



National Institutes of Health

HOME RUN BY THE HOME TEAM Covid-19 Vaccine Debuts at Clinical Center

BY RICH MCMANUS

Three days before Christmas, 6 Clinical Center health care workers became the first recipients of the Moderna Covid-19 vaccine that was pioneered by NIAID scientists and industry partners in the precedent-shattering speed of only 11 months.

They were followed onstage at the historic vaccination event in Masur Auditorium by HHS Secretary Alex Azar II, NIAID director Dr. Anthony Fauci, NIH director Dr. Francis Collins and Colleen McGowan, director of the Office of Research Services, who emceed the 40-minute ceremony that was broadcast virtually.



Ebenezer Mienza, a respiratory therapist, is the first person at NIH to get Covid-19 vaccine.

The vaccine produced an immediate reaction in nearly all of the 10 recipients—broad smiles and the thumbs-up gesture.

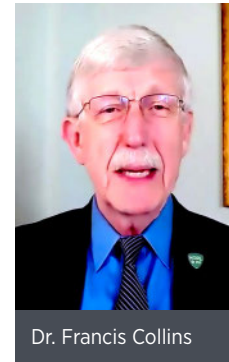
“Good morning to all of you on this historic day,” said Collins at the beginning of the event, noting the velocity with which the vaccine was produced—the Covid-19 pandemic didn’t arrive on most scientists’

SEE **VACCINE**, PAGE 4

‘CERTAIN MOTIVATOR’ ACD Focuses on COVID, Research Response

BY CARLA GARNETT

For the first day of the December meeting of the advisory committee to the NIH



Dr. Francis Collins

director (ACD), the ACD might well have stood for All-Covid Deliberations. The majority of the agenda was devoted to the novel coronavirus that has wreaked havoc worldwide, isolating people physically if not emotionally from family and friends, and forcing most industries and institutions to operate remotely as much as possible.

SEE **ACD MEETING**, PAGE 6



Dr. Michele K. Evans speaks at Grand Rounds.

GETTING ‘HANDLS’ ON IT Study Aims to Tackle Health Disparities Gap

BY DANA TALESNIK

It started with a hypothesis: There are biological components underlying the persistent health disparities in U.S. cities. To uncover the interconnected factors causing these disproportionate rates of disease and disability, NIH senior investigator Dr.

SEE **EVANS**, PAGE 8

‘WORDS ARE RUDDERS’ Avoid Enemies of Energy in Workplace, Advises Rockwell

BY ERIC BOCK



Author Dan Rockwell

An energized workplace where employees love to come in—even if only virtually—every day is no accident and takes work to maintain, says Dan Rockwell, author of the *Leadership Freak* blog and co-author of *The Character-Based Leader*.

“There may be a few people who are just so naturally bubbly and excited that they can’t wait to come in, but it’s normal for us

SEE **ROCKWELL**, PAGE 10



Images from nature sustain NIH’ers; see p. 12.

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Jan. 13

Special WALS Event Looks at the Future of the Genomics Revolution

The NIH Director's Wednesday Afternoon Lecture Series (WALS) will host a lecture and panel discussion on Jan. 13, in commemoration of the 25th anniversary of the first complete bacterial genome, the 20th anniversary of the publication of the human genome and the 15th anniversary of the first human metagenome.

This lecture and panel discussion will be led by NIH director Dr. Francis Collins and will feature Dr. Eric Lander, president and founding director of the Broad Institute of MIT and Harvard, Dr. Claire Fraser, director of the Institute for Genome Sciences at the University of Maryland, and Dr. Charles Rotimi, chief of the Metabolic, Cardiovascular and Inflammatory Disease Genomics Branch at NHGRI. The panel is titled "Fueling the next genomic revolution: Maximizing the impact of bacterial, human and human metagenome genomic knowledge and technology."

The event is from 3 to 4:30 p.m. and will be held via videocast at <https://videocast.nih.gov/watch=40165>.

Collins and invited speakers will discuss highlights of the last quarter century of achievements in pathogen, commensal and human genomics; current promises and challenges in genomics; and views on what is next in genomics, including future opportunities in integrative omics, functional genomics and genomic engineering.

For more information and reasonable accommodation, contact the WALS office at (301) 594-6747 or WALSoffice@od.nih.gov at least 5 days before the lecture. The WALS 2020-2021 season will continue with all lectures held remotely. Refer to <https://oir.nih.gov/wals> for more information.

CFC Underway Through Jan. 15

The Combined Federal Campaign (CFC) 2020, "Show Some Love and Be the Face of Change," is still underway and continues through Friday, Jan. 15. Consider making a donation toward the goal during this season of giving. Search the list of more than 6,000 charities participating at <https://cfc.nih.gov>. Contribute online by clicking on the "Donate" button. Or, you may prefer to download a paper pledge form from the CFC website. Ask your keyworker for a form or request one from NIHCFC2020@mail.nih.gov. If you have any questions about this year's campaign, contact Debra Gale, NIH CFC program manager, at (301) 496-2370 or NIHCFC2020@mail.nih.gov.

ORWH Launches New Lecture Series on Covid-19, Jan. 27

On Jan. 27 at 11 a.m., the Office of Research on Women's Health will launch a new virtual lecture series titled "Diverse Voices: Covid-19, Intersectionality and the Health of Women."



Stockholm Comes to Bethesda

Dr. Harvey Alter (above, l), who shared the 2020 Nobel Prize for physiology or medicine, was honored Dec. 8 in an afternoon ceremony at Natcher Bldg, attended by Karin Olofsdotter (to his left), Sweden's ambassador to the United States. Due to the Covid-19 pandemic, Nobel laureates were unable to visit Stockholm for the award ceremony traditionally held in mid-December. Joining Alter at the presentation of his medallion and diploma were his wife Dr. Diane Dowling (top right photo), members of their family as well as leadership from NIH, NIAID and the Clinical Center, including NIH director Dr. Francis Collins (below, r). Attendees were masked, except when posing for outdoor photos taken in front of a screen. The event can be viewed at <https://videocast.nih.gov/watch=41229>.

PHOTOS: CHIA-CHI CHARLIE CHANG



In the first session, Dr. Ana Langer, director of the Women and Health Initiative (W&HI) at Harvard T.H. Chan School of Public Health, and Dr. Jewel Gausman, a research associate at W&HI, will lead a plain-language discussion of topics explored in their commentary article "Sex and Gender Disparities in the Covid-19 Pandemic," recently published in the *Journal of Women's Health*. The



Dr. Ana Langer

lecture is open to the public; registration is available at <https://nih.zoomgov.com/meeting/register/vJl1tcu2vpj4rH-BiFFgqUgf-MIU24HWrN69Oo>.

