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AFTER MORE THAN 12 YEARS

## Collins To Step Down as NIH Director

NIH director Dr. Francis Collins announced on Oct. 5 that he will step down as head of the agency. He is the longest serving presidentially appointed NIH director, having served 3 U.S. presidents over more than 12 years.

"I write today with truly mixed emotions, including a lump in my throat, to tell you that I have decided to end my tenure as the director of the National Institutes of Health by the end of this year," he said in an email to staff. "I love this agency, its mission and its people so deeply that the decision to step down has been a difficult one, made in close counsel with my wife, Diane Baker, and my family. I fundamentally believe, however, that no single person should serve in the position too long, and that it's time to bring in a new scientist to lead NIH into the future."

Noting in a White House statement that Collins "is one of the most important scientists of our time," President Joe Biden recalled, "After I was elected president, Dr. Collins was one of the first people I asked to stay in his role with the nation facing one of the worst public health crises in our history...I was grateful he answered the call to serve even though it was asking him to stay on the job longer than anyone in NIH history. Today, I understand his decision to step down from his post at the end of this year after an incredible and consequential tenure.

"Millions of people will never know Dr. Collins saved their lives," the President said. "Countless researchers will aspire to follow in his footsteps. And I will miss the counsel, expertise and good humor of a brilliant mind and dear friend."

SEE **COLLINS**, PAGE 4

Dr. Francis Collins announced that he will step down as NIH director at the end of the year.

Sgt. Alvin Maker

24-7 SECURITY LAUDED

## Police Assemble Virtually for Director's Appreciation Visit

BY CARLA GARNETT

A few months ago, a tense situation was unfolding at NIH's Gateway entrance. A visitor was demonstrably angry and refusing to leave. When law enforcement answers such a call, myriad different resolutions can result—many of them unfortunate or even tragic. On this day, when NIH Police

SEE **POLICE**, PAGE 6

WE NEED TO TALK

## Stovall Discusses How to Have a Meaningful Difference Dialogue

BY DANA TALESNIK

Janet Stovall

Talking about race can be difficult, even uncomfortable. Now, though, the country is at a turning point. Conversations about how to cultivate inclusion are emerging, or need to emerge, in organizations and across society. At a recent DDM seminar, Janet Stovall offered tips on how to dive in, open-minded and empathetically, to make real progress.

SEE **STOVALL**, PAGE 8

Scientists combine music, fellowship. See p. 12.

**ALSO THIS ISSUE**

## NIH Labs Win 2021 International Freezer Challenge Award

The International Institute for Sustainable Laboratories (I2SL) hosts an annual freezer challenge, https://www.freezerchallenge.org/, where thousands of labs from private companies, universities and government organizations compete to see who can reduce the most energy consumed by the freezers in their labs.

Ten NIH labs competed in the 2021 I2SL Freezer Challenge. Through their combined efforts, NIH won in the government organization category. Also, the NCI Laboratory of Cell Biology won the 2020 I2SL Freezer Challenge in the individual category for labs with more than 25 people. This is the isecond year in a row that NIH won the international competition.

The 10 labs that participated are: NCI Laboratory of Cell Biology, NCI molecular and gene transfer section, NEI Laboratory of Immunology molecular immunology section, NHLBI Laboratory of Myeloid Malignancies, NIAID viral epidemiology and immunity unit, NIDDK genetics and metabolism section of the Liver Disease Branch, NIEHS In Vivo Neurobiology, NIEHS Comparative Medicine Branch Quality Assurance Lab, NIEHS Reproductive Medicine Group RDBL, NINDS translational neuroradiology section. NIEHS also completed a

PHOTO: CHOKSAWATDIKORN/SHUTTERSTOCK

campus-wide freezer upgrade where old units were replaced with new Energy Star Certified models.

A few notable initiatives they completed include: discarded 30,096 1.5 ml samples, retired 28 freezers and refrigerators and changed the temperature setting from (-80°C) to (-70°C) on 17 ultra-low temperature freezers.

These combined efforts will save NIH an estimated 388,884 kWh/year, $31,608/year and 262 MTCO2e greenhouse gas emissions/year. This was accomplished by 10 labs.

To sign up for the 2022 challenge that begins on Jan. 1, visit https://orfweb.od.nih.gov/sites/dep/freezerchallenge/Lists/Freezer%20Challenge%20Sign%20Up/NewForm.aspx.


A mural depicting the NIH story in images has been completed in the new BRAC tunnel that recently opened for pedestrians crossing Rockville Pike at the Medical Center Metro station.

DECK THE WALLS

## Mural Highlighting NIH Featured in New BRAC Tunnel

Pedestrians crossing underneath Rockville Pike, between NIH and Walter Reed National Military Medical Center, via the new Base Realignment and Closure (BRAC) tunnel can get a life-size glimpse of the NIH mission, history and research. That's because a mural that depicts the NIH story in images has been completed. The tunnel, also known as the Medical Center Metro Crossing Project or MD 355 Underpass Crossing, was proposed in 2008 to help people safely navigate that busy stretch of Rockville Pike. One wall of the tunnel features the NIH mural and the opposite wall features USO-oriented pictures in recognition of the work at Walter Reed.


The tunnel, which opened unofficially several weeks ago, is set to be named for the late former U.S. Congressman Philip Alperson, longtime community advocate, Montgomery County official and coordinator of BRAC activities for Walter Reed. He died in May 2020. A formal dedication ceremony is planned for later this year.

To read about the tunnel's origins, visit https://nihrecord.nih.gov/sites/recordNIH/files/pdf/2011/NIH-Record-2011-06-24.pdf, on p. 10.

## Covid-19 Makes CFC Donations More Urgent Than Ever

BY MARIAH FELIPE

On screen for the virtual CFC kickoff are (from l) NIH director Dr. Francis Collins, NIH CFC program manager Debra Gale, Dr. Roger Glass, director of FIC, which is the CFC lead IC for 2021 and FIC executive officer Dexter Collins.

