

# NIH RECORD

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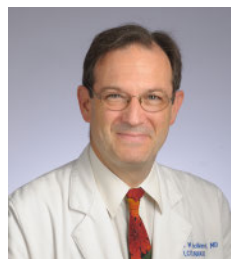
## 'DARE TO RETHINK'

### Holland Offers Inspiration, Wisdom at CC Grand Rounds

BY DANA TALESNIK

In their quest for solutions, most scientists know failure all too well.

"Don't be afraid of the failures; you will learn more from them than you do the successes," said Dr. Steven Holland, who shared lessons and advice with incoming fellows at a recent Clinical Center Grand Rounds.



Dr. Steven Holland

In a talk about

SEE **HOLLAND**, PAGE 6



**First Lady Biden, Australia's Haydon Visit NIH.** Above (from l) First Lady Dr. Jill Biden; Jodie Haydon, partner of the Prime Minister of Australia; and Dr. Monica Bertagnoli, director of the National Cancer Institute (NCI) participate Oct. 25 in a briefing in an NCI Pediatric Oncology Branch (POB) laboratory with Dr. Nirali Shah, head of POB's hematological malignancies section; Dr. Naomi Taylor, POB senior investigator; and Dr. Victoria Giordani, a clinical fellow in the Johns Hopkins-NIH Pediatric Hematology and Oncology Fellowship Program. See story on p. 5.

PHOTO: CHIA-CHI CHARLIE CHANG



NEI 5K boosts CFC. See story, p. 7.

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## CALLING ALL MALE ALLIES

### Smith, Johnson Advise Men to Advance Women's Equity

BY AMBER SNYDER

The women's equality movement is missing one crucial component: men.

Dr. W. Brad Johnson and Dr. David Smith, researchers, co-authors and professors spoke recently at the 2023 NIH Research Festival in a lecture, "The Power of Allyship and Gender Partnership," sponsored by the NIH women scientist advisory committee.

Johnson and Smith have written two books together: *Athena Rising: How and Why Men Should Mentor Women* and *Good Guys: How Men Can be Better Allies for Women*.

"You may be wondering how two middle-aged, majority-white guys got involved in this work," Johnson joked in the beginning of the talk. The dynamic duo came together when they were teaching at the United States Naval Academy.

SEE **ALLIES**, PAGE 4

## NIH's New Landscape Architect Committed to Sustainability

BY ERIC BOCK

NIH's landscape architects have always committed themselves to creating a sustainable campus brimming with plants and wildlife. Connor Price, the newest cultivator of NIH grounds, is carrying on the tradition. He joined NIH earlier this year.

As landscape architect, Price directs basic upkeep by NIH's grounds maintenance contractor, works with the Division of



Connor Price

SEE **LANDSCAPE**, PAGE 10

## Straus Lecture, Dec. 6

## Tawakol To Discuss Heart-Brain Interactions, Lowering CVD Risks

Dr. Ahmed Tawakol will present “Novel Insights Into Heart-Brain Interactions and Neurobiological Resilience,” on Wednesday, Dec. 6 from noon to 1:15 p.m. ET via VideoCast.

Tawakol is director of nuclear cardiology and co-director of the Cardiovascular Imaging Research Center at Massachusetts General Hospital and is an associate professor at Harvard Medical School. His talk is the 2023 Stephen E. Straus Distinguished Lecture in the Science of Complementary Therapies, an annual event sponsored by the National Center for Complementary and Integrative Health (NCCIH) in honor of its founding director Straus.



Dr. Ahmed Tawakol

Tawakol and his team have developed and validated molecular imaging approaches to measure atherosclerotic inflammation and to study multisystem disease processes that drive atherosclerosis. He will review study findings that have shed light on mechanisms underlying heart-brain interactions, especially neuro-immune-cardiovascular pathways. Other topics include social, environmental and genetic modulators of those pathways; “neurobiological resilience” as a concept; and lowering stress-related neural activity to reduce risks for cardiovascular disease (CVD). Lifestyle interventions to support this will be discussed. Multisystem studies on interconnected organs and systems will be a scientific theme in this talk and is a research priority at NCCIH.

To receive the lecture link, register at <https://bit.ly/RegisterSESLect>. For more information, visit <https://go.nih.gov/agMbaYA>. The lecture is presented by NCCIH and supported by the Foundation for the National Institutes of Health with a generous gift from Bernard and Barbro Osher. To request reasonable accommodation to participate, email [info@nccih.nih.gov](mailto:info@nccih.nih.gov) by Nov. 29.

## Furlough? It's NIH Federal Credit Union to the Rescue

The NIH Federal Credit Union (NIHFCU) recognizes that if a federal government shutdown occurs many individuals may experience temporary financial hardship due to a disruption in pay.

To support NIH employees—and those at other Department of Health and Human Services (HHS) operating divisions—who may be impacted,



First place winner “Disney Characters Snow White and Doc” NEI Director Dr. Michael Chiang

## NINR Hosts Pumpkin Decorating Contest for CFC

The National Institute of Nursing Research (NINR) held the NIH Combined Federal Campaign (CFC) Fall Charity Fair and Institute and Center Directors Pumpkin Decorating Contest on Oct. 26. Institute and center directors decorated pumpkins using household materials such as paint, beads, fabric, feathers, clothing, etc. to design a one-of-a-kind masterpiece.

Winners of the challenge were the National Eye Institute's Dr. Michael Chiang, first place; the National Institute of Allergy and Infectious Diseases' Dr. Jeanne Marrazzo, second place; and Clinical Center's Dr. James Gilman, third place. NIH'ers who tuned into the virtual event voted for their favorites. There were 28 entries total.

For information about donating to the CFC, the annual workplace fundraising drive among federal employees that serves more than 5,000 charities, see <https://cfc.nih.gov/donate.html>.



NIAID Director Dr. Jeanne Marrazzo (l) won second place for “Taco Tuesday-inspired Give Happy Hour.” At center, a pumpkin from Acting NIH Director Dr. Lawrence Tabak kicked off the Directors Challenge; the gourd was designed by his nephew Daniel Proto, a sculptor and high school art teacher. At right, Clinical Center CEO Dr. James Gilman took third place for “Dr. Hope.”



