanny, director of clinical trial endpoint testing, VRC Vaccine Immunology Program.

## Korea's NIH Visits VRC

NIH's Vaccine Research Center (VRC) staff met with a delegation from the Korea National Institute of Health (KNIH) on May 22. Led by KNIH Director General Dr. Hyun-Young Park, the delegation members received an overview of the VRC.

The group also discussed the VRC's Pandemic REsponse REpository through Microbial

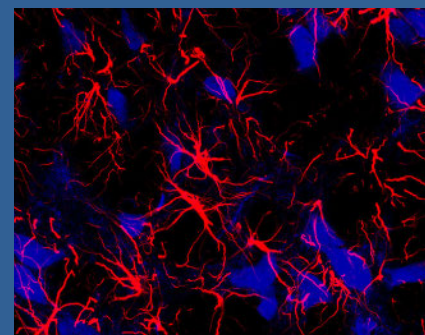
& Immune Surveillance & Epidemiology (PREMISE) program, opportunities for collaboration and strategies for implementing a PREMISE-like program at the KNIH.



Spaulding (l) outlines the PREMISE program as Koup and Park look on.



Shown at the meeting are (from l) Yong-Jun Lee, secretary, and Dr. Jung Ji-Won, director, KNIH Division of Research Planning; Dr. Myung-Geun Jung, deputy scientific director, KNIH Division of Biobank; Dr. Jae-Pil Jeon, director general, KNIH Department of Precision Medicine; Dr. Sang Hee Kim, staff scientist, KNIH Division of Zoonotic and Vector Borne Disease Research; Bohl; Jeong; Koup; Park; Serebryanny; Harris; Spaulding; Daniel Charlton, regional officer for Asia, NIAID Office of Global Research; Dr. Young-Jin Kim, deputy scientific director, KNIH Division of Genome Science; and Dr. Soon-Ho Kwon, KNIH staff scientist.



ON THE COVER: An NIH study in rats shows that star-shaped brain cells, called astrocytes (red), may play an active role in breathing.

IMAGE: JEFFREY C. SMITH LAB / NINDS

## The NIH Record

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# VOLUNTEERS

## Brain Function Study Needs Volunteers

Dr. Armin Raznahan, along with his team at NIMH, conducts research using MRI to delve into brain function and anatomy. They are currently recruiting healthy female volunteers ages 6-18 to explore connections between brain and behavior. Receive \$400 if you complete all parts of the study. If you reside outside the Washington, D.C., region, study provides travel and lodging for the volunteer and one accompanying parent. Interested in participating or have questions? Contact the Clinical Center Office of Patient Recruitment at (866) 444-2214 (TTY users, dial 711) or [ccopr@nih.gov](mailto:ccopr@nih.gov). Refer to study #89-M-0006. For more information online, visit <https://go.nih.gov/3pT1c9m>.



## Nkengasong

CONTINUED FROM PAGE 1

Now, Future.” The lecture preceded a Q&A facilitated by NIH Director Dr. Monica Bertagnolli.

“What keeps you up at night?” Bertagnolli asked.

“The threat of financial challenges,” Nkengasong answered without hesitating. “I fear that HIV fatigue can kick in, complacency can kick in and, if it does, the gains we’ve made may be quickly eroded.”

As an example, Nkengasong recalled the malaria eradication program, initiated by the World Health Organization in 1955. The effort achieved some success though not as much as initially hoped. A turning point arrived in 1969.

“The countries that had made gains saw a resurgence of malaria and global interest faded,” he recounted. Financial support dwindled soon after, he told Bertagnolli.

### First Barmes Lecture Since Pandemic

When he took the stage, Nkengasong, who is U.S. Global AIDS Coordinator—a role that includes leading the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR)—noted key moments in his career. He joined the HIV struggle in 1988 and also helped with the western Africa Ebola epidemic and the Covid-19 pandemic response efforts. Each crisis required a focus on the five Ps, he said: knowing the pathogen, the population, the policies, the politics and the partnerships.

In 2012, most PEPFAR-supported African countries reported less than 60% of people living with HIV on ART (antiretroviral treatment); a decade later, many countries are above 80% coverage. AIDS-related deaths

have declined 68% since their peak in 2004, while new infections are down 42%. PEPFAR has saved 25 million lives and 5.5 million babies have been born free of HIV.

Overall, the rate of new infections has plummeted, but “we’re not out of the woods,” warned Nkengasong.

PEPFAR’s strategy to accomplish its 2030 goal of decreasing HIV infections by 90% compared to 2010 focuses on the three 95s: 95% of people who are infected know their status; 95% of people with HIV are in treatment; and 95% of those in treatment have viral suppression. When the 95s are achieved, Nkengasong said, the new infection rate dips below the HIV-related death rate and the epidemic comes under control.

“I believe in that metric strongly,” he emphasized. “It gives us a north star.”

