



APPRECIATING A SUNSET

Latest Town Hall Addresses Return Concerns

BY CARLA GARNETT

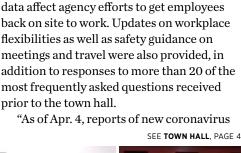
Apr. 10 marked the sunset of maximum telework at NIH, with the final group of employees returning to their physical workspaces. In preparation, NIH acting director Dr. Lawrence Tabak hosted the 10th virtual town hall on coronavirus on Apr. 5 to bring workers up to speed on the state of the pandemic in the community and changes they could expect regarding the job site.

Close to 270 questions came into the town hall email box before the meeting. More than 10,500 viewers watched the town hall live.

"Besides expressing my appreciation to

all who are returning to the physical workplace, I want to thank the significant number of NIH staff who have been coming into the workplace day in and day out since the start of the pandemic," said Tabak. "We are very grateful for your dedication and your commitment."

The hour-long meeting, which was coordinated by the Office of Communications and Public Liaison, gave NIH leaders a chance to discuss the state of the pandemic



with the latest Covid-19 statistics for the

nation, community and staff and how such









Shown during NIH's 10th virtual town hall on coronavirus are (from I) NIH acting director Dr. Lawrence Tabak, acting principal deputy director Dr. Tara Schwetz, deputy director for management Dr. Alfred Johnson and Julie Berko, director of the Office of Human Resources.

First WALS held on site in 2+ years. See p. 12.

Virtual Discussion Held About NIH Contracts

ALSO THIS ISSUE

with HBCUs3	
Summit Refines Research Recommendations of Alzheimer's and Related Disorders5	
Tabak Visits White House for Maternity Health Meeting with the Vice President7	
Digest9	
Milestones	
Volunteers	

REMDESIVIR AND COVID-19

Denison Advises Getting Ahead of Antiviral Drug Resistance

BY AMBER SNYDER



Antiviral treatment options for Covid-19 are limited. So what happens if the virus develops resistance to one of these drugs?

Dr. Mark Denison of Vanderbilt University Medical Center is studying antiviral resistance

to remdesivir. He discovered remdesivir's usefulness as a coronavirus treatment before SARS-CoV-2; he and his team got to work studying possible remdesivir resistance in

RECOVER INITIATIVE

Investigators Share Insights on Long Covid

BY DANA TALESNIK

More than 100 million Americans have contracted Covid-19 since the pandemic began, but many who were infected still can't

get over it. Their symptoms have persisted long after their initial infection.

Often called long Covid, the condition manifests in different ways, making it difficult to define and diagnose. To delve into the



CDC's Dr. Sharon Saydah

many unanswered questions, NIH launched the RECOVER initiative, encompassing

Mahabee-Gittens To Give NCI Seminar

Dr. E. Melinda Mahabee-Gittens will present the next lecture in the NCI Center to Reduce Cancer Health Disparities Continuing Umbrella of Research Experiences (CURE) **Distinguished Scholars** Seminar (DSS) Series on Thursday, May 5 from 1 to 2:30 p.m., via WebEx. Her talk is titled, "Tobacco Control in the Pediatric Healthcare Setting."

A two-time CURE scholar, Mahabee-Gittens is professor of pediatrics, University



of Cincinnati College of Medicine, and professor of research and attending physician, Cincinnati Children's Hospital Medical Center, Division of Emergency Medicine.

Preventing and reducing tobacco smoke exposure in children is the principal goal of her research. She provides parents and adolescents with tobacco prevention, tobacco cessation and secondhand smoke reduction counseling both in the research and clinical settings. She has extensive research experience in survey design and tobacco intervention development and primary quantitative data collection and analysis.

Mahabee-Gittens has published more than 100 authored or co-authored manuscripts in peer-reviewed academic journals. In addition to her CURE K22 and K23 awards, she has earned an Agency for Healthcare Research and Quality R03, an NCI R21, three NIH R01s, the Charlotte R. Schmidlapp Woman Scholars Award and support from the American Lung Association.

She completed her medical degree at State University of New York (SUNY) at Brooklyn, her residency at the Children's Hospital at Yale-New Haven and her fellowship and Ph.D. at Cincinnati Children's Hospital Medical Center and the University of Cincinnati, respectively.

Among many honors Mahabee-Gittens has received are the Preventive Medicine Alumni Award from SUNY Health Science Center at Brooklyn, the Leonard P. Rome Award and the American Academy of Pediatrics Award to the Smoke Free Families program team. In addition, the Society for Research on Nicotine & Tobacco appointed Mahabee-Gittens to its fellows program.

The seminar series recognizes former CURE scholars and champions who are making seminal contributions to the fields of cancer and cancer health disparities research. The series began in 2017 and lectures are held semiannually.

To register, visit: shorturl.at/hrwD1. If you are an

individual with a disability who needs reasonable accommodation to participate in this event, email Victoria Coan (victoria.coan@nih.gov) preferably at least 5 business days before the event.

Early-Stage Investigator Lecture Features Baugh, May 11

NIH's Office of Disease Prevention will present the Early-Stage Investigator Lecture with Dr. Christine Baugh of University of Colorado School of Medicine on Wednesday, May 11 at 11 a.m. ET.

adolescents and young sports and recreational Although sports have numerous benefits, they also come with potential harms, including brain injury range from acute to chronic and from minor to catastrophic.



Given the wide array of health effects, a multimodal prevention strategy is essential. Preventing the injury from occurring, rapidly identifying those that do occur and minimizing downstream effects are all vital to consider.

In this presentation, Baugh will describe what is known about sport-related brain injury and its health consequences, and highlight a range of approaches for reducing harm. She will discuss ethical implications and current debates in the field.

Baugh is an assistant professor in the Division of General Internal Medicine and the Center for Bioethics and Humanities at University of Colorado School of Medicine. She conducts multidisciplinary research at the intersection of health, policy, ethics and sport. Much of her work focuses on prevention of concussions and other sport injuries.

Registration is required. Register at: shorturl.at/ fAIKO. The presentation will be recorded and available on the ODP website within approximately 2 weeks.

The lecture recognizes early-career prevention scientists who are poised to become future leaders in prevention research. For details, visit: shorturl.at/imyR8.

Bumpus To Deliver Dyer Lecture, May 4

Dr. Namandjé Bumpus of Johns Hopkins Medicine will deliver the Rolla E. Dyer Lecture, part of the Wednesday Afternoon Lecture Series, on May 4 from 3 to 4 p.m. ET. The title of the lecture is "Toward Personalizing HIV Treatment and Prevention." The presentation will be held in Lipsett Amphitheater, Bldg. 10, and also via NIH videocast at https://videocast.nih.gov/watch=44250. (Those wishing to attend in person must register; contact

WALSoffice@od.nih. gov.)