NIHFCU will make its Special Assistance for Federal Employees (SAFE) Loan program available.

All federal government staff at NIH and HHS whose pay is disrupted may be eligible. (Note: Contractors and fellows will not be eligible.)

For details and to apply, visit [www.nihfcu.org](http://www.nihfcu.org), stop by one of its branches or call (800) 877-6440.

## Scientific Workforce Diversity Seminar Set, Nov. 30

Join NIH's chief officer for scientific workforce diversity for the virtual seminar “How Do Research-Active Institutions (e.g., historically Black colleges and universities, Tribal colleges and universities and minority-serving institutions) Impact the Diversity of the Scientific Workforce?” on Thursday,

Nov. 30 from 1:30 to 3 p.m. ET. Registration is now open. The seminar will feature panelists discussing the critical role of research-active institutions (RAIs) in enhancing scientific workforce diversity. Panelists will also address how NIH and other funders might better partner with and support RAIs to expand their impact.

The event will include closed captioning. Sign language services and other reasonable accommodation are available upon request using the registration form at <https://bit.ly/coswd-seminar>.





## Two Institute Directors Elected to NAM

Two NIH institute directors—Dr. Michael F. Chiang, director, National Eye Institute (NEI), and Dr. Eric D. Green, director, National Human Genome Research Institute (NHGRI)—are among the 100 new members recently elected to the National Academy of Medicine (NAM).

Election to the academy is considered one of the highest honors in the fields of health and medicine and recognizes individuals who have demonstrated outstanding professional achievement and commitment to service.

Chiang was cited “for pioneering applications of biomedical informatics to ophthalmology in artificial intelligence, telehealth, pediatric retinal disease, electronic

health records and data science, including methodological and diagnostic advances in [artificial intelligence] AI for pediatric retinopathy of prematurity, and for contributions to developing and implementing the largest ambulatory care registry in the United States.”

Green was recognized “for leading the development of technologies and tools for translating genomics to clinical practice. Globally, he has pioneered cooperation to advance genomic fluency and precision medicine. In parallel, he has modeled diversity and inclusion in NHGRI senior leadership and workforce training programs.”

The newly elected members—90 regular and 10 international—bring NAM’s total membership to more than 2,400, which includes 198 international members.

Established originally as the Institute of

Medicine in 1970 by the National Academy of Sciences, NAM addresses critical issues in health, science, medicine and related policy and inspires positive actions across sectors. It works alongside the National Academy of Sciences and National Academy of Engineering to provide independent, objective analysis and advice to the nation and conduct other activities to solve complex problems and inform public policy decisions.

The National Academies of Sciences, Engineering and Medicine also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding of science, technology, engineering, math and medicine. With their election, NAM members commit to volunteer their service in National Academies activities. [R](#)



NHGRI Director Dr. Eric Green (l) and NEI Director Dr. Michael Chiang are new NAM members.

## NIH Revises Grant Review Process

NIH is simplifying its process to assess the scientific merit of grant applications and mitigate elements that could introduce bias into review.

The changes will help reviewers focus on the potential for proposed research to advance scientific knowledge and improve human health. Previously, five criteria were individually scored using a common scale; the simplified review framework reorganizes these criteria into three factors.

Two of these factors—importance of research and rigor and feasibility—are scored using a common scale. A third factor, expertise and resources, is evaluated for sufficiency and not given a numeric score. The simplified review framework will be implemented for grant applications received on or after Jan. 25, 2025.

“Ultimately, the potential impact of ideas on advancing science should outweigh the reputation of who is applying and where they work,” said NIH Acting Director Dr. Lawrence Tabak.

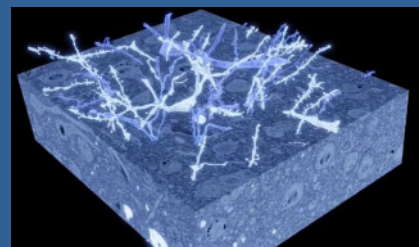
NIH has been gathering feedback from the extramural community on the grant application

review process. In December 2022, the agency proposed revisions to the process through a Simplified Framework for NIH Peer Review Criteria initiative and subsequently collected more than 800 responses from individuals and scientific societies.

These changes contribute to NIH’s decade-long effort to address potential bias in grantmaking and enable a level playing field. Additionally, these changes reduce administrative responsibilities of peer reviewers, shifting them to NIH staff, thereby allowing reviewers to focus on the science.

NIH Center for Scientific Review Director Dr. Noni Byrnes said, “The simplified review framework will focus peer review on the key questions needed to assess the scientific and technical merit of proposed research projects: Should and can the proposed research project be conducted?”

NIH is developing a timeline, policy rollout and training to support implementation of the changes. Additionally, NIH plans to evaluate the changes over time, allowing for additional modifications as necessary.



ON THE COVER: “Synaptic Balance” Reconstruction of inhibitory and excitatory neurons in human cortex. 2023 Show Us Your BRAINS! image contest. Still image from third place video. See the video at <https://go.nih.gov/vvTtoCK>.

IMAGE: SCALABLE MINDS (GERMANY)

## The NIH Record

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National Institutes of Health  
Turning Discovery Into Health



Dr. David Smith (l) and Dr. Brad Johnson

## Allies

CONTINUED FROM PAGE 1

As a psychologist (Johnson) and sociologist (Smith) interested in gender equity, they shared a passion for creating true gender equity in the workplace. But too often, the focused gender equity initiatives and events seemed to include only women. However, Johnson said, this can “send the unintended message that men aren’t [necessary]” for making equitable workplaces.

Their solution? Encourage men to go out of their way to mentor and build opportunities for their junior female colleagues.

### What Do Women Want?

“We are not going to spend the next hour mansplaining what women need in the workplace,” Smith assured the hybrid audience. He and Johnson based their books on countless interviews with women in corporate workplaces.

What does male allyship look like to women? What can men do to advance gender equity?

Being a loud supporter is a great way to start, Smith shared.