### Current & Future Challenges

PEPFAR’s progress, though widespread, is uneven across the globe.

“We have a series of countries—Kyrgyz Republic, Tajikistan, Papua New Guinea and the Philippines—that we characterize as ‘epidemics of concern,’ countries where we see incidence increasing,” Nkengasong said.

In all regions, key drivers of transmission include the undiagnosed, those diagnosed but never treated and those who interrupt treatment. Studies have begun to show viral resistance to medications, which is exacerbated when people “cycle in and out of treatment.” Meanwhile, the 15- to 24-year-old age group accounts for 27% of new infections globally.

“We have to pay attention and use all kinds of behavioral science, interventions and approaches to try to bring [people] to care and make sure they stay in care,” said Nkengasong. Data, he pointed out, must be used in a more granular fashion to identify and close gaps.



Nkengasong envisions a future when the HIV/AIDS response transitions from an infectious disease crisis to a disease management strategy.

“We’ve put a lot of emphasis on PrEP [pre-exposure prophylaxis],” said Nkengasong. PEPFAR has introduced long-acting PrEP in four countries (Malawi, Zambia, Zimbabwe and Ukraine), and by year’s end, 12 countries will be receiving supplies.

Though he remains hopeful about priority setting, Nkengasong said HIV gets pushed to the background whenever other emerging diseases, such as Covid-19 or mpox, arise.

Meanwhile, the HIV response is at a crossroads.

“We need to think about financing—we need to finish the fight,” Nkengasong concluded. “If PEPFAR was to stop today, you’d have an almost 400% increase in death rates.”

Watch the archived videocast at <https://videocast.nih.gov/watch=54646>.



## New Oceans and Human Health Centers To Address Microplastics Exposure

NIH and the National Science Foundation (NSF) are jointly funding four new research centers and renewing two centers to better understand how ocean-related exposures affect people's health.

To address plastics and other problems that could affect human health, the new Centers for Oceans and Human Health will tackle marine-related health research. Each center will focus on a different aspect of the interplay between environmental science, climate change and human health in the ocean or Great Lakes. [See sidebar below]

Together, the two agencies plan to invest more than \$42 million over five years for this program, continuing a two-decade long collaboration. The



Fish swim among plastic pollution in the sea.

PHOTO: RICH CAREY/SHUTTERSTOCK

National Institute of Environmental Health Sciences (NIEHS) administers the centers at NIH and supports individual research projects.

Millions of tons of small pieces of plastic, referred to as microplastics, are finding their way into the world's oceans. These microplastics, ranging from the size of the width of a pencil to smaller than a sesame seed, often get eaten by fish and shellfish and are passed to humans through seafood consumption. They also act as microscopic sponges, attracting, concentrating and carrying pollutants into new environments. These plastic particles and other factors, including a warming climate and more extreme weather events, are affecting the health of our waterways and, in turn, human health.



Dr. Anika Dzierlenga

"We know very little about what these microplastics or even smaller pieces of plastics, known as nanoplastics, can do to human health in the short or long term, or even what they can do to the health of the sea turtles and other animals that live in the ocean," said Dr. Anika Dzierlenga, NIEHS program lead.

Nanoplastics, once inside the body, may leach harmful chemicals that may impact development, reproduction and immune response.

"The connection among ocean pollution, climate change and human health are problems that we are only beginning to understand," Dzierlenga said. "People rely on oceans and lakes for jobs, food, tourism, recreation. These centers will help bring researchers and community groups together to study and take action to protect public health in coastal regions and around the Great Lakes."

### NIEHS-NSF Oceans and Human Health Center Awardees

The Centers for Oceans and Human Health foster interdisciplinary collaborations among biomedical researchers, physical and oceanographic scientists, and community partners. These projects are newly funded:

#### North Carolina State University

North Carolina Center for Coastal Algae, People and Environment will help lay the groundwork for how cyanobacterial (blue-green algae) blooms in estuaries or coastal waters impact seafood safety and public health. This research will help inform guidelines for the safe consumption of water and seafood.

#### University of California San Diego

Scripps Center for Oceans and Human Health will evaluate factors contributing to seafood safety concerns including impact from climate and weather, distribution of toxic chemicals across the aquatic food-source chain, the role of the marine microbiome in toxin metabolism, and animal and human response to toxic chemicals.

#### University of Rochester and Rochester Institute of Technology

Lake Ontario Center for Microplastics and Human Health in a Changing Environment will focus solely on plastic pollution and microplastics. Researchers will study the life cycle of plastic in Lake Ontario as it pertains to ecological and human health. The aim is to prevent negative health effects of microplastics in the Great Lakes region, which serves as a critical resource for more than 30 million people.

#### Woods Hole Oceanographic Institution

Woods Hole Center for Oceans and Human Health funding has been renewed in 2024 and will build off its prior research to address how a changing climate could influence harmful algal bloom (HAB) dynamics and human exposure to HAB toxins, a serious and global human health threat. The center will also work to improve public awareness and develop educational materials for K-12 classrooms and for health care providers.