Although fewer women are dying from Covid-19 than men, the speakers posit that this finding may serve to oversimplify



Dr. Jewel Gausman

the biological, behavioral, social and systemic factors that may affect differences in disease presentation, progression and outcomes between women and men. Langer and Gausman will discuss the need to study the pandemic and associated policies through a sex-and-gender

lens, particularly with considerations of disadvantaged populations and resource-poor communities, where women are especially vulnerable. The lecture will also consider how existing health and social services can support women during the pandemic as well as the need to support and protect informal caregivers.



Conceptual rendering of the 8-story surgery addition to the Clinical Center from the northwest view from Center Dr. and the Old Georgetown Rd. entrance

FOUNDATION FOR CHANGE

Construction Work Strengthens Hospital Infrastructure

BY DONOVAN KUEHN

Orange cones, new traffic patterns and heavy equipment are circling the northwest corner of the Clinical Center this winter.

The Office of Research Facilities (ORF) has started work on three new projects: installation of new electrical duct banks and relocation of critical infrastructure, addition of a new utility vault and construction of a new parking garage. The duct bank and utility vault will support equipment essential to hospital operations, while the new parking garage will relocate almost 800 spaces from the parking garage below the Bldg. 10 Ambulatory Care Research Facility (ACRF).

What's Happening Now

The walkways and pediatric play area are making way for some new developments. Adjacent to the hospital's west laboratory wing, crews are working on electrical duct banks to bring in power to the hospital. Duct banks are conduits that provide pathways and protection for electrical wiring. Usually installed underground, they protect power cables from damage and consolidate wiring, which can streamline future construction work.

Site preparation is also underway for construction of a new utility vault and patient parking garage.

The new utility vault will replace aging electrical equipment. It will be a hardened concrete structure designed for blast resistance, which will reduce the threat risk to this critical lifeline for the hospital. Once completed, the vault will host electrical capacity and emergency generators capable of powering the entire Bldg. 10 research complex. It will also be the new home of the clinical data center and ICU generators as well as carbon dioxide

storage tanks currently hosted elsewhere on campus.

The new parking garage will allow NIH to shift some parking out of the ACRF parking. The ACRF, located in the middle of the hospital, was added to the Clinical Center in 1982 and houses an underground

parking garage under the clinics and care areas. In the almost 40 years since it opened, the garage has developed serious structural deficiencies.

Restoring the garage is expensive, as work crews have to minimize the impact on hospital patients using the floors above. Vibrations from jackhammers and heavy equipment can affect surgeries and other sensitive procedures during the day and keep patients awake at night.

The new garage will be located to the west of the hospital, next to the new utility vault, and will connect to the Clinical Center by a pedestrian tunnel to keep visitors safe and avoid traffic. The walkway will provide a safe and weather-protected crossing under Convent Dr. for people walking between the hospital and the new parking garage, the historic convent (Bldg. 60) and the Edmond J. Safra Family Lodge to the west. Planners expect construction completion by spring 2022.

ORF anticipates using the new garage as a staging area during construction of an addition to the hospital. When the addition is complete, some of the parking in the ACRF garage under the Clinical Center will shift into the new garage.

And what would happen to the new space available under the hospital? ORF is studying options. The repurposed space could accommodate:

- A consolidated freezer farm for biospecimens
- A new location for high-fidelity imaging equipment that would leverage the stable, vibration-resistant, below-grade area, and/or
- Relocating scientific and administrative supplies from other parts of the Clinical Center, freeing up space in a hospital currently filled to capacity.

Future Developments

As hospital infrastructure improves, there is a more ambitious long-term effort to address the needs of the Clinical Center.

Plans are in development to add an 8-story

addition to the Clinical Center that will house the departments of perioperative medicine (surgery), interventional radiology, radiology and imaging sciences and laboratory medicine. These departments involve some of the most advanced and technology-dependent programs supporting NIH research.

The addition would be located next to the hospital's west laboratory wing between the Clinical Center, Convent Dr. and Center Dr. The new wing would include a below-grade Cardiovascular Intervention Program suite and, once construction is complete, existing NCI research labs would move to the new addition.

Design has begun for the new space, but there is a key factor still missing—construction funding. Members of Congress have been briefed on the project, but they haven't yet allocated enough money to support it. **R**



ON THE COVER: Commissioned Corps members perform temperature checks in the south entry of the Clinical Center, during a lockdown period early in the pandemic last year. To start 2021, the Clinical Center remains open and operational although NIH at large continues to telework to the fullest extent possible.

IMAGE: CHIA-CHI CHARLIE CHANG

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Vaccine

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radar until January 2020.

“Many prayers have been lifted up, over this terribly difficult year, that an answer to this global pandemic might emerge from the dedicated work of our scientists...I will admit that quite a few of those prayers were mine,” he said. “It is with great pride, joy and gratitude that I stand here today, awaiting the historic moment when the first frontline health care workers at NIH, along with a few of our nation’s public health leaders, will receive their first dose of a Covid-19 vaccine.”



NIAID director Dr. Anthony Fauci receives vaccine from Dr. Heike Bailin, OMS acting director.

He noted that the mRNA technology that forms the basis of both the Moderna vaccine and the Pfizer/BioNTech product “rests on fundamental research conducted right here at NIH, at our Vaccine Research Center.” He called Fauci “an absolutely vital leader in this effort” and assured the small crowd gathered in Masur Auditorium that, if not for the distancing required by the pandemic, “the audience would be packed with scientists rising to their feet and cheering for Tony’s leadership in science and in public communication.”

“I am very pleased and honored to be here,” said Fauci, who recalled his first meeting in Masur Auditorium in the summer of 1968, when he arrived “at this extraordinary place we’re in right now” for fellowship training.

“This is the culmination of years of research which have led to a phenomenon that has truly been unprecedented,” he noted. “And that is to go from a realization that we’re dealing with a new pathogen—a virus that was described in January of this year—to less than one year later [having]

vaccines that are going into the arms of so many people, including myself.”

“This is a proud and happy occasion,” said Azar, adding that he is a patient at the Clinical Center. “We’ve all said it is nothing short of miraculous to have a safe and effective vaccine within one year of a novel virus becoming known to the world. But when we need a medical miracle, we know where to look...[The vaccine] will save thousands and thousands of lives and help bring this dark chapter to an end. In the long and storied history of the NIH, this is one of your finest accomplishments.”

Azar said his role in Operation Warp Speed, which supported vaccines and therapies for Covid-19, will be one of his proudest memories, an example of the importance of thinking big when it comes to the mission of public health.

