

SUCCESS BREEDS SUCCESS

123rd ACD Session Focuses on Maintaining Momentum

BY CARLA GARNETT

Ten days before its presiding officer for the last 12 years handed the gavel to acting NIH director Dr. Lawrence Tabak, the advisory committee to the director (ACD) convened virtually for its 123rd meeting on Dec. 9-10. It was the fourth straight online-only session, due to the global pandemic that was on the brink of entering into year 3.

For 2 days the group learned of progress against some of the nation's toughest



At the last ACD meeting held in person in December 2019, Dr. Lawrence Tabak (l) and Dr. Francis Collins

PHOTO: CHIA-CHI CHARLIE CHANG

issues—taming Covid-19 amid newly emerging variants, eliminating structural racism and improving diversity in the biomedical research workforce, confronting skepticism of science and spread of mis- and disinformation, preparing for the next

pandemic, and capitalizing on the potential of artificial intelligence to solve complex medical puzzles.

The meeting had all the components of previous sessions—budget and legislative updates, working group reports, research briefings—and something extra: Invariably, presentations were punctuated with hearty applause, warm well wishes and touching farewells for Dr. Francis Collins, who had led

NIH since 2009 and soon would step down from the post to return full time to his lab at the National Human Genome Research Institute.

“We’ll miss your steady scientific leadership for sure,” said Dr. Roy Wilson, president of Wayne State University and currently the longest-serving ACD member, “and we will also miss the dinners at your home with

SEE ACD, PAGE 8

Virtual Tribute Page for Collins Features Scores of Well-Wishers

Visit <https://www.nih.gov/farewell-dr-francis-collins> to view a video tribute and farewell greetings from more than 100 prominent figures around the world as Dr. Francis Collins stepped down as NIH director.

‘BOSS’ IN THE GUT?

Sphingolipids Play Key Role in Microbiome

BY ERIC BOCK

A class of lipids named sphingolipids play an important, yet not well understood, role in how microbes interact with tissues in the gut, said Dr. Elizabeth Johnson, during a recent Judith H. Greenberg Early Career Investigator Lecture.



Dr. Elizabeth Johnson

“It’s been really exciting to understand how bacterial sphingolipids work and figure out their exact mechanisms [of action],”

SEE MICROBIOME, PAGE 4

GOING THE EXTRA MILE...OR 3 Collins Thanks IMOD, CIT

BY AMBER SNYDER

“You’ve always gone the extra mile. And I know sometimes I’ve asked for 2 or 3 extra miles!” then-director Dr. Francis Collins told employees of IMOD (the Immediate Office of the Director) and CIT in a Dec. 8 Gratitude Tour stop.

“I could have never been able to do the job I was called to do without the kind of support you have given me.”

IMOD duties include central oversight on NIH activities in research funding, management, administration and information technology. As many NIH staff members know, CIT provides both the NIH and external collaborators with IT support and has been absolutely integral to the shift to remote work. Both Collins and his wife, Diane Baker, thanked IMOD and CIT for their hard work in supporting both the



What do history interns do? See story, p. 12.

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Three NIHers Receive Presidential Rank Award

Three NIH employees received the 2021 Presidential Rank Award, the highest honor the federal government can bestow upon a career civilian employee.

This year, Dr. Alfred Johnson, NIH deputy director for management, Michael Tartakovsky, NIAID chief information officer and director of the Office of Cyber Infrastructure and Computational Biology and Dr. Teri Manolio, director of NIGMS's Division of Genomic Medicine, were among the 230 winners from 37 federal agencies.

The small group of career senior executives and senior career employees were selected by President Joe Biden for their exceptional leadership, accomplishments and service

over an extended period of time. The Civil Service Reform Act of 1978 established the Presidential Rank Awards program to recognize the long-term hard work and important contributions of dedicated civil servants in the American federal workforce. The Office of Personnel Management administers the program and announces the awards.



Dr. Alfred Johnson



Michael Tartakovsky



Dr. Teri Manolio

9th Virtual Town Hall Set for Jan. 27

Acting NIH director Dr. Lawrence Tabak will host the 9th Virtual Town Hall on Thursday, Jan. 27 at 1 p.m. He will brief viewers on the transition, provide an update on the pandemic and respond to questions from staff. Click on webinar link to join: <https://tinyurl.com/yeytvu3n>.

GET A ONE-PAGE GUIDE

How Does Research Work?

Have you ever wondered what it means to “follow the science?” Sometimes it may seem like what’s true one day changes the next. But when what we know changes, it often means science is working.

Research helps us understand the world through careful testing. Each advance builds on past discoveries. This process can take a long time. But the end result is a better understanding of the world around us.

In general, the scientific process follows many steps. First, scientists start with a question. They look at past research to see what others have learned. Different scientists have diverse skills and training. They each bring their own approaches and ideas. And they design new experiments to test their ideas.

Next, scientists perform their experiments and collect data. Then, they evaluate what their findings might mean. This often leads them to new questions and ideas to test.

The next step is to share their data and ideas with other scientists. Other experts can give new perspectives or point out problems.

It’s natural to want answers. But it’s important not to draw conclusions based on a single study. Scientists start to form

conclusions only after looking at many studies over time. Sometimes, even these conclusions change with more evidence. Science is an evolving process. But it’s the best way we have to seek out answers.

NIH has created a one-page guide to explain more about how research works. Find the guide in English (<https://www.nih.gov/sites/default/files/about-nih/public-trust/20210902-understanding-research-print.pdf>) or Spanish (<https://www.nih.gov/sites/default/files/about-nih/public-trust/20210902-understanding-research-spanish-print.pdf>).



Peace Corps, CFC Celebrate 60 Years of Service

BY MARIAH FELIPE

In March 1961, President John F. Kennedy signed two executive orders establishing both the Peace Corps and the effort that grew into the Combined Federal Campaign (CFC). To mark the 60th anniversary for both service-oriented institutions, the Fogarty International Center recently hosted a virtual fireside chat with Carol Spahn, Peace Corps chief executive officer.

She began her remarks with a tribute to NIH staff, many of whom she has come to know through her global development work. “Thank you to everyone at NIH for all you do for public health,” Spahn said. “I have such tremendous respect for you and the service that you provide. Your integrity, passion for service and real commitment to health is so evident throughout the organization.”

With health as 1 of 6 focus areas for the Peace Corps, she encouraged NIH’ers to consider joining the 240,000 Americans who



Carol Spahn (she/her)

Carol Spahn, Peace Corps chief executive officer, got her start in the Peace Corps as a small business volunteer in Romania. She recently celebrated the organization’s 60th anniversary by joining an FIC event saluting the CFC, which also turned 60 in 2021.