In a large survey, women were far more likely (96%) to say their organization was making good progress toward gender equity if their male colleagues were loud supporters. Conversely, if men were quiet on topics of gender equity, only about 30% of women thought their workplace was supportive.

In addition to men who were vocal advocates, Johnson and Smith found that women also valued men who were

good listeners. “Generous listening” is a technique in which the listener seeks to understand the other person’s experience, rather than try to problem solve.

Johnson and Smith found that, while many male leaders prize their listening skills, some of their female colleagues still don’t feel heard. So, even

though those men may feel like they are doing a good job already, they should still seek out constructive feedback from female colleagues.

### The First Step

Most men do believe in gender equality, even if they may not actively demonstrate it at work or at home. This is what Smith calls the “allyship gap.”

What can men do to close the gap? The work begins at home, said Johnson.

He recommended starting with a “domestic audit,” particularly for men in heterosexual, dual-career relationships. Not only does it help men begin to show up authentically, but it also provides good examples of equitable behavior for children in the home.

“Chances are, women in heterosexual relationships are doing double the work at home,” Johnson shared. “We’re never going to close the gender pay gap, never going to elevate more women to leadership, until men start sharing more equitably here.”

### Doing the Work, at Work

When it comes to being an ally for women at work, the first step is self-education, Smith said. “Awareness is the underpinning of all of this.”

Self-education might begin with attending lectures or reading books, or in more informal settings such as speaking with trusted female colleagues.

“Ask to ask” when approaching female colleagues about their experiences in the workplace, Smith cautioned. It may not be

something every woman wants to speak about.

Also, men should be alert to common workplace gender biases. Ninety percent of women who outperform their peers receive some sort of pushback—an experience called “Tallest Poppy Syndrome.”

Men can mitigate gender bias against ambitious and successful women by “being [their] loyal and raving fan[s],” Johnson said. Talk positively about female colleagues and their work, especially when the women in question aren’t around.

### Mentoring

Smith and Johnson also believe that a big portion of advancing women’s equality can come from male-female mentorships. Senior women may seem like the go-to mentors for their more junior colleagues, but in most workplaces there simply aren’t enough female mentor figures to go around.

“If men aren’t leaning in,” Johnson said, then “the net effect is a lot of talented junior women are slipping through the cracks.”

There are also plenty of other ways for men to show up for women outside of mentoring.

The co-presenters discussed the three levels of allyship: interpersonal (holding yourself accountable), public (how you publicly advocate and hold others accountable) and systemic (creating systems that work for everyone).

Mentoring is a type of interpersonal allyship. Public and systemic allyship necessitate a bold, outspoken approach.

### Ouch! and Other Interruptions

Smith asked male attendees to imagine being in a scenario where they hear a senior man make a disparaging remark about women. What would you do? he asked.

Turns out, most bystanders stay silent. “Bystander paralysis” kicks in within about three seconds, Smith said. If no one speaks up immediately, then chances are no one will speak up at all.

Women who do are more likely to face backlash from calling out a sexist remark, while men who make a stand are rewarded. “Men need to participate in the disruption,” urged Smith.

He and Johnson advocated for a very simple disruption: “Ouch!”

Any short exclamation will work, Smith said, as long as it gets everyone’s attention.



It will also buy the “oucher” some time to collect their thoughts. An alternative version, “care-frontation,” is a good way to educate coworkers while ensuring they know you are looking out for them.

Men can also participate in everyday disruptions, such as taking on “office housework” like planning events and team-building exercises—non-promotable tasks that women often feel pressured to fulfill.

### How Does This Work in Practice?

Johnson cited JP Morgan Chase, which devised the “30-5-1 Pledge” as a way to retain talented junior women in the organization. The company asked men to set aside 36 minutes a week to uplift junior female colleagues: 30 minutes a week to have coffee with a talented woman, 5 minutes congratulating a female colleague on a recent success and 1 minute to praise that woman to senior colleagues.

“In five years, they saw a huge turnaround in retention and advancement of women,” Johnson said.


### Parting Instructions

There are four actions every organization can take today to advance gender equity, Smith said:

- Provide programs tailored for men. About half of men surveyed said inclusive leadership training is important for men to succeed.
- Explicitly link diversity, equity and inclusion (DEI) to examples of “best in class leadership.”
- Be transparent and specific about DEI goals to build trust in both employees and people you are trying to recruit. “Men need metrics and motivation,” Smith quipped.
- Hold everyone accountable for DEI, from senior leadership all the way down to frontline management.

Smith and Johnson want to see more men step up and become active male allies or “open-minded citizens of the world, of the male persuasion, who serve as allies to women on issues of gender parity.”

“Show up and do the work,” Smith said. The whole workplace will reap the benefits.

For an archived version of the talk, visit <https://videocast.nih.gov/watch=52456>. 



NCI Director Dr. Monica Bertagnolli and Acting NIH Director Dr. Lawrence Tabak welcome the First Lady to NIH.

PHOTOS: CHIA-CHI CHARLIE CHANG

## First Lady Biden, Australia’s Haydon Visit Clinical Center

First Lady Dr. Jill Biden and Jodie Haydon, partner of the Prime Minister of Australia, came to NIH Oct. 25 on an official visit to meet with Acting NIH Director Dr. Lawrence Tabak, Clinical Center CEO Dr. James Gilman and Dr. Monica Bertagnolli, director of the National Cancer Institute and President Joe Biden’s nominee for NIH director.

While at NIH, the First Lady and Haydon toured NCI’s Pediatric Oncology Branch (POB), received briefings from several investigators and discussed collaborations with researchers based in the U.S. and Australia.



Bertagnolli (l) talks about NIH research and the Cancer Moonshot Initiative with Haydon (c) and Biden. Below, Biden (l) meets with (from l) POB Chief Dr. Brigitte Widemann; Dr. Greg Reaman, scientific director, NCI Childhood Cancer Data Initiative; and Dr. Srivandana Akshintala, POB assistant research physician.



## Holland

CONTINUED FROM PAGE 1

his own research journey, Holland also shared aspects of what makes the Clinical Center (CC) unique and why he believes some researchers stay at NIH for so long. Holland, an NIH distinguished investigator and director of intramural research at the National Institute of Allergy and Infectious Diseases (NIAID), has worked at NIH for 34 years and counting.