NIH is urging staffers to "Be the Face of Change" and generously support this year's Combined Federal Campaign, with the ongoing pandemic creating an even greater need for many of the services provided by the CFC's 6,000 charities worldwide.

Keeping with NIH tradition, Jessica Herrera of NIAID opened the program by singing the national anthem.

In his inspiring kickoff message, NIH director Dr. Francis Collins asked NIH staff to dig deep to support the campaign in its 60th year of operation.

"The CFC is an amazing opportunity to make a collective impact and improve the lives of others," he said, "so I encourage you to support the charities of your choice."

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*"We are the face of change, of science and of innovation, so mask up as a superhero and join our competition to prove it!"*

–FIC DIRECTOR DR. ROGER GLASS

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Collins suggested staff consider donating to organizations that reduce poverty and homelessness, advance health research, aid veterans, meet the needs of children, improve education, protect animal welfare or are devoted to other worthy causes.

This year's CFC goal has been set at $1 million, a number that NIH more than doubled last year, despite the pandemic.

FIC is the lead institute/center for this year's campaign and its director Dr. Roger Glass appealed to NIH staff to take a global perspective.

"We have come to recognize that this pandemic affects all of us—in every corner of the world—with the most vulnerable suffering the greatest," he said. "This is our chance to help those in need by making a donation to the CFC. Every dollar counts, and no pledge is too large or too small."

The event highlighted the nonprofit Hopkins Breast Cancer Inc. Founder Donna Hopkins—a breast cancer survivor herself—encouraged CFC giving with a quote from baseball great Jackie Robinson, who noted "a life is not important, except in the impact it has on other lives."

FIC's executive officer Dexter Collins will spearhead the 2021 campaign, with assistance from NIH CFC program manager Debra Gale and countless volunteers across the agency. "You Can Be the Face of Change" is this year's theme, which "echoes what happens when we give generously to those in need to enrich the quality of life for all of us," Collins said.

The next CFC event will be a virtual Halloween Charity Fair and Mask Contest, to be held Oct. 28 at 11 a.m. Contestants are invited to create masks with a superhero theme that celebrate a nurse, doctor, teacher, mother, father or fictional character. NIHers are encouraged to express their creativity in designing masks that are inspirational, funny or scary—with extra credit for those that include a CFC message.

"In this global pandemic, all NIH staff are truly superheroes—delivering vaccines to the world, developing new diagnostics and treatments to stem the spread of disease, and appreciating that Covid anywhere threatens us everywhere," said Glass. "We are the face of change, of science and of innovation, so mask up as a superhero and join our competition to prove it!"

The CFC officially began Sept. 1 and will end Jan. 15, 2022. To learn more, visit https://cfc.nih.gov or email any questions to NIHCFC2021@mail.nih.gov.

ON THE COVER: BUILD PODER program trainee Sayuri Pacheco works in California State University, Northridge (CSUN) professor Thomas Minehan's organic chemistry lab, doing research synthesizing major groove DNA. Pacheco is a trainee in the BUILD Promoting Opportunities for Diversity in Education and Research (PODER) program, CSUN's Building Infrastructure Leading to Diversity (BUILD) program, which is part of the NIH Common Fund's Diversity Program Consortium..

IMAGE: VANESSA CISNEROS


### The NIH Record

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## Collins

CONTINUED FROM PAGE 1

A physician-geneticist, Collins took office as the 16th NIH director in August 2009, after being appointed by President Barack Obama and confirmed by the Senate. In 2017, he was asked to continue in his role by President Donald Trump, and in 2021, by Biden.

Before leading all of NIH, Collins served as director of the National Human Genome Research Institute from 1993 to 2008, where he led the international Human Genome Project, which culminated in April 2003 with the completion of a finished sequence of the human DNA instruction book. After leaving as NIH director, he will continue to lead his intramural research laboratory at NHGRI.

"Few people could come anywhere close to achieving in a lifetime what Dr. Collins has at the helm of NIH," said Health and Human Services Secretary Xavier Becerra. "It takes an extraordinary person to tackle the biggest scientific challenges facing our nation—and under 3 presidents, amidst 3 distinctly different chapters of American history. Dr. Collins, master of scientific breakthroughs and scientific reason—from mapping the human genome to fighting the most devastating pandemic of a century—has routinely broken ground to save countless lives, while unleashing innovation to benefit humanity for generations to come."

Collins said, "It has been my greatest honor to lead this noble agency and to work with such a talented and dedicated workforce. Your extraordinary commitment to lifesaving research delivers hope to the American people and the world every day. That commitment has never been greater or more important than over the past 21 months. I feel remarkably fortunate to have stood at the helm of this great agency when science was called upon to provide rapid solutions to the Covid-19 pandemic. Together, we met that challenge with unprecedented speed, accuracy and safety. Millions of lives will continue to be saved worldwide because of your work. I thank you for your unflagging support during this difficult period and throughout my tenure; it has meant the world to me."

Collins ended his announcement with appreciation for those closest to him.

"I also want to thank my wife," he concluded. "I can't imagine having done this job without her. She is my teammate, my soulmate and the person I'm most excited to spend more time with after I step down. I count my blessings every day for the gift of her presence in my life. I am also deeply indebted to the institute and center directors for their stellar scientific leadership, and to my staff in the Office of the Director for their wisdom, guidance and tireless support."

A decision on who will serve as acting NIH director is expected to be made by the time Collins steps down.

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*"Millions of people will never know Dr. Collins saved their lives. Countless researchers will aspire to follow in his footsteps."*

–PRESIDENT JOE BIDEN

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### Blood Bank in Critical Need of Donors

The NIH Blood Bank is currently experiencing low blood product inventory, in the context of nationwide shortages. The ongoing Covid-19 pandemic has negatively affected blood drives and donor recruitment.

Unfortunately, the need for blood transfusion at the Clinical Center has remained constant to support patients with cancer, surgeries and emergencies. Currently there is a critical need for O-positive and O-negative blood donors.