“It’s a transformative experience for everyone who serves and for the communities that receive volunteers,” she said.

Spahn got her start in the Peace Corps as a small business volunteer in Romania 4 years after the fall of communism.

“My own transformation was the beauty of getting to know people and how the narrative you might understand from history and the media is really different when you get into it one-on-one or are able to experience the culture in a different way,” she said. That inspired her subsequent career in international development, which included positions

in the Peace Corps as country director of Malawi and chief of operations in the African region.

While the pandemic forced the evacuation of the almost 7,000 Peace Corps volunteers—the first in the organization’s history—Spahn is hopeful they will begin returning to the field soon. In the meantime, many Peace Corps staff have contributed to their country’s Covid-19 response,

helping coordinate mass vaccination events, conducting contact tracing and delivering refrigeration units for vaccines.

Returned Peace Corps volunteer (RPCV) and FIC deputy director Dr. Peter Kilmarx led the conversation and encouraged any interested RPCVs at NIH to join the affinity group that meets monthly.



Peter Kilmarx, Fogarty, NIH

Returned Peace Corps volunteer and FIC deputy director Dr. Peter Kilmarx led the conversation with Spahn.

have served so far. “I feel in an organization like NIH, it’s just in people’s DNA to be of service,” Spahn noted.

There are 3 programs available: the traditional opportunity for 2 years of overseas service, a 3- to 12-month plan for volunteers with specialized skill sets and a pilot for former volunteers who can work virtually for 5 to 15 hours per week.

As for the agency’s commitment to CFC, NIH 2021 contributions totaled more than \$1,915,000 (as of Jan. 11)—almost double its \$1 million goal for the season.

Commending NIH staff on their generosity to the CFC, FIC director Dr. Roger Glass noted the similarities between the annual pledge drive and the Peace Corps. “I am delighted we have come together to celebrate the shared anniversary of these two organizations that are all about giving, leadership and commitment to the community.”

Peace Corps volunteer information is at www.peacecorps.gov/volunteer. CFC information is at <https://cfc.nih.gov>. Join the NIH RPCV group listserv at <https://go.usa.gov/xperh>. 



ON THE COVER: *CRISPR-Cas9* is a customizable tool that lets scientists cut and insert small pieces of DNA at precise areas along a DNA strand. This lets scientists study our genes in a specific, targeted way.

IMAGE: ERNESTO DEL AGUILA III, NHGRI

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Editor:

Carla Garnett • Carla.Garnett@nih.gov

Associate Editor:

Dana Talesnik • Dana.Talesnik@nih.gov

Assistant Editor:

Eric Bock • Eric.Bock@nih.gov

Editorial Intern:

Amber Snyder • Amber.Snyder@nih.gov

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Microbiome

CONTINUED FROM PAGE 1

said Johnson, assistant professor in Cornell University's division of nutritional sciences.

Every person is home to trillions of bacteria and other single-celled organisms, collectively known as the microbiome. These microbes colonize different parts of our bodies. In the intestinal tract, for example, microbes derive nutrients and shelter.

"In turn, we get a variety of functions ranging from the extraction of nutrients, protection from pathogens, instructing the development of organs, digestion and uptake of nutrients and immune system regulation," she said.

Since she started her lab in 2018, Johnson has been trying to "understand host-microbiome interactions and the mechanisms that control or contribute to these interactions."



Johnson has been trying to "understand host-microbiome interactions and the mechanisms that control or contribute to these interactions" since 2018, when she started her lab.

"It's been really exciting to understand how bacterial sphingolipids work and figure out their exact mechanisms [of action]."

—DR. ELIZABETH JOHNSON

Specifically, she studies a class of lipids called sphingolipids. They serve as signaling and structural molecules.

Sphingolipids are found in all animals, plants and fungi, as well as some bacteria and viruses. In eukaryotes—organisms whose cells have a nucleus enclosed within a membrane—sphingolipids are involved in processes ranging from cell growth and survival to insulin signaling. Bacteria that produce sphingolipids are successful colonizers of host systems. These particular lipids are very important in helping the cell resist stress.

In microbiome culture models,

sphingolipids have been shown to promote the fitness of commensal bacteria (microbes that supply the host with essential nutrients and defend the host against some pathogens) and are toxic to some pathogens. Bacterial sphingolipids have been shown to modulate

inflammation in the colon and are crucial for immune system development during early life.

To find out how sphingolipids in the diet interact with microbes, Johnson's lab developed the Bioorthogonal labeling-Sort-Seq-Spec (BOSSS) method to identify and characterize what happens

to sphingolipids once they reach the gut microbiome. The methodology combines gene sequencing, fluorescence microscopy and comparative metabolomics.

BOSSS methodology revealed that specific sphingolipids from a mouse's diet do indeed interact with the gut microbiome, including one new lipid that had yet to be discovered.

Sphingolipids might have prominent and supportive roles in understanding diet and microbiome, she said.

After her talk, Johnson participated in a brief question and

answer session with NIGMS director Dr. Jon Lorsch. The full presentation can be viewed at <https://videocast.nih.gov/watch=43771>.

Earlier this year, the NIGMS Director's Early Career Investigator (ECI) Lecture Series was renamed the Judith H. Greenberg ECI Lecture Series to honor NIGMS's former deputy director. The series was established in 2016 to encourage undergraduate students to pursue careers in biomedical research. The scope has since broadened to include graduate through postdoctoral students and other early-career scientists. **R**

Joskow Named NIDCR Senior Advisor

Dr. Renée Joskow recently joined NIDCR as senior advisor to the director, after a decade serving as HRSA's chief dental officer. She is a dentist and a medical epidemiologist, holding both a doctor of dental surgery degree and a master of public health degree from Columbia University. Earlier in her career, she was a dental public health resident and fellow at NIDCR, and later served as a program official and dental officer with NCATS.



Dr. Renée Joskow

"It's a homecoming for me," Joskow said. "Because of my previous experience at NIH and NIDCR, I have wanted to return. I'm thrilled to join this world-class team and help advance NIDCR's mission."

Joskow has had an extensive career in the federal government. She worked as an epidemic intelligence service officer at the CDC, where she applied her epidemiological skills in scientific research, surveillance and outbreak investigations, including during the response to the 9/11 attacks and anthrax investigations and sudden unexplained illness and death in Haiti.

Additionally she served the Department of Homeland Security as senior medical epidemiologist in the Chem-Bio Detection program. She also developed and provided training for the Public Health Service Commissioned Corps as its medical readiness manager and director of training and education.

