



Parikh calls for decisive and lasting action to declare the importance of Black lives, voices, and contributions to all aspects of our society.

Almost every generation has arrived at similar moments of opportunity born of tragedy. AAAS is uniquely positioned as an organization to be at the forefront of these generation-defining issues, and we are taking action to make sure these moments do not slip away.

Science, engineering, and medicine are not immune to the discrimination, subjugation, and silencing of minority people and voices. We are too often unwitting perpetrators of the status quo, and the reasons are deeply ingrained in the systems that govern the conduct of these fields. When we hold up a mirror to the scientific enterprise, we see that it is not only politicians and law enforcement that need to be reminded that Black lives matter.

On 10 June, AAAS participated in a grassroots movement called #ShutDownSTEM with the goal to get our community to stop business as usual and consider the facts—and, with those facts in hand, to act. Despite so many in our community being learned and well-read, outside of the social science circles that have studied this issue for years, few of us know very much about the systemic racism that has kept generations of Black Americans from realizing success in the STEM workforce. #ShutDownSTEM encouraged us to take responsibility in our own lives and circles of influence to be actively anti-racist and to recognize the time and space required for our Black colleagues to heal.

#ShutDownSTEM is just one step toward following through on fulfilling the hope for positive change in our community and across society. Other steps are already under way within AAAS, and many more have yet to be conceived.

For decades, under the leadership of Shirley Malcom, AAAS has been at the forefront of the discussion about making the STEM enterprise more diverse, equitable, and inclusive. As an African American growing up in Birmingham, Alabama, in the 1950s and 1960s, Malcom went through segregated schools that were underresourced because of the assumption that no scientists or engineers would ever be produced from within their walls. She defied those odds, eventually completing her doctoral work in ecology at Penn State, dedicating her life's work to achieving equality in STEM education and the workforce, and going on to serve as a member of the National Science Board, a trustee of two of our nation's most prestigious research universities, and a world-renowned leader in the conversation that we've been having for quite some time—but to which too few have paid sufficient attention.

Progress to increase the participation and advancement of underrepresented groups in STEM has been incremental. For the past 10 years, AAAS, with the support of the U.S. National Science Foundation (NSF), has convened the Emerging Researchers National (ERN) Conference in STEM. Each year, more than a thousand undergraduate and graduate students from underrepresented communities come together to share their research and develop their careers—with the goal of broadening participation in STEM fields. In describing the kind of experience that ERN attendees have, Malcom has said, "For some students it's their first time on a plane,

A view from my basement

AAAS CEO reflects on his first 6 months on the job

By **Sudip S. Parikh**

On 6 January, when I first walked through the doors of our beautiful living monument to science on New York Avenue in downtown Washington as the American Association for the Advancement of Science's new chief executive officer and executive publisher of the *Science* family of journals, I had plenty of ideas for how my first 90 days, 6 months, and year on the job would go.

I articulated this vision on the editorial page of the 31 January issue of *Science* in the context of "Envisioning Tomorrow's Earth," the theme of our 2020 Annual Meeting. I noted the extraordinary advances of our era, including treating and curing disease and deepening our understanding of the Universe. I also identified some of the critical topics of our time in prioritizing the need to safeguard the scientific ecosystem for diverse voices and inclusivity and leverage the power of all great minds.

At the time that editorial went to press, the United States had fewer than 10 confirmed cases of COVID-19 and George Floyd, Ahmaud Arbery, and Breonna Taylor were alive.

When we gathered in Seattle in February to envision tomorrow's Earth, most of us had no idea how the tomorrows we were about to experience would change our Earth forever. COVID-19 is now a global pandemic that has infected more than 7 million people, killed more than 400,000, and fundamentally changed the way the world operates. The tragic and needless deaths of George Floyd, Ahmaud Arbery, and Breonna Taylor have brought to the fore the need for decisive and lasting action to declare the importance of Black lives, voices, and contributions to all aspects of our society—and, central to our work at AAAS, to the STEM ecosystem.

never mind their first time presenting at a scientific meeting.”

For the past 3 years AAAS has convened, also with NSF support, the HBCU Making and Innovation Showcase. The event brings together more than 80 students and faculty from historically Black colleges and universities (HBCUs) for 2 days of workshops and training on invention and entrepreneurship. The students are divided into teams that create an innovative solution to a community problem that relates to one of the United Nations Sustainable Development Goals. This year’s winning team, comprised of students from Clark Atlanta University and Morehouse College, conceived a network of communication devices for use during natural disasters and other emergency situations.