To make an appointment, visit www.cc.nih.gov/blooddonor or call the NIH Blood Bank in Bldg. 10 at (301) 496-1048 or the Platelet Center at Fishers Lane at (301) 496-4321.

SCHEDULED NOV. 8

## 23rd Annual Salzman Symposium Set

The 23rd Annual Norman P. Salzman Memorial Symposium in Basic and Clinical Virology will be held virtually on Monday, Nov. 8 from 9 a.m. to 3 p.m. ET. The event, featuring speakers prominent in the virology field, honors the 40-year career of Dr. Norman P. Salzman in virology research. In addition, winners of the Salzman Memorial Awards in Basic and Clinical Virology for young investigators will be presented at the symposium, which is coordinated by the Salzman organizing committee, the Foundation for the National Institutes of Health and the NIH virology interest group.

Former NIAID senior investigator Dr. Kanta Subbarao will deliver the 2021 keynote.

This year's keynote will be given by former NIAID senior investigator Dr. Kanta Subbarao, director, WHO Collaborating Centre for Reference and Research on Influenza, Doherty Institute, University of Melbourne.

Other speakers include:

- Dr. Cedric Feschotte, professor of molecular biology and genetics at Cornell University
- Dr. Scott E. Hensley, professor of microbiology and director, Penn-CEIRR at University of Pennsylvania
- Dr. Suchetana (Tuli) Mukhopadhyay, professor of biology and director of graduate studies, biology, at Indiana University
- Dr. Smita Patel, professor of biochemistry and molecular biology at Rutgers University

For details, email committee chair Dr. Paolo Lusso (plusso@niaid.nih.gov) or Janelle Lewis of FNIH (jlewis@fnih.org).

Individuals with disabilities who need sign language interpreters and/or reasonable accommodation to participate in this virtual event should email jlewis@fnih.org or phone (301) 594-2919 and/or the Federal Relay (1-800-877-8339).

## Young To Give NCCIH Integrative Medicine Lecture, Nov. 2

"Reading Between the Tweets: Social Technologies for Predicting and Changing Health Behavior" is the topic of an upcoming virtual lecture by Dr. Sean Young, executive director of the University of California Institute for Prediction Technology and associate professor of medicine and informatics, University of California, Irvine. He will lecture on Tuesday, Nov. 2 from 1 to 2 p.m. ET. Registration is not required.

Social technologies and their associated data—e.g., from social media, mobile apps, internet searches, and wearable sensors—are increasingly being used as tools in public health research and practice. More than half the world uses social media sites to create, share and discuss content, often personal and/or medical in nature.

Dr. Sean Young

Young will discuss how these technologies and data are being used to impact public health (e.g., with artificial intelligence and data science modeling) and their potential wider application in public health surveillance/intervention efforts. He will present his research on how these tools can be employed to predict and change health behaviors, and on implementation. Populations studied include people affected by HIV, mental health and substance use disorders, car crashes or Covid-19.

Young holds a doctorate in psychology and master's degrees in psychology and health services research from Stanford University. He is also author of a bestselling book, *Stick With It: A Scientifically Proven Process for Changing Your Life—for Good.*

The virtual lecture will be streamed live and archived on NIH VideoCast and Facebook and is part of NCCIH's Integrative Medicine Research Lecture Series. More information is at https://bit.ly/IMLSDrYoung.

### The Art of Coping?

Readers, tell us how you're coping, and give it some flair. The *NIH Record* wants your best poetry or haiku about how you're handling life at the moment. Send us a haiku (Haiku is composed of only 3 lines. Every first line has 5 syllables, the second line has 7 syllables and the third has 5 syllables) or short verse (25 words or fewer). If you prefer to show us how you're coping, submit your original drawing, painting, photo or graphic. Send us a selfie to go with, too. We'll publish the best we get over the next few issues. Send email to nihrecord@nih.gov.

EVOLUTIONARY DYNAMICS

## Bedford To Deliver 2021 Stetten Lecture, Oct. 20

SARS-CoV-2, the virus that causes Covid-19, has remarkable potential for adaptive evolution. The virus's evolutionary dynamics will be the focus of the 2021 DeWitt Stetten Jr. Lecture on Oct. 20 at 3 p.m. ET. Dr. Trevor Bedford will share his research on the topic via NIH VideoCast. The talk is an NIH Director's Wednesday Afternoon Lecture Series event sponsored by NIGMS.

Bedford's lecture will focus on the emergence of virus variants of interest and concern, which may spread more easily, cause more severe disease or have other negative impacts. He will characterize patterns of mutations in these variants and chart their spread. He also will provide a larger perspective on genomic surveillance, projected virus circulation patterns and strategies for ongoing pandemic management.

Dr. Trevor Bedford will give the 2021 Stetten Lecture.

Bedford is an associate professor at Fred Hutchinson Cancer Research Center in its vaccine and infectious disease, public health sciences and human biology divisions. He is also an affiliate associate professor of epidemiology and genomic sciences at the University of Washington. He specializes in tracking the evolutionary changes of RNA viruses using computational methods. His work helps researchers develop successful strategies for monitoring and controlling infectious diseases.

Bedford codeveloped an open-source platform called Nextstrain that provides continually updated virus genomic data alongside powerful analytic and visualization tools.

The annual Stetten lecture series was established in 1982 in honor of NIGMS's third director. The event is open to all. People who require sign language interpretation or other reasonable accommodation to participate should email WALSoffice@od.nih.gov 5 days before the lecture.

VOLUNTEERS

### Dengue Virus Study Recruits NIH'ers

NIAID researchers are conducting a study to better understand long-lived protection against the dengue virus. The study is enrolling NIH employees who have lived in Latin America, the Caribbean, Africa, the Middle East, South Asia, Southeast Asia or Oceania. Compensation is provided. Join by contacting the Clinical Center Office of Patient Recruitment (866) 444-2214 or PRPL@cc.nih.gov and ask for study #11-I-0109. Online: https://go.usa.gov/xHQyg.