"Renée provides vast knowledge about oral health and the public health community dedicated toward its advancement," said NIDCR director Dr. Rena D'Souza. "Bringing her on board will help realize our strategic vision for NIDCR in the coming years."

Board certified in dental public health, Joskow is a fellow in the Academy of General Dentistry, the American College of Dentists, the International College of Dentists and the New York Academy of Dentistry. She has received numerous awards and honors and holds the rank of captain in the PHS.

Nature Medicine Editor Advises How to Counter Misinformation

BY ALISA Z. MACHALEK

The Covid-19 pandemic triggered a spread of misinformation and false claims about the disease. It also spurred fundamental changes in the way science is communicated.

In his keynote talk at a virtual retreat for the NIAMS Intramural Research Program, Dr. Joao Monteiro, editor of *Nature Medicine*, described how his journal adapted to the altered landscape of science communication. He then called upon scientists to help counter the spread of false information and explained how to do so.

“You don’t need to be working on public health or vaccines to be worried about misinformation, because it really affects everyone and it can start anywhere,” he said. “You need to be prepared for how to engage with it in a way that doesn’t make things worse.”

A rise in misleading and false information during health emergencies is not new. Monteiro noted that the tenor and general threads circulating today echo those from the 2014 Ebola outbreak. These include mischaracterizing the disease, casting blame on certain groups of people, touting unproven treatments and spreading conspiracy theories about the disease’s origins. What is striking this time around is the speed and volume of misinformation—and that it is fueled, in part, by easy access to legitimate research.

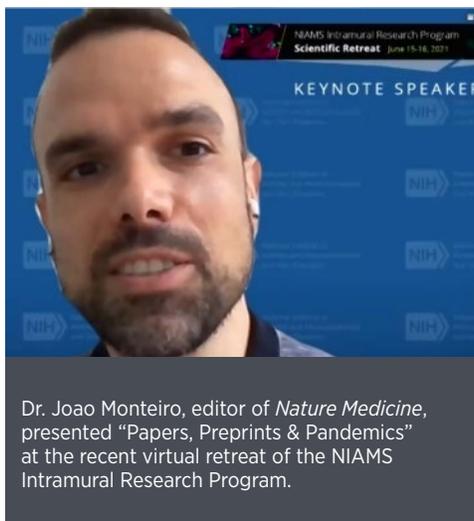
In January 2020, recognizing an impending global health crisis, scientific organizations committed to the rapid and open sharing of Covid-19-related information.

Nature Medicine joined more than 150 organizations that signed on, including other scientific publishers, research institutions, government agencies and pharmaceutical companies. Free access to peer-reviewed scientific information about Covid-19 skyrocketed. Monteiro referenced one estimate that more than 200,000 coronavirus-related papers were posted in 2020.

Add to that all the news stories, online content and social media posts, and it’s a formula for confusion.

“People have a lot of information to deal with,” said Monteiro. “They have lots of different sources...and navigating it when you are not a scientist can be extremely challenging.”

That abundance of data and viewpoints plants the seeds for misinformation. Citing a 2020 study by Reuters Institute and the University of Oxford, Monteiro noted that 59 percent of misleading or false information about Covid-19 was reconfigured from “existing and often true information [that] is spun, twisted, recontextualized or reworked”



Dr. Joao Monteiro, editor of *Nature Medicine*, presented “Papers, Preprints & Pandemics” at the recent virtual retreat of the NIAMS Intramural Research Program.

in ways that could bias readers. The study labeled 38 percent of Covid-19 misinformation “fabricated” and 3 percent “satire/parody.”

Nature Medicine conducted its own analysis of misinformation on Twitter, Facebook and YouTube.

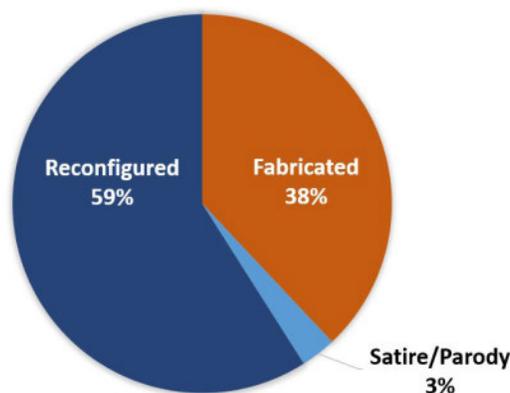
“In a single day in February 2020, we identified 3,506 tweets, 138 Facebook posts and 19 YouTube videos linking authentic research papers to unfounded claims about the SARS-CoV-2 pandemic,” reported Monteiro.

Recognizing that its content can easily be twisted into misinformation, the journal responded by rethinking its audience and its responsibility to readers. In the past, *Nature Medicine* primarily targeted the scientific community. Now, it views everyone as its audience, Monteiro said.

The journal added new features to better serve this broader audience.

For readers who lack a strong scientific

SOURCES OF COVID-19 MISINFORMATION



More than half of Covid-19 misinformation is “reconfigured” from “existing and often true information,” Monteiro noted.

IMAGE: ADAPTED FROM TYPES, SOURCES AND CLAIMS OF COVID-19 MISINFORMATION, REUTERS INSTITUTE FOR THE STUDY OF JOURNALISM

background, the journal created its News Explainer format, which summarizes scientific findings in clear, jargon-free language.

For policymakers, it introduced the Policy Summary, which describes possible implications of new research. In addition, by publishing opinion pieces such as “It is not the time for science fiction,” the journal is using its editorial platform to fight misinformation.

Monteiro noted that, in the past, most experts advised against responding to false or misleading information to avoid amplifying its spread. Due to the explosion of Covid-19-related falsehoods, that thinking has shifted. Now, Monteiro said, the recommendation is to engage directly in “a head-on approach to break the chain that moves misinformation forward.”

Monteiro provided this advice for how to start:

- Speak up when you see or hear misinformation.
 - Counter it with facts. “The more you can give the public information that is trustworthy and well sourced, the more you’ll be able to counterbalance the misinformation.”
 - For falsehoods on social media, notify the relevant online platform. The World Health Organization provides instructions.
 - Help teach non-scientists how science works.
 - Convey that science is a self-correcting, iterative process in which conclusions evolve as new data become available. Acknowledge what is known and what isn’t.
 - Think carefully about how you write your papers—your colleagues aren’t the only people who might read them. Present your work in a balanced, measured way.
 - Recognize that “the same information can have very different downstream consequences depending on the way you report it.”
 - Engage in science communication with the public as much as you can. Learn to talk about complex scientific concepts in simple ways. “People are not stupid. They can understand very complex concepts as long as you know how to explain them.”
 - Be active on social media. Misinformation campaigns often start there. “I really encourage everyone to be involved on social media because it’s not going anywhere, and there’s a lot of important discussion happening there. If you’re not engaged, you’re losing out.”
- False and misleading content impacts everyone and can come from the least-expected places, explained Monteiro.
- “Tomorrow, it could be you out there and your research that’s being distorted with falsehoods,” he said. “So always speak up when you see misinformation in any context. And always, always, stand up for science.” 

