NIH

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National Institutes of Health

Inclusivity Not Optional for HERL

BY AMBER SNYDER

The first Wednesday Afternoon Lecture Series lecturer of 2023 was introduced by host Dr. Tom Bulea as "maybe the only WALS speaker to be featured on a Cheerios box" (although the jury is technically still out on Dr. Fauci).

Dr. Rory Cooper is a bioengineer and founding director of the Human Engineering Research Labs (HERL) at the University of Pittsburgh and U.S. Department of Veterans Affairs. HERL's mission is to improve the mobility and function of people with disabilities through advanced engineering in clinical research and medical rehabilitation.

Cooper recently shared his perspective with the NIH community in a hybrid lecture titled "Forging a New Future: Inclusion of People with Disabilities in Technology Research and Development."

One in seven Americans has a disability



Dr. Rory Cooper demonstrates capabilities of the HERLdesigned MEBot power wheelchair.

PHOTO: UC SANTA BARBARA

that impairs their daily life—including Cooper. After sustaining a spinal cord injury during military service at the age of 20, he became reliant on a wheelchair he described as "an 80-pound behemoth."

His new reality made him realize the

"tremendous need" to improve the technologies, environments and perceptions of people with disabilities. He set out to become an engineer, earning bachelor's and master's degrees in electrical engineering from California Polytechnic State University and a Ph. D. in electrical and computer engineering with a concentration in bioengineering from the University of California, Santa Barbara.

Cooper founded HERL in 1994 after several years of teaching at

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CEAL events show benefit of community engagement. See story, p. 12.

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Implemented
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Milestones

Events Boost Community-Engaged Research

NIH-Wide Tech Collaboration Center Launched

UNITE Shares Insights from First Progress Report

BY ERIC BOCK

Diversity is more than a buzzword—it's critical to NIH being able to achieve its mission, said Dr. Kenneth Gibbs during "Conversations on Racial and Ethnic Equity," a virtual event about UNITE's first progress report.

A workforce that includes people from a range of backgrounds and experiences is better positioned to address the health challenges of our increasingly diverse society, said Gibbs, event moderator and chief of NIGMS's Undergraduate and Predoctoral Cross-Disciplinary Training Branch.

Released in October 2022, the UNITE Progress Report for Fiscal Years 2021–2022 describes NIH's actions to identify and address structural racism that may exist within NIH and in the biomedical research enterprise. Dr. Lawrence Tabak, who is performing the duties of NIH director,

NIX NEEDLESS MEETINGS

Samuel Gives Tips on How to Thrive in the Hybrid Workplace

BY DANA TALESNIK

The future of work has arrived. This new

normal-a hybrid of on-site and remote work-that largely emerged during the pandemic is still new for many workers and doesn't always feel normal.



everywhere are trying to adapt to this hybrid model, improvising and tweaking to create a workplace that optimizes productivity and morale. To help navigate the challenges, Dr. Alexandra Samuel, digital workplace strategist and author, offered advice at a recent Deputy Director of Management Seminar Series

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Workplace Civility and Equity Survey Closes Feb. 24

There is still one week left for eligible NIH staff to take the 2023 NIH Workplace Civility and Equity Survey, or Workplace CES, which closes on Friday, Feb. 24. Built in partnership with OHR, EDI, and UNITE, the survey will be administered once every three years and gives eligible staff the opportunity to confidentially provide feedback on harassment and discrimination in the NIH workplace.

The survey is open to NIH federal employees, trainees, volunteers and participating contractors onboarded on or before July 17, 2022. If you are eligible to take the survey, check your inbox for an email with the following heading:

From: NIHWorkplaceCES@mail.nih.gov Subject: 2023 NIH Workplace Civility and Equity Survey

Results will help inform strategies towards an inclusive, diverse and harassment-free workplace. It only takes 15 minutes to help create positive change across our organization.

For more information, visit hr.nih.gov/wces. Questions? Contact NIHWorkplaceCES@mail.nih. gov or reach out to your IC Coordinator.

Nominations Open for Safety Award

The NIH Mission First Safety Always Award, through the Division of Occupational Health and Safety, was created in 2013 to recognize employees, contractors and trainees who demonstrate leadership, innovation and involvement in ensuring a safe workplace. Nominations are open through Friday, Mar. 3 to recognize 2022 activities.

For details on the award and to nominate an outstanding individual, visit https://bit.ly/3JTncxs. Questions? Call (301) 496-3291.

VOLUNTEERS

Cytopenia Study Seeks Volunteers

The road to recovery after a bone marrow transplant can be complicated by cytopenia(s) (when one or more of your blood cell types is lower than normal). Sometimes, this is "immune-mediated," meaning your red cells or platelets are being targeted and destroyed by the body's immune system. NHLBI researchers are testing the drug fostamatinib in adults with immune-mediated cytopenia(s) to see whether it will help. The study enrolls adults who are ≥ 60 days post-transplant, experiencing hard-to-treat cytopenia(s) and are transfusion dependent. If you know someone that qualifies, contact the Office of Patient Recruitment at (866) 444-2214 (TTY users dial 711), ccopr@nih.gov. Ask for study #000758-H. Online: https://bit.ly/3Vh6ZUP.



At left, NHI's Laboratory of Biochemistry takes a group photo in front of Bldg. 3 in 1963. At right, NIAMD's Alma Hayden, shown here in 1951



History Office Shares Images of Black Pioneers at NIH

For February, the Office of NIH History (ONHM) is highlighting important firsts of Black scientists and administrators across NIH history.

A 1963 group photo (above) of the National Heart Institute's (now National Heart, Lung and Blood Institute) Laboratory of Biochemistry features two Black women trailblazers, Mary G. Burroughs (front row, r) and Juanita P. Cooke (front, second from I).

Cooke, who joined NIH in 1952 as a chemist, was named as a contributor to the studies of protein folding that earned Dr. Christian Anfinsen the Nobel Prize in chemistry. While continuing her work in the lab, Cooke became the first NIH employee to receive an Equal Opportunity Achievement Award from the Department of Health and Human Services.