Bumpus is director of the department of pharmacology and molecular sciences and a professor of pharmacology and molecular sciences at Hopkins Medicine, Her lab focuses on defining a role for cytochrome P450-dependent metabolites in druginduced acute liver failure associated



Bumpus

with certain antiviral drugs used to treat HIV and hepatitis C. She has developed novel mass spectrometry assays to measure and discover drug metabolites.

The annual Dyer Lecture, established in 1950, is one of the oldest NIH lecture series and honors NIH director Dyer, a noted authority on infectious diseases. The lectureship features internationally renowned researchers who have contributed substantially to medical as well as biological knowledge of infectious diseases.

More information about WALS is posted at https:// oir.nih.gov/wals.

Registration Open for Dietary Supplement Research Practicum

Registration is now open for the Office of Dietary Supplements Mary Frances Picciano Dietary Supplement Research Practicum taking place virtually May 23-25. Deadline to register is Monday, May 16 at 11:59 p.m. ET.

This 3-day training will provide a thorough overview and grounding on the issues, concepts, unknowns and controversies about dietary supplements and supplement ingredients. It will also emphasize the importance of scientific investigation to evaluate the efficacy, safety and value of these products for health promotion and disease prevention as well as how to carry out this type of research.

It is an educational opportunity open to faculty. students and practitioners with a serious interest in the subject.



There is no cost to attend. For more information and how to register, visit: https://odspracticum. od.nih.gov.

Recorded presentations from past practicums are online at: https://go.usa.gov/xurhV.



Tabak Leads Discussion on Biomedical Research **Contracts with HBCUs**

NIH acting director Dr. Lawrence Tabak opened a conversation about the agency's engagement with Historically Black Colleges and Universities (HBCUs) during a recent virtual roundtable with their presidents and chancellors.

Thirteen HBCUs participated in the roughly 90-minute discussion hosted by the Path to Excellence and Innovation (PEI) Initiative, which is administered by the NIH Small Business Program Office (SBPO). The initiative provides HBCUs with resources for building contracting capacity and infrastructure by specifically targeting acquisition opportunities with a focus on biomedical research and other activities central to the NIH mission. The desired outcome is an increase in the number of contracts awarded to HBCUs.

Tabak said NIH senior leadership gathering with presidents of HBCUs was a "singularly unique event" that has never happened during his 22-year tenure with the agency.

NIH's 27 institutes and centers obligate approximately \$8 billion annually through contract awards. However, less than 1 percent of those contracts are awarded to HBCUs.

"Equity is not achieved by awarding contracts only to a handful of HBCUs," Tabak said. "Consequently, NIH has expanded the PEI to build relationships with 21 colleges and universities and 42 small businesses."



NIH acting director Dr. Lawrence Tabak talks contracts during a virtual roundtable with HBCUs.

Tabak told the group that it is essential for the agency to regularly engage HBCU senior leadership through discussions on strategies for improving perceived barriers these institutions encounter when working with federal agencies. Such conversations also should address how HBCUs can achieve milestones in the NIH acquisition arena.

Also participating in the PEI HBCU Presidents Roundtable were Dr. Alfred Johnson, NIH deputy director for management; Diane Frasier, head of the contracting activity and director of the Office of Acquisition and Logistics Management; and Annette V. Owens-Scarboro, SBPO program manager and HBCU coordinator. Former NICHD deputy director Dr. Yvonne T. Maddox moderated the event.

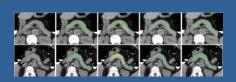
During the conversation, Delaware State University president Dr. Tony Allen, who also serves as chair of President Biden's board of advisors on HBCUs, shared information on Presidential Executive Order 14041—Advancing Educational Equity, Excellence,

and Economic Opportunity Through Historically Black Colleges and Universities—and its relationship to the PEI initiative.

One of Allen's priorities is advocating for investment in infrastructure, particularly research facilities on HBCU campuses. He noted that there is a strong desire to see HBCUs obtain R1 Carnegie classification and that HBCU presidents are eager to see their institutions achieve this highest rating.

"I can say that President [Biden] himself has talked specifically about wanting more than one HBCU during his tenure to become an R1 school," said Allen. "So, we have the administration's support in that way."

HBCU presidents in the meeting committed to continued participation in the cohort because of their interest in contributing to biomedical research at NIH. They also expressed their appreciation for the infrastructure support PEI provides. B



ON THE COVER: CT scans of the pancreas from two patients (rows). The columns show (from I) the original CT image, a reference manual segmentation, an automated segmentation by use of deep learning, a manual segmentation by a second observer to compute interobserver variability and a repeat manual segmentation to compute intraobserver variability. The automated segmentations were used in a large-scale study of the effect of Type 2 diabetes on the pancreas.

IMAGE: HIMA TALLAM, DANIEL C. ELTON, SUNGWON LEE, PAUL WAKIM, PERRY J. PICKHARDT, RONALD M. SUMMERS

NIH Holds Virtual Obesity Research Seminar, May 5

Obesity has risen to epidemic levels in the United States. People with this chronic disease often face higher health costs, more health complications and reduced life expectancy. They also are at higher risk

for certain health conditions, such as heart disease. stroke, type 2 diabetes and certain types of cancer. To better assess the health risks for obesity, health care providers need tools beyond the commonly used body mass index (BMI).

Join NHLBI and members of the NIH Obesity Research Task Force for a webinar, "Moving beyond BMI: Exploring the Heterogeneity of Obesity," on Thursday, May 5 from 1 to 5 p.m. ET. Renowned



extramural investigators will delve into some of the latest obesity research. They will discuss risk factors for its development and complications, its pathophysiology and response to treatment, as well as implications for implementing obesity preventions and treatments.

NHLBI director Dr. Gary Gibbons will provide opening remarks. Speaker topics include obesity and cardiovascular disease risk; genetic subclassification of obesity and its role in precision health; the role of adipocytes and adipose tissue metabolism in heterogeneity of obesity; metabolically healthy versus unhealthy obesity; and the use of machine learning to identify intervention targets in children of immigrants and refugees who also have obesity.

The seminar is free and open to the public. Register via Zoom to participate in the discussion or watch via NIH videocast. Learn more about the seminar, view the agenda, and see the speaker list at: https://go.usa.gov/xuruB.