Thanks

CONTINUED FROM PAGE 1

director's office and the other ICs.

The tour, Collins said, was “only scratching the surface” of what IMOD and CIT have accomplished the past 21 months, “but what a scratching it is!”

From developing and leading the RADx (Rapid Acceleration of Diagnostics) for the Covid-19 pandemic, to processing hundreds of media requests, to managing a 400 percent surge in online meeting requests, and so much more, IMOD and CIT have done so much that deserves recognition.

Darla Hayes, associate director for management/executive officer for the Office of the Director, welcomed Collins and Baker and took a moment to acknowledge the former's upcoming departure from the top job.

“I have always been extremely proud to be an NIH employee. But these last 2 years have multiplied that pride,” said Hayes. “Thank you for inspiring us, entertaining us, caring about us.”

Several employee speakers were featured in the Gratitude Tour stop.

Shannon Wooldridge is a policy analyst with the Executive Secretariat and the manager of Collins's “incredibly busy inbox.” The colloquially named “ExecSec” was largely paper-based before the start of the pandemic, Wooldridge revealed, and “almost overnight, we pivoted from a 100 percent paper-based signature and clearance system to one that is nearly 100 percent electronic.”

Managing Collins' email was also a feat in and of itself. “We had to manage your inbox 7 days a week just to keep up with



Richard Barnes and Dr. Cheryl Smith



The virtual visit consisted of many smiles and loads of mutual admiration.

you,” Wooldridge added, while also handling Covid-19 clearances from HHS, CDC, FDA and the White House and triaging more than 5,000 pandemic inquiries from the public.

“Those of us who have access to your calendar and email could never complain about the extra hours we were working,” she said to Collins. “We saw your dedication firsthand.”

Richard Barnes, the senior web designer with the Online Information Branch of NIH's Office of Communications and Public Liaison, recalled that the World Wide Web did not exist when he first started working at NIH. But the internet, and especially telework, he argued, allow for more effective collaboration.

He also emphasized the impact of the

various NIH websites managed by his branch: “Before the pandemic, the nih.gov website was averaging 52,000 page views a day. Mar. 18, 2020, page views surged to 630,000.” The NIH employee intranet saw a similar increase, from 1,500 daily page views to 34,000.

The NIH website

is “our window to the world,” Collins added, and “the world is really interested, especially right now.”

Dr. Cheryl Smith, a health science policy analyst, recalled her introduction to the Office of Science Policy. Her first major assignment on joining NIH in 2016 was to create a resource that kept the Lacks family informed about how genomic data from HeLa cells are used in biomedical research. “It went from a 100-page document into [an accessible] website,” Smith shared. “It's entertaining, it's updatable, a truly living document.”

The website that Smith helped develop was in support of the 2013 NIH-Lacks Family Agreement between NIH and the descendants of Henrietta Lacks whose cervical cancer cells became the first human cells to grow continuously in culture (HeLa cells). The NIH-Lacks Family Agreement is a special process for making HeLa cell sequence data available for biomedical research while respecting the family's privacy and interests. Like the agreement that preceded her work, Smith commented that she was “bringing participants' voices to the table where their voices matter...that's not only a treasure to [the] family, but to the public.”

Todd Cox, a service area manager for Unified Communications and Collaboration at CIT, spoke next.

In addition to managing the massive surge in online meeting requests, CIT also

had to figure out how to host meetings with thousands of participants. The very first virtual town hall, organized by the NIH Office of Communications and Public Liaison and supported by CIT, went down as one of the most impressive accomplishments. CIT had never managed the IT hosting of a live town hall before, Cox recalled.



Shannon Wooldridge and Todd Cox

“We were sitting there in that room [in Wilson Hall], and we were just praying that it did not glitch or fail because we had well over 23,000 people watching.”

That first town hall was a success, of course, as have been the many that have followed. “I think our example may have encouraged other parts of HHS,” Collins observed.

The final speaker was Lauren Higgins, deputy director of the Office of Legislative Policy & Analysis (OLPA). Her office serves as an intermediary between NIH and Congress. Some of OLPA’s many duties include assisting the NIH director to appear before members of Congress and provide

testimony at congressional hearings.

“There are two things that Francis Collins loves, and they don’t go together: technology and Congress,” Higgins laughed.

Congressional hearing rooms couldn’t support the kinds of presentations that Collins wanted to use while testifying before congressional committees at the beginning of his tenure, she said, but they adapted over the years. As time went on, Higgins said, “the [congressional] committees not only adapted to what your technology needs were, [but] enjoyed your visuals and raved about them.”

Transitioning to Zoom was its own challenge, and although OLPA worked with the committee staff, they couldn’t always use the

visuals during virtual hearings, but Collins “took it all in stride,” according to Higgins.

“We have a great story to tell...and you all helped me do that,” Collins said.

Baker spoke at the end of the tour: “You... support Francis and he could not do what he does without the backbone, the intellect, the passion and the commitment that you all have to make this happen.”

The next NIH director will be “darn lucky,” Collins said, closing the tour. “Public service is just an incredible opportunity to have a life that means something, and I think that’s what we’re all looking for.” **R**

STOP THE SPREAD

New CDC Guidance Adopted for Isolation and Quarantine

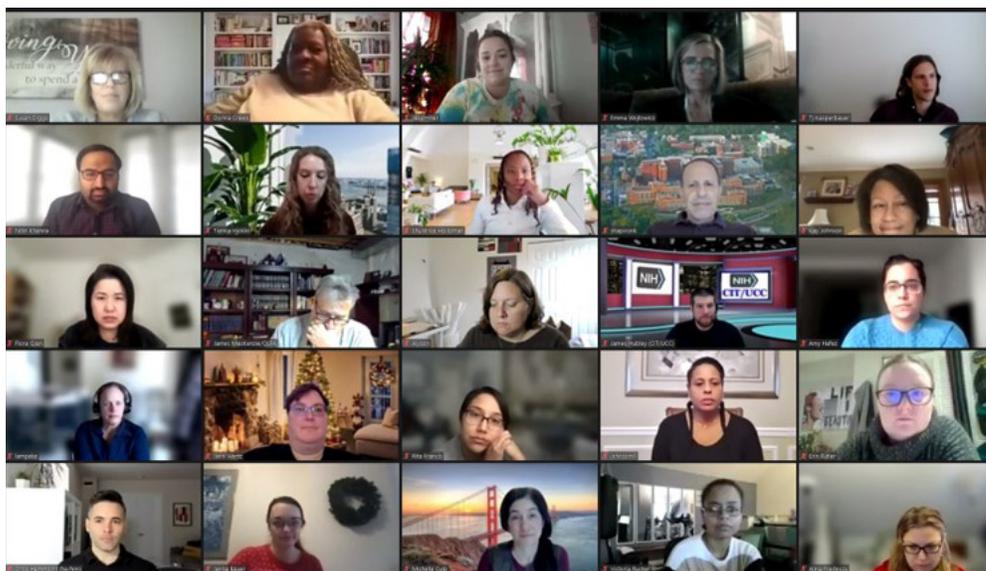
NIH has adopted the recently updated CDC guidance for isolation and quarantine periods to respond to the resurgence of Covid-19 cases.