The CC's relatively stable resources enable researchers to focus on complex, enduring problems, Holland told the new arrivals. Further facilitating research, the CC has fully integrated labs and services.

"We are committed at every fascicle of the being of the organization to making sure the integration of patient care and research is complete and constant," he said.

Holland attributed his career trajectory to former CC Director and former CC Scientific Officer Dr. John Gallin, who retired this year after 50 years at NIH. Gallin's initial advice was to go study neutrophils—more on those later. That advice led Holland to study rare immunodeficiencies. His successes included contributing to understanding the cause of Job's syndrome in 2008 and DOCK8 deficiency two years later.

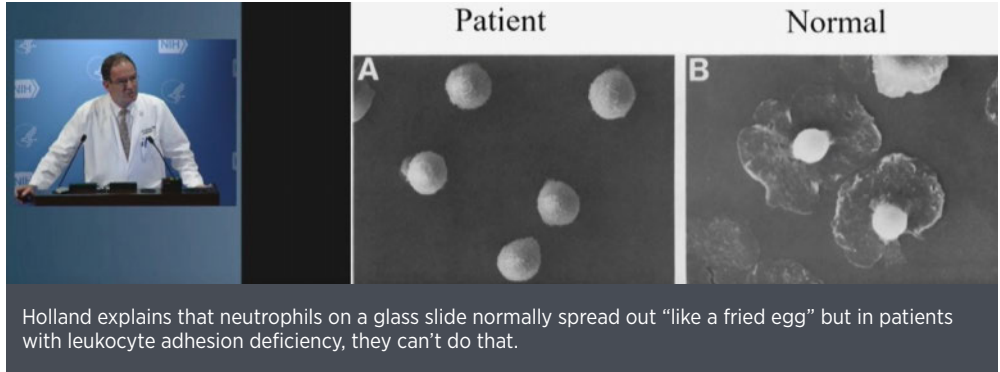
### Why Study Rare Immunodeficiencies?

"We study the rare things to understand the common things," Holland said. Everyone is exposed to microbes. "It's precisely the fact that those people who got sick didn't control it that tells you they must be sick. What we're really studying are common infections that are not well-controlled."

There are three causes, he explained: bad microbes, bad exposures or host problems. "Our assumption is no matter which of these it is, we can figure it out."



Holland (r) in the lab with Dr. John Gallin in 1996



Upon joining Gallin's lab in 1992, Holland recounted a call from a pediatrician about a 5-year-old boy who was critically ill, on intravenous nutrition, with *M. avium* complex (MAC) oozing from his blood, bowel and sinuses. The boy had two maternal uncles with the same condition. The pediatrician suspected chronic granulomatous disease (CGD).

Holland wasn't sure about the pediatrician's hypothesis. Disseminated MAC usually does not occur in CGD. But all signs pointed to something genetic and Holland invited the patient and his family to NIH for evaluation.

"Patients are reluctant to simply hear why they're so sick," Holland said. "They want to hear how you're going to make them better."

MAC is in the family of mycobacteria, of which there now are more than 150 known species, explained Holland. What is now *Mycobacterium tuberculosis* was first identified in 1882 as the cause of tuberculosis (TB). Non-TB forms of mycobacteria are plentiful in the environment—in water, air and soil—and are therefore unavoidable.

When the young patient arrived at NIH, Holland's team considered treatment options. "That really is why we have a hospital attached to a laboratory," said

Holland. "What we have that's unique is putting those two together."

The team treated the child with interferon-gamma, then recently approved for treatment of a different disease. Previous patients with refractory mycobacterial infections had not responded as Holland had hoped but in this case it worked. The little boy—whose growth had stymied over that past year—got better. He went off of IV therapy and nutrition, began to grow and went on to have a normal life. The treatment would succeed in additional patients as well.

But soon after, Holland received reports of patients with severe MAC not responding to interferon-gamma therapy. And thus began a study of receptors and pathways to find alternative treatments.

Most disseminated mycobacterial diseases present in childhood, but Holland started to get referrals of adults who were not responding to interferon-gamma. One patient, he recounted, was a 60-year-old woman from Vietnam who had lesions on her chest that were teeming with mycobacteria. Despite treatment, she had persistent disease.

"The problem here is: this looks like a genetic disease, it acts like a genetic disease,





but it's coming on later in life," he said. "So we have to be thinking a little bit further outside the box."

Further study into adult-onset infection showed that some patients didn't respond to interferon-gamma treatment because they had autoantibodies against interferon-gamma. Holland is still studying this population and alternate treatments.

He underscored a lesson for the trainees: Not every case is best thought through as an outpatient. Admit patients to the hospital. "We have a hospital that can do better and can do it [for free], without regard for insurance," he said.

Talk to doctors and patients, he advised. Be skeptical. "Embrace the unexpected because that's where the novelty is," he said. "That's what I hope will keep you up at night and keep you interested in doing more."

### Sticky Situation: Neutrophils

Gallin's advice, decades ago, to study neutrophils began a lifelong journey for Holland into immune disorders. Neutrophils are a type of white blood cell with a tough job. They are required for remodeling tissue, such as forming scabs.

"They have to roll along the endothelium where they're constantly waiting for someone to say, 'dinner is being delivered,'" explained Holland.

When that dinner bell rings, neutrophils have receptors on their surface that bind to receptors on the endothelium; they then go out into the tissue to do the ingesting and killing that allow the tissue to heal.

But if neutrophils don't have the right receptors, they can't stick and then can't travel to where they're needed. An example is leukocyte adhesion deficiency (LAD), a rare genetic disease that leads to frequent infections and loss of all teeth before adulthood.

After consulting with a researcher at the National Institute of Dental and Craniofacial Research, Holland learned his hypothesis on the cause of LAD was misguided. From this now long-term collaboration, a monoclonal antibody is in clinical trials toward treating the disease.

"Dare to rethink the problem, and often," Holland said. "Don't let being wrong get in the way of getting it right." Embrace mistakes. "That's really where the opportunities for growth and development are." **R**



Start of the NEI 5K Walk/Run/Roll.