The NIH Record

Since 1949, the NIH Record has been published biweekly by the Editorial Operations Branch, Office of Communications and Public Liaison, National Institutes of Health, Department of Health and Human Services. For editorial policies, email

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The NIH Record



Town Hall

CONTINUED FROM PAGE 1

cases were still falling in most states," Tabak noted. "But the pace of that improvement is slowing. Hospitalizations also continued to decline across the nation, falling about 28 percent in the past 2 weeks. Fewer than 700 deaths are being reported daily—the lowest average since last August. Still, since the pandemic first emerged 2 years ago, Covid-19 has claimed the lives of more than 980,000 people in the United States. This is a tragic—and in far too many cases—a needlessly high total. The Covid-19 pandemic is not over...There are still reasons for caution and concern."

In recent months, a subvariant of Omicron has emerged worldwide as the dominant strain responsible for most new Covid-19 infections. Public health experts around the globe are carefully monitoring "Omicron BA.2" and its high transmissibility but so-far low severity (in terms of leading to hospitalizations).

"As we move forward with our plans to return to the physical workplace," Tabak continued, "we recognize that some NIH staff may have concerns about returning while mitigations are relaxed—particularly those with higher risk profiles or those who live with someone at higher risk...We'll hear more [during this session] about safety guidance and workplace flexibilities that are intended to help address such concerns."

NIH acting principal deputy director Dr. Tara Schwetz gave an agency-specific pandemic picture.

"Trends at NIH have largely mirrored those that we are seeing nationally," she said. "I can share some really encouraging news that Covid-19 cases at NIH have also been trending in the right direction, which is downwards."

She noted the sharp peak of Omicron in late December 2021 and January 2022, before the decline started in recent months. "Since then, our cumulative caseload has remained steady, with a total of 4,295 index cases since the beginning of the pandemic."

NIH deputy director for management Dr. Alfred Johnson shared updated guidance for keeping the workplace safe.

"As those of us at NIH go through [this] journey of change together, we will almost certainly encounter unforeseen challenges along with unexpected opportunities."

~NIH ACTING DIRECTOR DR. LAWRENCE TABAK

"We now have new processes in place that are based on CDC data," he explained. The main metrics are the case rates, Covid-19 hospital admissions and Covid-occupied inpatient beds.

CDC updates levels for each county nationwide on Thursday evening or early Friday morning of each week. NIH-specific community numbers are culled from that data and used to inform policies on safety measures—including requirements for vaccination and testing, mask wearing and social distancing—for all of its work sites.

Added to their concerns about the pandemic, returning staff also wanted to know about basic logistics—new construction projects and parking and traffic in and around NIH's main campus. Johnson pointed to a burgeoning Building for All information campaign that will address such issues and offer real-time updates. For now, look for navigation tips online at: https://traffic.nih.gov/.

Julie Berko, director of NIH's Office of Human Resources, talked about staff

returning to work in person, what has changed, what has stayed the same and the evolution of a hybrid work model.

"It's been so great to see employees returning onto the Bethesda campus over the last week," she said, announcing the launch of the new NIH Workplace Flexibilities Program, which is based on an HHS policy that was finalized Mar. 22.

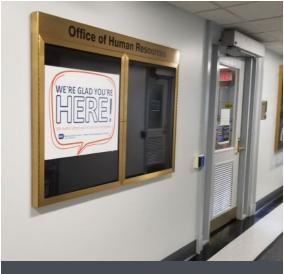
"This new program begins our journey to be a model of the future workforce," Berko said. "It's important to note that NIH has long served as a model on the forefront of flexibilities using telework, remote work and alternative work schedules like maxi-flex for many years. One significant addition of [the new] policy is an expanded definition of remote work, which now includes having an alternative duty station that is either within or outside of the local commuting area of the agency worksite."

To explore details of the new program and consider what works for you, check out https://go.usa.gov/xubkC.

Tabak closed the session by reflecting on a message HHS Secretary Xavier Becerra wrote to all staff in a recent email: "We will not be returning to a pre-Covid-19 workplace. The world has changed, and we must change with it."

"I couldn't agree more," Tabak concluded.
"As those of us at NIH go through that
journey of change together, we will almost
certainly encounter unforeseen challenges
along with unexpected opportunities. Yet
throughout it all, please let us all practice
kindness and respect for one another. That
has always been the NIH way."

NIH'ers can watch the town hall in its entirety at: https://videocast.nih.gov/watch=45064. Also, refer to an ever-growing collection of resources on all things pandemic related, including tips for coping physically, mentally and emotionally, at: https://go.usa.gov/xubkx.



"Near, far, wherever you are." OHR acknowledges all its employees with a hallway sign in Bldg. 1: "We're glad you're here! No matter where you sit, you are our people!"



Summit Refines ADRD Research Recommendations, Priorities

BY SHANNON E. GARNETT

Alzheimer's Disease-related dementias (ADRD)— which include frontotemporal degeneration (FTD), Lewy body dementia (LBD), vascular contributions to cognitive impairment and dementia (VCID) and multiple etiology dementias (MED)—are debilitating conditions that primarily occur among older adults, affect millions of Americans and exact an enormous toll on individuals, families, caregivers and society.

NINDS recently hosted a virtual summit on ADRD to help set national recommendations and priorities for research on the disorders. In preparation for the meeting, top researchers, physicians, experts and others in the field worked together in the months prior to assess, refine and, in some cases, update the earlier (draft) recommendations. They also evaluated progress that has been made and developed new timelines based on the current science in the field.

According to Dr. Roderick Corriveau, a program director in NINDS's Division of Neuroscience

reduce the burden of ADRD," said NINDS director Dr. Walter Koroshetz in opening remarks. "Although a virtual format is unavoidable during the pandemic, we hope this will increase participation and generate input from all corners of society impacted by dementia."

Dr. Cynthia Carlsson, chair of the advisory council on Alzheimer's

research, care and services for the National Alzheimer's Project Act (NAPA), gave an overview of the NAPA plan, which aims to overcome Alzheimer's and ADRD by 2025. To help carry out the plan, both NIA and NINDS hold summits each year—with a rotation of triennial summits on AD, ADRD and dementia care—to develop and refine

Walter N

Rad Corriveau, N

New to the summit this year was a video highlighting the experiences of people living with dementia and those caring for them, including Jim (I), a caregiver to his wife. Geri.

who is also the Louis A. Holland Sr., professor in AD at University of Wisconsin-Madison School of Medicine and Public Health. "These summits help develop ideas and move the work forward. Input from this summit is important as we shape the future research, clinical care and long-term support services."