The new guidance states that people with Covid-19 should isolate for 5 days and if they are asymptomatic or their symptoms are resolving (without fever for 24 hours), follow with 5 days of wearing a mask when around others to minimize the risk of infecting people they encounter. NIH includes additional safety measures to account for the unique work environment here. The full policy is explained in detail at <https://employees.nih.gov/pages/coronavirus/all-staff-email-20220103.aspx>.

Read more about CDC’s new guidance at <https://www.cdc.gov/media/releases/2021/s1227-isolation-quarantine-guidance.html>.

For all Covid related safety questions, refer to the NIH Safety Guidance and Covid-19 Safety Plan (<https://ors.od.nih.gov/Documents/Return-to-Work-Guidance.pdf>). The plan will be updated promptly to include this information.

For any questions on the latest isolation and quarantine guidance, email DOHS_COVID19@mail.nih.gov or call (301) 480-8990.



From developing and leading the RADx (Rapid Acceleration of Diagnostics) for the pandemic, to processing hundreds of media requests, to managing a 400 percent surge in online meeting requests, and so much more, employees of IMOD and CIT work in a wide variety of crucial areas at NIH.

VOLUNTEERS

Adults with Diabetes Wanted

NIDDK researchers seek adults with type 2 diabetes to join a study. Doctors will investigate physiology of vitamin C in red blood cells of diabetic subjects as a function of the presence of glucose in the blood, with and without vitamin C supplementation. Compensation is provided. For details, contact the Clinical Center Office of Patient Recruitment at (866) 444-2214 (TTY users dial 711) or ccopr@nih.gov. Refer to study #14-DK-0060. Online: <https://go.usa.gov/xyTaY>



The ACD meets virtually, for the fourth time in a row, due to the pandemic.

ACD

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your wife, Diane, and being entertained by one of your other talents [guitar-playing and singing]. Yours has been an amazing tenure these last 12 years and we thank you so much for leading NIH, especially during these last years in what has to be the most challenging [period] in recent memory. It has really been a true privilege to serve you in an advisory capacity.”

Wilson led off sharing sentiments that seemed to be carried unanimously among members of NIH’s most respected group of advisors.

In his final meeting as moderator, Collins used his director’s report to reflect on the past 12 years and emphasize that so many of NIH’s achievements during his administration were sparked by the ACD.

From planning a new center—the National Center for Advancing Translational Sciences (NCATS) in 2011—to brainstorming ways to inspire and nurture the next generation of biomedical researchers in 2012 to launching the Brain Research Through Advancing Innovative Neurotechnologies (BRAIN) Initiative in 2014, an ACD working group was in on the ground floor helping to build and develop the idea.

Describing himself humorously as a “lame duck” director, Collins urged the group to keep the pace and momentum going.

“We’re going to count on you going forward to continue the tradition of digging into substantive areas and giving NIH wise, thoughtful, well-considered advice, which ACD has just done brilliantly,” he said. “I think it’s a model that we ought to sustain.”

Also on day 1, with the focus largely on the pandemic, NIAID director Dr. Anthony

Fauci spoke in a video recording of the latest on Covid-19 and its newest variant, omicron. A briefing on Covid-19 vaccines by Vaccine Research Center director Dr. John Mascola and a discussion of coronavirus therapeutics by NHLBI deputy director Dr. Amy Patterson followed.

NHLBI director Dr. Gary Gibbons then talked about the RECOVER program, which is studying effects of long-term Covid-19 in a nationwide large-scale effort, with NICHD director Dr. Diana Bianchi detailing what is known about multisystem inflammatory syndrome in children.

Dr. Carl Dieffenbach talked briefly about pandemic preparedness and how NIH is using funds from the American Rescue Plan to consider ways of building a new generation of antivirals, beyond coronaviruses.

The day ended with an update by NIH associate director for data science Dr. Susan Gregurik and Dr. Elaine Nsoesie of Boston University School of Public Health on the Artificial Intelligence/Machine Learning Consortium to Advance Health Equity and Researcher Diversity (AIM-AHEAD) Program. Several ACD members were interested in how NIH planned to sustain AIM-AHEAD funding long term, given potential agency budgetary and leadership shifts.

“Nothing brings success like success,” Tabak said. “Our hope is that with [the consortium’s] continuous advances we are able to demonstrate the value that AIM-AHEAD brings.”

On ACD day 2, advisors first heard the latest on HeLa Genome Data Access from its working group co-chairs: ACD member Dr. Spero Manson of Colorado School of Public Health and NIH acting associate director

for science policy Dr. Lyric Jorgenson. This group, which weighs ethical considerations posed by data/resource sharing in the broader biomedical research community, is another example of a concept Collins nurtured from a seed planted by ACD.

Then, the session turned once again to pandemic-related topics with news on NIH’s Rapid Acceleration of Diagnostics (RADx) initiative. NIBIB director Dr. Bruce Tromberg gave an update on RADxTech, followed by NIMHD deputy director Dr. Monica Webb Hooper and NICHD deputy director Dr. Alison Cernich with a briefing on RADxUP.

NCATS acting director Dr. Joni L. Rutter talked about the Accelerating Medicines Partnership’s recently launched Bespoke Gene Therapy Consortium that aims to build an infrastructure to speed development of customized treatments for rare diseases.

The final portion of ACD day 2 addressed diversity, equity, inclusion and accessibility (DEIA) initiatives at NIH, with updates on UNITE activities by several of its cochairs and a look at DEIA plans overall by NIH chief officer for scientific workforce diversity Dr. Marie Bernard.

The meeting’s final presenter, NIMHD director Dr. Eliseo Pérez-Stable, discussed the inaugural Faculty Institutional Recruitment for Sustainable Transformation (FIRST) Program awards.

