



AAAS NEWS & NOTES

The Annual Meeting's Family Science Days offer hands-on experiences.

AAAS Annual Meeting examines need for diversity in science

Workplace homogeneity and implicit bias continue to impede progress

By **Michaela Jarvis**

At a time when society needs innovation and technical solutions from as broad a scientific workforce as possible, AAAS convened a comprehensive range of presentations and discussions on diversity and inclusion at its 2018 AAAS Annual Meeting.

With sessions addressing issues from gender and racial imbalance to disability accommodation and combating discrimination against sexual orientation, the 15–19 February meeting provided a forum for diversity experts to share research findings on what works best to create an environment in science education and practice that is welcoming to all. The sessions were sprinkled throughout the 5 days of the annual event, known for its enormous range of cutting-edge science, as well as for presentations on science communication, policy, and culture.

Speakers at several sessions on diversity in science reported that the image of a scientist as an older white male persists.

“How dangerous is this normalization of what a scientist looks like, whether that’s about gender or race?” said Melissa Creary, advisory board member for 500 Women Scientists.

Ryan Kish, senior program manager at Arconic Foundation, said that some manufacturing companies struggle to retain women and people of color because they feel unwelcome in a mostly white, male environment.

“These people who are trained in STEM are leaving because of cultural issues,” Kish said. At the same time, Kish said, companies face a “retirement cliff” within the next 5 years, and the pipeline of STEM professionals to replace those retirees is inadequate.

Speakers in a number of sessions pointed to implicit bias as a main reason that the science workforce fails to reflect the diversity of society. Amy Landis of the Colorado School of Mines reported that resumes bearing men’s names are preferred two to one in studies investigating such bias in STEM.

“John is perceived to be twice as good as Jane, even if they have the exact same CV,” Landis said. She also reported that research has shown that white-sounding names receive 50 percent more callbacks for interviews, and applicants who identify as LGBTQ+ receive less consideration by search committees and more negative appraisals.

Landis and others recommended that members of the science community conduct self-appraisals of their own implicit bias using the tools

available at the Harvard University (implicit.harvard.edu) and American Association of University Women (aauw.org/resource/iat) websites.

Overall, speakers also strongly recommended getting the word out to students in underrepresented groups that technical careers can be well paid and can offer an excellent quality of life.

NASA scientist Kartik Sheth, who has begun several successful programs to mentor students from underrepresented populations in science, said that inviting his students to dinner at the home he had built in Charlottesville, Va., was an “aha” moment for them.

“It’s important for the students to see your life and see you as a real person and know that science is a viable career,” he said, adding that other mentors he has worked with have also adopted the practice of inviting students to their homes. “We need to open up our doors.”

Other news from the Annual Meeting

Outgoing AAAS President Susan Hockfield said in a meeting presentation that U.S. federal funding is necessary to support basic research “as the fundamental building block of all innovations.” Referring to the science advisory positions that remain unfilled in the Trump Administration, Hockfield said, “Our current government has not celebrated or appreciated the role of science. Bottom line, I think it is terrifying that our government is operating without the advice of scientists.”

Another presentation explained that researchers are able to grow cells specific to a vital organ—such as a liver or lung—and reproduce the environment of the organ on a small polymer chip. The chips can then be used to test drug treatments on a particular organ. “They are more true-to-life than cells in dishes and more humanlike than animal models,” said Geraldine Hamilton, president of Emulate, Inc.

A meeting briefing reported that people 80 or older with memory performance as good as people in their 50s or 60s showed less cortical thinning, reported lead researcher Emily Rogalski of the Northwestern University Feinberg School of Medicine. The “superagers” also had developed increased thickness in an area of the brain associated with decision-making, impulse control, and emotions. Superagers were more likely to report close, meaningful relationships with people in their lives. “There are brain benefits of having good friends,” Rogalski said.

Becky Ham, Andrea Korte, and Kathleen O’Neil contributed to this article.

SciLine scores successes in first five months of operation

Reporters and science experts work together to provide evidence-based news

By **Michaela Jarvis**

Reporter Mary Landers was puzzled when she received a press release in the fall announcing that the deaths of up to 24 green sea turtles would be considered allowable in an operation to deepen Savannah's harbor, raising an earlier limit that had already been reached with three green turtle deaths.

"I needed to find an outside expert who was conversant with how those numbers are set," she said, acknowledging that she wondered why when the first limit—set by the National Oceanic and Atmospheric Administration Fisheries and presumably based on biological evidence—was surpassed, a new, higher limit was allowed.