Alma LeVant Hayden was passionate about chemistry. She earned her master's degree in chemistry at Howard University before joining the National Institute of Arthritic and Metabolic Diseases (now National Institute of Diabetes and Digestive and Kidney Diseases) in 1951. She became well versed in cutting-edge chemical analysis, like paper chromatography, a technique she demonstrated in the photo (top, r). She also became a nationally recognized expert in spectrophotometry. In 1956, she left NIH for

GEL READER

Shown in his early days as an investigator, Dr. William Coleman Jr., who became NIH's first Black scientific director in 2011, excelled at both research and administration during his 40 years here.

FDA where she eventually headed its Division of Pharmaceutical Chemistry's Spectrophotometry Branch. At the time of her hiring, she was likely the first Black scientist at FDA.

Dr. William Coleman Jr. excelled at research and administration during his 40 years at NIH. While a scientist at the National Institute of Diabetes and Digestive and Kidney Diseases, he studied Helicobacter

pylori (a bacterium that causes stomach infections), using technology like the DNA gel reader seen in this photo (middle). He would later become NIH's first Black scientific director when he took the position at the National Institute on Minority Health and Health Disparities in 2011.

Alongside those whose names and stories are known, there are many unidentified individuals whose roles at NIH are memorialized in documentary photos on other topics.

At right, in an image from the ONHM photograph collection, an unidentified technician in the early 1980s from the National Cancer Institute Laboratory of Pathology loads a histomatic tissue processor, a machine that could test hundreds of samples simultaneously for many different cancer pathologies.—Devon Valera



An unidentified technician loads a tissue processor in the NCI Laboratory of Pathology in the early 1980s.

PHOTOS: OFFICE OF NIH HISTORY

NIBIB Launches BETA Center to Foster NIH-Wide Tech Collaboration

The National Institute of Biomedical Imaging and Bioengineering (NIBIB) has established a new intramural research

program to solve a range of medicine's most pressing problems. The Center for **Biomedical Engineering** Technology Acceleration (BETA Center) will serve the wider NIH intramural research program as a biotechnology resource and catalyst for NIH research discoveries.

The center will incorporate a focused engineering approach to accelerate the development, validation and dissemination of cutting-edge technologies. Emphasis areas will include biomedical imaging, biosensing, engineered and synthetic biology, nanomaterials and biomaterials,

artificial intelligence, modeling, computation and informatics.

BETA will be able to assemble expert teams rapidly for purpose-driven technology development to address urgent national and global health needs.

"Engineering and technology

PHOTO: GORODENKOFF/SHUTTERSTOCK

The new BETA Center aims to facilitate NIH-wide innovation and collaboration.

development are central to everything NIH does," said NIBIB Director Dr. Bruce J. Tromberg. "New tech drives new biomedical discoveries, and new discoveries are transformed into cutting-edge methods, devices and knowledge that can be widely disseminated."

The center also will focus on expanding diversity, equity, inclusion and accessibility

> at NIBIB, building on the inherent interdisciplinary nature of biomedical engineering.

"We are all so excited about this intramural center dedicated to applying engineering principles to biomedical discovery and therapeutics," said NIH Deputy Director for Intramural Research Dr. Nina F. Schor. "The BETA Center's emphasis on bringing diverse talent together to solve complex systems and problems

will maximize its impact and success."

Later this month, Dr. Manu Platt will

scientific diversity, equity and inclusion.

PHOTO: ALLISON CARTER/GEORGIA INSTITUTE

join NIBIB as director of the BETA

Center and associate director for

OF TECHNOLOGY

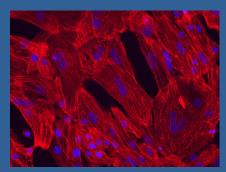
Following a national search, Dr. Manu Platt will become the center's first director. Platt also has been appointed NIBIB associate director for scientific diversity, equity and inclusion.

As BETA Center director, Platt will work to expand opportunities for biomedical engi-

> neering training and professional growth, including recruiting individuals from diverse backgrounds.

Platt will join NIH from the Georgia Institute of Technology and Emory University in Atlanta, where his lab has pioneered new approaches to addressing health needs in low-resource settings. His research has spanned from technology development for cardiovascular and sickle cell disease to personalized and predictive medicine for breast cancer and HIV. In addition to his experience as a bioengineer and educator, Platt is a nationally recognized leader in diversifying scientific workforces.

"Increasing collaboration within the NIH bioengineering community is key to translating promising technologies into better health for patients," said Dr. Griffin P. Rodgers, director of the National Institute of Diabetes and Digestive and Kidney Diseases, who chaired the BETA director search committee. "We look forward to joining forces with Dr. Platt and the BETA Center to address urgent national and global health care needs." B



ON THE COVER: Induced pluripotent stem cell (iPSC)-cardiac smooth muscle cells. Together with endothelial cells, these cells are the major building blocks of coronary vessels in the heart. Red stains show mature smooth muscle cell contractile proteins (myosin heavy chain 11 or MYH11) and blue stains show cell nuclei, as viewed under an inverted LED fluorescence microscope. A better understanding of these cell types could lead to new insights into the contributions of novel pathogenic variants and environmental risk factors to the development of congenital and acquired heart disease. February is American Heart Month.

IMAGE: JOSEPH WU & MENGCHENG SHEN/STANFORD UNIVERSITY SCHOOL OF MEDICINE

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The NIH Record





Dr. Tom Bulea (I) and Dr. Leighton Chan, who holds a USPTO inventor card featuring Cooper.

Inclusion

CONTINUED FROM PAGE 1

Sacramento State University. The HERL view is that research must include the people you are trying to help as members of the team. That perspective comes not only from Cooper, but also from many of the other members of his lab.

According to the National Council on Disability, being involved in planning from day one is critical to building an accessible product. Cooper and his lab recruitment team vigorously work to incorporate people with disabilities in research and development. That involves interviewing and surveying end users to set priorities, as well as including them in the research process.

The Pitt HERL ELeVATE (Experiential Learning for Veterans in Assistive Technology and Engineering) program, for example, provides internships for military veterans to conduct research in the lab. HERL also recruits from many other sources.

"[Recruiting] has gotten easier over time because word has gotten out," Cooper added.

He has also designed the HERL facility to be an ideal workplace for people with disabilities.

"We look at what people need to be productive, rather than [just] what the ADA guidelines say," he said. That involves modifications like wider hallways and lower lab benches.