The meeting covered the overarching topics of MED and health equity in AD and ADRD; disease specific subjects including LBD, FTD and VCID; and special topics such as the impact of Covid-19 on AD and ADRD risk and outcomes and post-traumatic brain injury in AD/ADRD.

This year featured a video highlighting the experiences of people living with dementia and those caring for them.

"Scientists need to realize what a wealthy resource they have in their patients and care partners. Take advantage of this," said Jim, a caregiver in the video. Jim cares for his wife Geri who has dementia. "If you don't ask us [to help], you deny us the opportunity to feel valuable—to feel like we can help."

At the end of the meeting, summit scientific chair Dr. Natalia Rost presented highlights and cross-cutting themes such as the need for more and better biomarkers and novel models, access to clinical trials to ensure equity and improved communication with caregivers regarding diagnosis and prognosis.

"Humanity, purpose, compassion—all of that has been inspiring throughout these 2 days," said Rost, who is also chief of the stroke division at the Massachusetts General Hospital department of neurology. "I think we have our work cut out for us going forward. We have some immediate steps to do...There's also long-term work to do and I promise you, we are not going to give up."

Recommendations from the conference will be presented to the National Advisory Neurological Disorders and Stroke Council in September and then delivered to the NAPA Council.

"Scientists need to realize what a wealthy resource they have in their patients and care partners. Take advantage of this."

~JIM, A CAREGIVER TO HIS WIFE

*** * ***

and NIH lead for the summit, the goals of the conference were to present rationale for the draft recommendations, encourage discussion among stakeholders—including researchers, physicians, non-profit groups, patients and caregivers—and solicit feedback for consideration.

"This summit is the result of a lot of hard thinking of very smart people dedicated to the common goal of trying to figure out how we can better the multidisciplinary dementia research agenda and priorities for AD and ADRD.

This year's summit—which registered more than 1,400 participants—was intended to build on progress made since the 2019 summit and to enhance those priorities.

"The national plan really bases a lot of its input on these important research summits," said Carlsson,



Post-Covid

CONTINUED FROM PAGE 1

researchers at hundreds of clinical sites across the country working to characterize and ultimately treat the condition.

Long Covid-which the CDC calls post-Covid condition and NIH calls PASC (post-acute sequelae of SARS-CoV-2)-refers to a wide range of physical and mental health symptoms that persist, recur or first appear, 4 or more weeks after the acute phase of a SARS-CoV-2 infection. The condition can affect not only those who were severely ill, but also people who had mild or asymptomatic infections.

Several investigators recently discussed their observations and findings at the first talk of the RECOVER Research Review seminar series.

Characterizing Post-Covid Conditions

"Patients with post-Covid conditions often present with a complex clinical picture that makes diagnosis challenging," said Dr. Elizabeth Unger, chief of CDC's Chronic Viral Diseases Branch. "There is no single diagnostic test to identify [long Covid]," and some people who experience lingering symptoms never had a positive SARS-CoV-2

Meanwhile, "symptoms reported may not fit recognizable clinical paradigms," she noted, so clinicians often have a tough time navigating care. "As a result, patients can feel misunderstood and stigmatized by their care providers."

CDC has recorded multiple different persistent post-Covid symptoms, noting more than 200 have been reported. The most common include fatigue, "brain fog," cough, dyspnea (increased respiratory effort), chest pain, muscle pain, gastrointestinal issues and depression. Researchers are also studying multi-organ effects that begin weeks after a Covid-19 infection, including neurological conditions, kidney and cardiovascular damage, diabetes and skin conditions.

"Patients and patient advocacy groups have brought attention to the profound disability associated with post-Covid condition," noted Unger. Though the duration and extent of impairment varies, many long-Covid patients report their persistent symptoms interfere with essential activities in work and home life.



A newly published CDC study with data from 42 health care systems compared patients without evidence of Covid-19 with those who received medical care for any reason up to 5 months following a confirmed Covid-19 diagnosis.

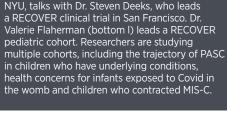
"Children and adults with a positive Covid-19 test were more likely to receive a diagnosis for a new condition or have new symptoms in the 5 months after acute infection compared to those who tested negative for Covid-19," said Dr. Sharon Saydah, senior scientist in CDC's Respiratory Viruses Branch, who co-leads the Post-Covid Conditions team in CDC's Covid-19 Response with Unger. The most common lingering symptoms reported-fatigue, shortness of breath and heart rate abnormalities—were more pronounced among those who had more severe cases of Covid-19.

Research findings ultimately could extend beyond helping long-Covid patients. Several core symptoms of post-Covid conditionsparticularly fatigue, cognitive dysfunction, sleep disturbances and pain-mirror other post-viral and autoimmune syndromes.

Unger said, "Systematic study of the large number of post-Covid condition patients compared to these other conditions may begin the process of understanding how to intervene and treat [other similar] chronic syndromes."

The Role of RECOVER

"Ultimately, to get definitive answers [to understand and address PASC], we need a massive, well-curated, well-performed, well-resourced type of initiative that



RECOVER is," said Dr. Steven Deeks, professor of medicine, University of California San Francisco, and lead investigator of a RECOVER clinical trial at UCSF.

The RECOVER initiative is recruiting toward a national cohort of 17,000 people, including 2,000 uninfected controls, with attention to diverse populations of all ages in urban and rural areas.

Researchers have sought patients in the acute setting, within 30 days of infection, to follow them over time. "This work is based on the assumption, reasonably, that a lot of the determinants of what happens in the future plays out in the first weeks," said Deeks.

In addition, the initiative is recruiting people who had Covid-19 in the remote past to understand and contrast the variations in earlier waves. "I do believe very strongly what happened to them is quite distinct from what's happening now," said Deeks. "I also believe over time we're going to learn that having access to vaccines will have a huge impact on who gets PASC and on what happens long term."

In the smaller cohort Deeks leads, called LIINC (Long-Term Impact of Infection with Novel Coronavirus), his team observed a significant decline on cardiopulmonary exercise testing in those with PASC. He also noted the disabling effects of PASC in previously healthy people.

"The most striking cases are the people who were absolutely healthy, got Covid, weren't particularly sick...and now a year later are quite disabled," he said.

Many individuals with PASC do improve



in the first 3 or 4 months, Deeks noted. But after 4 months, there's a subset who do not appear to improve over time. Some of them remain disabled, unable to work.