### Environmental Stress Study Seeks Women

NHLBI researchers are conducting a study of Wards 3 and 5 in Washington, D.C., in relation to the environmental stress and the health behaviors of White and African-American women. The research will work to determine if there is a significant connection between neighborhood environment and the impact on women's health. For more information, contact the Clinical Center Office of Patient Recruitment (800) 411-1222, https://go.usa.gov/xMBBJ. Refer to study 19-H-0120.

## Police

CONTINUED FROM PAGE 1

responded, something good happened.

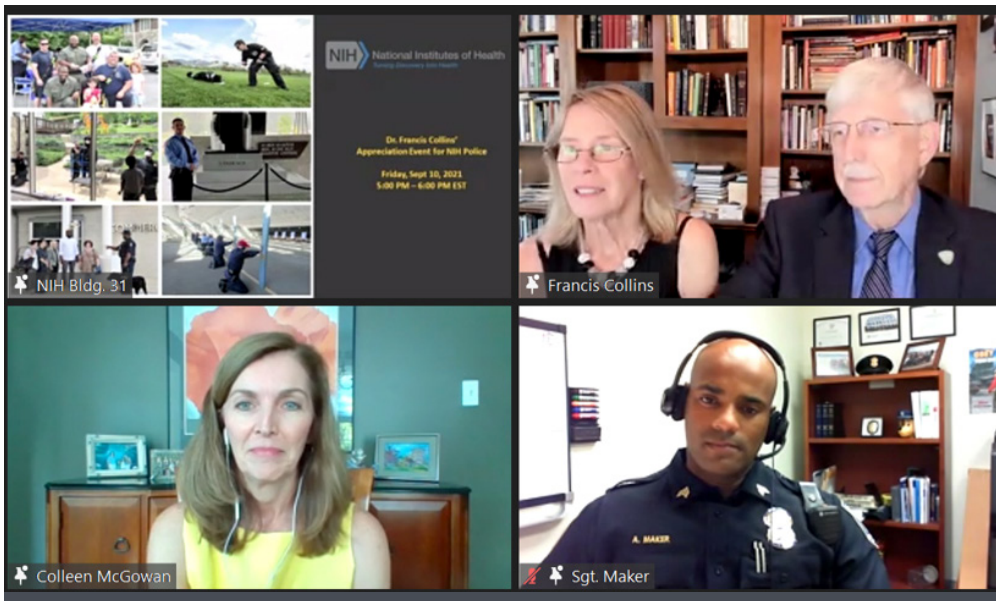
"That story ends with a fist bump," recalled Sgt. Alvin Maker. "We started with 'irate person' and ended with 'happy patient.'"

Turns out, the visitor, newly diagnosed with cancer and looking for the Clinical Center, was lost. Growing increasingly more frustrated, he'd gone from entrance to entrance, only to find that—due to the pandemic—he could not enter campus and get to the hospital via Gateway. In short order, Maker calmed the man down, confirmed that he was an NIH study participant, led him to the correct screening point for patients and escorted him to the CC.

"We definitely embrace the community policing mindset," explained Maker. "I feel like NIH will be that beacon of light for the future...Other police agencies can use our example for how we're supposed to police...I feel like [NIH] is going to be my forever home in my career."

Maker was speaking via conference call to NIH director Dr. Francis Collins and a group of NIH Police gathered virtually from various locations—Bldg. 31's renovated conference rooms and NIH facilities in Frederick, Md., and Rocky Mountain Labs, Mont.

The Sept. 10 Zoom call was the latest stop on Collins's "Gratitude Tour" in which the director pays tribute to groups and individuals who have provided outstanding service, particularly during recent fraught conditions.




On a video call to thank NIH police for their outstanding service are NIH director Dr. Francis Collins and wife Diane Baker (top, r). Sgt. Alvin Maker (bottom, r) talked about working at NIH. ORS Director Colleen McGowan (bottom, l) moderated the call.

"I'm especially honored to have this opportunity to express my deep appreciation for all that you do every day to protect NIH," Collins said.

With Office of Research Services Director Colleen McGowan as moderator, Bill Cullen, associate director for security and emergency response, opened the call with an overview.

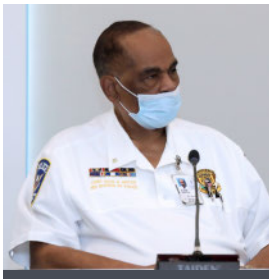
"NIH police officers safeguard our research community 24-7, 365 days—in spite of the weather, government shutdowns or the unfortunate realities brought about by the current pandemic," he said. "Their commitment and professionalism in conducting their duties is truly an asset to our agency."

About 58 percent of NIH officers represent ethnic minorities, Cullen said. The force is a blend of second-career officers "who bring a wealth of experience, street smarts and maturity" from their previous service to local jurisdictions and first termers who bring an abundance of enthusiasm and desire to succeed.

"They challenge us to think differently, advocate for the most up-to-date equipment and generate innovative ways to solve problems," he said. "We charge each of our officers with safeguarding and protecting our valuable resource—our people. Each interaction an NIH police officer has—no matter how difficult it may first appear—must be executed with courtesy and respect."

In a main campus conference room, Bill Cullen (l), NIH associate director for security and emergency response, opens the conference call with Collins.

PHOTOS: CHIA-CHI CHARLIE CHANG



Chief Alvin Hinton

Led by NIH Police Chief Alvin Hinton, several other officers such as Maker were tapped to share stories about working at NIH.

"I knew all the researchers and doctors had great technical knowledge and experience but the thing I most admired about them was the sense of humanity and compassion they always display to everyone no matter what their circumstances," said Hinton, describing what he observed both as a family member of a CC patient and as someone treated there himself. "This behavior has now been embraced by the Division of Police personnel who I also admire and greatly respect."

Hinton also noted the "exhilaration our officers displayed about Dr. Collins taking the time to meet with them."