Inclusivity is a priority at HERL and that is reflected in the diversity of abilities in the lab. But the community of people with disabilities is underrepresented in STEM education. Cooper found three contributing

factors: lack of accessibility in labs; lack of knowledge on accessibility and inclusivity among educators and scientists; and lack of access to science classes in high school.

He found that labs and other facilities generally are not truly adapted or outfitted for people with disabilities, and teachers and scientists are often not educated on how to accommodate people with disabilities.

Additionally, some states do not require science education after middle school, so fewer students in those states may be directed toward STEM careers as a result.

In Cooper's experience, he has found that "a lot of knowledge is lost if you don't include the people you are trying to help in your research."

Ergonomics

HERL research covers several domains, which include health and the prevention of secondary conditions. Some of the most common injuries in wheelchair users include carpal tunnel and rotator cuff injuries. Cooper wanted to study wheelchair ergonomics to reduce these injuries.

"I also wanted to increase my odds of winning a medal in Paralympics wheelchair

At the WALS event held at the CC, Cooper accepts a speaker certificate from Bulea.

PHOTO: DIANA GOMEZ

racing," he joked (Cooper has won 200-plus medals in various wheelchair sporting events, hence the Cheerios box feature).

In the 1990s and 2000s, about 80% of wheelchair users developed carpal tunnel or rotator cuff injuries within 5 years, which they said was just as devastating as their initial injury. Cooper and his colleagues developed a more ergonomic push rim for wheelchairs.

Originally, users propelled themselves with a pinch grip, which increased their injury risk. But Cooper's team's new design changed to a tool grip, which is more powerful, efficient and reduces risk of overuse injuries. Most important to wheelchair users, better wheelchairs, fitting and the modified grip reduce the incidence of carpal tunnel and rotator cuff injuries to about 20%.

HERL also developed—with NIH funding—the SMARTWheel, a device mounted on the wheel that measures push forces, frequency, length, smoothness and speed. The mechanism provides automated reports and assists therapists in optimizing wheelchair setup and push style while also reducing repetitive stress. The SMARTWheel enabled the research leading to improved wheelchair ergonomics worldwide, and has become the "gold standard" for research teams.

Wheelchair users experience whole-body vibrations on the same scale as helicopter pilots and long-haul truckers, which can cause back and neck problems. HERL is currently investigating in-wheel suspension devices to reduce these vibrations.

Technologies Meet Engineering

"When you conduct work in a lab, you learn what people can do," Cooper said, "but what you don't learn is what they *do* do."

To address this disconnect, HERL develops software and other virtual coaching technologies that can be used at home. One example is the Virtual Seating Coach app, which connects to sensors in the wheelchair seat. The "virtual coach" analyzes how the user is sitting and advises users how to adjust to avoid pressure injuries.

A similar product, Active Cushion, is still in the works. It is a collaboration with the University of Texas Applied Research Institute. The product is an air bladder cushion with modulating algorithms that



analyze
users' sitting
pressure
patterns and
use that data
to redistribute
pressure more
evenly across
the seat.

Another focus of the lab is transfer, which involves moving a patient to/from a wheel-



Cooper wants people to remember, "Everyone prefers the more accessible facilities."

chair, bed, car or other setting, often with the assistance of a caregiver or trained health care professional.

HERL researchers modified the gaming technology Microsoft Xbox Kinect to build a program that can educate wheelchair users and caregivers on transfer training in their own homes. The software, TransKinect, is affordable and readily available.

HERL is also working on powered transfer devices, such as a robotic arm that lifts patients with a sling, and a hospital bed that can link to a powered wheelchair and move a patient between the two devices unassisted.

Future Targets and Takeaways

Future goals for HERL include building technologies to help people retain or regain their autonomy.

Much of that revolves around car technology, because "people usually stop driving when they develop a mobility-impairing disability," Cooper said. Expanding upon technologies like lane control and adaptive cruise control, which are already in many new vehicles, could help people with disabilities maintain their independence.

Technologies like these benefit able-bodied people as well, which is a crucial takeaway Cooper wants people to remember.

"Everyone prefers the more accessible facilities," he said—think family bathrooms, automatic doors, ramps, etc.

Think of reimagining spaces and equipment as "a universal design approach that makes the world a better place for everyone," he concluded.

To view a recording of the full lecture, visit https://videocast.nih.gov/watch=46052.

Clayton Honored at Congressional Reception

The Friends of the Office of Research on Women's Health (FORWH) honored ORWH Director Dr. Janine Austin Clayton on Jan. 25 at a Women's Health Research Day congressional reception, which commemorates the implementation of the NIH policy on sex as a biological

memorates the implementation of the NIH policy on sex as a biologica variable (SABV).

The FORWH coalition is composed of organizations representing researchers, clinicians, patients and policy advocates committed to addressing sex and gender disparities in health and prioritizing research gaps and unmet needs to advance women's health.

Women's Health Research Day raises awareness of the historical underrepresentation of women in clinical trials and the importance of designing basic, preclinical and biomedical research studies in females and males, and the need to disaggregate and analyze data by biological sex, all of which will lead to more effective, inclusive health care. Clayton was honored for her years of public service and myriad contributions to women's health, including her work as architect of the NIH SABV policy.

"I am here today—Women's Health Research Day—to thank you, not only for recognizing me and the efforts of ORWH, but more importantly for helping to give women everywhere a tremendous gift, and that is health," Clayton said, accepting the honor. "I want to thank all of you—our friends in Congress, for appropriating an extra \$17 million for the Office of Research on Women's Health, our colleagues in the 23 different organizations that comprise the Friends of ORWH and especially our friends at the Society for Women's Health Research for leading it. Thank you for everything you've done to elevate the needs of women, and the importance of putting science to work for the health of women, bringing awareness to women's issues and for getting people involved...We are going to share this gift with our communities—the scores of women and



Dr. Janine Austin Clayton (I) received a FORWH honor from the Society for Women's Health Research president and CEO Kathryn G. Schubert at a congressional reception celebrating the 7th anniversary of the NIH policy on sex as a biological variable.

men who are working very hard to raise awareness of and funding for research to better understand the health and diseases of women and sex differences. We are going to ensure that this funding is used to put science to work for the health of women, which will ultimately benefit everyone."