Landers, who works for the *Savannah Morning News*, contacted SciLine, a AAAS-hosted initiative aimed at incorporating more scientific evidence into the news. Within a day or two, she had spoken with three wildlife experts who were recommended by SciLine, learning that accurate reporting on the situation would indicate that this was an example not of controversial practices but of competing interests working together.

"All three of the researchers said pretty much the same thing," Landers said, explaining that while no one wants the turtles to die, she learned that protection efforts are based on whether the population, which in this case is threatened but recovering, will be affected by a certain number of deaths caused by operations such as harbor dredging. "They'll look at the number that were 'taken,' and then they'll figure out whether a new limit can be set."

"They told me this is a common practice," Landers said. Her resulting article also explained that the wildlife researchers were impressed with the efforts in place to protect the turtles, including requiring trawls to scoop them up and move them to safer ground before dredging began.

In this era of budget-constrained newsrooms, specialized science reporters are increasingly rare, and general-assignment and free-lance reporters cover more science news, often without networks of good science sources and while facing multiple deadlines per day. The idea behind SciLine is to help journalists quickly get to scientifically derived evidence by building a community of articulate science experts who are available to the journalists on deadline.

Launched in late October 2017, the initiative required a certain leap of faith that both writers and scientific experts would take part, according to SciLine Director Rick Weiss.

"If we built it," Weiss said, "would they come?"

In fact, the service has been very successful, attracting reporters from publications such as the *Pittsburgh Post-Gazette*, *The New York Times*, and *National Geographic* and from regional and smaller media outlets. SciLine has provided referrals of more than 140 scientists from 33 states and the District of Columbia, with most of the resulting stories featuring quotes from those experts. At the same time, the number of scientists who have connected with SciLine as potential sources has reached nearly 6,500.

"Each interaction with a reporter is a chance not only to get the science right in a particular story," said AAAS CEO Rush Holt, "but to help thousands of readers gain appreciation of the importance of evidence over unsubstantiated assertions."

Financial support for SciLine is provided by the Quadrivium Foundation, with additional funding from the Chan Zuckerberg Initiative, the Heinz Endowments, the John S. and James L. Knight Foundation, and the Rita Allen Foundation. AAAS provides in-kind support.

Since SciLine began, requests have been surprisingly specific, Weiss said. One reporter asked for a source with expertise in marine geology who was familiar with a flood theorized to have moved through the Mediterranean Sea about 6 million years ago. SciLine provided two such experts.

Researcher Caitlin Pepperell said she joined SciLine's list of expert sources because she thinks communicating with journalists broadens the impact of her work.

"We need the support and engagement of the general public and of course government and private funding agencies, and it's always useful to practice articulating what is interesting and important in our research," said Pepperell, who works at the University of Wisconsin–Madison. "I also saw it as an opportunity to raise the profile of women in science, to increase the diversity of voices and perspectives that make up the 'face' of science—my hope is that all young people have the opportunity to see themselves as scientists, to consider science as a career and pursue it if that's where their passions and skills lie."

With Weiss and his colleagues planning for more growth, SciLine will soon launch a virtual media briefing service to get reporters up to speed on advances in certain areas of science by offering presentations by panels of experts, who will also take reporters' questions. The SciLine staff, which has already gone from three to five in its first 5 months, will also continue to develop easy-to-use and meticulously vetted fact sheets for reporters on topical science subjects such as gravitational waves and lead in drinking water.

The staff will also visit newsrooms across the country to talk with journalists about how they cover science, and plans for SciLine also include a nationwide survey of newsrooms, "which should help SciLine understand the fast-changing landscape and make any needed course corrections to make sure we are doing the most we can to help reporters enrich their stories with scientifically derived facts," said Weiss.

Landers, at the *Savannah Morning News*, said she intends to make a habit of using SciLine.

"I got a great response from SciLine," Landers said. "I had three different academics, and they were all great. They got it. They understood what the needs were for a newspaper and responded perfectly."

For more information or to register with SciLine as an expert source or a journalist, please go to www.sciline.org.

AAAS annual election: Preliminary announcement

The 2018 AAAS election of general and section officers will be held in the fall. Names may be placed in nomination for any office by petition submitted to the Chief Executive Officer no later than 31 May 2018. Petitions nominating candidates for president-elect, members of the Board, or members of the Committee on Nominations must bear the signatures of at least 100 members of the Association. Petitions nominating candidates for any section office must bear the signatures of at least 50 members of the section. A petition to place an additional name in nomination for any office must be accompanied by the nominee's curriculum vitae as well as a statement of acceptance of nomination.

Science

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Science **359** (6383), 1478.

DOI: 10.1126/science.359.6383.1478

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