“This is more or less like any other vaccine we receive, like the annual flu shot,” he continued, assuring the audience that no corners were cut in its evaluation and production. “Americans can be confident in this vaccine, and in any others that are authorized by the Food and Drug Administration... On behalf of a grateful country, thank you for your work at NIH this year.”

The first person to receive the vaccine, administered by Dr. Heike Bailin, acting director of the Occupational Medical Service, assisted by nurse Julie Chan, was Ebenezer Mienza, a respiratory therapist at the CC for 23 years. Next came Carline Samedy, a nurse with 15 years at the CC; Dr. Jeffrey Strich, a PHS officer and critical care physician; Therese Kent, a nurse practitioner in critical care; Dr. Neelam Giri, a staff physician in NCI’s Clinical Genetics Branch who works



HHS Secretary Alex Azar II bumps elbows with NIH director Dr. Francis Collins as Fauci looks on at the Dec. 9 ceremony.



Dr. Neelam Giri readies for her injection.

PHOTOS: CHIA-CHI CHARLIE CHANG (EXCEPT WHERE NOTED)

at the outdoor car line station for those with symptoms of Covid-19; and finally Naomi Richardson, a CC nurse who takes care of Covid-19 patients.

When Fauci stepped up for vaccination, offering a date of birth indicating he was only 2 days shy of his 80th birthday, he said two reasons motivated him: “One, I’m an attending physician here...and so I do see patients, but as important or more important is as a symbol to the rest of the country that I feel extreme confidence in the safety and the efficacy of this vaccine, and I want to encourage everyone who has the opportunity to get vaccinated so that we can have a veil of protection over this country that would end this pandemic.”

Up next, in a black T-shirt reminiscent of his appearances as a guitarist in his multiple bands, was Collins.

“It’s an incredible privilege to serve as director of the National Institutes of Health,” he began. “I get to talk a lot about these vaccines and their promise for ending this terrible global pandemic. But it’s one thing to hear me talk about it; it’s another to have me roll up my sleeve and say I believe that this is the way we’re going to get through this. This is something that the evidence has shown, in rigorous scientific analysis, to be safe and effective, so I’m rolling up my sleeve and I’m saying, ‘Dr. Bailin, bring it on!’”

The injection done, he quipped, “Are you done yet? That was no problem, people.”

The final recipient was McGowan, a mother of two who said, “It’s important as a mom to show other mothers how safe this is. I also want to chronicle this

HOLIDAYS 2020



Shortly after receiving his injection, Collins sat down at the piano in the atrium of the Clinical Research Center and gave an impromptu concert—from memory—of nearly 20 holiday songs and carols. Selections included *Angels We Have Heard on High*, *It Came Upon a Midnight Clear*, *The Holly and the Ivy* and *Silent Night*. With special memories of the late Dr. Steve Katz, he also played the New Year's tune *Bashana Haba'ah*, and then concluded with *O Holy Night*.

PHOTO: JOHN BURKLOW

on Facebook, to show my naysayer friends that this vaccine is safe and effective.”

After a 28-day interval, all of the vaccine recipients will return for their second dose of the product known as mRNA 1273.

Wrapping up the ceremony, Collins called the day “yet another profoundly significant moment” in the 67 years that the Clinical Center has served as “the House of Hope... It is deeply gratifying to have these halls at NIH now take part in the light that is starting to appear at the end of a long, dark tunnel called Covid-19, a light made possible by NIH science and our many partners.”

Before wishing everyone a happy and healthy holiday season, he quoted a Bible verse, a poem by King David recorded as Psalm 103:

*Bless the Lord, O my soul,
And forget not all His benefits:
Who forgives all your iniquities,
Who heals all your diseases,
Who redeems your life from the pit,
Who crowns you with steadfast love
and mercy,
Who satisfies you with good,
So that your youth is renewed like the eagle's.
Bless the Lord, oh my soul.*

“And the people all said amen.”

The complete event is available at <https://videocast.nih.gov/watch=41273>. **R**



Santa Pays Call on Children's Inn

At left, Hongzhu, a young adult residing at the Children's Inn at NIH, takes a physically distanced photo with Santa (Ofcr. Robert “Bobby” Ladany) during the annual Montgomery County Police Department Santa Ride in support of the inn. The Dec. 9 event culminated with a visit by Santa and his motorcycle elves to the inn, where Santa delivered a special holiday message to children and families. Due to a broken foot, Santa arrived on the back of a pickup truck rather than his traditional Harley-Davidson motorcycle. This year's modified event took place outdoors to help keep vulnerable NIH patients staying at the inn safe during the coronavirus pandemic.



In the second photo, officers get ready for the Santa Ride, which takes the motorcycle squad on a tour through Montgomery County. The highlight of the event is the stop at the inn, followed by a drive past the Clinical Center to wave at children who are inpatients, then around the NIH campus.

PHOTOS: MEGHAN ARBEGAST



Air Force String Quartet Performs at CRC

The Air Force Strings, the official string ensemble of the U.S. Air Force, played holiday music for patients, staff and visitors in the Clinical Research Center atrium on Dec. 10. They are (from l) Mari Washington, violin; Mark Dorosheff, violin; Wayne Graham, viola; and Vivian Podgainy, cello. This was the final concert of 2020 at the CRC atrium.

PHOTO: DEBBIE ACCAME

ACD Meeting

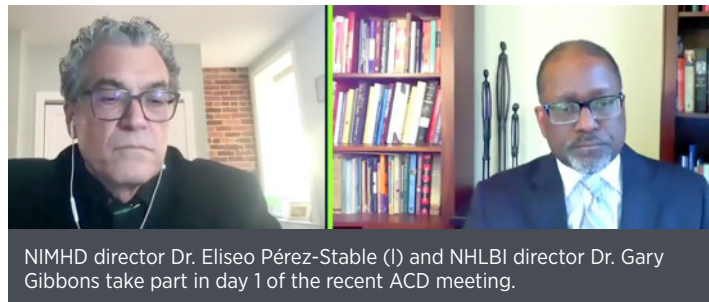
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Indeed, for the second consecutive meeting (the first was last June), the ACD was held virtually via Zoom.

Opening the 121st gathering of the group, and speaking from his dining room by way of computer, NIH director Dr. Francis Collins used a slide presentation to describe “just what a desperate situation we now find ourselves in and how much we need science to come to the rescue as quickly as possible,” he said. “[This is] visual evidence of why some of us are so deeply concerned about where we are with this, the worst pandemic in 102 years.”

The slides told a tragic story through a series of color-coded maps of the U.S.—each showing a week in time—of Covid-19 cases per 100,000 residents. Red marks indicated sites of intense infection rates. The first graphic, from March, showed red only in the area of New York City. In no time at all, though, the images started to indicate geographic areas hit hard by the virus.