NIEHS and NSF expect to make two additional awards soon.

### CCDI To Host Webinar

July 9

As part of its ongoing webinar series, the Childhood Cancer Data Initiative (CCDI) will host a webinar on Tuesday, July 9 from 1 to 2 p.m. ET. Tune in and learn about how to enhance interoperability with data standards, with an emphasis on the:

- National Childhood Cancer Registry
- Childhood Cancer-Data Integration for Research, Education, Care and Clinical Trials (CC-DIRECT)
- Development of pediatric content within the HemOnc.org ontology standard
- Creation of the minimal Common Oncology Data Elements (mCODE) pediatrics extension

This virtual event is free and open to the public, though registration is required to get the event link.

Learn more about CCDI events and access past webinar recordings by visiting <https://www.cancer.gov/research/areas/childhood/childhood-cancer-data-initiative/events-webinars>

Individuals with a disability who need reasonable accommodation to participate in this event may email [CCDIevents@mail.nih.gov](mailto:CCDIevents@mail.nih.gov) as soon as possible.

Register at <https://events.cancer.gov/ccdi/webinar/registration>.



At left, runners take off first as the signal sounds to begin the perimeter hike. At right, Colleen McGowan (c), director of NIH's Office of Research Services, steps off on the hike.

## Hike

CONTINUED FROM PAGE 1

Johnson, noting that maintaining employee wellness is a priority for NIH. “We want to do all we can to have you in the best shape to do the jobs that you do.”

Hikes also took place at other NIH locations, including Rockledge and Shady Grove (see sidebar, p. 7). Take-a-Hike Day organizer Leslie Pont, NIH Wellness Program manager, said planning the event required plenty of

time, effort and collaboration with volunteers, exhibitors, agency leadership and the NIH Police Department.

All the labor is worth it, she emphasized, to encourage staff to step away from their desks and move their bodies. Pont said the annual event proves that NIH stands behind its mission of prioritizing health.

“We continue these traditions

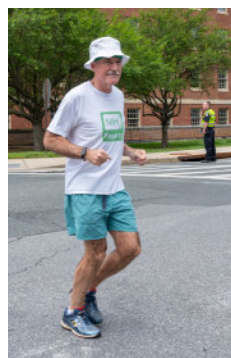
because we want to continue to walk the talk,” she explained.

Participants this year ranged from first-timers to seasoned Take-a-Hikers. Gloria Osei, technical laboratory manager at the National Center for Complementary and Integrative Health, has worked at NIH for about six



NIH Deputy Director for Management Dr. Alfred Johnson (l) offers encouraging words before the hike begins. At right, the event appears to have been walk, run, roll...or gallop.

PHOTOS: LESLIE KOSSOFF



FIC deputy director Dr. Peter Kilmarx (l) kicks into gear. At right a team sporting Vaccine Research Center swag finishes the hike.



FIC's Alisha Sutton (l) and Stefonie Kelly, at the hike's starting point PHOTO: KRISTINE DURU At right, hikers take stride after a brisk warm-up. PHOTO: LESLIE KOSSOFF



At left, super-enthusiastic cheerleaders set an upbeat tone for the event. At right, NIH Human Resources Director Julie Broussard Berko (c) and Kha Nguyen (r), director of the Division of Senior & Scientific Executive Management in the Office of Human Resources, head out for the stroll.

### NCI Shady Grove Takes a Hike Too

More than 125 NIH staffers gathered June 6 at NCI Shady Grove for NIH's annual Take-a-Hike Day.

NCI Acting Executive Officer Amber Lowery welcomed staff and NCI Director Dr. Kimryn Rathmell kicked off the event with inspiring words and a reminder that "physical activity is good for your body but



Staff at NCI Shady Grove get in on the hike. NCI Director Dr. Kimryn Rathmell (below, c) launched the satellite steppers.

PHOTOS: MARLEEN VAN DEN NESTE

also good for our overall mission...good for our mental well-being and health... and for making connections. Everything that we do here is about the people, and how we work together as a team."



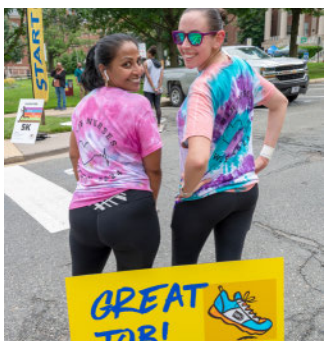
Fogarty International Center Health and Wellness Co-Coordinator Stefonie Kelly said the event signified how being active in nature can "change the mindset, the work environment, your experiences, the body and the soul."