Before Covid-19, NIH security processed roughly 625,000 visitors per year

At left, a number of uniformed officers were able to join the call in person. Above, CVIF commander Lt. Brian Simms talks about beginning his NIH career as a security guard.

PHOTOS: CHIA-CHI CHARLIE CHANG

(about 52,500/month) at Gateway and the Commercial Vehicle Inspection Facility (CVIF), and 66,000 per year (approximately 5,500/month) at the patient entrance.

Dispatchers at NIH's Emergency Communications Center handle about 12,000 9-1-1 calls and 221,000 non-emergency calls every year, before everything changed March 2020 with the need for different safety approaches amid Covid-19.

During the pandemic—though routine main campus occupancy decreased sharply due to maximum telework and quarantining—an average 6,550 visitors and 3,524 patients per month still were processed by NIH security whose own workforce was also affected by the unprecedented worldwide crisis. They went from three 8-hour shifts to two 12-hour shifts on March 10, 2020, to account for personnel shortages.

Also, the K9 unit increased operations, as many buildings are sparsely populated or entirely vacant. During the pandemic, K9 teams have conducted 1,481 building patrols, 259 vehicle inspections and 12 suspicious package scans.

In the first 18 months of the pandemic, there have been 15 demonstrations on or near NIH property; the annual average over the past 10 years was 2 events a year.

NIH detectives investigated more than 36 security concerns or threats made against NIH scientists. Also, NIH Police coordinated a protective detail with HHS's Office of Inspector General for NIAID director Dr. Anthony Fauci, due to the frequency and virulent nature of threats made against him.

Sgt. David Warren

"Your hard work doesn't go unnoticed," said Collins, who also recognized above-and-beyond service by several individuals:

Maj. Patricia Haynes established entry control procedures for the main campus as well as several other NIH facilities; Master Patrol Ofcr. (MPO) Brad Rupert (affectionally known as the mayor of the Clinical Center) became nearly a permanent fixture at the hospital, offering suggestions to improve security especially when Covid came and the need to secure entrances increased; and Maj. Josh Minix, Haynes and Lt. Lawrence Brown all helped coordinate with the Secret Service on several extremely high-profile visits that included two U.S. presidents, a vice president, a First Lady and the HHS secretary.

Other officers who spoke on the call were 21-year NIH veteran Lt. Craig Rowland, commander of the criminal investigations unit (CIU); 16-year NIH'er Sgt. David Warren, also of the CIU; and Lt. Brian Simms, who began as a security guard and now commands the CVIF. MPO Derek Jeter had also been set to speak, but was called into duty at the CC.

Collins, joined on screen by wife Diane Baker, said every time he visits with a group that makes NIH the amazing place it is, he comes away feeling more grateful and "blessed to be part of this family."

"Please know how much we appreciate your dedication to keep the NIH family safe," he concluded. "You inspired us today."

Taking in the call are (from l) Maj. Josh Minix, Maj. Pamela Datcher, Lt. Craig Rowland, staff assistant Lisa Wooten, Cpl. Joan Luis De La Paz and Cpl. Ramon Davis.

## Stovall

CONTINUED FROM PAGE 1

"Difference dialogue is difficult because it's disruptive," said Stovall, senior client strategist at the NeuroLeadership Institute. "But it's absolutely doable and now, more than ever, it's desperately needed."

A major hurdle though is finding a way to talk about difference despite difference, she said, because people are coming to the table from different directions and perspectives. Stovall used the opportunity of talking with an NIH audience to highlight how these disparities permeate health care.

"Color is a huge problem in medical research," she said. Clinical trials still lack diversity, which is partly due to limited access, low awareness or distrust based on past injustices. But candid conversation, she said, might expose truths about the alleged hesitancy of underrepresented groups to participate.

People of color, in fact, want to participate in studies, said Stovall, and research shows no real difference across races in their willingness to participate.

"Because we aren't having honest difference dialogue," she said, "we're making incorrect assumptions."

Meanwhile, caring for an increasingly diverse patient population requires meaningful dialogue about the lack of diversity in the medical field, a conversation that should start, she said, with the disproportionately low number of people of color entering medical school.

"Without difference in the profession," asks Stovall, "can the profession best deliver differentiated care and best engage with increasingly different populations?"

Despite good intentions, perceptions and decisions sometimes are propelled by unconscious bias formed over a lifetime of many different exposures from upbringing, experience, education and geography to politics, religion and the media.

"We operate on a continuum between brain-based biological bias and social-taught bigotry," said Stovall. "The bridge between is paved with truth-twisted traditions."

Difference dialogue can help mitigate what can't be eradicated, by starting with a common language, she said. But too often, common terms about race are misconstrued.

Diversity and inclusion, for example, are not interchangeable. Diversity is something you have, while inclusion is something you do, explained Stovall. Inclusive organizations leverage diversity to address real issues, she said. "Diversity requires intention to stop; inclusion demands intention to start."

Another confused pair is equality and equity, both of which state the right to the same opportunities. Equality assumes proportionality. Equity, however, assumes disproportionality—not everyone starts from the same place and some people need additional support.

Inequity can be systemic or systematic. Much of systematic inequity has been eradicated over time by changing laws and policies. But systemic inequity is implicit and embedded in institutions, said Stovall.

"Systemic describes something like an illness or social problem that affects every part of an entire system," she said. "And systemic inequity is very much present today."

Systemic inequity is reflected in gaps in pay and promotion and in patient care, said Stovall, and in people of color losing jobs and dying disproportionately because of Covid-19.

When asked how she approaches skeptics of systemic racism, Stovall said she tells them to take a 'journey of why' and dig deeper into reasons for disparities in health care, economics, education, housing and the legal system, to name a few.

And that discussion hearkens back to rights and wrongs and acknowledging past injustices. Rather than pretending everyone is the same, Stovall said, acknowledge the need for different inputs to change.

"Equality is aspirational; equity is actionable," she said, "but we have to act on it, and we can't do that if we don't talk about difference."