By October, the Dakotas began to have



NIMHD director Dr. Eliseo Pérez-Stable (l) and NHLBI director Dr. Gary Gibbons take part in day 1 of the recent ACD meeting.

the highest case rate of any location in the world. By the first week of December “the entire country was in the red zone—unless you happened to be in northern Maine or Hawaii,” Collins said. “We have seen this virus take full advantage of the opportunity to spread, particularly with indoor gatherings in the colder weather and it is now devastating our country...Hospitalizations, which we should worry about even more than cases, are at the highest level they have ever been...Hospitals are stretched to the breaking point.”

Although presentation of the facts was frankly grim, Collins said the response by the NIH workforce and community at large continues to be determined, focused and tireless.

“This certainly is a motivator for us

to do everything we can with the best science in the world, and work with every partner that we can, to try to speed up what we can do in the areas of diagnostics, therapeutics and vaccines as well as promoting all those public health messages, which unfortunately have not always been as universally received as we wish,” he said. “We are certainly in gratitude to those who continue to spread those messages.”

Offering an example of an indefatigable public health messenger, Collins sent a shoutout to NIAID director Dr. Anthony Fauci, who briefed the ACD later that day.

“In addition to leading the vaccine research effort and much of the therapeutic effort, [Fauci] also has become the trusted voice for the public about where we are, where we’ve been and where we’re going and what we need to do about it.”

In his turn, Fauci traced vaccine development research and how quickly the world has moved from finding the microbiologic cause of an infectious disease to science delivering a vaccine to fight the disorder. For typhoid

it took 105 years, for polio 47 years and for measles, 10 years, he noted.

“The timeframe from the discovery of the new virus to the time when we have vaccine in people has completely broken any imaginable records, as we have it down now to 11 months,” Fauci said.

Collins had noted at the meeting’s start that the Food and Drug Administration



NIH deputy director Dr. Marie Bernard and NIH deputy director for management Dr. Alfred Johnson listen to remarks by ACD member David Glazer, of Verily, during the recent meeting held via Zoom.

was at the same time reviewing potential release of the first vaccine for Covid-19. NIH’s Covid-19 vaccine candidate, developed in partnership with Moderna, was being prepped to go before the FDA in just a week or so [and was authorized for emergency use in mid-December].

In addition to the vaccine update, ACD members heard more about several of NIH’s other all-hands-on-deck attacks against coronavirus. Institute directors and other top NIH leaders gave status reports on the Accelerating Covid-19 Therapeutic Interventions and Vaccines (ACTIV) public-private partnership, the Community Engagement Alliance Against Covid-19 Disparities (CEAL), the Rapid Acceleration of Diagnostics (RADx) initiative, as well as investigations into the so-called “long haulers” ailment, or post-acute Covid-19 syndrome, and other unexpected components of the virus, such as MIS-C or multisystem inflammatory syndrome in children.

ACD members also learned how NIH is employing data science against the pandemic and lessons the health crisis has taught so far.



ACD members include (from l) Dr. Kristina Johnson of SUNY, Dr. Brendan Lee of Baylor, Dr. Barbara Wold of CalTech and Dr. Jay Shendure of the University of Washington.



Adrienne Hallett (l), NIH associate director for legislative policy and analysis, and Neil Shapiro, NIH associate director for budget, listen to ACD member Dr. Judith Kimble of the University of Wisconsin.

“The science that NIH is responsible for leading,” Collins noted, “has risen to the occasion in remarkable ways, unprecedented ways, ways we should all feel good about, even as we recognize we’ve got a long way to go and the terrible toll that this pandemic is taking right now is not one that we have been able to turn around. We are determined to do so.”

Day 2’s agenda followed a more traditional ACD pattern, with members hearing about initiatives in progress from various working groups—HeLa genome data access and enhancing research rigor in animal studies, for example.

The draft NIH Strategic Plan for 2021-2025 also was outlined for ACD members, and preliminary findings from a Covid-19 survey of NIH and extramural staff were discussed.

Concluding the 2-day session, Collins acknowledged that, as is customary when a presidential election brings about an administration change, the NIH director—a political appointee—would soon submit a letter of resignation to be acted upon by the new president.

“I don’t know what my own path might be,” he said, “but I hope I will be able to continue to do what I have been doing with

• • •

“We have seen this virus take full advantage of the opportunity to spread, particularly with indoor gatherings in the colder weather and it is now devastating our country...”

-NIH DIRECTOR DR. FRANCIS COLLINS

• • •

New proposals to promote diversity, equity and inclusion in biomedical research were also described for attendees. As Covid-19 has shown, health disparities have a profound, detrimental and disproportionate effect on the well-being of a significant portion of the nation’s population. Several cross-NIH teams will tackle various aspects of what is recognized as a multifaceted issue that has gone unsolved for several decades.

In that vein, said NIA deputy director Dr. Marie Bernard, who is also acting NIH chief officer for scientific workforce diversity, the NIH Common Fund had just days earlier announced its Faculty Institutional Recruitment for Sustainable Transformation, or FIRST program, which “aims to enhance and maintain cultures of inclusive excellence in the biomedical research community.”

Covid-19, which has a lot of moving pieces to be overseen...That’s up to the incoming administration, however, and all of their hopes and dreams for how we will get through this.”

He closed by sharing video of his rendition of *Thanksgiving Eve*, a Bob Franke song that Collins adapted and performed at a recent virtual Town Hall for NIH’ers. He wrote a final verse to speak to our shared 2020 experience.

“From the spring to the fall| You’ve been heroes, one and all| You’ve answered the calls and the cries| Despite the heavy load| Your mission has been hope| You’ve done all you could to save lives.”

View the meeting archived in two parts, day 1 at <https://videocast.nih.gov/watch=40147> and day 2 at <https://videocast.nih.gov/watch=40148>. **B**

NEXT EVENT JAN. 14

NIEHS Reaches Out with Women’s Health Webinars

Every April, the NIEHS Office of Human Research Compliance, led by Dr. Joan Packenham, sponsors an event called the Women’s Wellness Conference. In 2020, as the pandemic took hold, they retooled their offering and last fall launched a series of free webinars, which have drawn hundreds of viewers.

“We turned to this virtual platform to continue our mission of informing and empowering women to take responsibility for their health by becoming their own health advocates, understanding their health options, and identifying services and resources that prevent poor health,” said Packenham.

The NIEHS Women’s Health Awareness

initiative provides evidence-based community interventions to promote wellness, environmental health literacy and environmental public health; increases community health resiliency; and advances health equity by improving health care access and quality. Housed within the Women’s Environmental Health Across the Lifespan Program, the initiative is designed to enhance research for understudied, underrepresented and underreported populations of women.