The funding will help ORWH support several critical projects and programs, including the establishment of an NIH Office of Autoimmune Disease Research.

NCCIH Hosts Interactive Pain Lectures

THROUGH JUNE 28

Pain is a multifaceted phenomenon and the most common reason people seek medical attention. To help improve understanding of the dynamics of pain, from physiological initiation to the coping behaviors of patients and everything in between, join the National Center for Complementary and Integrative Health (NCCIH) for the Interactive Pain Lecture Series.



Designed for participants in the Intramural Research Training Award program, the lectures will provide a solid foundation about the concepts and facts of this challenging subject. The series is divided into 18 one-hour sessions and runs through June 28 on the second and fourth Wednesdays of the month.

"There hasn't been anything out there to serve as an introduction for learners about the complexities of pain to make it understandable and approachable," explained Dr. Misha Backonja, supervisory physician in the NCCIH Clinical Investigations Branch. "Our goal for each session is to inspire curiosity and

motivate participants to want to further explore pain as a topic in their own research."

Each session will be a hybrid of in-person participation on the NIH campus and online remote participation. An outline of the session's presentation will be available to the registered audience at the beginning of each week.

Each session will begin with a 20- to 25-minute lecture about one of the pain core curriculum topics, followed by a panel discussion and Q&As. Volunteer postbacs will introduce the topics, presenters and discussants, as well as moderate the discussions. Everyone attending, in person or remotely, will be invited to participate.

For more information, contact Backonja at misha.backonja@nih.gov or go to https://bit.ly/3X8xflb.

Hybrid

CONTINUED FROM PAGE 1

lecture.

This new reality is not new for Samuel, who has worked hybrid for 20 years. For everyone else now going hybrid, she said, seize this opportunity to reinvent the workplace.

"When I think about hybrid work, I think about moving to a world of work where we no longer assume a one-size-fits-all version of the office," said Samuel. "We should be asking every single person on our team: 'What do you need to work effectively?"

Many are finding the workplace more accessible in the new world. People with chronic health issues, for example, might do their best work remotely. For Samuel, who has a child with autism, workplace flexibility has been especially meaningful.

"This opening of different ways of working could make it possible to have a more inclusive and more equitable workplace," she said.

Of course, the needs of managers and employees can clash in the hybrid world. "There will be moments where we have to make evaluations and tradeoffs and compromises," said Samuel.

Now is the time for managers and employees to begin an ongoing dialogue about needs, routines, work-life balance and sustainability.

"At the end of the day, the only way to really protect your mental health, your energy levels, your long-term sustainability is to recognize that you have to draw some lines for yourself," Samuel said.

Many workers report frequently working extra hours in the evening because it's the only time they can get work done. The culprit? Too many meetings.

It's time to rethink meetings in our workday, underscored Samuel. "Stop treating meetings as the default way of getting things done," she said.

When scheduling meetings, or replying to attend them, stop and think: Is there another way to plan and get this work done? Consider the array of tech tools that foster collaboration without meeting or even working at the same time. "Even if we replace one in five meetings," she said, "it's a start."

That array of tech tools, though, can be daunting. The key is knowing and agreeing on when to use which channels.



Remote work's a failure. We didn't get a thing done today even though we had eight hours of Zoom meetings.

CARTOONS BY ROB COTTINGHAM

Document-sharing platforms help to brainstorm, outline, share and plan. "And you may get a wider range of ideas from more people if there's time and space to reflect," said Samuel.

Instant messaging and Teams discussion forums facilitate short-term, time-sensitive, real-time exchange on a shared platform. Email can help colleagues manage multiple tasks and share information, while providing a trackable record.

"The more you can get this structured input in asynchronous ways...not having to reply in real time," said Samuel, "the more you give people the tools to manage their own time and attention."

A hybrid environment begs the question: What needs to get done in person and what can get done at home?

"If we're doing hybrid, it's because we recognize there is unique value in us being together face to face," Samuel said. Try to schedule meetings on those days when the team is in the office together, she advised. On remote days, ideally there would be no or few meetings, allowing time for uninterrupted, focused work.

"Having real flexibility to manage your own time on days you're not in the office is worth so much more than being able to set your own schedule only to have the privilege of coming in and having meetings in an empty room," she said.

In fact, Samuel discourages holding hybrid meetings. "If it's essential to have [certain] people in the meeting, you want to level the playing field," she said.

If some people are in the office and others are remote, have everyone do a video meeting, she advised. Each person should be in front of a computer with the camera on so everyone can easily follow and participate. Perhaps sign into the virtual meeting a few minutes early to allow for informal chitchat.

If hybrid meetings can't be avoided, have what Samuel calls a Zoom buddy. "Each remote person should have someone [physically] in the room whose job it is to keep them engaged."

Going remote and hybrid require flexibility and a shift in mindset. Supervisors must shift from watching the clock to managing outcomes. Trust the team to deliver results without constant oversight.

In this new world, Samuel said, the manager is "the mentor; the clearer of bottle-necks; the person we bounce ideas off of; the person who can connect different resources within the team so people can get their work done" wherever they are.

That mindset is a big part of sustaining the organization's culture and mission. "When organizations promote that interpersonal trust," she said, "we're able to get



It's great to be back in the office so we can all meet face-to-face!





Neil Shapiro, NIH associate director for budget; and Ginger Betson, NCCIH executive officer.

more done; our work is more satisfying and it [helps prevent] burnout."

Samuel recommends doing a self-audit in each team. Think about the team's pre-pandemic practices for onboarding, fostering collegiality and communicating mission.

"Think about ways to update or riff on these practices so they work in this new world," she said. Have that chitchat before virtual meetings. Maybe plan a monthly activity for the team.

Foster the transition equitably from onsite to remote and hybrid. Explore ways to mentor and train employees at all levels so everyone can build meaningful relationships and has the tools and the opportunity to thrive and advance their careers.

This hybrid world is here to stay. How can it become an optimal work environment for everyone?

"The beauty of this moment where we're rethinking the very nature and structure of the workplace is that we can normalize this conversation," said Samuel.

"Finding ways to build trust, relationships and connection while we're not all in the same place, while also creating enough space and independence in our time at home so we can regenerate, is part of our work."