ACD’s winter session 2021 ended with Collins’s sharing several “lessons learned” over the last 12 years:

“Surround yourself with brilliant people,” he urged, “and give them permission to tell you you’re full of it...look for novel partnerships...NIH has a lot of resources but the most important is the people.”

He concluded with a “farewell to troops,” delivered in his signature fashion, via song—*I’m Leaving for the Lab Again* to the tune of John Denver’s *Leaving on a Jet Plane*.

“I leave with many memories | Of hills we’ve climbed in ACD...It’s you who’ve made our plans succeed | Providing hope to those in need | To all of you, my thanks just overflow | I’m leaving for the lab again | What a joy these years with you have been | Dear friends, now it’s time to go.”

Both days are available in full online: Day 1, <https://videocast.nih.gov/watch=44233> and day 2, <https://videocast.nih.gov/watch=44235>.

Viagra May Reduce Risk of Alzheimer's Disease

NIA-funded researchers have found that people who took the drug sildenafil, sold under the brand names Viagra and Revatio, were less likely to develop Alzheimer's disease (AD). Sildenafil also enhanced growth and reduced Alzheimer's biomarkers in cultured human neurons. The findings appeared in *Nature Aging*.

"This is one of many efforts we are supporting to find existing drugs or available safe compounds for other conditions that would be good candidates for Alzheimer's disease clinical trials," said NIA program director Dr. Jean Yuan. Repurposing existing drugs could reduce the time and costs of bringing AD therapies to patients.

Researchers began by identifying genes associated with AD pathology. Then they constructed a network of molecular interactions connecting these genes. They also assembled networks of drugs and their molecular targets for more than 1,600 FDA-approved drugs. They then calculated the relationships between each drug's targets and the AD network components.



Researchers found that people who took the drug sildenafil were less likely to develop AD.

PHOTO: SHUTTERSTOCK/RUSLAN-HUZAU

The team identified 66 drugs with the closest relationships to AD-associated genes. Many are already being tested in ongoing AD clinical trials, proving the soundness of the approach. After considering other factors, sildenafil ended up being the top candidate.

Next, the team analyzed insurance claims data from

more than 7 million Americans. They found that the people (mostly men) who took sildenafil were 69 percent less likely to develop AD over 6 years than those who did not take the drug. This association between sildenafil and AD held after adjusting for sex, age and other diseases and conditions.

To understand how sildenafil might affect AD, the researchers grew neurons from stem cells derived from AD patients. Exposing the cells to sildenafil led to increased growth of neurites, which connect neurons to each other. Sildenafil also reduced tau phosphorylation, an early biomarker of AD.

While these results show an association between sildenafil use and reduced AD risk, the researchers emphasized they haven't shown that sildenafil prevents or reverses AD. There may be other factors responsible for the association.—**Brian Doctrow**, *NIH Research Matters*

Sleep-Disordered Breathing in Early Pregnancy Linked to Diabetes Risk

A small NIH-funded study has linked sleep-disordered breathing in early pregnancy with insulin resistance or difficulty clearing glucose from the blood. The results, which appear in *Sleep*, strengthen the link between sleep-disordered breathing, which includes pauses or slowing of breathing during sleep, and gestational diabetes.

The findings also suggest that screening pregnant women, particularly those with overweight or obesity, for sleep-disordered breathing could identify those who might benefit from early interventions to reduce their diabetes risk.

The study monitored the sleep of 221 pregnant women with overweight or obesity from the 11th through 15th week of their pregnancies and measured

their insulin resistance. The more frequently they experienced sleep-disordered breathing and the more often their blood oxygen levels dropped during sleep, the more likely they were to have insulin resistance and elevated fasting blood sugar levels. This risk persisted after the investigators considered participants' age, body mass index and other factors.



A small NIH-funded study has linked sleep-disordered breathing in early pregnancy with insulin resistance.

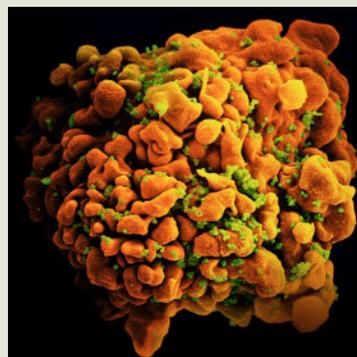
PHOTO: SHUTTERSTOCK/5 SECOND STUDIO

Dr. Laura Sanapo of the Women's Medicine Collaborative and Brown University and colleagues conducted the study, which was funded by NICHD, NHLBI and NIGMS.

NIH Celebrates FDA Approval of Injectable Drug for HIV Prevention

The FDA recently approved a long-acting HIV prevention medication. Developed by ViiV Healthcare, cabotegravir is injected once every 2 months. FDA has approved the medicine for use by adults and adolescents weighing at least 77 pounds who are at risk of sexually acquiring HIV.

This milestone marks a vital expansion of available biomedical HIV prevention options. An estimated 34,800 people in the U.S. acquired HIV in 2019, the most recent year for which data are available. Men who have sex with men, transgender women who have sex with men and Black cisgender women are among those disproportionately affected by HIV in this country.



Scanning electron micrograph of an HIV-infected H9 T cell

IMAGE: NIAID

Until today, the only FDA-licensed medications for HIV pre-exposure prophylaxis (PrEP) were daily oral pills containing the HIV drugs tenofovir and emtricitabine, which remain a highly effective option. Long-acting injectable cabotegravir PrEP is a less frequent, more discreet HIV prevention option.

The FDA approval is based on data primarily from two NIH-supported clinical trials, HPTN 083 and HPTN 084, each conducted in multiple countries. Both trials compared the safety and effectiveness of a PrEP regimen containing long-acting injectable cabotegravir with a regimen of daily oral PrEP.

HPTN 083 enrolled more than 4,500 cisgender men who have sex with men and transgender women who have sex with men. HPTN 084 enrolled more than 3,200 cisgender women. The two trials found that both HIV prevention methods were safe and highly effective, but injectable cabotegravir was more effective than daily oral PrEP at preventing HIV acquisition.

Both trials were sponsored by NIAID and ViiV Healthcare, and conducted by the NIH-funded HIV Prevention Trials Network (HPTN). The Bill & Melinda Gates Foundation also supported HPTN 084.

Sayre Retires After 22 Years of Service at NIH

Dr. Michael Sayre, director of NIMHD's Division of Integrative Biological and Behavioral Sciences (IBBS), retired from federal service in September after 22 years at NIH.

Sayre's career at NIH started in 1999 as a scientific review officer at the Center for Scientific Review (CSR) in the then-Cell Development and Function Integrated Review Group led by Dr. Ramesh K. Nayak.