Hike Day also gave staff the opportunity to connect with and get to know colleagues outside of meetings or other work-related activities. Safohene Amoa-Awua, a desktop support technician at the National Institute of Allergy and Infectious Diseases and first-time Take-a-Hiker, said it was important to him that he had the chance to venture outside of his usual workplace in Bldg. 40 and interact with fresh faces.

Take-a-Hike Day is regarded by many attendees as a staple of NIH's dedication to promoting wellness and health of its staff. Kelly detailed just how important she considers both aspects: "Health and wellness to me is self-love. It's discipline. It's going for something greater than yourself and not wanting instant gratification but the bigger goal at the end. It's survival, it's life, it's freeing."



NIH's littlest booster squads wave hand-drawn encouragements just before the hike begins, on the front lawn of Bldg. 1. PHOTOS: LESLIE KOSSOFF



Showing team spirit at the event are (from l) two groups of NIH nurses, an NINDS cheer squad, and at right, the Clinical Center's department of bioethics (from l) Paul Tan, Dr. Yukiko Asada, Dr. Robert Steel, Dr. Jasmine Gunkel and Dr. Christine Grady.

## Fathi

CONTINUED FROM PAGE 1

to doing things that were more immediately relevant to public health,” she said.

She was able to return to her own research in time and progressed to independent research scholar in July 2022. She is now the principal investigator of her own lab, a goal she has worked toward since arriving at NIH.

Fathi’s lab is researching thyroid immune disorders through two avenues: studying nanoparticles and their communication with the thyroid and using microphysiological systems (MPS) to model the thyroid and its surrounding environment.

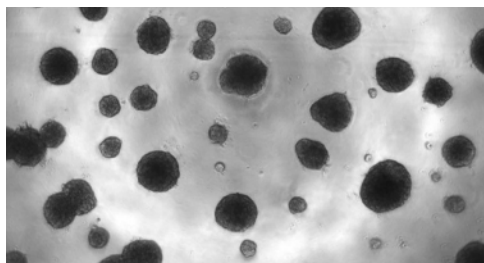
Biological nanoparticles called extracellular vesicles travel between cells and are used as a form of communication between them. Fathi is interested in how these nanoparticles might play a role in the development of thyroid immune disorders.

She also models the thyroid itself, by way of MPS. The technology allows her to mimic the thyroid’s biological environment on a small scale. She specifically develops “mini-organs” called organoids and spheroids to study how the conditions under which they are grown affect their morphology and functionality. Her end goal is to incorporate these models into more complex and physiologically relevant models in the future.

“We are developing these models...to study the thyroid immune microenvironment to better understand how diseases occur and maybe even come up with some new therapeutics,” Fathi explained.

Leading her own lab has come with other challenges outside of the science.

“I still feel that it’s a bit of a transition” almost two years in, she admitted, but the rewards are rich. Independent research scholars can mentor postdocs in their labs, and Fathi has a unique perspective as a mentor because she is not far removed from her own school days.



Thyroid organoids prepared on an extracellular gel matrix.

“I feel like I have an idea of what it takes to be a student and do research in different settings, and I think that definitely helps [relate to mentees],” she said. She is also still gaining insights from her own research collaborators and mentors at NIH.

“Everybody is constantly learning and we all have to be willing to adapt our mentoring styles and be open to learning new things.” **R**



NIA Director Dr. Richard Hodes presents the 2024 Florence Mahoney Lecture poster to guest speaker Dr. Jennifer Manly.

## Mahoney Lecturer Manly Discusses Community Engagement

Dr. Jennifer Manly, a neuropsychologist who conducts research on structural and social mechanisms of inequities in cognitive aging and dementias at Columbia University Medical Center, recently delivered NIH’s annual Florence Mahoney Lecture on Aging, sponsored by the National Institute on Aging (NIA).

Also a professor at the Taub Institute for Research on Alzheimer’s Disease and the Aging Brain, and the G.H. Sergievsky Center, Manly has served on NIA advisory council. Her May 8 presentation, “From Policies to pTau: Exposing Social and Structural Drivers of Alzheimer’s Disease and Opportunities for Brain Health Justice,” was part of NIA’s celebration of its 50th anniversary.

In her lecture, Manly discussed the growing global problems of dementias—not only the medical and health implications, but also the economic impact—and the need to develop successful interventions. Dementia is the fifth leading cause of death around the world, she reported.

“We must intervene to reduce the current and future burden of dementia worldwide,” Manly said. “What that means is we must identify modifiable risk factors and modifiable resilience factors.”

She also spoke about making community engagement work in scientific research and the critical importance of establishing relationships with individual populations.

The Mahoney Lecture is archived online at <https://videocast.nih.gov/watch=53831>.

## NIDCD Welcomes New EO Stevens

The National Institute on Deafness and Other Communication Disorders (NIDCD) named Dr. Mark Stevens as its new executive officer (EO).