Data will

continue to emerge on the biology of PASC and potential targetable pathways for treatment. "One of the great strengths of RECOVER," said Deeks, "is the clinical phenotyping. This is what we desperately need."

Pediatric PASC

Among the populations under study are adolescents, children and infants.

"While severity of illness is lower for children," said pediatrician Dr. Valerie Flaherman, "prolonged illness and long-term consequences can occur for both children and young adults, with persistent symptoms over time and organ damage potentially leading to cognitive, psychiatric and neurodevelopmental impairment."

Flaherman, professor of pediatrics and epidemiology at UCSF, provided preliminary results from the first several hundred infants in her pediatric PASC cohort including those with and without congenital exposure to Covid. Although overall these children appeared well, she said, looking at neurodevelopmental screening at 12 months of age showed the cohort overall scored lower than historical control groups in gross motor, fine motor, problem-solving and social skills.

RECOVER researchers are studying multiple cohorts, including the trajectory of PASC in children who have underlying conditions, health concerns for infants exposed to Covid in the womb, and children who contracted MIS-C, multi-system inflammatory syndrome, a rare but serious condition in children following Covid infection.

Researchers continue to assess the

neurological, respiratory and other longterm symptoms in the pediatric population. "These early changes following Covid infection may have long-term downstream effects for our future population health," Flaherman said.

Looking for Clues

To date, there are still more questions than answers about the long-term health effects of Covid-19.

Understanding the epidemiology is key to understanding variations among different populations, helping doctors provide better care and accelerating solutions, said seminar discussant Dr. Lorna Thorpe, an epidemiologist co-leading the RECOVER real-world data cohorts using electronic health record networks, and director, Division of Epidemiology at NYU Langone Health.

"We look for clues initially, risk factors subsequently and ultimately the biologic causal pathways," said Thorpe, "and that expedites our ability to identify effective treatments and solutions."

Tabak, Other Federal Leaders Meet with Vice President to Address Maternal Health

Vice President Kamala Harris hosted a first-ever meeting with Cabinet officials and agency leaders

to discuss maternal health on Apr. 13, during Black Maternal Health Week. The gathering was a follow-up to last December's Maternal Health Day of Action, where Harris announced a historic Call to Action to improve outcomes for parents and infants in the U.S.

Harris gathered Cabinet representatives in the Ceremonial Room of the White House for a conversation about the draft White House Blueprint for Addressing the Maternal Health Crisis, the administration's whole-of-government approach to addressing maternal mortality and morbidity.

NIH acting director Dr. Lawrence Tabak attended and shared NIH actions to improve the amount of research on maternal health as well as the diversity of researchers conducting the work. In addition to NIH, other agencies of HHS such as the Centers for Disease Control and Prevention and Centers for Medicare & Medicaid Services along with Secretary Xavier Becerra were invited to take part. Agencies that may not have historically taken a leading role addressing the maternal health crisis were also included around the conference table.

Noting that it was the first time any administration

had assembled such a group at the Cabinet level to address the issue as a national priority, Harris said the event was one of many discussions "we will have about how we can do better for the women of our country, for the children of our country, for the families of our country...We know this priority will have generational impact."



Vice President Kamala Harris (c) hosted a Cabinet-level meeting with agency leaders to discuss maternal health. NIH acting director Dr. Lawrence Tabak (r) attended the gathering held in the White House Ceremonial Room.

PHOTO: WHITE HOUSE

Antivirals

CONTINUED FROM PAGE 1

Covid-19 in early 2020. He presented some of this work in a recent lecture titled "Antivirals for Coronaviruses: Mechanism, Resistance and Regulation."

Denison thinks resistance testing should be incorporated into initial drug development, rather than saved for later. He said monotherapy—widespread use of one drug—will result in resistance sooner or later, and we need to be prepared before that happens. He described the pandemic as a chess game with a twist.

"Once we decide we're done with [Covid] and think we've checkmated it, it moves to a new chessboard." he said.

Remdesivir received full FDA approval in October 2020. It is effective against many other viruses, including Ebola, Marburg and earlier coronaviruses like SARS and MERS.

Remdesivir is a nucleoside analog that mimics the structure of ATP (adenosine triphosphate), which is one critical component of RNA synthesis. Incorporation of remdesivir instead of ATP into viral RNA acts like a delayed stop sign that terminates viral RNA synthesis and virus replication.

Denison said the drug has exhibited a "profound inhibition in vitro and in animal studies," decreasing viral titers by up to 6 logs. "It appears to be holding its own and is robust in these settings."

Remdesivir currently is approved for use in hospitalized patients as well as mild to

moderately ill outpatients who are at risk for severe disease. As the only fully approved FDA antiviral for Covid-19, the drug is widely used. And the more a virus or pathogen continues to encounter the same drug, the greater the likelihood the pathogen will develop resistance.

Denison and colleagues across several

remdesivir could lead to a "genetic bottleneck" that could theoretically create an environment where resistant viruses were more successful.

Having these mutations does seem to come with a cost to the virus. "The double mutant had a significant alteration and delay in its replication, suggesting a fitness cost,"

"Once we decide we're done with [Covid] and think we've checkmated it, it moves to a new chessboard."

~DR. MARK DENISON

• • •

institutions worked together to study remdesivir resistance. First, they treated Covid samples in the lab with remdesivir. Any viruses that survived the treatment were allowed to replicate and were then treated again. Ultimately, Denison identified three lineages that had evolved resistance. He decided to study lineage three because it had the most interesting mutations.

Denison studied two of the lineage three mutations—S759A and V792I. Separately, each had an intermediate level of resistance to remdesivir. Together, they contributed to significant immunity by reversing the effects of remdesivir, which allowed the virus to continue to replicate.

What is the risk of SARS-CoV-2 developing remdesivir resistance in real life? Results are encouraging, according to Denison. The S759A and V792I mutations seem to be incredibly rare, with only a few hundred reported cases out of the almost 7 million recorded sequences in the GISAID database having either of these mutations.

They are "profoundly rare," Denison said. But he cautioned that our dependence on Denison revealed. So, the original/wild type virus is more successful than the resistant virus in patients who are not treated with remdesivir, because the wild type can replicate and spread faster.

Also, remdesivir-resistant viruses were more sensitive to molnupiravir, an antiviral drug that is currently under FDA Emergency Use Authorization.

What should the research community do with this knowledge? Continue to study remdesivir resistance, Denison suggested, and expand that research to other antivirals that are going through the FDA approval process (such as molnupiravir and paxlovid).