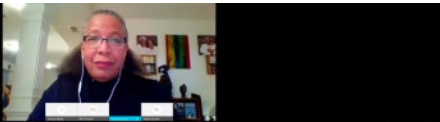
The next event in the series, scheduled for Jan. 14, will cover how to understand and reverse diabetes, heart disease and other chronic illnesses. The virtual series, planned for the second Thursday of each month, provides participants a unique opportunity to gain state-of-the-art health knowledge and ask questions of world-renowned experts.

View the webinars, learn about shared resources, check out newsletters, upcoming events and more at <https://www.niehs.nih.gov/research/programs/wha/index.cfm>.



Dr. Joan Packenham’s office ensures protection of people who volunteer to participate in clinical research.

PHOTO: STEVE MCCA



"We set out to try to understand the interaction of race and socioeconomic status on health disparities," said Evans.

Evans

CONTINUED FROM PAGE 1

Michele K. Evans and her team took to the streets of Baltimore, where they launched a long-term observational study in 2004—Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS).

Even before coming to NIH, Evans saw firsthand how racial inequality and socioeconomic status can impair health outcomes. She learned this while treating patients in a public housing development and a storefront in the New York boroughs of Brooklyn and the Bronx. Evans, an internist and oncologist, currently serves as deputy science director and training director of NIA's intramural research program. She discussed findings from HANDLS at a recent virtual Clinical Center Grand Rounds.

"We set out to try to understand the interaction of race and socioeconomic status on health disparities," she said. "Are they independent actors or do they act within a context of environmental, biological and psychosocial factors? And, how do they influence the incidence and severity of age-associated disease, rates of aging and functional decline?"

This year, one of the troubling health trends is the higher rate of Covid-19 among African Americans, a burden heavily felt across Baltimore, the nation's 30th largest city, where 63 percent of its 620,000 residents are African American. The HANDLS study is incorporating covid data on prevalence, inflammatory biomarkers and psychosocial effects of the pandemic into its ongoing epidemiologic study, said Evans, "because we feel that they're ultimately going to influence not only survival from the disease, but also perhaps survival overall, negatively impacting mortality rates overall in the [HANDLS] cohort."

HANDLS is an NIA 20-year longitudinal study that follows 3,700 Baltimore residents—African Americans and white adults, ages 30-64—living above and below the poverty line in 13 neighborhoods across the city. Investigators have retained their fixed cohort of participants by traveling to their neighborhoods in mobile medical research vehicles every 3-4 years to

conduct follow-up medical and psychological evaluations.

Now in wave 5, HANDLS continues to shed light on the unequal health burdens along racial, ethnic, gender and class lines, research that Evans hopes will lead to new diagnostics and therapeutics to help narrow the disparities gap.

One major variable of the study is the health impact of perceived discrimination, a psychological stressor commonly associated with a range of chronic diseases. Using carefully crafted surveys and medical testing, HANDLS found perceived discrimination to be a major risk factor for cardiovascular and kidney disease and cognitive decline.

Regardless of income, African Americans are four times more likely than whites to develop renal disease. HANDLS observed that perceived racial and gender discrimination was associated with a decline in renal function, particularly among black and white women.

"In this small section of our cohort," said Evans, "we found that perceived discrimination at least deserves further investigation as a psychosocial risk factor for kidney disease."

African Americans also are 40 percent more likely to have hypertension and 20 percent more likely to die from heart disease than whites. This disparity was reflected in the study; black participants often had abnormal EKG readings during routine checkups.

"In our everyday reality on the streets of Baltimore," said Evans, "we find that our HANDLS participants frequently present with the most acute manifestation of cardiovascular disease, the MI [myocardial infarction]."

Across the country, African Americans have a persistently lower life expectancy compared with other racial and ethnic groups. As they age, African

Americans—particularly those who have endured a lifetime of discrimination—also have disproportionately poor brain health.


In a sub-cohort, MRIs showed that African Americans had a greater risk of developing poor brain health and cognitive decline. Interestingly, in African Americans with higher reported discrimination, older people had increased white-matter lesion volume, a predictor of poor cognitive function and dementia risk, whereas younger people had a lower volume. This result leads Evans to speculate that, among other causes, people of different ages might have different coping mechanisms in the face of discrimination.

Why do some people remain healthier as they grow older? HANDLS has deployed several biomarker studies to examine this phenomenon.

One such biomarker is telomere length. Longer telomeres—little structures on the tips of chromosomes—are associated with good health and longevity. Shortening occurs naturally with age but can be spurred on by mental stress and other environmental factors. HANDLS data revealed that women with greater lifetime burden of racial or gender discrimination, those with higher socioeconomic status reporting greater lifetime burden of racial discrimination and younger adults reporting greater exposure to multiple sources of discrimination had shorter telomere length.

"Our findings are concordant with what some other laboratories have shown," said Evans, "that perhaps interpersonal discrimination and environmental factors related to stress are related to cellular aging and may contribute to...the accelerated aging phenotype we see associated with health disparities."

Evans and colleagues continue to analyze new study data with the hope of ultimately improving the health and longevity of the populations they serve. Watching the current covid crisis unfold has made Evans even more vigilant in her quest for justice. As HANDLS goes into its next wave, she aims to continue moving forward inclusively, fairly distributing NIH research resources and making sure populations in need reap the benefits of study results.

"The bioethical principle of justice must guide us all," she concluded, "as we strive for health equity." 

Covid-19 Home Test Receives Over-the-Counter Authorization

The FDA recently granted emergency use authorization (EUA) for an innovative Covid-19 viral antigen test developed with technical support from NIH's Rapid Acceleration of Diagnostics (RADx) Initiative, managed by NIBIB. Designed by Ellume, the rapid, at-home test is available without a prescription.

The first of its kind to be awarded EUA, the test is performed using a mid-turbinate nasal swab designed for comfortable self-sampling. The sample is inserted into a single-use cartridge that returns results in 15 minutes. The at-home test analyzer connects to the user's smartphone through Bluetooth and pairs with a downloadable app that provides step-by-step instructions and displays results.

Users can share real-time results from the test—selling for approximately \$30—with health care professionals, employers and schools for efficient Covid-19 tracking. Ellume plans to scale up manufacturing to deliver millions of home tests per month in 2021.

Cataract Surgery in Infancy Increases Glaucoma Risk

Children who undergo cataract surgery as infants have a 22 percent risk of glaucoma 10 years later, whether or not they receive an intraocular lens implant. The findings come from the NEI-funded Infant Aphakic Treatment Study, which recently published 10-year follow-up results in *JAMA Ophthalmology*.

"These findings underscore the need for long-term glaucoma surveillance among infant cataract surgery patients," said NEI director Dr. Michael Chiang. "They also provide some measure of assurance that it is not necessary to place an intraocular lens at the time of cataract surgery."