Convenings like ERN and the HBCU Making and Innovation Showcase have surely helped. Bit by bit, person by person, they have encouraged many students and professionals who might have otherwise abandoned STEM careers to stay the course, knowing that their voices and contributions are valued and essential to the long-term success of the STEM enterprise. As Malcom posited in her 9 May 2019 testimony before the U.S. House Committee on Science, Space, and Technology: “How do we ensure a steady flow of talent for STEM while also responding to the larger need for a workforce and citizenry with knowledge and skills to address emerging challenges and opportunities? We can only do this by expanding that pool of talent, tapping into the vast well of women, minorities, and persons with disabilities currently underrepresented in STEM.”

We must acknowledge that our efforts thus far have fallen short of what is truly necessary: systemic change that transforms institutions—not just individuals. We must tackle the issue where it is most oppressive: deeply ingrained institutional systems. Through AAAS’s SEA (STEM Equity Achievement) Change program, institutions of higher education commit to a self-reflection process with the aim of disentangling themselves from practices of the past that made inequities possible—indeed, almost inevitable. The program incentivizes institutions’ alignment with SEA Change principles by publicly recognizing them for their commitment to and creation of sustainable systemic change through self-assessment. “It’s a transformative national vision,” said Paula Rayman, a sociologist at the University of Massachusetts, Lowell, who chairs the SEA Change advisory board. Now more than ever, we must embrace transformative national visions over piecemeal, individual-focused interventions.

The rapid response of AAAS and *Science* to the COVID-19 pandemic also has been notable.

Science and its family of journals provide credible, evidence-based information, share the latest research, and disseminate up-to-the-minute, science-informed news coverage. Our editorial team continues to deliver seminal papers showing how the structure of the coronavirus informs vaccine development and how the virus bonds to human cells, exploring the beginning of new therapies, and examining how the public health system and social distancing can mitigate the spread of COVID-19. Journalists at *Science* are covering the science and responses to the pandemic around the world, often highlighting aspects that are picked up by mainstream news outlets.

Among AAAS programs focusing on COVID-19 is SciLine, which connects journalists with vetted scientific experts. SciLine began 2020, its second full year of operation, with plans that included two “boot camps”—one to help journalists understand the science behind key electoral issues and another for reporters covering adolescent health. In the space of about 2 weeks, the SciLine team quickly pivoted to organizing a series of online media briefings for journalists on COVID-19 and developed a resources webpage to provide ready-to-use quotes from scientists.

SciLine also enlisted Margaret Hamburg, past president of AAAS, former commissioner of the U.S. Food and Drug Administration, and former health commissioner of New York City. On one day in April, from her home office, Hamburg conducted interviews with 20 local TV

stations and 13 local radio stations across the country. In doing so, she reached nearly 1.6 million people in 17 states with timely, accurate, and authoritative scientific and public health information.

AAAS’s Science and Technology Policy Fellowships program has adopted virtual platforms to connect with current policy fellows and to open doors for the incoming cohort of scientists and engineers. The program, which places some 280 scientists and engineers in federal agencies and congressional offices each year, places a high value on in-person professional development and networking, switching to virtual convenings at a time when the need for fellows to provide scientific and technical advice is greater than ever. The team recently conducted thousands of interviews virtually for the incoming class and is preparing to host a virtual orientation in the fall.

For the team that produces the AAAS Annual Meeting, moving from in-person to virtual convenings has been top of mind. After announcing that the February 2021 meeting would be a virtual event, the team has not looked back, rolling out an entirely new format for scientific symposia that serves as a model for other organizations.

The Science for Seminaries program, part of our Dialogue on Science, Ethics, and Religion, which assists theologically diverse seminaries to integrate science into their required courses of study, also adjusted

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AAAS CEO

the focus of one of its recent discussions, shifting it to an examination of the science behind the spread of COVID-19 when audiences sing or speak in loud voices, such as at worship services.

These initiatives display the amazing number of influential audiences we reach as a scientific society. Researchers, policy-makers, journalists, science communicators, students, seminarians—all of these groups play critical roles in our mission to advance science and serve society.

I have not stepped foot in AAAS headquarters in downtown Washington since 13 March—which means I have now spent more time leading AAAS from my basement or my kids’ playroom than I have from my office. Even so, I am more confident than ever in the vitality of our mission and in those working daily to execute that mission. We will be a force for science, a force for good, and a support for one another. Our programs, publications, and advocacy are critical to a better and more just world, and what we do during this time will define a generation.

My 31 January *Science* editorial called on us all to rise to the challenges of our time to ensure that the next generation has the opportunity to rise to theirs. On so many levels, those words ring truer today.

Screeners needed for journalism awards

Scientists from the United States and abroad are needed to review the scientific accuracy of entries in the prestigious AAAS Kavli Science Journalism Awards competition. The screening sessions in late August and September will be online this year, opening them to participation by scientists beyond the Washington, D.C., area. We need additional screeners with expertise in virology, epidemiology, and public health. If you can volunteer, please contact Emily Hughes at ehughes@aaas.org.

Science

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