In his new role, Stevens serves as a primary advisor to the NIDCD director and other senior officials, providing strategic guidance on the institute’s administrative and financial management functions. He is also director of NIDCD’s Office of Administration, which includes the administrative, financial and information systems management branches, as well as the office of communication and the science policy and planning branch.



Dr. Mark Stevens

“Dr. Stevens is a highly accomplished administrator and leader with more than a decade of hands-on experience in NIH policies and processes,” said NIDCD Director Dr. Debara L. Tucci, “His expertise and strategic foresight make him an ideal selection for NIDCD executive officer.”

Before joining NIDCD, Stevens was the deputy EO at the National Institute of Neurological Disorders and Stroke. Prior to that post, Stevens was the lead management and program analyst in the NIH Immediate Office of Management.

Stevens has also served as lead administrative officer for the National Center for Advancing Translational Sciences and the National Cancer Institute, and as a budget analyst at the National Eye Institute. He began his NIH career in 2009 as an intern in the NIH Administrative Fellows Program.

Stevens earned a doctorate in public administration from the University of Baltimore, a master’s degree in public administration from the University of Delaware, and a bachelor’s degree in political science and economics from Washington College in Chestertown, Md.



## Infectious H5N1 Influenza in Raw Milk Rapidly Declines with Heat



IMAGE: RIZKY RAHMAT HIDAYAT/ADOBE STOCK

The amount of infectious H5N1 influenza viruses in raw milk rapidly declined with heat treatment in laboratory research conducted by NIAID scientists. However, small, detectable amounts of infectious virus remained in raw milk samples with high virus levels when treated at 72 degrees

Celsius (161.6 degrees Fahrenheit) for 15 seconds—one of the standard pasteurization methods used by the dairy industry.

The authors of the study stress, however, that their findings reflect experimental conditions in a lab and are not identical to large-scale industrial pasteurization processes for raw milk. The findings were published in the *New England Journal of Medicine*.

In late March 2024, U.S. officials reported an outbreak of highly pathogenic avian influenza called HPAI H5N1 among dairy cows in Texas. To date, 95 cattle herds across 12 states have been affected, with three human infections detected in farm workers with conjunctivitis. Although the virus so far has shown no genetic evidence of acquiring the ability to spread from person to person, public health officials are closely monitoring the dairy cow situation as part of overarching pandemic preparedness efforts.

Given the limited data on the susceptibility of avian influenza viruses to pasteurization methods used by the dairy industry, scientists at NIAID's Rocky Mountain Laboratories sought to quantify the stability of H5N1 virus in raw milk when tested at different time intervals at 63 degrees (145.4 degrees Fahrenheit) and 72 degrees, the temperatures most common in commercial dairy pasteurization processes. The scientists isolated HPAI H5N1 from the lungs of a dead mountain lion in Montana. Then they mixed these viral isolates with raw, unpasteurized cow milk samples and heat-treated the milk for different periods of time. The samples were then cell-cultured and tested.

The authors said it remains unknown whether ingesting live H5N1 in raw milk could cause illness in people.

To date, the FDA concludes that the totality of evidence continues to indicate that the commercial milk supply is safe. The FDA conducted an initial survey of 297 retail dairy products collected at retail locations in 17 states and represented products produced at 132 processing locations in 38 states. All of the samples were found to be negative for viable virus.

## NIH-Funded Intervention Did Not Reduce Opioid-Related Overdose Deaths

A data-driven intervention that engaged communities to rapidly deploy evidence-based practices to reduce opioid-related overdose deaths did not result in a statistically significant reduction in opioid-related overdose death rates during the evaluation period, from July 2021 to June 2022. These findings, from the HEALing (Helping to End Addiction Long-Term) Communities Study, were published in the *New England Journal of Medicine*.

More than 100,000 people are now dying annually of a drug overdose, with more than 75% of those deaths involving an opioid. Researchers identified the Covid-19 pandemic and increased prevalence of fentanyl in the illicit drug market—including in mixtures with cocaine and methamphetamine—as factors that likely weakened the impact of the intervention.

Launched in 2019, the HEALing Communities Study is the largest addiction prevention and treatment implementation study ever conducted and took place in 67 communities in Kentucky, Massachusetts, New York and Ohio—four states that have been hard hit by the opioid crisis.

The interventions deployed included increasing opioid education and naloxone distribution, enhancing access to medication for opioid use disorder, and safer opioid prescribing and dispensing. Communication campaigns were deployed to help reduce stigma and increase demand for evidence-based practices.

Despite facing unforeseen challenges, the HEALing Communities Study successfully engaged communities to select and implement hundreds of evidence-based strategies.

“This study brought researchers, providers and communities together to break down barriers and promote the use of evidence-based strategies that we know are effective, including medications for opioid use disorder and naloxone,” said NIDA Director Dr. Nora Volkow. “Yet, particularly in the era of fentanyl and its increased mixture with psycho-stimulant drugs, it’s clear we need to continue developing new tools and approaches for addressing the overdose crisis. Ongoing analyses of the rich data from this study will be critical to guiding our efforts in the future.”