ODS Webinar To Address 'Supplements, Diet, Food Systems'

The Office of Dietary Supplements (ODS) will host a webinar, "Food Politics 2023: Supplements, Diet, Food Systems" on Wednesday, Mar. 1 from 11 a.m. to noon ET via WebEx.

Evaluating the quality—the truth—of information given to the public about diet, nutrition and health has become a major challenge for food and nutrition scientists, educators and regulators. Publicly available information about supplements is a classic example of this problem as so much of this is based on anecdote, belief and opinion rather than on empirical experiments or clinical trials. Literature on countering misinformation tends to focus on facts, despite limited evidence for the effectiveness of this strategy.



Dr. Marion Nestle will address the dilemma from the viewpoint of its research base and her personal experience. Nestle is the Paulette Goddard professor of nutrition, food studies and public health, emerita, at New York University. Her research and writing examine scientific and socioeconomic influences on food choice and its consequences, emphasizing the role of food industry marketing.

The ODS seminar series is available by webinar only. For viewing information, email ODS@nih.gov.

Data Management, Sharing Policy Implemented

A new policy requiring researchers to plan prospectively for managing and sharing scientific data generated with NIH funds went into effect on Jan. 23.

The data management and sharing (DMS) policy requires investigators to submit a plan for how scientific data and accompanying metadata will be managed and shared.

"The DMS policy strikes the right balance between reasonable expectations for data sharing and flexibility to allow for diverse data types and circumstances," said Dr. Lawrence Tabak, who is performing the duties of NIH director. "The policy establishes the expectation that data sharing is a fundamental component of the research process and maximizes the public's access to research results that arise from NIH-funded research."

Sharing scientific data accelerates biomedical research discovery, in part, by enabling validation of research results, providing accessibility to high-value datasets and promoting data reuse for future studies.

Under the DMS policy, NIH expects that investigators and institutions:

- Plan and budget for managing and sharing data
- Submit a DMS plan for review when applying for funding
- Comply with the approved DMS plan

The policy was issued Oct. 29, 2020. Since then, NIH has participated in dozens of meetings, webinars, conferences and other events preparing the research community for implementation.

The final policy and associated resources for implementation greatly benefited from the informed feedback. NIH will continue to engage the community moving forward to ensure the policy achieves its stated goals.

"The extraordinary speed at which Covid-19 vaccines and treatments were developed demonstrates the power of data sharing to catalyze groundbreaking research," Tabak concluded. "By committing to responsible data management and sharing, the research community is pledging to accelerate scientific discoveries and medical breakthroughs that benefit all Americans."

For more information about what types of research projects fall under NIH's data management and sharing policy, and how NIH handles sharing of proprietary information, see: https://bit.ly/3x7NZP7.



UNITE

CONTINUED FROM PAGE 1

described the report's focus on:

- Elevating health disparities and minority health research across institutes and centers
- Promoting equity in the NIH-supported biomedical research ecosystem and in the internal workforce
- Improving the accuracy and transparency of racial and ethnic equity data

"There are real tangible things that are happening" thanks to the efforts of those working with UNITE, said Dr. Marie Bernard, NIH's chief officer for scientific workforce diversity.

Accomplishments include revising the selection process for NIH Director's Awards. This change will give more award opportunities to employees who aren't in scientific positions.

At NIH, people of color make up the bulk of the workforce at lower GS levels. There have not been NIH-wide training opportunities for employees below GS-11. Recently, a new program launched to provide extra training opportunities to these employees.

The anti-racism steering committee recommended establishment of a listserv to advertise NIH jobs to a broader group of candidates. In addition, the Equity, Diversity and Inclusion Office has published demographic data about NIH's workforce on UNITE's intranet web page.

Bernard has read through each IC's racial

and ethnic equity plans. Many of them are hiring chief diversity officers whose full-time job will be focused on diversity,

equity, inclusion and accessibility (DEIA) efforts.

"Every IC has really leaned into this effort," she reported. "They thought carefully about their environment and what changes they need to make so things are more equitable." Plans are underway to help them implement their proposals quicker.

UNITE committees include members from across NIH and at all seniority levels, said Asha Storm, scientific program analyst in NIBIB's Division of Health Informatics Technologies.

"One of the great advantages of that is the fact that people talk to me in a way that they may not be willing to talk to a supervisor or their leadership," Storm said. "It's wonderful because members can then bring up issues with people who can enact change."

NIH Deputy Director for Management Dr. Alfred Johnson has worked at NIH for 37 years as both a scientist and an administrator. "This is the first effort of this nature that I really feel is going to make a major difference at NIH and beyond," he said. "That brings me great hope."

UNITE's five committees include more than 80 NIH staff volunteers. Each component has a unique mission, while working collaboratively to develop methods that enhance equity across the scientific enterprise.

This broad approach has allowed UNITE to "make tremendous progress in a short period of time," Johnson observed.

To ensure accountability, UNITE volunteers knew they needed to develop an actionable plan to identify and track areas that need improvement, said Dr. Jake Liang, chief of NIDDK's Liver Diseases Branch. He was part of the effort to formulate IC-specific racial and ethnic equity plans. Going forward, these plans might need to be modified depending on what happens in the future.

"Our DEIA journey was neither 'once upon a time,' nor will it be 'happily ever after," he explained. "It requires constant and continued vigilance, so we don't move backwards."

Leadership has committed to furthering racial and ethnic equity by adding it into the critical elements of annual performance evaluations, said Brenda Robles, manager of the CC Social Work Department's Language Interpreter Program.

"This demonstrates we have a commitment to diversity, equity, inclusion and accessibility, and that we're all participating in this," Robles said. "There is unity and strength in diversity and diversity of thinking and in racial diversity."

Many diversity and inclusion efforts have come and gone with little to show. Much thought has gone into ensuring UNITE is "durable," said Dr. Tara Schwetz, NIH acting principal deputy director. "We're constantly thinking about how we can create programs and initiatives that are going to be sustainable and long-lasting."

She said leadership has "baked the UNITE principles of antiracism and equity into the fabric of what we're doing across NIH." For example, the initiative is a working group of the NIH steering committee. "That means we have instituted UNITE as part of the NIH governance structure."

Ten years from now, Bernard said, she anticipates that UNITE will be associated with a lot of good outcomes.