PHOTO: CHIA-CHI CHARLIE CHIANG

## NEI 5K Walk/Run/Roll a Success

The fourth annual NEI 5K attracted more than 500 participants, who together took a lap around the NIH Bethesda campus on Oct. 18 during peak fall foliage.

"NIH is a special place," said NEI Director Dr. Michael Chiang, who kicked off the race in front of Bldg.

1. "And, what makes it special is our people...our dedicated and diverse workforce collaborating with each other to turn discovery into health."

On hand were representatives from the Combined Federal Campaign, the Children's Inn at NIH, the NIH Blood Bank, Achilles International, the NIH Recreation and Welfare Association, Kaiser Permanente and the Prevention of Blindness Society, who provided free vision screenings.

Lilly Sadler of NEI's Office of Administrative Management coordinated the event with help from NEI staff, the NIH Office of Research Services, R&W, the NIH Police and others.



Gina Goldblatt, a volunteer with Canine Partners for Life, demonstrates how service dogs can assist people with mobility challenges. Here, Kona brings Goldblatt her laptop computer while NEI Director Dr. Michael Chiang looks on.

PHOTO: DUSTIN HAYS/NEI



Top male finishers include (from l) Joseph Chapman of NHLBI, second place; Takashi Akera of NHLBI, first place; and Yang Shen of NIDDK, third place. At right, top female finishers were (from l) Anna Ratliff of NIDDK, second place; and Krystyna Rytel of NHGRI, first place.

PHOTOS: DUSTIN HAYS/NEI





At left, Project SEARCH graduate Van Berg (l) greets Maryland State Delegate Sarah Siddiqui Wolek (c) and her chief of staff, Claudia Fess; at center, Wolek meets with David Han, a 2016 Project SEARCH NIH graduate who has worked with NIH Medical Records in the Health Information Management Division for eight years; at right, Ricky Day, a 2011 SEARCH graduate, works in the CC's Office of Administrative Management.

## Maryland State Delegate Visits NIH to Learn About Project SEARCH

BY SHANNON E. GARNETT

Maryland State Delegate Sarah Siddiqui Wolek, who represents Montgomery County District 16, and her chief of staff, Claudia Fess, visited NIH on Oct. 4 to learn about Project SEARCH—a national program that promotes diversity, inclusion and access to the workplace for young adults with disabilities.

The visit—part of Take Your Legislator to Work Day, an inaugural event organized by the nonprofit group Seeking Employment, Equality and Community for People with Developmental Disabilities (SEEC)—also highlighted NIH as an employer for National Disability Employment Awareness Month.

NIH has been participating in the program since 2010. Each year, SEARCH NIH welcomes 8-10 individuals who participate in three internships across a 10-month period. Upon completion of the program, the interns graduate and may be offered a permanent job.

As of June 2023, a total of 109 interns have completed the program at NIH. Currently, there are 46 graduates working at NIH across 15 institutes and centers or with NIH contract agencies. On Sept. 5, nine SEARCH NIH interns began the 2023-2024 program.

During her recent tour, Wolek met with four SEARCH graduates—all working at the Clinical Center: Van Berg works in the Office of Hospitality and Volunteer Services, David Han and Gabriel Leder both work in Health Information Management, and Ricky Day works in the Office of Administrative Management.

“I love my job,” said Day. “I love being able to do my job as an individual. I put in the hard work and it pays off.” Income from Day’s NIH job allows him to rent an apartment that he shares with a roommate and he was able to save for a highly maneuverable electric wheelchair.

“My favorite part of this job is definitely the people,” said Leder.

NINDS is the executive sponsor for SEARCH NIH. NINDS Executive Officer Maryann Sofranko leads the program and recently received the 2023 Senior Executives Association Annual Award in the “Spirit of Excellence in Diversity, Equity, Inclusion and Accessibility” for her work.

NINDS currently employs three graduates. Another graduate, with NIDDK, is doing a detail at NINDS one day a week with the workforce engagement and development section.

Project SEARCH NIH has been a model and catalyst for other programs in the area, including in Montgomery County and at the Smithsonian. NIH is often called upon to meet with other federal agencies to discuss its operational model and implementation. Most recently NIH consulted with the Veterans Administration Hospital in D.C. as VA looks to start a program in 2024.

Project SEARCH was developed and is based at Cincinnati Children’s Hospital Medical Center. Since its beginning, the program has grown from a single site to more than 600 sites throughout the U.S. and other countries.

To learn more about the project, contact: Nancy Eaby, NINDS management analyst, at [nancy.eaby@nih.gov](mailto:nancy.eaby@nih.gov) or Meghan Lebow, Project SEARCH manager/SEEC at [mlebow@seeconline.org](mailto:mlebow@seeconline.org).



From (l), NINDS’s Maryann Sofranko, who leads SEARCH at NIH, recently received an award for the work from the Senior Executives Association; Sofranko (l) meets with Wolek; at right, during the tour, Van Berg, a 2011 Project SEARCH graduate who works in the CC’s Office of Hospitality and Volunteer Services, shows Wolek the list of sites on his daily rounds as a messenger escort.

PHOTOS: ERIN BRYANT/NINDS



## Investigational Drug Restores Parathyroid Function in Rare Disease

An investigational drug, encaleret, restored calcium levels in people with autosomal dominant hypocalcemia type 1 (ADH1), a rare genetic disorder marked by an imbalance of calcium in the blood and urine. People with ADH1 have abnormally low levels of parathyroid hormone, which regulates blood calcium levels.



NIDCR's Dr. Rachel Gafni examines a clinical trial participant with ADH1, a rare genetic disorder marked by abnormally low levels of calcium in the blood.

PHOTO: NIDCR

Results from this clinical trial, led by clinician-scientists from NIDCR at the Clinical Center, are published in the *New England Journal of Medicine*.

In the mid-phase clinical trial, 13 participants with ADH1 received oral doses of the investigational drug for about 24 weeks. By the end of the trial, the treatment

restored every participant's blood calcium level to normal, and urine calcium approached normal levels. Parathyroid hormone levels also normalized.