## Chronic Hypertension in Pregnancy Doubled

The prevalence of chronic hypertension in pregnancy in the U.S. doubled from 2007 to 2021, but only about 60% of those with the potentially life-threatening condition were treated with anti-hypertensive medications.

The NIH-supported study of nearly 2 million pregnancies, funded by NHLBI, did not explore the reasons for the increase, but rising maternal age, growing obesity rates and other factors likely played a role, according to researchers. Findings were published in *Hypertension*.

“These findings are deeply concerning because of the high rate of U.S. maternal mortality, which is linked to chronic hypertension in pregnancy,” said study lead Dr. Stephanie Leonard, an epidemiologist at Stanford University School of Medicine. “Despite the availability of safe and effective treatments for chronic hypertension, the study speaks to an urgent need for improvement in care for this serious condition.”

Chronic hypertension in pregnancy is defined as having persistent high blood pressure—140/90 millimeters of mercury (mm Hg) or higher—before pregnancy or within 20 weeks of gestation. The condition can cause organ damage in the expectant mother and increase the risk of preterm birth or a low birthweight baby. It can be fatal if undetected and untreated.

For the study, researchers used a large database of U.S. commercial insurance claims from 2007 to 2021 to analyze the prevalence of chronic hypertension among 1.9 million pregnant people ages 12-55 years old, as well as the use of oral anti-hypertensive medication during this time.

The study has particular relevance for Black, American Indian and Alaska Native people, who experience the nation’s highest rates of poor maternal health outcomes and pregnancy-related deaths.

“We need to better understand gaps in treatment for chronic hypertension, especially in these high-risk groups,” said Dr. Candice Price, an NHLBI program director who specializes in women’s health research. “If we’re not detecting and treating chronic hypertension early, that’s a missed opportunity for protecting heart health during and after pregnancy.”



Hypertension in pregnant people in the U.S. doubled from 2007 to 2021.

IMAGE: ADRIATICFOTO/SHUTTERSTOCK



The Cancer Equity Leaders team includes (from l) Dr. John Carpten, Dr. Marcia Cruz-Correa, Dr. Chanita Hughes-Halbert, Dr. Juanita Merchant, Dr. Ruben Mesa and Dr. Valerie Montgomery Rice.

## CRCHD Establishes Team of Cancer Equity Leaders

The National Cancer Institute's Center to Reduce Cancer Health Disparities (CRCHD) earlier this year announced the Cancer Equity Leaders (CEL), a diverse team to reimagine and transform the future of cancer health equity.

The group will work toward three objectives:

- Assess the landscape to elucidate critical strengths and gaps in cancer equity infrastructure.
- Prioritize the critical needs for expanding institutional capacity and achieving cancer health equity.
- Develop a strategic agenda to enhance the National Cancer Plan.

CEL, which will help CRCHD determine NCI's diversity training, biomedical workforce development and community outreach and engagement initiatives, consists of 13 renowned cancer center and medical school leaders who have extensive expertise in all stages of the cancer continuum.

In 2025, the CEL team plans to host an event to hear and learn diverse perspectives across the cancer community to further advance NCI's health equity efforts.

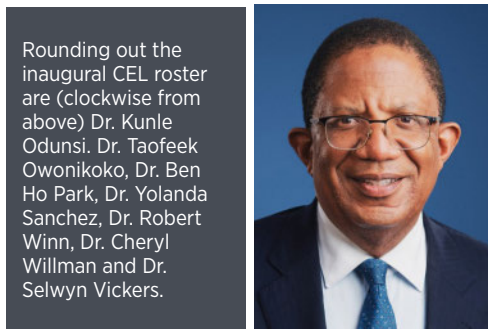
The initiative will be co-chaired by CRCHD Director Dr. Sanya Springfield and Dr. Karen Winkfield, executive director of the Meharry-Vanderbilt Alliance and associate director for community outreach & engagement at the Vanderbilt-Ingram Cancer Center.

CEL includes

**Dr. John Carpten**, director, City of Hope Comprehensive Cancer Center; director, Beckman Research Institute of City of Hope; and chief scientific officer, Irell and Manella Cancer Center director's distinguished chair

**Dr. Marcia Cruz-Correa**, professor of medicine and biochemistry, University of Puerto Rico Medical Sciences Campus; and investigator, UPR Comprehensive Cancer Center

**Dr. Chanita Hughes-Halbert**, vice chair for research; Dr. Arthur and Priscilla Ulene chair in women's cancer, Keck School of Medicine; and associate director for cancer equity, Norris Comprehensive Cancer Center, University of Southern California



Rounding out the inaugural CEL roster are (clockwise from above) Dr. Kunle Odunsi, Dr. Taofeek Owonikoko, Dr. Ben Ho Park, Dr. Yolanda Sanchez, Dr. Robert Winn, Dr. Cheryl Willman and Dr. Selwyn Vickers.