At the time of cataract removal, the 114 study participants (ages 1-6 months) had been born with cataract in one eye. In the operating room, the infants were randomly assigned to receive an artificial lens implant or go without a lens, a condition called aphakia.

Annually, fewer than 2,500 children in the U.S. are born with cataract, a clouding of the eye's lens. Surgery is used to remove and replace the cloudy lens. To allow the child's eye to focus light properly following cataract removal, an intraocular lens implant may be placed at surgery, or the eye may be left aphakic, and a contact

lens (or glasses, if both eyes have had a cataract removed) may be used to provide the needed correction.



Ellume's Covid-19 home test offers a complete at-home sampling and testing solution. The single-use, Bluetooth-enabled test cartridge and self-collection swab are designed for consumer use in conjunction with a smartphone.

PHOTO: ELLUME

Children who undergo cataract removal have an increased risk of glaucoma, a sight-threatening condition that damages the optic nerve—the connection between the eye and brain. Scientists speculate that surgery to remove the cataract interferes with the maturation of how fluid flows out of the infant's eye, leading to increased eye pressure and optic nerve damage in some of these eyes.

After 10 years, 40 percent of the followed children had developed glaucoma or were glaucoma-suspect, due to elevated eye pressure. But due to close patient monitoring, any sign of glaucoma was aggressively treated and researchers found no evidence of glaucoma-related eye damage.

The findings also confirm that the timing of cataract surgery is a balancing act: Whereas surgery at younger ages increases glaucoma risk, delaying surgery increases risk of amblyopia, a leading cause of visual impairment in children.

Study Finds Surge of Teen Vaping Levels Off, But Remains High

Findings released in December from the most recent Monitoring the Future (MTF) survey of substance use behaviors and related attitudes among U.S. teens indicate that levels of nicotine and marijuana vaping did not increase from 2019 to early 2020, although they remain high. The annual MTF survey is conducted by the University of Michigan's Institute for Social Research and funded by NIDA.

In the 4 years since the survey began including questions on nicotine and marijuana vaping, use of these substances among teens has increased to markedly high levels. From 2017 to 2019, the percentage of teenagers who said they vaped nicotine in the past 12 months roughly doubled for 8th, 10th and 12th graders. In 2020, the rates held steady.

"The rapid rise of teen nicotine vaping in recent years has been unprecedented and deeply concerning since we know that nicotine is highly addictive and can be delivered at high doses by vaping devices, which may also contain other toxic chemicals that may be harmful when inhaled," said NIDA director Dr. Nora Volkow. "It's encouraging to see a leveling off of this trend, though the rates still remain very high."

Past-year vaping of marijuana also remained steady in 2020, following a 2-fold increase over the past 2 years. Additionally, daily marijuana vaping significantly decreased among 10th graders.

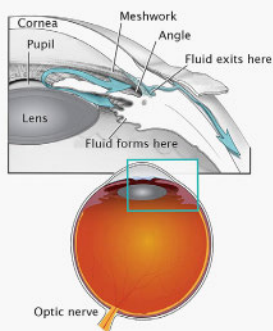
In early 2020, MTF survey investigators collected 11,821 surveys in 112 schools before data collection stopped prematurely due to the Covid-19 pandemic. While this represents a fraction of a typical year's data collection, the results were gathered from a broad geographic and representative sample, so the data were statistically weighted to provide national numbers.

Study investigators are working with schools to deploy the survey in early 2021 to gather data that will reflect substance use during the pandemic and related periods of social distancing.



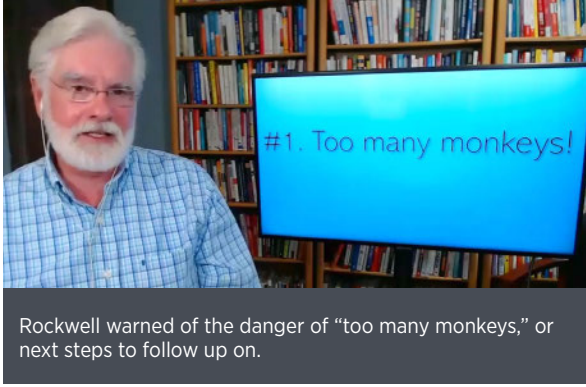
Study finds levels of nicotine and marijuana vaping did not increase from 2019 to early 2020, although they remain high.

PHOTO: JACOB LUND/ISTOCK



The meshwork and angle are structures that allow fluid to exit the eye, as shown. Scientists speculate that surgery to remove the cataract interferes with the maturation of this "drainage" system that removes fluid from the infant's eye, leading to increased eye pressure and damage to the child's eye.

IMAGE: NEI



Rockwell warned of the danger of “too many monkeys,” or next steps to follow up on.

Rockwell

CONTINUED FROM PAGE 1

to spiral downward,” he said at a Deputy Director for Management Special Topics Seminar that was videocast recently.

There are six enemies of energy, Rockwell said. However, leaders can take steps to monitor, manage and fuel energy in teams.

First, there are too many of what he called monkeys, or next steps. Every leader routinely encounters this scenario: An employee walks into the office with a problem that must be solved. Leaders might unintentionally give themselves a monkey by promising to touch base on the problem later. Creating too many next steps to follow up on takes up time and energy. Experienced leaders ask: “Who owns this monkey?” and then figure out whether someone else can take the next step.

“The question to ask when someone comes to you with an issue is ‘What have you tried to fix this?’” he said. “What you’re doing is giving responsibility to people.”

Many times, people haven’t tried to solve a problem. In these instances, a leader must avoid solving it for them. Rather, a leader must encourage an employee to think the problem through and then come back with potential solutions.

Second, people know more negative-emotion words than positive or neutral-emotion words. Third, of the universal emotions—happiness, sadness, disgust, fear, surprise and anger—only happiness is positive.

Next, Rockwell noted that most people have a loud inner critic. This is why negative experiences stick with people longer than good experiences. People remember bad experiences in greater detail and recall them more often. Negative experiences are at least three times more powerful than positive ones, he said.

To counter these negative mental feedback loops, Rockwell advised leaders to keep in mind Nobel laureate Daniel Kahneman’s quote: “Nothing is as important as you think it is while you’re thinking about it.”

To counteract negative attitudes in the workplace, he said leaders must focus on the good stuff in an organization, compliment employees who are doing a good job and ask them, “How did you learn to be good at that?” or “What’s working?” to get people talking about what they do well.

“Words are rudders,” he said. “What we talk about is where we tend to go.”