People engaging in meaningful difference dialogue cannot ignore history and need to, in fact, see color, said Stovall. "At worst you can be color-biased; at best, you can be color-brave," she said. "You can embrace the differences that have developed as a result of all the things that come with color."

Difference dialogue requires what Stovall calls the "5 As": Asking about lived experience; Absorbing the message and really listening; Accepting the message; Adjusting one's perspectives; Articulating by taking a stand and being an ally.

"Talking about difference is doable," said Stovall, "if we collaborate realistically, engage authentically and support intentionally."

Stovall commended NIH's UNITE initiative, which aims to take steps concretely to address systemic racism in research.

"NIH is doing better than the profession as a whole," she said. "Difference dialogue can ensure that you can continue in that direction."


Clockwise: Stovall engages in a lively Q&A with Kim Allen, executive officer, NIMHD; Brian Trent, NEI associate director for management and Dr. Alfred Johnson, NIH deputy director for management.

HISTORY ON FILM

# Scholars Study History of Pollution Activism

BY AMBER SNYDER

Donora, Penn., 1948. London, England 1952. Mist mingled with pollutants in the air, settling over the streets, so dense that visibility was severely limited and driving was unsafe. At first, people attempted to continue their everyday lives. Then, the health complications started.

NLM archivist Sarah Eilers

Twenty people died during the Donora Smog, with more deaths in the years following that were associated with complications from the event. London's Great Smog is currently associated with 12,000 deaths. These events were catalysts for new pollution-regulating legislation—the U.K.'s Clean Air Act of 1956 and the U.S.'s Clean Air Act of 1963. These governments also went beyond passing legislation and produced film and other messages to inform the public about the dangers of pollution.

★ ★ ★

*Air pollution "is still seen as a very serious threat to world health."*

-SARAH EILERS

★ ★ ★

"Peril in the Air: Pollution Activism on Film" is a recent NIH lecture hosted by NLM that "explores the intersection of filmmaking, government and medicine working together to drive environmental awareness and policy." The event featured Sarah Eilers, an archivist and manager of the Historical Audiovisuals Program at NLM, and Angela Saward, research development specialist at the Wellcome Collection in London.

Eilers was inspired to delve into the history of pollution activism in audiovisual collections last year, on the 50th anniversary of NLM's 1970 exhibition, *Fifty Years Ago: The Darkening Day.* The original exhibit "examined all manner of environmental threats, from fossil fuels, open burning of trash, to filthy rivers, fish kills and the perils of nuclear energy," Eilers explained. The new exhibit looks back on the old and also explores the influence of Rachel Carson on the modern environmental movement. Eilers also added film, media that had not been used in the original exhibit.


Images from *It Takes Your Breath Away*, a 1964 film produced in the U.K.

She cited "the leadership and role of the federal government in working to combat pollution...[and] its aspirational use of film in achieving that" as her inspiration to delve deeper into movies. Eilers and Saward observed that filmmaking began to rise in popularity following WWII in both the U.S. and the U.K., and quickly became the most popular medium for government political and health-related propaganda.

Angela Saward of the Wellcome Trust discussed her research.

Anti-pollution activism and awareness had existed in the U.K. in various degrees for many years preceding London's Great Smog, Saward's research revealed. *Fumifugium*, a pamphlet released in 1661 by John Evelyn, "was aimed at moving noxious trades to the outskirts of [London], so that the center was a more pleasant place to be—what we now understand to be zoning," Saward explained. "Evelyn is now considered to be the grandfather of pollution activism in the U.K.

Britain industrialized far earlier than the U.S, and thus people understood much sooner that there was a relationship between pollution and poor health.

In 1913, a promotional pamphlet for Peps tablets warned consumers that "a bad, smoky fog causes more deaths than a modern battle." Booklets, pamphlets, exhibits and other media were still used more often than movies after it became available because film was expensive and required sponsorship from interested parties (such as the government, pharmaceutical companies, religious organizations, etc.).

The anti-pollution movement began later in the U.S. "The 1960s had more of a 'presenting the problem and figuring out how to respond' feel, especially if the film was made by the government," Eilers said. "By the 1970s, it start[ed] to change to apocalyptic critiques of consumerism and waste." Some of these films even won awards, such as the 1972 privately produced film *Countdown to Collision*, which won an Emmy award. Films were played on television, at community centers and even at NIH.

The discourse around air pollution still continues today, Eilers concluded, pointing to recent examples in film and print. Air pollution—and with that risk now compounded by Covid—"is still seen as a very serious threat to world health."

The lecture can be viewed at https://videocast.nih.gov/watch=41224.

## Screening Device Accurately Detects Lazy Eye

A handheld screening device that detects subtle misalignment of the eyes accurately identifies children with amblyopia (lazy eye), according to a study published in the *Journal of the American Association for Pediatric Ophthalmology and Strabismus.*

Amblyopia, impaired vision in one eye, is the leading cause of preventable monocular (single eye) vision loss, affecting 3 of every 100 children in the U.S. Children with amblyopia can suffer from poor school performance and impaired depth perception and fine motor skills.

Within seconds, the device calculates a binocularity score and provides a pass or refer result to the clinician.

PHOTO: ANDREW SCHUMAN

Amblyopia develops when misalignment of the eyes (strabismus) or decreased acuity in one eye interferes with the brain's ability to process visual information from both eyes, causing it to favor one eye. Early detection is crucial. Once a child is visually mature, vision lost in the weaker eye cannot be corrected with glasses or contact lenses.

The screening device works by assessing the eyes' ability to focus together. Held 14 inches from the eyes, the child fixates on a smiley face while the device simultaneously scans both retinas.

The scan involves a polarized laser that probes nerve fibers in an area of the light-sensing retina called the fovea, an area important for central vision. Even a subtle misalignment of the foveas—called small-angle strabismus—can interfere with the brain's ability to integrate images from both eyes. The device calculates a binocularity score that indicates whether the child requires further testing.