Sayre moved to the National Center for Research Resources (NCRR) in 2003 to become a program officer in the Division of Research Infrastructure. In 2010, he was appointed deputy director of the division.

When NCRR was dissolved in December 2011, Sayre transitioned to NIMHD to head the newly formed Office of Research Innovation and Program Coordination in the Division of Scientific Programs. He subsequently became director of IBBS, 1 of 3 new extramural program divisions established by NIMHD's director, Dr. Eliseo J. Pérez-Stable.

Sayre's natural curiosity led him to pursue a career in science.

As an undergraduate student at Oregon State University, he had the opportunity to work in the laboratory of Dr. Kensal E. van Holde, a world-renowned biophysicist and pioneer in the field of chromatin research. He entrusted Sayre to perform an experiment using a Beckman Model E analytical ultracentrifuge, a room-sized piece of very expensive and intimidating equipment. His task was to determine the Svedberg coefficient of purified yeast mononucleosomes.

Sayre recalls, "When Ken saw the trace that emerged from the machine, he looked at me and said, 'This is a clean result.' After that, I was hooked and spent the next 18 years probing fundamental DNA-protein interactions that regulate gene expression in prokaryotic and eukaryotic cells. After 6 years on the faculty at Johns Hopkins University studying yeast gene regulation in a very crowded field, I had an opportunity to transition to research administration at NIH, one of the best career moves I ever made."

Working at NIH enabled Sayre to see the bigger picture in biomedical research and the importance of translating basic biological research advances into clinical applications to improve public health. Sayre credits Nayak at CSR for giving him that incredible opportunity.

In addition to his role as a researcher and scientist,



Dr. Michael Sayre, director of NIMHD's Division of Integrative Biological and Behavioral Sciences, has retired.

Sayre has also been an excellent mentor who provided guidance and encouragement, helping several staff members at NIMHD achieve promotions and advance their careers. In 2016 and 2017, two of his nominees each received the NIH Harvey J. Bullock Jr. Award for Equity, Diversity and Inclusion.

Throughout his career, Sayre published over 30 peer-reviewed research articles.

Recognized for his exemplary work and contributions to science, he received several awards, including the NIH Award of Merit in 2020, the 2017 NIH Director's Award for his contribution to the Diversity Program Consortium Team and the NIH Director's Award in 2011 as part of the Deepwater Horizon Gulf Oil Spill Team.

After retirement, Sayre looks forward to spending more quality time with his wife and family, developing their pollinator-friendly garden, birdwatching, re-learning how to cook and traveling to exotic locales when the coronavirus pandemic subsides.

FIRST FNIH LEADER Former NIH Associate Director Galasso Is Mourned

Dr. George J. Galasso, a leader in antiviral research whose efforts led to the successful treatment of many viral infectious diseases and cancer, died Nov. 5. He retired in 1996 as NIH associate director of extramural programs but continued his efforts in biomedical research, later that year becoming the first leader of what is now the Foundation for the NIH (FNIH).

Born in New York City to Italian immigrant parents, Galasso graduated from Manhattan College, served in the Army as a medical technician and then earned a Ph.D. in microbiology from the University of North Carolina in 1960. Following a postdoctoral fellowship, he became research assistant professor at the UNC Medical School.

In 1968, he was accepted into NIH's Grants Associates Program, a highly selective training program for health science administrators. In 1969, he was asked to initiate an Antiviral Research Program for NIAID.

The initial goal was to determine whether interferon had a role in treating disease and to determine whether chemical agents could be used to treat viral diseases. Due to Galasso's efforts with other agents, adenine arabinoside was shown effective against herpes encephalitis, the first time an antiviral agent was successfully used to treat an ongoing serious viral disease. This showed that antiviral agents could indeed prove effective and paved the way for other antiviral agents.

Galasso also was a leader in interferon clinical trials and was instrumental in showing the efficacy of interferon in hepatitis; this led to interferon's use against cancer. His efforts in this field have been internationally recognized. He served on the U.S.-U.S.S.R. science exchange program and headed delegations to the then-U.S.S.R. in the 1970s.

He was an invited speaker at international meetings and as a western representative at meetings in Eastern Europe during the Iron Curtain period. He was made an honorary faculty member of the Hubei Medical School, Wuhan, People's Republic of China, where he participated in a virology course for representatives of all the provinces of China.

In 1973 he became chief of the NIH Infectious Diseases Branch with responsibility for development of vaccines and antivirals to combat all infectious diseases. His efforts in vaccine development led to the Zoster vaccine.

In 1983 he became NIH associate director for extramural programs, with responsibility for NIH policies involving grants and contracts. He developed the first set of conflict of interest rules in conjunction with the other research agencies of the government. He authored nearly 100 scientific articles and reviews and served on the editorial board of several scientific journals and as review editor for *Antiviral Research*.

He was the founder of the International Society for Antiviral Research in 1985 and was active in it until 2008, serving as president (1992-1994).

Galasso was also instrumental in founding the International AIDS Society and organized the Third International Conference on AIDS in Washington in 1983. This was quite a feat since it was during the

highly charged era of AIDS activism and although the meeting was expected to draw approximately 3,000 participants, there were 7,000 attendees.



Dr. George J. Galasso

HHS recognized his successful organization of the meeting and crowds with the Assistant Secretary for Health's Award for Exceptional Achievement.

Galasso had a passion for mentoring younger scientists and a deep love for NIH and health science research, which compelled him to stay involved after retirement. He was instrumental in establishing FNIH, which had earlier been created by Congress to support the mission of NIH. He helped to develop FNIH's infrastructure, including finding its first office space.

The FNIH began operations in January 1996, when Galasso retired from NIH and agreed to serve as the organization's first executive director on a voluntary basis. After managing its first 18 months, he handed leadership over to the next FNIH executive director in September 1997. The organization celebrated its 25th anniversary in 2021, owing many thanks to Galasso's passion and commitment.

Galasso also continued to work for the International Society for Antiviral Research, for which he raised more than \$100,000 per year. He served as consultant to a pharmaceutical company and assisted other scientific societies. His many contributions to NIH were recognized by his election to the board of directors of the NIH Alumni Association (2002-2007).