Conversations about performance between leaders and their employees don’t need to be oppressive or draining. Rockwell advised that leaders ask their employees to come up with three things they would like to improve upon. When employees decide what to focus on, they’ve made a choice, and “choice is power and power gives energy.” Follow-up questions should be focused on why employees made the choices they did, how they plan to get better and what a realistic commitment to improvement looks like. This gives employees the ability to define accountability.

High-performing employees should have as much freedom as possible. Some low-performing employees might need more intervention. Leaders could ask four questions: “What did you try, how did it work, what did you learn and what do you want to try next time?”

Leaders also must set a positive example. They should regularly talk about which of their own skills they are trying to improve upon. “Because we don’t have enough performance conversations, we’re all terrified,” Rockwell explained. The solution is to talk about performance regularly.

Conversations about performance should occur during the last 5 or 10 minutes of the day. “At the end of the day, your words have more power than they do at the middle or beginning of the day,” he said. These conversations can be started with questions like “What did you accomplish today?” and “What’s your plan for tomorrow?”

“If you want to build a positive environment, you have to work at it,” Rockwell concluded. **R**

Congressional Commemoration for NIAAA’s 50th Anniversary

Fifty years ago, the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 authorized creation of the National Institute on Alcohol Abuse and Alcoholism. NIAAA’s launch heralded a major advance in America’s understanding of alcohol use disorder as a preventable and treatable medical disorder.

Congress recently acknowledged the institute’s golden anniversary. Rep. Paul D. Tonko—the current Democratic vice co-chair of the Congressional Addiction, Treatment and Recovery Caucus—commemorated NIAAA’s milestone in the *Congressional Record*: “For 50 years, NIAAA has been the leader in generating and disseminating fundamental information about the effects of alcohol on our health and well-being and applying that knowledge to improve the lives of those struggling with alcohol-related problems...With technological advances and an expanding knowledge base, NIAAA is poised to advance alcohol research to the next frontier toward the goal of helping more Americans live healthier, more productive lives.”

Visit NIAAA’s 50th anniversary website for more details: niaaa.nih.gov/our-work/niaaa-50-legacy-advancing-alcohol-research.



NIMHD Hosts National Art Competition

As part of its 10th anniversary celebration, the National Institute on Minority Health and Health Disparities is hosting a national art competition inviting teens and adults to create images (paintings, drawings, photos, digital art, etc.) that express NIMHD’s vision: an America in which all populations will have an equal opportunity to live long, healthy and productive lives. The goal of the competition is to raise national public awareness about the prevalence and impact of health disparities and inspire further research on minority health and health disparities.

Submit art until Feb. 5. First, second and third place prizes will be awarded in two age categories: teen (16 to 18 years old at time of submission) and adult (19 years or older). Entries may be submitted by an individual or a group of individuals. For details, visit <https://nimhd.nih.gov/programs/edu-training/art-challenge/>.

Long-Time NIGMS Leader Greenberg Retires

NIGMS deputy director Dr. Judith H. Greenberg retired last October after 45 years of service to NIH.



Dr. Judith H. Greenberg

A developmental biologist by training, she first joined NIH in 1975, conducting research in the intramural program at what is now the National Institute of Dental and Craniofacial Research. In 1981, she was recruited to NIGMS as a program administrator by Dr. Ruth Kirschstein, and in 1988 became director of the institute's

former Division of Genetics and Developmental Biology. She twice served as the institute's acting director, from May 2002 to November 2003 and from July 2011 to August 2013.

Throughout her career, Greenberg consistently answered the call to service, taking on increasing responsibilities whenever the need arose. At the time of her retirement, in addition to her job as NIGMS deputy director, Greenberg was also serving as acting director of the institute's Division of Biophysics, Biomedical Technology and Computational Biosciences.

With a strong interest in bioethics issues, research training and career development, Greenberg advised NIH on topics including human embryonic stem cells, gene therapy and biomedical career advancement for women. Additionally, she served as principal leader of the NIH Director's Pioneer Award program from 2004 to 2012, and of the NIH Director's New Innovator Award program from its inception in 2007 to 2012. She was also the project officer for the NIGMS Human Genetic Cell Repository, a key resource for genetic research, from 1984 to 2011.

"We will deeply miss Judith's strong leadership presence, calm wisdom and sharp wit," said NIGMS director Dr. Jon Lorsch, adding "she has left an indelible mark on the institute, as well as with colleagues across the NIH and in the academic community. I feel very lucky to have had such an outstanding advisor, colleague and friend for the past 7 years."

Among Greenberg's many honors are a Public Health Service Special Recognition Award in 1991 and a Presidential Meritorious Executive Rank Award in 1999. Her leadership of the Pioneer and New Innovator Award programs was recognized with NIH Director's Awards in 2006 and 2008, respectively. In 2013, she was honored with the inaugural NIGMS Distinguished Service Award, and in 2018 she received the NIGMS Diversity Champion

Award for her efforts to diversify the national scientific workforce through her partnerships with other NIH offices.

NCI's Winn Retires

Dr. Deborah Winn, senior advisor to the director of the Division of Cancer Prevention (DCP), and who served as acting director of the division from January 2019 to July 2020, is retiring at the end of January 2021. She shepherded DCP during the early months of the SARS-CoV-2 pandemic to prepare the division and its presumptive new director, who arrived in July 2020, for a productive future despite this difficult time.

Winn has held a variety of leadership positions at NCI, including deputy director of the Division of Cancer Control and Population Sciences (DCCPS). Upon retirement, she will participate as a special volunteer, so NCI will continue to benefit from her expertise and mentorship.

Winn is recognized for sharing her 40-plus years' experience in the federal government as an accomplished scientist and leader in the prevention and control of cancer and other diseases. Throughout her career, she has played a critical role in developing and facilitating initiatives to foster population sciences research, both nationally and internationally. She is internationally recognized for her epidemiologic research on tobacco and head and neck cancer. Winn's other research interests include environmental risk factors for breast cancer; evaluating the impact of epidemiologic findings on clinical practice and public health; and development of research resources, infrastructures and policies.



Dr. Deborah Winn

In addition to her scientific accomplishments, Winn


is respected for her thoughtful approach to many complex and controversial issues at the interface of science, policy, the environment and public health. She has been a key spokesperson for epidemiologic topics of interest to Congress and the public and has provided legislative testimony on topics including smokeless tobacco; breast cancer and the environment research; and the relationship between the environment, genes and cancer. She has served as the DCCPS lead expert on complex and often controversial issues, including cancer and cell phones, cancer and abortion, and cannabis use and cancer.

Winn contributed to the genesis of NIH's All of Us Research Program and provided leadership to the NCI Cohort Consortium since its inception in 2000; she co-led the interagency breast cancer and environmental research coordinating committee; and served as co-chair of the Network for Direct Patient Engagement implementation team to address one of the Cancer Moonshot recommendations for accelerating cancer research.