"It is my hope that we will have made significant progress toward our goals, that you will not be able to predict based upon race, ethnicity, your likelihood of getting NIH funding," she concluded. "And similarly, you will not be able to predict, based on race and ethnicity, what GS level the person has...what leadership roles they may have within NIH."

View the progress report at bit.ly/3kYMvUz.



Panelists from the event include NIH staff who are volunteering on UNITE and UNITE co-chairs. PHOTO: CHIA-CHI CHARLIE CHANG

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Probiotic Reduces Staph Colonization in Phase 2 Trial

A promising approach to control *Staphylococcus aureus* bacterial colonization in people—using

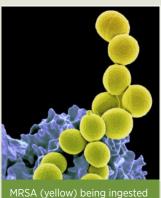


IMAGE: NIAID

a probiotic instead of antibiotics—was safe and highly effective in a phase 2 clinical trial.

The new study, reported in the Lancet Microbe, found that the probiotic Bacillus subtilis markedly

reduced *S. aureus* colonization in trial participants without harming the gut microbiota, which includes beneficial bacteria. The research was conducted by an NIH team led by Dr. Michael Otto, a senior investigator at NIAID.

Methicillin-resistant *S. aureus*, or MRSA, is familiar to many as a cause of serious disease. Less well known is that *S. aureus* often lives in the nose, on the body and in the gut without causing harm. However, if the skin barrier is broken, or the immune system compromised, these colonizing bacteria can cause serious skin, bone, lung and blood infections.

Preventing *S. aureus* infections usings approaches that "decolonize" the body has gained increased attention as the spread of antibiotic resistance limits treatment options. Some decolonization strategies require large amounts of antibiotics, raising concerns about damaging the microbiota and perpetuating antibiotic resistance.

Probiotics—digestive supplements containing live microorganisms—may be a way to complement or replace antibiotics. Probiotic *Bacillus* is especially promising because it is administered orally as spores that can survive passage through the stomach and then temporarily grow in the intestine.

In the clinical trial, conducted in Thailand, the research team enrolled 115 healthy participants, all of whom were colonized naturally with *S. aureus*. A group of 55 people received *B. subtilis* probiotic once daily for four weeks; a control group of 60 people received a placebo. Researchers found no changes in the control group, but in the probiotic group they observed a 96.8% *S. aureus* reduction in the stool and a 65.4% reduction in the nose.

"The probiotic we use does not 'kill' S. aureus, but

it specifically and strongly diminishes its capacity to colonize," Otto said. "We think we can target the 'bad' *S. aureus* while leaving the composition of the microbiota intact."

Researchers also found that levels of *S. aureus* bacteria in the gut far exceeded *S. aureus* in the nose, which for decades has been the focus of staph infection prevention research. This finding adds to the potential importance of *S. aureus* reduction in the gut.

The researchers noted their approach probably does not work as quickly as antibiotics, but can be used for long periods because the probiotic as used in the clinical trial does not cause harm.

Study Finds Higher Risk of Heart Failure in Rural Areas

Adults living in rural areas of the U.S. have a 19% higher risk of developing heart failure compared



Study finds Black men living in rural areas have a higher risk of heart failure

PROSTOCK STUDIO/SHUTTERSTOCK

to their urban counterparts, and Black men living in rural areas have an especially higher risk-34%, according to a large NIH-supported observational study.

The study, largely funded by NHLBI, is one of the

first to look at the link between living in rural America and first-time cases of heart failure. Findings from the study, produced in collaboration with Vanderbilt University Medical Center, were published in *JAMA Cardiology*.

"This study makes it clear that we need tools or interventions specifically designed to prevent heart failure in rural populations, particularly among Black men living in these areas," said Dr. Véronique Roger, the study's corresponding author and senior investigator, NHLBI Epidemiology and Community Health Branch.

Researchers from NHLBI and Vanderbilt analyzed data from the Southern Community Cohort Study, a long-term health study of adults in the southeastern U.S. They compared the rates of new onset heart failure among rural and urban residents in 12 states.

The population, which included 27,115 adults without heart failure at enrollment, were followed for about 13 years. Nearly 20% of participants lived in rural areas; the remainder lived in urban areas. Almost 69% were Black adults recruited

from community health centers that care for medically underserved populations.

At the end of the study period, the researchers found that living in rural America was associated with an increased risk of heart failure among both women and Black men, even after adjustment for other cardiovascular risk factors and socioeconomic status.

The study showed White and Black women living in rural areas had an increased risk of heart failure compared to those in urban areas. No association was found between rural living and heart failure risk among white men.

The exact reasons for the disparities is unclear. Researchers said a multitude of factors may be at play, including structural racism, inequities in access to health care and a dearth of grocery stores that provide affordable and healthy foods.

Adopting Pediatric Readiness Standards Improves Survival

Emergency departments (EDs) that have the highest levels of coordination of health care, personnel, procedures and medical equipment needed to care for ill and injured children have far higher rates of survival than hospitals with low readiness, according to an NIH-funded study.

Researchers found that more than 1,400 children's deaths may have been prevented if hospital EDs had adopted national pediatric care readiness standards as laid out by the National Pediatric Readiness Project. The six-year study of 983 emergency departments in 11 states followed nearly 800,000 children.

According to the project's checklist, readiness standards include specifications for physician and nurse certification, patient assessment, triage, medication administration and trauma resuscitation and stabilization.

In the current study, researchers sought to determine whether adopting the readiness standards would lower the death rate among children admitted to EDs for serious injury or illness. They ranked the EDs into quartiles based on the extent they had implemented the readiness standards.

Compared to children cared for in low-readiness departments, children with injuries cared for in high-readiness departments had a 60% lower chance of dying in the hospital; and children with medical illness had a 76% lower chance of dying while they were in the hospital. Similarly, among roughly 545,000 children in six states, injured children in the highest quartile had a 41% lower chance of dying within a year and children with medical issues had a 66% lower chance of dying within a year, compared to children cared for in hospitals in the lowest readiness quartile.

The study, funded by NICHD and the Health Resources and Services Administration (HRSA), appears in *JAMA Network Open*.