He added that there is concern about conflicts in rules regarding what is needed for resistance testing and what can be tested once an antiviral drug receives emergency use authorization or approval for use against a pandemic virus.

According to Denison, "If it is proposed to be a resistance mutation, we can't do experiments to prove it...but if we can't do the experiments we can't confirm its resistance phenotype. This has profound implications for the ability of NIH-funded investigators to identify and monitor for resistance mutations for new antivirals. Do we wait until resistance mutations arise in the real world before we begin researching them?"

Ultimately, Denison emphasized, researchers must be able to respond in a timely manner to pandemic needs.

View the archived lecture at https://videocast.nih.gov/watch=44539. ■



AANHPI Heritage Month Event Features Actor Ambudkar

Tune in Tuesday, May 3 from noon to 1 p.m. ET for "Speaking Up to Break Away from Racial and Ethnic Stereotypes," a chat with South Asian actor Utkarsh Ambudkar, who will discuss diversity and inclusion in Hollywood and beyond.

The virtual event is part of NIH's observance of 2022 Asian American, Native Hawaiian, and Pacific Islander (AANHPI) Heritage Month.

Ambudkar is known for his roles in feature film Free



Guy, miniseries drama
The Dropout and TV
sitcom Ghosts. He
also performs improv
freestyle rap (he performed on stage with
Lin-Manuel Miranda's
group Freestyle Love
Supreme).

May 3

Ambudkar's parents both work at NIH as senior investigators

and he will chat about growing up in a family focused on STEM, how he decided to pursue his passion and is now a leader in his industry and someone that other rising AANHPIs look up to.

The conversation will draw parallels across industries on challenges/barriers facing our communities. Ambudkar will also discuss how AANHPIs need to continue to speak up and make their voices heard.

In addition, Dr. Indu Ambudkar, representing the Federation of Asian Americans, Native Hawaiians, and Pacific Islanders Network (FAN), also will join to talk about her experiences moving from India to the United States and how this affected her perspectives related to her career, family and more.

The event is hosted by NIH's Office of Equity, Diversity and Inclusion; NIH FAN; and the Office of Intramural Training and Education.

Join the Zoom webinar at: https://nih.zoomgov.com/j/1606494612



Hayward To Present NIMHD Talk, May 4

The NIMHD Director's Seminar Series will feature Dr. Mark D. Hayward, professor of sociology at the University of Texas at Austin on Wednesday,

May 4 at 2 p.m. ET. He will present "Early Life Factors Underlying the Dementia Epidemic Among Older Black America." Check out https://go.usa.gov/xukBS to learn more about Hayward's virtual presentation and future NIMHD seminars.



While focusing their eyes on a soccer ball (yellow), a player might be paying attention to a teammate (pink) in their peripheral vision. Overt attention would be on the ball, while covert attention would be on the teammate.

IMAGE: NE

Peripheral Vision Study Yields Clues About Brain Systems for Attention

Minuscule involuntary eye movements, known as microsaccades, can occur even while staring at a fixed point in space. When paying attention to something in the peripheral vision (called covert attention), these microsaccades sometimes align toward the object of interest.

New research by NEI investigators shows that while these microsaccades seem to boost or diminish the strength of the brain signals underlying attention, the eye movements are not drivers of those brain signals.

Scientists working on the neuroscience of attention have recently become concerned that because both attention and eye movements, like microsaccades, involve the same groups of neurons in the brain, that microsaccades might be required for shifting attention.

"This work shows that while microsaccades and attention do share some mechanisms, covert attention is not driven by eye movements," said senior study author Dr. Richard Krauzlis of NEI.

Krauzlis's previous research has shown that covert attention causes a modulation of certain neuronal signals in an evolutionarily ancient area of the brain called the superior colliculus, which is involved in detecting events.

When attention is focused on a particular area-for example, the right side of one's peripheral vision-signals in the superior colliculus relating to events that occur in that area will receive an extra boost, while signals relating to events occurring elsewhere will be depressed.

When something shows up in our peripheral vision, we quickly shift our eyes-make a large saccade toward the event to take a better look. In laboratory studies of covert attention, primates or people are directed to avoid those types of large saccades, keeping the attended event in the peripheral vision. However, involuntary microsaccades often occur anyway.

In this study, the researchers trained monkeys to hold their eyes straight ahead, while attending to their peripheral vision by flashing a ring on the "cued" side. After the cue, the monkeys would release a joystick if they detected a color change on the cued side, while ignoring any color changes on the other side.

At the same time, researchers used high-resolution eye-tracking cameras to measure microsaccades during the trials. In essence, although the eye movement would also trigger changes to neuronal signals in the superior colliculus, attention-related signals occurred independently of the eye movement signals.

Findings from this NEI-funded study will help researchers may open new areas for research into attention disorders and behavior.

Blocking Hormone Reduces Alzheimer's Symptoms in Mice

Women have a higher risk than men for developing Alzheimer's disease and experience a broader range of cognitive symptoms—those related to thinking, learning and memory. The disease also tends to progress faster in women.

These gender differences have led researchers to study whether hormones play a role. A team led by Dr. Mone Zaidi of Mount Sinai and Dr. Keqiang Ye of Emory University has been examining the many roles a hormone called follicle stimulating hormone (FSH) plays in the body.

FSH levels rise sharply in women around the time of menopause. In previous work, researchers found that blocking FSH in mice can prevent weight gain and reduce bone loss—two other common changes in women's bodies during and after menopause.

In a new study, the team investigated whether FSH is involved in the development of Alzheimer's. Funded in part by NIA, the research was published in *Nature*.

The lab team first put mice engineered to develop Alzheimer's disease into a menopausal state. Levels of FSH rose in the blood of these mice. They also had accelerated cognitive decline and a buildup of amyloid beta plaques and tau tangles in their brains, which are hallmarks of Alzheimer's disease.

When the researchers gave the mice an antibody that blocked FSH, these effects were much less severe. Male mice, which produce some FSH, treated with the antibody also had less amyloid beta build-up in the brain.

In addition to the work in mice, the team found receptors for FSH in tissue samples taken from human and rat brains. Further work showed that that FSH can cross the blood-brain barrier and bind to these receptors on nerve cells.

The team has developed an antibody to block FSH in people and, after safety testing, hopes to test it in clinical trials for the prevention of Alzheimer's as well as bone loss and obesity.—adapted from NIH Research Matters

NIAMS's Nelson Retires, Reflects on Family's Multigenerational Ties to NIH

Melinda Nelson retires after 45

years at NIH

BY SUSAN BETTENDORF

Many consider NIH to be like a family, but for Melinda Nelson, it was even more true.