The study recruited 300 children, ages 2 to 6, with no known eye disorders. Two non-ophthalmic research associates trained to use the device screened each child. A pediatric ophthalmologist who was unaware of the device's results then examined each child.

The device detected all 6 cases (100 percent sensitivity) of amblyopia and/or strabismus that had been confirmed by the professional eye exam. The device also flagged an additional 45 children as possibly having amblyopia and/or strabismus (85 percent specificity).

Dr. Michael Chiang, director of NEI, which supported research and development of the scanner, said, "The findings suggest that pediatricians and other primary care providers could use the device to catch amblyopia at an early age when it's easier to treat."

## Origins of Lung Cancer in Never Smokers

Researchers from NCI identified three subtypes of lung cancers in people who never smoked. The results, which appeared in *Nature Genetics*, could help guide more precise lung cancer treatments.

About 10-25 percent of all lung cancers occur in people who have never smoked; yet most genomic studies of lung cancer have been done in people who smoked at some point in their lives. Thus, a dearth of information exists about lung cancer in never smokers.

With support from NHLBI and NIEHS, the research team sequenced the genomes of tumors from 232 lung cancer patients who never smoked. The researchers did not find patterns of mutations associated with smoking. This suggests that lung cancer in never smokers results from mechanisms distinct from that caused by smoking.

The team identified three subtypes of tumors based on a type of mutation called copy number alterations. They named these subtypes after musical terms for relative "loudness."

The "piano" (quiet) subtype was most common, accounting for almost half of the never smokers' tumors. It featured fewer mutations than the other two subtypes and greater variation among cells within the same tumor. Piano tumors also had the longest telomeres, which suggests the tumor cells had divided fewer times than the other subtypes.

IMAGE: NCI

The researchers estimated that in piano tumors, the mutations allowing tumor cells to grow and spread first occurred, on average, about a decade before diagnosis. These tumors thus grew very slowly. The unique features of the piano subtype suggest that at least some of them were derived from reactivated stem cells.

By contrast, the "mezzo-forte" (moderately loud) and "forte" (loud) tumors appeared to grow much faster than the piano tumors. They also often had mutations in a gene, *EGFR*, that is often altered in lung cancer. In forte tumors, the entire genome was often duplicated, which is often seen in lung cancers among people who smoke. Five mutations often found in forte and mezzo-forte tumors were each estimated to double the risk of death.—**adapted from *NIH Research Matters***

## Infection Hinders Blood Vessel Repair after TBI

Traumatic brain injury (TBI) and other injuries to blood vessels in the brain, like stroke, are a leading cause of long-term disability or death. NINDS researchers have found a possible explanation for why some patients recover much more poorly from brain injury if they later become infected. The findings were published in *Nature Immunology.*

Using a previously developed mouse model for mild TBI (mTBI), the research team discovered that viral, fungal or a mimic for bacterial infections all affected blood vessel repair within the meninges, the protective covering of the brain. Looking closer, they observed that some cells of the immune system no longer moved into the site of the injury, which occurred in the uninfected animals, suggesting they were responding to systemic infection. The study also looked in a second injury model called a cerebrovascular injury (CVI) and saw a similar effect on repair.

Normally, the immune system would fight off infection over repair, said NINDS scientist Dr. Dorian McGavern. "Because the body is dealing with a greater threat, cells that would normally repair the damaged blood vessels in or around the brain are needed elsewhere."

This change in priority for the immune system is not permanent, as infected mice were able to eventually repair the blood vessel damage later compared to uninfected mice, unless a second infection was encountered. This timing is especially critical in the case of CVI mice, because the delay in response produced by infection led to permanent cognitive dysfunction and damage to the brain tissue. The repaired brain blood vessels, which are normally very well sealed, remained permanently leaky.

Systemic infections are common among patients hospitalized for TBI and CVI, and they have been linked to poorer outcomes.

"The presence of infection causes the immune system to take a break from repair while it fights off the virus," said McGavern. "In the case of mild TBI, this seems to be ok, but when you have a large vascular injury in the brain itself, like a stroke, every minute counts."

## Free Flu Shots Available to Staff

The Office of Research Services and the Clinical Center will provide free flu shots through Nov. 5 to staff with a valid NIH identification badge. This year's immunization clinic has additional changes. Walk-in immunization will not be available.

Similar to last year, the vaccine will be given by appointment only for all sites (including clinics in Montana, North Carolina and Baltimore and Frederick, Md.) through an online registration system (https://www.foiltheflu.nih.gov) to help keep people safe.

The location on the Bethesda main campus has changed to Bldg. 10, FAES Terrace; access to the building is controlled and individuals must enter through the north, south and P1 parking entrances.

ORS is planning to set up a Covid-19 booster clinic once more guidance on approvals comes from FDA and CDC. Stay tuned for more information in future emails.

Additional Covid-19 safety measures will be in place at all clinics. Individuals must wear a mask and follow all physical-distancing requirements while in the building. Do not arrive more than 10 minutes before your scheduled appointment time to avoid creating lines at the check-in area. Staff providing vaccines will carefully follow infection control procedures including mask wearing and hand hygiene.

All teleworking employees in the Washington, D.C., area are encouraged to schedule an appointment at Shady Grove, 5601 Fishers Lane or the 6700B Rockledge locations and avoid the main campus. Extra dates and appointments have been added to those sites to accommodate additional staff.

Do not schedule an appointment at Baltimore/Harbor Hospital or Poolesville unless you work onsite at those locations.

NIH ordered both high-dose and the regular quadrivalent vaccines for all flu shot sites. Staff ages 65 and older can receive the high-dose vaccine. A limited number of egg-free doses have been ordered and will be administered only to health care personnel with a documented egg allergy.

To learn more about the high-dose flu shot, visit https://www.cdc.gov/flu/prevent/qa_fluzone.htm.