**Dr. Juanita Merchant**, chief of gastroenterology and hepatology; associate director for basic science; and interim director, UA Comprehensive Cancer Center, University of Arizona, Tucson

**Dr. Ruben Mesa**, president, Atrium Health Levine Cancer; executive director, Atrium Health Wake Forest Baptist Comprehensive Cancer Center; and vice dean for Cancer Programs, Wake Forest University School of Medicine

**Dr. Valerie Montgomery Rice**, president and chief executive officer, Morehouse School of Medicine

**Dr. Kunle Odunsi**, director, University of Chicago Medicine Comprehensive Cancer Center; dean for oncology, AbbVie Foundation distinguished service professor, University of Chicago

**Dr. Taofeek Owonikoko**, director, University of Maryland Greenebaum Comprehensive Cancer Center; senior associate dean for cancer programs, University of Maryland School of Medicine; and associate vice president for cancer programs, University of Maryland, Baltimore

**Dr. Ben Ho Park**, director, Vanderbilt-Ingram Cancer Center; Benjamin F. Byrd, Jr. chair in oncology; and professor of medicine, Vanderbilt University Medical Center

**Dr. Yolanda Sanchez**, Maurice and Marguerite Liberman distinguished chair in cancer research; professor, department of internal medicine; and director and CEO, University of New Mexico Comprehensive Cancer Center

**Dr. Selwyn Vickers**, president and CEO, Memorial Sloan Kettering Cancer Center

**Dr. Cheryl Willman**, Stephen and Barbara Slaggie Enterprise executive director, Mayo Clinic Cancer Programs; director, Mayo Clinic Comprehensive Cancer Center; and professor and consultant, Mayo Clinic College of Medicine and Science

**Dr. Robert Winn**, director and Lipman chair in oncology, VCU Massey Comprehensive Cancer Center; senior associate dean for cancer innovation; and professor of pulmonary disease and critical care medicine, Virginia Commonwealth University School of Medicine **R**

## NINDS Celebrates Extraordinary Career, Service of Devine

BY SHANNON E. GARNETT

For more than 27 years Dr. Rita Devine has dedicated her career to research—first by conducting research herself and then by providing opportunities and resources for others to pursue science careers.

“I’ve always been interested in biology and how things work in the body, particularly aspects of disease,” said Devine, assistant director for science administration in the Division of Intramural Research at the National Institute of Neurological Disorders and Stroke (NINDS). “In college, I studied animal science and found the disease process and the research into it fascinating.”

After graduating from the University of Delaware with an undergraduate degree in animal science, Devine spent several years conducting research in a tropical medicine laboratory. She then entered graduate school at Georgetown University, where she studied sperm protein expression during development and earned her doctorate in developmental biology.

She came to NIH as a postdoctoral fellow at the National Institute of Diabetes and Digestive and Kidney Diseases, investigating cytoskeletal proteins involved in the movement of lysosomes. Devine later joined NINDS as a fellow in the Laboratory of Neurobiology, working on electron microscopy with Dr. Thomas Reese.

While there, she not only conducted research but also assumed other duties as well. One such task was to help organize a softball game—pitting NINDS’s intramural staff against its extramural staff—at the institute’s annual picnic. Devine’s unique ability to work with people both in the laboratory and on the field was noticed by then-NINDS Scientific Director Dr. Story Landis.

“I was drafted to coordinate the intramural softball team—known amusingly as ‘Intermural,’” Devine recalled. “Story noticed that I organized things well and asked if I would come work for her part-time, doing some administrative tasks while continuing my research work.”

After juggling bench work and administrative duties for a year, Devine chose to focus solely on administration, and in 1997 she became assistant director for science administration to the NINDS scientific director.

Her responsibilities included tracking NINDS space; overseeing physical facilities, including the Porter Neuroscience Research Center;

planning lab renovations; and handling other space-related issues.

“Helping to solve strategic space-planning issues has been a real accomplishment,” she said. “Space is a bit of a complicated beast and so is budget, which often contributes strongly to the success of an investigator. So, playing a role in space and budget and making sure all the scientists had what they needed to succeed and solve the important questions to improve public health was very important. I took it very seriously.”

Devine’s diversity, equity, inclusion and accessibility (DEIA) efforts created, expanded and enhanced NINDS’s Summer Internship Program (SIP) and training activities.

SIP is a unique opportunity for talented high school, undergraduate, graduate and medical students to

receive high-quality hands-on training and mentorship in neuroscience research.

“Meeting the students and having a role in contributing to their success and interest in scientific endeavors has been most memorable,” she said.

In 2007, in her role as SIP coordinator, Devine was tasked by the NINDS director to include Native

★★★

*“Meeting the students and having a role in contributing to their success and interest in scientific endeavors has been most memorable.”*

—DR. RITA DEVINE

★★★

Americans in the program. She worked with institutions like Northern Arizona University and Pacific Northwest University of Health Sciences, expanding the program to include students on reservations.