"It was amazing to see that every participant responded to the treatment. In literally minutes after taking the medication orally, the levels of parathyroid hormone increased dramatically," said senior author Dr. Michael Collins, an NIDCR endocrinologist.

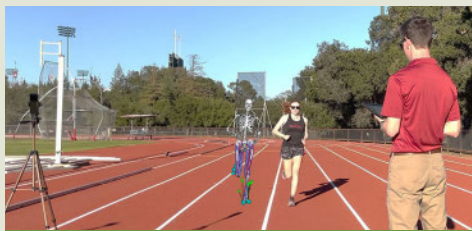
People with ADH1 have unusually low calcium levels in the blood, leading to symptoms that can range from tingling limbs, muscle cramps and brain fog to life-threatening seizures. Currently, no approved treatments address the root cause of the condition.

"Conventional therapy is to raise the blood calcium level with calcium supplements and activated vitamin D," said principal investigator and NIDCR pediatric endocrinologist Dr. Rachel Gafni. "However, too much of an increase could cause kidney damage...The patients need better treatments."

Encaleret is thought to exert its effects by acting on faulty calcium-sensing receptors that are peppered throughout the kidneys and pea-sized organs in the neck called parathyroid glands. In healthy people, these receptors monitor and control calcium levels. However, in patients with ADH1, the parathyroid glands do not make enough parathyroid hormone and the kidneys flush too much calcium out of the body, leading to low calcium levels in the blood and high levels in the urine.

## New Smartphone App Quickly Analyzes Human Motion to Aid Rehab

An NIH-funded research team has developed a smartphone app that can track



Researchers use two stationary smartphones to record motion capture of participants.

IMAGE: FLORENT VIAL, STANFORD NEUROMUSCULAR BIOMECHANICS LAB

and analyze a person's ability to move from one place to another, known as locomotion, and other types of movements. Human motion analysis is used to evaluate patients with movement difficulties, help clinicians plan surgery and assess the results of treatments.

The research team believes using the app

costs about 1% of conventional motion analysis techniques and works 25 times faster. The study appears in *PLOS Computational Biology*.

Researchers tested their app, called OpenCap, with 100 participants. Using two or more smartphones, the app recorded sufficient quality videos to allow for web-based, artificial intelligence analysis of muscle activations, joint loads and joint movements. Data collection took 10 hours for the 100 participants, and computation of results took 31 hours.

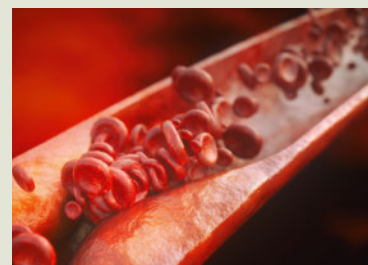
Traditionally, locomotion analysis requires fixed lab space and more than \$150,000 worth of equipment, including eight or more specialized cameras to capture three-dimensional images. The captured data also takes several days to analyze by a trained expert.

Investigators contend the app could potentially be used to help screen for disease risk, inform rehabilitation decisions and track improvements in motion following treatment. The study was led by Dr. Scott Delp of Stanford University and funded by NICHD, NIBIB and NINDS.

## Research Sheds Light on Link Between Covid-19 and CVD Risk

SARS-CoV-2, the virus that causes Covid-19, can directly infect the arteries of the heart and cause the fatty plaque inside arteries to become highly inflamed, increasing the risk of heart attack and stroke, according to an NIH-funded study.

The findings, published in *Nature Cardiovascular Research*, may help explain why certain people who get Covid-19 have a greater chance of developing cardiovascular disease, or if they already have it, develop more heart-related complications.



A 3-D rendering of atherosclerosis

PHOTO: CREVIS/SHUTTERSTOCK

In the study, researchers focused on older people with fatty buildup, known as atherosclerotic plaque, who died from Covid-19. However, because researchers found the virus infects and replicates in the arteries no matter the levels of plaque, the findings could have broader implications for anybody who gets Covid-19.

The body's immune system sends in white blood cells known as macrophages to help clear a virus. In the arteries, macrophages also help remove cholesterol. When arteries become overloaded with cholesterol, they morph into foam cells.

The researchers took tissue from the coronary arteries and plaque of people who had died from Covid-19 and confirmed the virus was in those tissues. Then they took arterial and plaque cells—including macrophages and foam cells—from healthy patients and infected them with SARS-CoV-2 in a lab dish. They found the virus had also infected those cells and tissues.

Additionally, the researchers found that SARS-CoV-2 infects macrophages at a higher rate than other arterial cells. Cholesterol-laden foam cells were the most susceptible to infection and unable to readily clear the virus. This suggested that foam cells might act as a reservoir of SARS-CoV-2 in the atherosclerotic plaque. Having more build-up of plaque, and thus a greater number of foam cells, could increase the severity or persistence of Covid-19.

Researchers then documented the release of molecules, known as cytokines, that are known to increase inflammation and promote the formation of even more plaque. The cytokines were released by infected macrophages and foam cells. The scientists said this may help explain why people who have underlying plaque buildup and then get Covid-19 may have cardiovascular complications long after getting the infection.

This study was funded by NHLBI, NIAID and NIDDK.



Above and below, Price (second from r) leads a tour of the NIH stream corridor.

## Landscape

CONTINUED FROM PAGE 1

Environmental Protection in the Office of Research Facilities to prevent erosion and address water runoff issues and digitally catalogs the more than 8,000 trees on campus.

He also sits on an architectural design review board with other ORF employees to ensure new landscapes are consistent with the campus's look and seamlessly integrate into the surrounding context. During the combined Take Your Child to Work and Earth Day in April, he led a tour of the NIH stream corridor to highlight the importance of protecting local waterways, as well as the restoration work that was done along the stream banks.



His predecessor at NIH, Brandon Hartz, began reintroducing several types of native plants around campus. He hoped the native plants would establish themselves and provide competition to invasive plants and attract birds and other animals.

Price wants to continue what Hartz started. Prior to joining NIH, he spent seven years working at landscape architecture firms with a focus on climate-resilient landscapes. Price advocated for the use of native plants on projects, which are crucial to restoring local ecosystems, increasing biodiversity and providing ideal habitat for wildlife. Once established, native plants are low maintenance and require minimal irrigation.