Retiring from NIAMS after 45 years at NIH, she is part of three generations in her family to forge a career here.

Nelson retired on Apr. 1 as director of NIAMS's Office of Extramural Operations, where since 2018 she has overseen the administrative operations of the extramural program, including grants management, peer review and clinical trials.

Nelson graduated from the University of Maryland with a degree in behavioral

and social sciences and no particular career path in mind. Her mother, Kim Barrett, a long-time NIH'er who retired from NCI in 1992, suggested Nelson try working for NIH because "NIH is a wonderful place."

"My mother was a single mom in the 1960s who gave us a very stable upbringing in Bethesda," Nelson says. "I knew NIH was a place that could offer stability, a good career path and fulfilling and interesting work."

Barrett, a biologist, once worked in an NCI laboratory, but after developing severe allergies to the lab animals, had to leave. Ten years later, with three children, she called her former boss to ask his advice on getting back into NIH in a non-lab capacity. He suggested Barrett talk to someone in the NCI Research Analysis and Evaluation Office, which he thought could benefit from her scientific background. She was offered a job analyzing and classifying the science content of all institute-supported research projects.

Nelson's first NIH job in 1977 was as a grants technical assistant in the Division of Research Grants (now CSR). During the interview, her degree seemed less important to the interviewers than her ability to type. She joined a study section where she typed handwritten summary statements, or "pink sheets," so called because of the pink paper they were printed on.

In 1980, Nelson took a job as a grants management specialist at NICHD where she

stayed for 20 years, enjoying the interaction with grantees. There are several career paths

at NIH where a non-scientist can go far, but she says, "grants management is a helping profession that really lets you get involved in the science."

Nelson has always enjoyed being part of the grants management community. When she started, there were only about 150 grants management specialists at NIH.

"There was a time when I knew almost everybody [in grants management], and they knew me," she

recalls. "In the 1980s, the community was largely made up of women specialists while

the grants management officers were men. That has changed dramatically with many women now in leadership roles."

Nelson feels fortunate to have been able to travel around the U.S. and Puerto Rico on site visits with NICHD and for meetings of the Society of Research Administrators. "It was extremely insightful to be able to sit down with grantees and discuss issues they were having, and then figure out where NIH could help and clearly make an impact," she says.

In 1999, Nelson became NIAMS deputy grants management officer and a year later rose to chief. She developed many memorable relationships with her grantees.

For example, Dr. Carolyn Cohen of Brandeis University, who held an R01 at NIAMS for 39 years, would call Nelson and say, "Daahrling, you are the only one who can help me understand [some grant issue]." About her interactions with Cohen, Nelson says, "I truly knew I was helping a brilliant, funded scientist feel a little less like NIH was a black hole. That is what makes me most proud."

Recognizing the value of centralized training for all grants managers, Nelson

started the "NIH Orientation Boot Camp 101," the first of many classes in a larger Grants Management University program she founded almost 20 years ago.

Nelson's mentoring efforts have not gone unnoticed. In 2014, she received the Ruth L. Kirschstein Award for Mentoring "for exemplary performance while demonstrating significant leadership, skill and ability in serving as a mentor."

Erik Edgerton, NIAMS chief grants management officer, says, "[Nelson] is the reason I have a career in grants management. She often pushed me and others to stretch beyond our comfort zones professionally while also taking a genuine interest in us personally, always encouraging us to grow and learn. She would often help me see things from a perspective I may have missed. Her absence will be felt throughout NIH and the larger research administration community."

Nelson's family legacy continues. Her daughter Sarah is now a grants management specialist at NIAAA. "I saw how my grandmother and mother had such fulfilling



Nelson (I) stands with daughter Sarah, who is holding Nelson's granddaughter, Lily, as mom Kim Barrett sits in front.

careers at the NIH," Sarah says. "I also wanted a career where I could serve a greater purpose in the community and one that offered an opportunity to develop a new skillset, so I decided to pursue it for myself."

Nelson's granddaughter, 4-year-old Lily, enjoys science and told Nelson that she had recently learned that skin is the largest organ in the human body. Nelson says, "Maybe she's also a future NIH'er."

Optimize NIH IT Security Team Receives AFFIRM Award

BY ROBERT WAXMAN

NIH had an impressive showing at the Association for Federal Information Resources Management

(AFFIRM) awards celebration, which took place on December 8, 2021 in Washington, DC.

The Optimize NIH IT Security team received the Leadership in Health Information Technology Award for their work over the last 3 years. The team is part of the overall Optimize NIH initiative and the broader Relmagine HHS efforts.

Optimize NIH IT Security included working groups with over 100 NIH staff representing 25 of NIH's 27 institutes and centers and bringing together diverse team members to deliver integrated solutions.

The AFFIRM Leadership Awards recognize accomplishments by teams or individuals in providing direction, inspired vision and outstanding

contributions within or beyond an agency or organization. (Find a list of all 2021 AFFIRM honorees at: https://members.affirm.org/event-calendar/Details/leadership-awards-celebration-368088).

Representing the Optimize NIH IT Security team at the ceremony, Stacie Alboum, CIT deputy director; Patrick Shirdon, chief business officer and director



Several members of the Optimize NIH IT Security team are (from I) Amber Simco (OCIO), Rayneisha Watson (Deloitte Consulting), Patrick Shirdon (NIA) and Stacie Alboum (CIT)

PHOTO: SARAH MOFFAT, CIT

of management at NIA; Amber Simco, OD deputy chief information security officer; and Rayneisha Watson, principal, Deloitte Consulting, were on hand to receive the leadership award. Other team leaders include Sandra Scarbrough and Sherry Quinn from OSPMO.

In her acceptance speech on behalf of the team, Alboum said, "Cybersecurity is a team sport, and I couldn't be more honored to work with this amazing team. It's more important than ever right now...with the worldwide health crisis that we're experiencing, to protect our data and assets."

The team's work is a great example of collaboration across NIH. Their effort, which ran from August 2018 to February 2021, challenged the agency to develop innovative ways to improve NIH's cybersecurity posture.

Given the increased incidence of cyberattacks against government agencies, including NIH, these efforts were crucial in supporting and protecting NIH's mission.

NIH AFFIRM award recipients oversaw goals and reporting and provided project management and strategic guidance. They also supported change management and drove project milestones, deliverables and successful program outcomes.