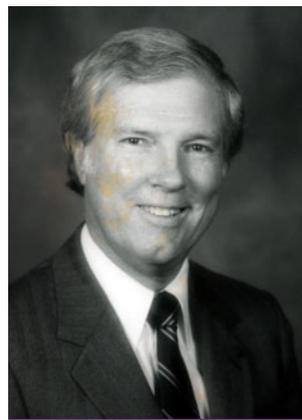
Over the course of his career, Galasso received numerous honors, including the Distinguished Service Award from the University of North Carolina. He was awarded the title Cavaliere Della Repubblica by the President of Italy in 1989 for services to the field of public health and collaborations

with Italian scientists. He received distinguished service awards from the International Society for Antiviral Research and the International Society for Interferon and Cytokine Research. He was awarded an honorary doctorate of science from his alma mater, Manhattan College, in 2007.

He is survived by his wife of 63 years Joan Galasso; children Cathy Galasso-Schwartz, John Galasso and George J. Galasso; grandchildren; brother; step-grandchildren; and a host of nieces and nephews.

Retired Oral Cancer Scientist Hamner Is Mourned

Dr. James E. Hamner III died June 6 at age 88. An internationally renowned pathologist and author



Dr. James E. Hamner III

of numerous scientific books and articles, he enjoyed a distinguished career with the National Institute of Dental Research (now NIDCR) and NCI over many years, with a particular focus on oral cancer research.

Hamner served as chief of the oncology section in NIDR's

Experimental Pathology Branch (1962-1973) and as chief of the NIH primate research unit at Southwest Foundation for Research (now Texas Biomedical) from 1969 to 1972.

There he conducted studies on carcinogenesis and natural and artificial tooth implantation with emphasis on plastics and ceramics. He also looked into reimplantation of teeth following injury and delved into periodontal disease.

From 1973 to 1982, Hamner served as an NCI branch chief and associate director for intervention programs in NCI's Division of Cancer Control and Rehabilitation.

Following retirement from NIH, he became a special assistant to then-Secretary of Health, Education and Welfare Joseph Califano.

For more than 30 years, Hamner directed a large oral cancer project in coordination with WHO, the Tata Institute of Fundamental Research in India and NIH. He was also part of a collaborative team of American and Russian physicians researching breast cancer.

Hamner retired as a captain in the Public Health Service and returned to his hometown of Memphis, where he served as associate vice chancellor for the University of Tennessee Center for Health Sciences and professor of pathology in the medical school, among many other duties and responsibilities.

He is survived by wife Catherine, 2 sons, the Rev. Dr. James E. Hamner IV and Dr. H. Wentzell Hamner, 11 grandchildren and 1 great-grandson.

NINDS Mourns Program Director Broome

BY SHANNON E. GARNETT

NINDS mourns the loss of Dr. Ann-Marie Broome, a program director in its Division of Translational Research (DTR), who died Nov. 26 from pneumonia due to Covid-19.

Within DTR, Broome led the teams that launched two major, unique initiatives—the Blueprint Neurotherapeutics Network-Biologics (BPN-Biologics) Program and the Ultra-rare Gene-based Therapy (URGenT) Network. BPN-Biologics provides funding and resources for biotherapeutic drug discovery and development—from lead optimization through phase I clinical testing. URGenT supports the development of state-of-the-art gene-based therapies for ultra-rare neurological diseases, which affect as few as or fewer than 1 in 50,000 people.

“We were fortunate enough to work closely with Ann-Marie and see her leadership and commitment with the launch of URGenT,” said NINDS director Dr. Walter Koroshetz. “She exhibited resilience, dedication and facility at the



Dr. Ann-Marie Broome

intersection of science, industry and government, and, most of all, an easy smile with the ability to find humor even in the most difficult challenges.”

Broome earned her bachelor of science degree in biology, chemistry and mathematics from Columbia College in South Carolina, and her Ph.D. in biomedical science from the University of South Carolina School of Medicine. She completed a postdoctoral fellowship in physiology and biophysics at Case Western Reserve University (CWRU) and earned her M.B.A. in health care administration and bioscience entrepreneurship from CWRU's Weatherhead School of Management.

Before joining NINDS, Broome served as an associate professor in the department of cell and molecular pharmacology at the Medical University of South Carolina (MUSC), director of the molecular imaging program in the Center for Biomedical Imaging and director of small animal imaging in the MUSC Hollings Cancer Center with secondary appointments in immunology, microbiology and neurosciences. She also held adjunct appointments at Clemson University and CWRU. In these roles, she worked on many translational aspects of cancer research including *in vivo* animal models, drug development, validation and precision medicine and mentored more than 70 students, residents and fellows of diverse academic levels, interests and backgrounds.

“Although it feels like she was taken from us far too soon, we are confident that her legacy will live on in BPN-Biologics, in URGenT and in the dedication, synergistic partnerships and passionate enterprise of NINDS,” Koroshetz said.

Broome is survived by numerous family members including her brother Kelley Broome and sister Amber Leigh Ott.

NIH Museum Makes a Move

The Office of NIH History & Stetten Museum is moving its object collection to a new storage facility in Gaithersburg. Relocation requires packing up and keeping track of 3,700 items.

Among items being “deaccessioned” is an old statue that no longer fits in the museum’s collection scope. The not-quite life-size sculpture depicts the recipient of the first-ever gene therapy on Sept. 14, 1990, at the Clinical Center. She had adenosine deaminase (ADA) deficiency, which left her defenseless against infections. The gene therapy worked. The statue was a prop in a 1996 exhibit



at the National Museum of American History and never formally adopted into the Stetten Museum’s collection.

“We’ll be finding new homes for the objects that aren’t coming with us, big and small,” reports associate director and curator Michele Lyons. “The curator from the National Museum of Medical History, Dr. Alan Hawk, took some artifacts that no longer fit our mission to give them a new home in Silver Spring.”

Museum staff also took time to reflect on exhibits that debuted last year. During 2021, the office installed displays featuring the late NIH icon Dr. Ruth Kirschstein, Covid-19 and NCI’s tissue culture section. Eight exhibits are in the works for 2022.

In addition, the team updated its website for a more user-friendly and visually appealing experience. Along with this update, they also designed and published a new online narrative about the Canyon Creek Schoolhouse Laboratory 100th anniversary in Hamilton, Mont.

You can connect with NIH’s past and keep up with all the recent goings-on at history.nih.gov.



Office of NIH History intern Devon Valera hoists a deaccessioned statue that is en route to a new storage facility.

Above, the National Museum of Medical History curator Dr. Alan Hawk (l)—along with Ray Shubert of NMMH logistics—takes possession of some artifacts that the Stetten Museum can no longer display.

At right, exhibits that the Office of NIH History and Stetten Museum debuted during 2021 include displays featuring (clockwise from left) the late NIH icon Dr. Ruth Kirschstein, Covid-19 and NCI’s tissue culture section. Associate director and curator Michele Lyons says eight new exhibits are slated for installation in 2022.

PHOTOS: MICHELE LYONS