Price regularly walks around campus to “keep an eye out for broken branches and

hazardous trees.” Every time a tree comes down, another must be planted in its place. He helps decide the species and where the tree will be located—whether it's in the forested areas around the campus perimeter or closer to buildings.

Enhancing NIH's tree coverage is important. Trees can help mitigate the effects of climate change by sequestering carbon from the atmosphere and preventing erosion, he said. In addition, they can also reduce the effects of urban heat islands, in which buildings, paved roads and parking lots absorb heat during the day and radiate it at night.

“More trees will reduce the temperature and energy use on campus,” he explained.

Price has gotten the birdhouse program back up and running after a pause due to the Covid-19 pandemic. In 2001, NIH grounds maintenance crews installed more than 30 birdhouses and several bat houses in strategic locations throughout the property.

Former landscape architect Lynn Mueller dreamed of the idea as an environmentally friendly way to reduce the insect pest population. The houses are necessary because certain birds build their nests in dead trees and other small cavity spaces. And due to increased urban development, native migratory birds have fewer places to call home.

“They are doing the work for us and then we don't have to apply pesticides,” said Price. “It's a natural way of pest management.”

A group of volunteers monitors the birdhouses every week or two. They collect data on the presence of nesting birds, the species of these birds, the quantity of unhatched eggs, the presence of insect pests and the need for box repairs.

During the pandemic, many volunteers were on maximum telework. As a result, the birdhouses fell into disrepair. It's been two years since the monitors have had data on what species are living in the houses.

He's been in the role for several months, and, so far, he's been impressed by NIH's sense of community and togetherness.

“There are so many institutes and centers at NIH that are working together towards one goal, promoting health and wellbeing,” he said. **R**

## Bremer Named Director of Nutrition Research Office

Dr. Andrew Bremer is the new director of NIH's Office of Nutrition Research (ONR), part of the Division of Program Coordination, Planning and Strategic Initiatives in the NIH Office of the Director.

Bremer is a board-certified internist, pediatrician and pediatric endocrinologist, and has a Ph.D. in pharmacology. He previously served as chief of the Pediatric Growth and Nutrition Branch at the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD). His areas of expertise include endocrine disorders, obesity, developmental origins of health and disease, and the role of nutrition in health throughout the life cycle.



Dr. Andrew Bremer

Bremer earned his B.S. at Yale University. He completed M.D./Ph.D. training at Boston University, internal medicine and pediatric residencies at Baylor College of Medicine and a pediatric endocrinology fellowship at the University of California, San Francisco. He subsequently received an M.A.S. degree in clinical research from the University of California, Davis.

His career at NIH began in the Division of Diabetes, Endocrinology and Metabolic Diseases at the National Institute of Diabetes and Digestive and Kidney Diseases.

Bremer is a co-chair on the National Collaborative on Childhood Obesity Research steering committee, a member of the senior leadership group of the NIH Obesity Research Task Force, NIH liaison to the American Academy of Pediatrics' committee on nutrition and section on obesity, and a member of the NIH Climate Change and Health Initiative steering committee.

As a member of ONR senior leadership, he helped develop the 2020-2030 Strategic Plan for NIH Nutrition Research. Bremer has received numerous honors, including election to the Society for Pediatric Research, multiple NIH Director's Awards and several teaching awards.



## MAN BEHIND THE MONITOR

### CIT's McLean Retires After 27 Years at NIH

BY AMBER SNYDER

"How do you get good audio from a million-dollar cello?"

That's one question Scott McLean (formerly Collins), Center for Information Technology (CIT) computer specialist, probably didn't expect to hear when he joined the NIH VideoCast team when it launched in 2000. His NIH journey had started four years prior, when he joined the Division of Computer Research and Technology (DCRT) Technical Assistance Support Center (TASC), now known as the NIH help desk. Twenty-seven years later, he reflected on his journey as he prepared to retire recently.

McLean started his NIH career consulting with staff to resolve computing problems with TASC. He also became the go-to expert and instructor for the NIH PARACHUTE service, the precursor to VPN that supported as many as 5,000 off-campus dial-up users. He was also involved in the Y2K remediation process, in which all systems that used dates had to be checked to make sure they would continue to work when the year switched from 1999 to 2000.

After that, McLean took advantage of a new opportunity to support live streaming video from NIH servers to clients around the world over the internet. Before VideoCast, the only way for events to be broadcast was to use IPTV over the multicast network, McLean said, and there was no way to archive videos.

The start of VideoCast was "years before YouTube, and NIH led the way with early adoption and innovation," McLean said. His role ensured day-to-day support for "hundreds of live events a year."

He coordinated and monitored live video streams, edited the video footage and published the finished product in the archives as quickly as possible,

usually within a few days after the broadcast. He was also responsible for post-production closed captioning.

The pandemic brought new challenges for the VideoCast team, he recalled. With maximum telework, all lectures, conferences and meetings that would normally be broadcast from physical rooms switched to virtual "overnight," McLean said.

The virtual town halls were the first priority, especially in the early days of the pandemic. "I did whatever it took to finish editing those [and post them quickly]," he said, acknowledging that his work included some late nights.

McLean recalled many highlights in his years working with VideoCast. One of his top memories, he said, was "[helping to publish the web link of] live video from NIH Bethesda, Maryland via NASA Space Center Houston to the International Space Station for a real-time chat with Dr. Francis Collins and astronaut [Dr.] Kate Rubins...the enormity [of the experience] sunk in after watching Kate Rubins do a back flip in zero gravity during the interview."

Many broadcast VIP visits also stood out to McLean, such as Jane Goodall, Maya Angelou, Barbra Streisand, Yo-Yo Ma (and his million-dollar cello), Katie Couric, the Dalai Lama, Alan Alda and Renée Fleming.

McLean took pride in his role of sharing science with the world. "I feel privileged working at NIH to support the mission and to serve the American public," he said.

Being exposed to science every day also piqued his interest in some of the topics—one with a profound discovery.