FIC's Director Glass Steps Down

BY SUSAN SCUTTI

Dr. Roger I.
Glass stepped
down Jan. 14
as director of
the Fogarty
International
Center (FIC)
and NIH associate director for
international
research. He
plans to remain
at Fogarty as
senior scientist
emeritus to



Dr. Roger I. Glass

focus on bolstering diversity and equity in the center's programs, working with NIH leadership to expand engagement in global health and reinforcing existing partnerships abroad.

"I had the privilege of working closely with Roger Glass during my 12 years as NIH director," said former NIH Director Dr. Francis Collins. "It never failed to amaze me that everyone we met, from Fogarty fellows to ministers of health, already knew Roger as a friend. He was the trusted and much-admired face of NIH for much of the world. He has left a permanent and powerful imprint on NIH's global health contributions."

A graduate of Harvard Medical School and Harvard School of Public Health, Glass's professional life has included a 1977 stint as a medical officer at the Centers for Disease Control and Prevention (CDC). This led to a five-year appointment at the International Center for Diarrheal Disease Research in Bangladesh beginning in 1979.

After completing his doctorate at the University of Goteborg, he joined NIH's Laboratory of Infectious Diseases in 1984, where he worked on the molecular biology of rotavirus. Two years later, Glass returned to the CDC to become chief of the viral gastroenteritis unit at the National Center for Infectious Diseases. He also held positions at Oxford University, the Sysin Institute in Moscow and the World Health Organization before NIH Director Dr. Elias Zerhouni named him FIC director on Mar. 31, 2006.

During his 17-year tenure, Glass steered Fogarty toward building longstanding partnerships between U.S. and low- and to the epidemics of HIV, Ebola, Zika and Covid-19.

"We have no monopoly on good brains," Glass said in farewell remarks to Fogarty staff. "My vision would be that, in a decade or so, the world will be fluid in how scientists conduct research, and we will all work together to solve problems. The most efficient way to solve the world's problems is by working together and sharing publications and discovery science."

Glass's own scientific endeavors have primarily focused on rotavirus, the most common cause of severe diarrheal disease in infants and young children worldwide.

"When I began my career as an epidemiologist, I was struck by the devastating impact diarrhea had among so many children under five," Glass noted. The World Health Organization estimated that in 2004 alone

"My vision would be that, in a decade or so, the world will be fluid in how scientists conduct research, and we will all work together to solve problems."

~DR. ROGER GLASS

middle-income country institutions, while supporting the career development of global health researchers and leaders at home and abroad.

"The foundation for all I've done here at Fogarty was laid at CDC," said Glass. "There, I found that I needed to build people. Who wants to study viral diseases? You have to

engage people's intellect in the science with a mission that is important. At Fogarty, we've launched the global health research careers of nearly 1,500 fellows and scholars. Many have already done amazing things and all of them have another 20 or 30 years to grow."

Fogarty programs have engaged all 27 institutes and centers at NIH and 88% of FIC grants are co-funded by other institutes. Researchers trained by Fogarty have enhanced global security through their involvement and leadership in responding

rotaviruses caused roughly 527,000 deaths, predominantly in developing countries.

During a span of more than three decades, Glass conducted field studies in India, Bangladesh, Brazil, Mexico, Israel, Russia, Vietnam and China, documenting the epidemiology and enormous global burden of rotavirus. He also worked on the development of vaccines and their protocols for use to help prevent disease.

Now, more than 70 national immunization programs include rotavirus vaccines, significantly reducing diarrheal hospitalizations and deaths and improving the health of millions of children worldwide.

In honor of his work, Glass was presented with the 2015 Albert B. Sabin Gold Medal Award from the Sabin Vaccine Institute. Yet, Glass sees only the road ahead: "Today, 17 years after developing rotavirus vaccines, only half the children in the world are vaccinated. We've done better with Covid-19 than with rotavirus, which is still the number one killer of children."

In his role as NIH associate director for international research, Glass established a productive collaboration with Collins.



In 2017, then-NIH Director Dr. Francis Collins (I), global health pioneer Dr. Paul Farmer (c) and Glass plant an American Beech near Fogarty's Stone House.

PHOTO: BILL BRANSON



Glass (r) greets Dr. José Angel Portal Miranda, Cuba vice minister of public health, who visited

PHOTO: KARIN ZEITVOGEL

Together they assisted NIH in joining the Global Alliance for Chronic Diseases, partnered with PEPFAR to develop the Medical Education Partnership Initiative in Africa, helped launch the Consortium of Universities for Global Health, and, by means of the NIH Common Fund, supported Human Heredity and Health in Africa (H3Africa) and Harnessing Data Science for Health Discovery and Innovation in Africa.

Glass also helped bring Bill Gates to the NIH campus to deliver the David E. Barmes Global Health Lecture, which has led to annual partnership activities between NIH and the philanthropist's own organization.

Dr. Anthony Fauci, former director of NIAID, stated, "Roger Glass has added an entirely new dimension to the ability of the NIH to interact at the global level in so many ways. One of the most important has been the highly successful training of international scientists who, directly and indirectly, have become true collaborators with NIH and even part of the NIH family."

The cumulative work of Glass, who is a member of the National Academy of Medicine, includes co-authorship of more than 600 research papers and chapters.

While an emeritus scientist, he plans to spend more time with his wife, Dr. Barbara Stoll, the H. Wayne Hightower distinguished professor in the medical sciences and former dean of McGovern Medical School at the University of Texas Health Science Center at Houston, and his three children-Nina, Michael and Andy Glass.

OCPL's Kolberg Remembered

NIH mourns the unexpected passing of Rebecca Kolberg, chief of the NIH Director's Presentations Branch in the NIH Office of Communications and Public Liaison (OCPL). who had retired Dec. 31 after a 20-year NIH career. Kolberg died Feb. 10 from cardiac arrest after a brief illness while vacationing in Florida.

"I'm very proud to have been a small part of OCPL's effort to advance NIH's efforts to turn scientific discovery into better health for all." she wrote in a farewell email to co-workers in December. "I will continue to be proud of all of you and all of NIH-as you work to carry out that important, life-saving mission."

A graduate of Northwestern University with interests in anthropology and journalism,

Kolberg earned a master's degree from Columbia University's Graduate School of Journalism. Her NIH career began in 2002 at the National Human Genome Research Institute (NHGRI), where she wrote and edited articles, pamphlets, booklets, reports and various publications and other content related to the institute's mission. Her keen insights, proficiency and skill earned her a close working relationship with then-NHGRI Director Dr. Francis Collins. Eventually she served as deputy communications director.