While at the Centers for Disease Control and Prevention, she was deputy director of the Division of Health Interview Statistics with responsibilities to assist the director in the scientific and administrative management of the National Health Interview Survey that conducts interviews every year with 50,000 American households on a wide range of health topics.

Winn is a fellow of the American College of Epidemiology. She has received numerous awards at NCI and NIH including the NCI Director's Champion Career/Lifetime Achievement Award for exceptional leadership and service to NCI in the area of cancer control and population sciences; two Public Health Service Awards; and numerous NIH Merit Awards.

Winn also will be fondly remembered for her love of the craft of art glass and for proudly displaying and explaining the intricate process involved in hand-made plates, beads and other delicate glass creations.

To leave her a farewell message, visit www.kudoboard.com/boards/nhrvtcBu. 

What Will Move You This Winter?

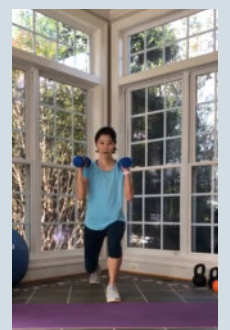
It's getting colder and, as temperatures drop, it's tougher to get outside to walk, cycle or jog. With winter here, and as many of us remain holed up in our homes continuing to telework full-time, how do you plan to get exercise this winter?

Did you acquire a piece of gym equipment at home that you love? Are you pacing around your living room, going up and down your stairs, vacuuming more, motivated by your FitBit step count? Doing yoga poses during conference calls? Will you bundle up and go jogging or biking in any weather?

Tell us what you're doing to stay, or get, in shape

this winter and, if you're so inclined, include a photo of yourself in action. Email your submission to cg9s@nih.gov.

At right, fitness instructor Ashley Joo Hyun Choi leads a virtual Tabata class for NIH'ers. NIH fitness instructors continue to host virtual exercise classes for all levels—from yoga to core strength, Tabata to kickboxing. Sessions are live-streamed, and archived, on R&W's Facebook page at www.facebook.com/NihRwFitness.



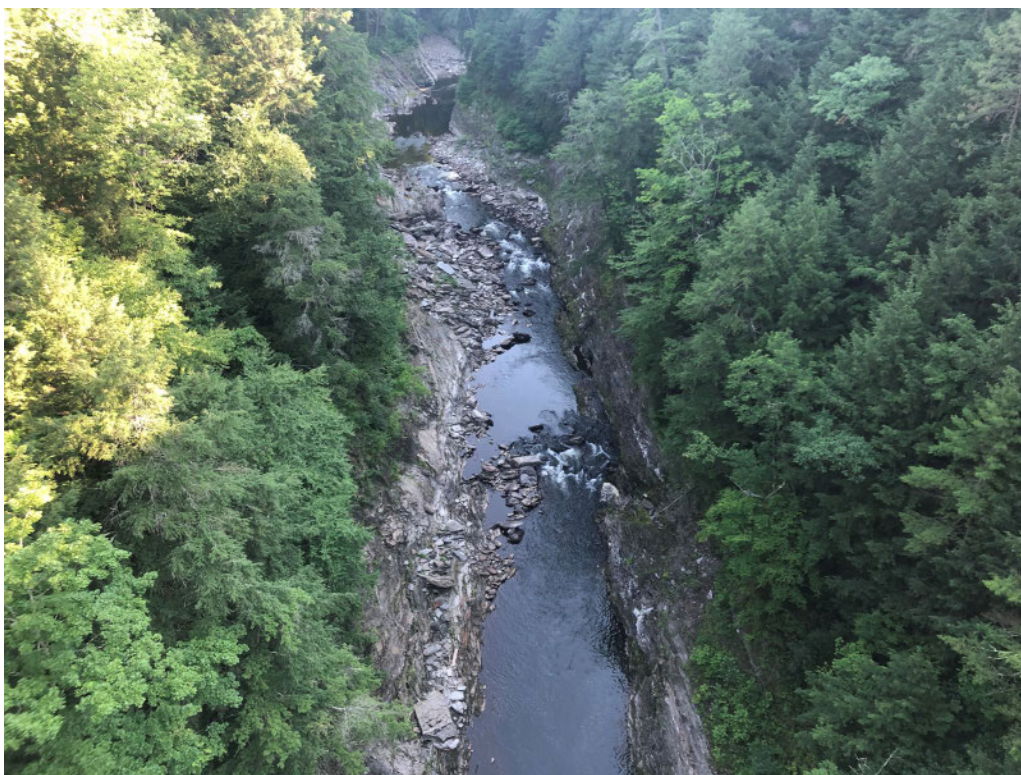


OUTSIDE IN?

Nature Preserved

Not all nature photos come from outdoors. Most staff in the Clinical Center department of bioethics are teleworking. So, early on, plants from their offices and common areas were assembled (above) on a table in the department library. Those who are physically present water them weekly and generally look after them. Department members believe the plants are thriving from being together. Said one employee, “Never thought I would envy the social life of an office plant.”

PHOTO: MERTIS STALLINGS-JOHNSON

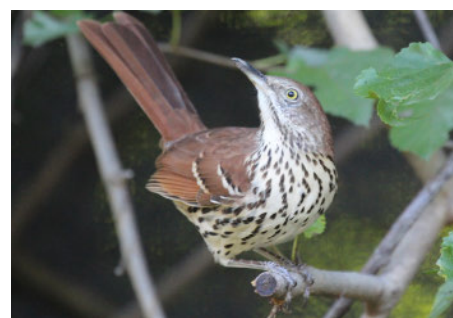


Dr. Deborah Henken, program officer at NICHD, took photos of the Ottauquechee River in Hartford County, Vermont, last August. The river originates in the Green Mountains of Rutland County and joins the main Connecticut River in Windsor County, Vt. On its eastern course, it passes through Quechee, Vt., a small village whose founders harnessed the power of the river to build a booming mill business. Further along, it becomes Quechee Gorge (known as “Vermont’s Little Grand Canyon” which is 1 mile long, and 165 feet deep). In its original Natick language, Ottauquechee translates to “swift mountain stream,” which is well deserved.

PHOTO: DEBORAH HENKEN



“Fall migration” is the theme of these fowl images taken by Dr. Michael Bender, program director in the Division of Genetics and Molecular, Cellular and Developmental Biology, NIGMS. He takes pictures in Rock Creek Park, at Hains Point and at Lyndon Baines Johnson Memorial Grove on the Potomac, located on Columbia Island. Above, a bald eagle; below, a pine warbler.



Above, a brown thrasher; below, a black and white warbler

PHOTOS: MICHAEL BENDER