### 2021 Immunization Schedule and Registration

**[1] BUILDING 10 - FAES TERRACE**

GET IN LINE NO MORE THAN 10 MINUTES AHEAD OF YOUR SCHEDULED APPOINTMENT

September 27 - October 1
October 4 - October 8
October 19
October 20
October 25-26
November 3-5

**WEEKEND HOURS**

October 23

**OFF CAMPUS SITES**

| | |
|---|---|
| October 12-13 | [2] Shady Grove |
| October 14-15 | [3] Rockledge |
| October 18 | Rockledge |
| October 29 | Rockledge |
| November 1-2 | Rockledge |
| October 19 | [4] Poolesville |
| October 21-22 | [5] BRC |
| October 22 | [6] Harbor Hospital |
| October 27-28 | [7] Fishers Lane |

**For questions, please contact OMS at 301-496-4411.**

[1] Main Campus: 10 Center Drive, Bethesda, MD 20894, FAES Terrace

[2] Shady Grove: 9609 Medical Center Drive, Rockville, MD, 2W 910/912

[3] Rockledge: 6700B Rockledge Drive, Bethesda, MD 20817, Suite 1100

[4] Poolesville: 16701 Elmer School Rd, Dickerson, MD 20842, Building 103 (room will be announced on the clinic day)

[5] Biomedical Research Center: 251 Bayview Boulevard, Baltimore, MD, 3rd Floor Atrium Lobby

[6] Harbor Hospital: 3001 S. Hanover Street, Baltimore, MD, 5th Floor

[7] Fishers Lane: 5601 Fishers Lane Rockville, MD 20852, Conference room TBD

## NIA Remembers Former Associate Director Kelty

Dr. Miriam Kelty

Dr. Miriam Kelty, former associate director at the National Institute on Aging and founder of the NIH Bioethics Interest Group, died June 6.

A trained psychologist, she held many leadership positions in her nearly 40 years at NIH. Her areas of interest included bioethics, clinical research policy, mentorship and behavioral research.

In addition to serving as associate director at NIA (a role now called Division of Extramural Activities director), Kelty was executive secretary of the institute's behavioral and neuroscience review.

A leader in her field, she was active in the American Psychological Association and was once chief of its science directorate.

After she left federal service, Kelty continued to lead the NIH Bioethics Interest Group and work as a consultant. She was also an active volunteer in her community, participating on many boards and committees and helping to establish the Washington Area Villages Exchange, which connects senior "villages" in the D.C. area.

In 2017, Kelty was awarded the Neil Potter Path of Achievement Award for lifelong commitment to volunteer service by the Montgomery County Volunteer Center.

Many at NIH remember her fondly. "Miriam will long be remembered for her warmth, collegiality and unyielding dedication and commitment to advancing aging research," said NIA director Dr. Richard Hodes. "Her leadership at NIA and the broader NIH have had a lasting and meaningful impact on our agency."

MUSIC AND FELLOWSHIP

## Post-Bachs Strike a Chord Online

**BY DANA TALESNIK**

The newest ensemble to form at NIH began, and continues, as a virtual collaboration, and it's music to our ears. Multiple performances are up on the group's YouTube channel and more are on the way.

Barbara Benowitz

Meet the Post-Bachs, a group of NIH post-baccalaureate fellows who arrange, perform and produce cover songs and post them online. While their name evokes classical music, the rotating cast of musicians covers songs in various genres, from classical to jazz, Disney tunes to folk rock.

The group formed in August 2020 during the height of the pandemic, when incoming NCCIH postbac Barbara Benowitz arrived at NIH looking to meet people and share her love of music.

Benowitz, who plays flute, had entered college as a music major, then tacked on psychology, biology and neuroscience. "So, I really appreciate and understand the connection between music and science" and the potential of music therapy to help patients, she said.

Arriving at NIH, "I didn't know anyone yet and I really wanted to see if there was a way that I could continue performing music alongside doing my science," the flutist recalled.

A year ago, Benowitz sent out a message on Club-PCR, an external Google group for local young scientists. The next day, messages from interested musician-scientists started rolling in.

One of the first NIH'ers to join was Faysal Shaikh, who is now a Post-Bach alum, starting graduate school in computational sciences at George Mason University. When Shaikh reached out to Benowitz, he was a postbac in an NIA neuroscience lab in Baltimore. He was grateful for the group's virtual format, which helped him connect and perform with other postbacs he otherwise might not have met.

Faysal Shaikh plays guitar and contributes his velvety vocals on the Post-Bachs cover of *Fly Me to the Moon.*

"The club became a really important thing for all of us, because it was a nice social hub," said Shaikh, who played guitar and sang on several post-Bach videos. "We were able to meet new people by this virtual collaboration on music."

Benowitz agreed, noting the group's role as a social outlet exceeded her expectations. "I would honestly say that my best friends here are the people I've met from this music group," she said.

As friendships bloom, the Post-Bachs keep expanding their musical networks across NIH. They've jammed virtually with NIH's Affordable Rock 'n' Roll Act and are about to release their newest video, *Wellerman (sea shanty),* with vocals by NIH's a cappella group, Nerds in Harmony.

The full Post-Bachs ensemble has 49 active members plus alumni, such as Shaikh, who return to jam when schedules allow. Making their melodies involves a talented in-house crew of instrumental and vocal leaders, music arranger, sound engineers and a video editor. They also have branched out into smaller chamber ensembles, a music therapy group and other subgroups.

"It's amazing to be able to watch the group grow from its original small seedling to blossom into this huge, incredible ensemble and group of amazing friends," said Benowitz. "I think that's the best part about it: besides the fact that we're all scientists, we're all doing music, something [else] that we love."

Check out the Post-Bachs' videos at https://www.youtube.com/channel/UCfosbSU_FKAolu_rRhIbReA/videos.

The Post-Bachs recently jammed with NIH's Affordable Rock 'n' Roll Act on Leonard Cohen's *Hallelujah.* Clockwise (from upper l) are Laura Chopp; Benowitz; Dr. Mike Pazin and Dr. Francis Collins from ARRA; Iris Feng, Shridhar Singh.