In May 2010, OCPL recruited Kolberg to write for and consult on the team that developed material used in speeches and other presentations by NIH Director Collins. She became team leader and for the next decade, honed her specialties in science writing and editing for print, video and web, as well as management of scientific communication projects from concept development through implementation and evaluation.

"Rebecca brought a strong editorial vision and production sensibility to her leadership of the NIH director's presentations team," recalled Dr. Kim Pelis, former team member who now serves as director of the Office of NIH History and Stetten Museum. "Moreover, she was a constant

source of detailed historical information: on the Human Genome Project, on NHGRI and its programs, on Francis Collins himself and beyond."

"I had the privilege of working with Rebecca for two decades," noted Collins. "Initially, I hired her to be my chief science writer at the NHGRI, where there were many rapid advances happening in genomics, and

I needed a person with both deep sophistication in science and exquisite writing skills to help inform the public. Her performance in that role was superb-so much so, that when I was subsequently recruited as NIH director, one of my first actions was to hire Rebecca to lead the part of the communications team that focused on presentations.

"As NIH director, a week would rarely go by

without the need to assemble materials for one or two major presentations to widely diverse audiences," he continued. "I always insisted on having the final say on those presentations, but Rebecca and her team of Kim Pelis and Jill George quickly managed to get inside my head and prepare drafts that were almost always spot on. Rebecca also took on special assignments in drafting and fine-tuning of science policy manuscripts that were often complex and urgent—the most recent one of which will appear soon in Science magazine. She always came through with just the right blend of wise judgment, scientific insight and fluent prose. NIH was truly fortunate to have such a gifted communicator and we will miss her greatly."

Over the last 10 years, Kolberg provided editorial expertise for numerous OCPL projects-both scientific and administrative, written and oral—and led the presentation group's development of new communication products such as the NIH Director's Blog.

By the end of her NIH tenure, her OCPL team had been elevated to a branch and Kolberg retired as its chief.

Kolberg's survivors include her husband Edson Beall, parents Pastor Rudolph and Dorothy Kolberg, brother Stephen Kolberg and sister Anne Kuntz. B

Rebecca Kolberg—who retired after

20 years in communications at NIH—

passed away suddenly in February.

Events Demonstrate Value of Community-Engaged Research

The Covid-19 pandemic demonstrated the importance of conducting community-engaged research to build trust, combat misinformation and sustain long-lasting partnerships. Two NIH-sponsored events last fall showcased the value of community-engaged research in promoting health equity.

During the 2022 American Public Health Association (APHA) annual meeting and expo, the NIH Community Engagement Alliance (CEAL) highlighted lessons learned from the work of CEAL teams across 21 states.

In addition, NHLBI hosted a virtual workshop with involvement from NIMHD and NIA, focused on the science of community-engaged health disparities research.

CEAL at the APHA Expo

The theme of the APHA meeting centered on "leading the path toward equity." NIH CEAL had a significant presence at the event, with a wide range of presentations, roundtable discussions and poster sessions throughout the five-day event.

CEAL co-chairs were also interviewed by APHA TV about creation of the CEAL initiative and how multiple diverse partners came together to help address Covid-19 health disparities and deliver trusted information to local communities.

"We found it was really important to get to people where they are and speak to them in a way that resonates," said NHLBI Director Dr. Gary Gibbons, CEAL co-chair. Watch the interview online at https://bit.ly/3YdZ2IM.

CEAL also held a special pre-conference session that featured three panel discussions on community-engaged research, addressing misinformation, building public trust and highlighting community voices and perspectives. Panelists included CEAL



Dr. George Mensah (I), director of NHLBI's Center for Translation Research and Implementation Science; and NIMHD Director Dr. Eliseo Pérez-Stable (r) greet symposium participants Tana Lepule (CA CEAL, NHPI Advocate), Crystal LoudHawk-Hedgepeth (Denver Indian Family Health Services), and Benetick Maddison (Marshallese Educational Initiative).

team researchers and community partners from across the country.

Jonathan (Tana)
Lepule, a community
partner from Asian
Pacific Partners
for Empowerment,
Advocacy and
Leadership (APPEAL),
emphasized the data
disaggregation in
community research.

"Without changes to how our public systems and research infrastructure collect and analyze data, Native Hawaiians and Pacific Islanders will continue to be

rendered invisible," Lepule noted. "This means that community leaders have the added burden of not

only advocating for change but also collecting and analyzing their own data."

In the session's closing remarks, NIMHD Director Dr. Eliseo Pérez-Stable, CEAL co-chair, stressed community-engaged research to help overcome current and future public health challenges.

"The answer may be the community-engagement model to really change norms, behavior and health in a positive direction," he said.

Workshop Advances the Science of Community-Engaged Research

NHLBI hosted a two-day virtual workshop on the science of community-engaged health disparities

research featuring speakers from NHLBI, NIMHD, NIA, as well as health care providers, community





At the CEAL event are (from I) NHLBI Director Dr. Gary Gibbons; Al Richmond of NC CEAL, Community-Campus Partnerships for Health; Dr. Sai Parthasarathy of AZ CEAL; Mensah; and Pérez-Stable.

representatives and other government health officials.

The workshop's six panels explored the past, present and future of community-engaged health disparities research. Topics included novel methodologies and advances that are shaping the direction of the field, such as the National Academy of Medicine's Assessing Community Engagement (ACE) Conceptual Model.

Dr. Patricia Jones, director of NIA's Office of Special Populations, said, "I want to underscore the opportunity we have to leverage the tools and resources we have in front of us to go forward and further the field and use what we know to move more quickly as we continue our work."

As NIH works to accelerate the research, Gibbons has said community-engaged platforms and capabilities may help address many of the "ongoing vexing challenges that communities face" such as maternal health and climate change.

Watch the workshop at https://bit.ly/3DSXYeP.

B





At left, CEAL symposium panel participants included (from I) Richmond, LoudHawk-Hedgepeth, Lepule, Maddison and Ameina Moseley (Vital CXNs). At right, Adlaide Holloway (I) from Chicagoland CEAL led a roundtable at the APHA annual meeting that focused on the Sinai Chicago community health worker training program.