McLean's appreciation for the science he made accessible to the world also prompted an interest in his own genealogy. Revolutions in genetics and DNA testing allowed him to research his family history and trace his roots back to the Scottish Highlands. He also reverted back to his historic family surname of McLean in 2020 (before that, his last name was Collins).

Fittingly, he plans to travel to Scotland after retiring.

"It has been an honor and privilege to work so many years at NIH working with so many talented people supporting such incredible science," he said. "I look

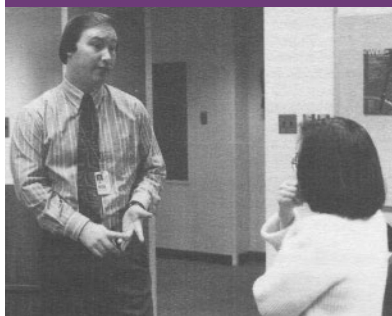
forward to having free time to travel with my family, take up new hobbies and enjoying life to the fullest."



CIT's Scott McLean



Above, McLean holds a signed aerial photograph of NIH's campus at his retirement party. Below, McLean teaches a class in DCRT's spring 1998 NIH computer training catalogue.



### Retired NIH Craftsman Dehn Is Mourned

William "Bill" Dehn, a retired glassblower known around the world for his ingenuity, technical skill and contributions to medical research laboratories



William "Bill" Dehn

and clinics, passed away on Aug. 18 at age 86.

After more than 40 years at NIH, Dehn retired in 2003 as the last glassblower in the Office

of Research Services' Biomedical Engineering and Instrumentation Branch (BEIB).

From rat waste sorters to mouse milkers, from three-stage oil diffusion pumps to mosquito feeders, if a scientist needed it, Dehn devised it on demand in glass. That was before plastics and digital solutions took over.

At BEIB's peak in the late 1970s and early 1980s, the branch employed six glassblowers on staff—most of whom put in overtime producing the unique devices required for research. Campus labs and clinics were using more than 50,000 glass units annually. Many instruments and devices were created to individual specifications and protocol requirements.

For decades, labs nationwide and around the world appealed to NIH glassblowers for their unique research tools.

"These days many of the devices have been replaced by computer modeling," Dehn said in an August 2002 *NIH Record* article.

"Bill's passion for science and precision craftsmanship left an indelible mark on the scientific community," according to an obituary, "and his humor was as finely crafted as the glass instruments he so expertly designed."

Dehn's survivors include his wife of more than 66 years, Betsy; daughters Barbara Boswell and Michele Field; four grandchildren and five siblings.



In 2002, glassblower Dehn at work

## NIH'er Teaches Afro-Cuban Dance for Fun, Health

BY LAMONT WILLIAMS

It's often said that physical activity is a key factor in creating and maintaining a healthy mind and body, but no one said that activity could not also be fun. Dr. Methode Bacanamwo of the Center for Scientific Review (CSR) takes this view to heart.

"People ask me how I stay in shape," said Bacanamwo. "I tell them, 'I dance' and they should too! It's enjoyable and has great health benefits at the same time."

Bacanamwo has taught several classes in Afro-Cuban dance at the NIH Fitness Center at the Rockledge 2 Bldg. over the past two years. Through an engaging teaching manner, he demonstrated several moderate moves many can do easily, even if they have no prior dance experience.

Dance has been a large part of Bacanamwo's life since he was very young, growing up in the East African country of Burundi, which has a rich drumming culture.

He came to the U.S. on a scholarship from the New York-based Africa-America Institute, a nonprofit organization providing educational opportunities for young people from Africa. He attained an M.S. in physiology from Clemson University and a Ph.D. in molecular genetics and biochemistry from the University of Illinois Urbana-Champaign. At each step along his career path, he has taken his love of dance and found he was not alone among his colleagues.

"In graduate school, my Ph.D. advisor, who is a great scientist in the field of biochemistry, is also a great ballroom dancer, along with his wife," said Bacanamwo. "They would invite members of the lab to come watch the performances and learn a few dance steps."

Already familiar with dance connected to African, twist and swing music, to name a few, Bacanamwo liked ballroom dancing so much that he got formal training in that style.

His first faculty job was in Atlanta at the Cardiovascular Research Institute (CVRI) at Morehouse School of Medicine. Atlanta has a large Caribbean population and, while living there, Bacanamwo was introduced to Cuban dancing, in some cases with African influences. He explained how he would attend dancing congresses where he would learn different types of Cuban dances and the history behind them.

At CVRI, he worked on drug-resistant hypertension, particularly

among African Americans. He and his colleagues explored the adoption of the National Heart, Lung and Blood Institute's DASH diet and other lifestyle changes as part of patient care.

"I gained an appreciation for the importance of lowering one's stress levels and engaging in physical activity to improve one's cardiovascular health," said Bacanamwo. "And naturally I thought of dance."

"You cannot be stressed after listening and dancing to the music you like, and dancing is a form of physical activity," he said, adding that Afro-Cuban dance, in particular, is very versatile. "You can apply it to many types of music that might interest you."

Bacanamwo loves to teach dance whenever possible and explain its health benefits, noting that many people will take the time to learn something new when given the opportunity. His classes at the NIH Fitness Center have been well received, with many smiles and much laughter and exclamations of "That was fun!"

"When you do something that is enjoyable, you do not realize how quickly the time passes, despite having done so much," he said, emphasizing how easy it can be to incorporate a fair amount of dance into one's health routine.

"You do not need a fancy setup or other people to dance, and dancing does not have to be super strenuous," he added. "You could be cooking and cleaning while doing moderate dance as well. You can even do some dance moves while sitting. Moving your body is the key."

Bacanamwo hopes to hold more classes at the NIH Fitness Center. In the meantime, he continues to share his love of dance and encourage others to consider making it a part of their healthy habits.

To learn more about Cuban dance communities in the area and related classes, see: <https://www.dccasineros.org/>.

"If I could inspire everyone to get into dancing, I would," he said. "We would begin to see great improvements in people's health and wellbeing."



CSR's Dr. Methode Bacanamwo



Bacanamwo, shown here with colleague Dr. Rebecca Burgess, teaches Afro-Cuban dance during a class at the NIH Fitness Center in the Rockledge 2 Bldg.