Devine built relationships with a number of Native Americans tribes, high schools and racial and ethnic minority groups.

In fact, she visited reservations to meet with tribal councils, teachers and families to understand and alleviate their concerns about the program. She also worked with Gonzaga College High School in Washington, D.C., and the NIH Native American Council to arrange housing and host families to provide a safe and supportive residential environment for the students.

“Although the summer program can be as short as

eight weeks, it can be pivotal to introducing and retaining youngsters in science,” Devine explained. “It’s not intense pressure but just enough pressure to get them to enjoy and understand and feel the goals and accomplishments that science offers. As in many underserved and underrepresented communities in science, Native American students have to overcome a great deal of adversity to gain the same opportunities of other students. Native communities are often lumped into one group and yet there are some 570 tribes in this country. Every tribe has its unique culture and aspect to it, so it takes work to understand what each community grapples with. In addition, not every Native or indigenous student comes from a reservation. There are many rural and urban youngsters that also need an opportunity.”

Among her other projects, Devine oversaw competitive fellowships for trainees and initiated a distance-learning program with Salish Kootenai College (SKC)—which included negotiating with the SKC administrative team to develop needed neuroscience courses and recruiting lecturers from the neuroscience community.

Devine also developed a STEM program for American Indian/Alaska Native high school students on reservations and a pilot program for STEM internships near the Yakama Reservation. Her collaboration with the NIH Office of General Counsel resulted in the creation of a program to prepare high school students for summer internships.

Upon completion of the two-year program, which takes place at universities on or near Native American reservations, the students progress to summer internships at NIH or at universities that provide basic or clinical research experience.

In addition, Devine applies her DEIA efforts to recruiting faculty and staff within DIR—ensuring that job opportunities are widely advertised and continuously seeking out creative strategies to build a community that is diverse and representative.

Throughout her career, she has been honored for her work, receiving an NIH Equal Opportunity Award in 2008 and an NIH Director’s Award in 2016 for increasing diversity in NINDS training programs and for her outreach efforts with Native American students.

In 2010, a subcommittee of the National Advisory Neurological Disorders and Stroke Council evaluated NINDS’s diversity efforts and concluded that SIP was a model for increasing diversity, both at NIH and elsewhere. Devine’s extraordinary outreach is credited with garnering the achievement—particularly her work with students and trainees from racial and ethnic minority groups to expose them to scientific careers as early as possible and even help them with career transitions after they leave NINDS.

Last year, Devine moved to part-time employment and currently focuses solely on DEIA efforts. **R**



Dr. Rita Devine

## BelongMed Showcases Korean Culture

PHOTOS: JUSTIN BAKER

The NIH Office of Equity, Diversity and Inclusion, the National Institute of Dental and Craniofacial Research, the NIH Office of Technology Transfer and NIH's chapter of the Korean-American Women in Science and Engineering (KWISE) recently hosted "BelongMed: Embrace Belonging in Biomedical Health Care," a day-long celebration that featured scientific talks, networking and Korean food and culture in the Clinical Center (CC).

The event emphasized the importance of creating an inclusive environment where all individuals feel valued and integrated. It aimed to improve both

patient care and the work culture within the bio-medical field, fostering innovation across science, encouraging networking for career advancement, and supporting not only one another but also the entire workforce and patients at NIH.

The day's agenda was a mini tour of Korean culture in the CC's north atrium, with music, dance, a martial arts demonstration, calligraphy, cuisine sampling and more.

The event was part of NIH's recognition of Asian American, Native Hawaiian and Pacific Islander (AA and NHPI) Heritage Month. The agency's theme for the month, "Embracing Belonging," highlighted contributions of the AA and NHPI community, which represents more than 20% of NIH's permanent employee workforce.



Above, David Yum (l) and Nancy Lee moderate a "Music as Medicine" session; below, members of Kong's Taekwondo Learning Center demonstrate the skill and discipline of the martial arts form.



At left, NCCIH's Dr. Wen Chen speaks at Music as Medicine. At center, NIDCR Clinical Director Dr. Janice Lee opens the day-long celebration "BelongMed." At right, a Nanta performance, "Korean Assorted Modern Buk," by Stepping Stones of Korean Culture & Art of MD is captured in mid beat. Buk is drum in Korean.



Above, left: K-pop dance by Haeun Song to the song *Drama*. Above right, gayageum performance by Gyeong Mi Cho, playing *Gayageum Sanjo*. The gayageum, a plucked zither developed in the sixth century, is a traditional Korean musical instrument. At right, after South Korean guitarist and singer-songwriter Sehwang Kim shared his childhood background in music and spoke about his experience and motivation in K-POP, he performed *Chasing the Moonlight* and *Love Story*.