MDA Lauds NINDS's Bönnemann

Dr. Carsten Bönnemann, chief of the neuromuscular and neurogenetic disorders of childhood section (NNDCS) in NINDS's Intramural

Neurogenetics Branch, recently received the first-ever Muscular Dystrophy Association (MDA) Legacy Award for Achievement in Clinical Research.

The award, which recognizes outstanding accomplishments in neuromuscular disease research or care, was presented Mar. 14 at the opening ceremony of the 2022 MDA Clinical and Scientific Conference in Nashville.

Bönnemann was honored for his contributions to the field of neuromuscular disease research including (but not limited to):

- Identifying genetic causes of limb girdle muscular dystrophies
- Clarifying molecular pathways and developing preclinical models for congenital muscular dystrophies
- Using next-generation genomic technologies for new gene discoveries in children with complex neuromuscular and neurogenetic conditions

- Establishing natural history and outcome measures for use in clinical trials for congenital myopathies
- Conducting the first intrathecal adeno-associated viral vector gene therapy trial for giant axonal neuropathy in humans



Before coming to NIH, Bönnemann was co-director of the Neuromuscular Program and director of the Neurogenetics Clinic at the Children's Hospital of Philadelphia on the University

of Pennsylvania campus, where he continues to serve as adjunct professor of neurology. He joined NINDS as NNDCS chief in 2010.

Bönnemann's current work focuses on identifying the genetic and cellular mechanisms of early-onset muscle and nerve diseases in order to develop gene and transcript directed treatment strategies for them.

VOLUNTEERS

Epstein-Barr Vaccine Study Recruits

NIAID researchers are seeking to enroll healthy volunteers ages 18-29 living in the Washington, D.C., Maryland and Virginia area in an investigational Epstein-Barr virus (EBV) vaccine clinical trial. If you are eligible, consider joining to help research on EBV—the most common cause of infectious mononucleosis (mono) and a virus associated with some cancers. For more information, contact the Clinical Center Office of Patient Recruitment at (866) 444-2214 (TTY users dial 711) or ccopr@nih.gov. Refer to study #21-I-0005. Online: https://go.usa.gov/xsYK5.

Individuals Needed for Testing

Are you willing to undergo testing for research? By giving a little of yourself, you will be helping researchers in the neuroimmunology diseases section at NIH with discoveries in diagnosing and treating multiple sclerosis and other neurodegenerative diseases. This study will compare tests performed on healthy volunteers and individuals who have signs or symptoms of immune-related damage to their brain and spine. There is no cost to participate and compensation may be provided. Interested? Contact the Clinical Center Office of Patient Recruitment at (866) 444-2214 (TTY dial 711) or ccopr@nih.gov. Refer to study #09-I-0032. View online details: https://go.usa.gov/xeRUR.



Effects of 'Financial Toxicity' from Disease Is Focus of NCCIH Lecture

Dr. Michelle Y. Martin, a clinical psychologist and researcher, will present a virtual lecture, "Well-Being and the Economic Burden of Disease: What Are We Learning from Cancer Survivors?"

on Wednesday, May 18 from 1 to 2 p.m. ET.

The talk is part of NCCIH's Integrative Medicine Research Lecture Series.

At the University of Tennessee Health Science Center, Martin is co-director of the Tennessee Clinical and Translational Science Institute; professor in the College of Medicine's department of preventive medicine; and founding director of the Center for Innovation in Health Equity

Research: A Community Cancer Alliance for Transformative Change.

Dr. Michelle Y

a virtual talk as

part of NCCIH's

Lecture Series.

Integrative

Martin will present

Medicine Research

Many cancer survivors can lead full and healthy lives after they complete treatment, due to improvement in therapies and early detection. The cancer journey can be stressful at all stages, however, with additional pressure presented by financial problems such as increased medical costs and possibly reduced income and productivity. The impact of "financial toxicity" from disease on patients' well-being is an emerging area of research.

Martin is multiple principal investigator of a new initiative, the Emotional Well-Being and Economic Burden Research Network (EMOT-ECON). She will present an overview of the cancer survivorship journey and identify where needs are to better understand patients' and survivors' experiences of cancer.

Martin holds a Ph.D. in clinical (medical) psychology from the University of Alabama at Birmingham. NIH funders of her research include NCCIH, NCI and NIMHD. She has authored more than 115 papers in peer-reviewed journals.

No registration is necessary for the lecture and the public is welcome. The event will be streamed on NIH videocast.

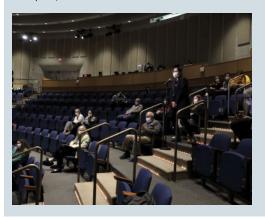
For more information, visit https://bit.ly/MartinIMLS.



CC's Lipsett Holds First In-Person Scientific Lecture Since 2020

A small, physically distanced crowd (shown above and below) gathered in a NIH Clinical Center auditorium to watch the first live scientific lecture since the beginning of the Covid-19 pandemic.

On Apr. 6, Dr. Anna Huttenlocher delivered the first



in-person NIH Director's Wednesday Afternoon Lecture since Mar. 4, 2020, in Lipsett Amphitheater. Attendees wore face masks, as the lecture hall is in the hospital, a patient touchpoint area.

"It's truly an honor to be invited to do this," said Huttenlocher, a professor of pediatrics and medical microbiology and immunology at the University of Wisconsin–Madison. The title of her talk was "Imaging Cell Migration in Inflammation Resolution and Tissue Repair."

In her introduction of Huttenlocher, NINDS deputy director and acting scientific director of NINDS Dr. Nina Schor called the event "an exciting moment after 2 years of everything being videocast."

Colloquially known as WALS, the series is the highest-profile lecture program at NIH. For the most part, WALS has returned in person, but check the website: shorturl.at/entM1.

For details on hosting and attending in-person events, see NIH's Common Area Guidance at shorturl.at/koyV5.

PHOTOS: CHIA-CHI CHARLIE CHANG

Public Service Recognition Week, May 1-7!

We have all been through significant changes over the past 2 years. Now more than ever, we need to remember and recognize NIH employees' outstanding contributions. Public Service Recognition Week offers that opportunity.

Share your pride in public service by participating in NIH's social media campaign. It's simple:

Download and fill out the "I ♥ public service because..." template.

Take a picture and share it on your Facebook and/or Twitter page using #NIH, #PSRW and #Proud2ServeUSA.



#NIH hashtag allows NIH to find our employees.

Set aside time to recognize public servants and celebrate each other's contributions.

If you are a manager, consider something to show your employees that you appreciate them.

Questions about PSRW at NIH? See https://hr.nih. gov/about/events/psrw or email NIHPSRW@nih.gov.