Diversity, Equity, and Inclusion Events at the 2021 AAAS Annual Meeting

Are you attending the 2021 AAAS Annual Meeting and interested in Diversity, Equity and Inclusion (DEI)? You can peruse the online program for scientific sessions by searching related keyword listings for terms like "equity," "diversity," "accessibility," and "culture".

Or if you prefer, here’s a cheat sheet for (most of) what’s happening! Workshops and Special Sessions are free with the "Public Events Pass."

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Events subject to change. Please consult the 2021 AAAS Annual Meeting online program for up-to-date information and event descriptions.
Monday, February 8, 2021

**Scientific Sessions**
- 12 PM Indigenous Knowledge, Science, and Ethical Frameworks for Collaboration
- 1 PM Can You Trust Dr. AI?
- 1 PM Clearing the Air: The Case for Lowering US PM2.5 Standards
- 2 PM Consequences of Incarceration on Health Inequity and Racial Injustice
- 2 PM How Thinking About Religion Can Increase Racial and Gender Diversity in Science
- 2 PM Strengthening Sustainability Programs and Curricula in Higher Education

**Workshops**
- 12 PM Navigating the Trainee-Mentor Relationship as a STEM Trainee with a Disability
- 2 PM Building your Professional Networks as a WOC in STEM

**Exchange Events**
- 3 PM Experiences of Black Immigrant Women in Undergraduate Engineering: A Basis for Understanding

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**[Scientific Sessions]**

The following events are discussions with pre-recorded content. Participants should view the pre-recorded presentations for these sessions in advance of attending the event.

**12:00 PM - 12:45 PM EST Indigenous Knowledge, Science, and Ethical Frameworks for Collaboration**

Confronting challenges in public health and genetics requires a broader and inclusive societal engagement necessitating the inclusion of communities who have traditionally been left out of the conversation. As many Native American tribes and other Indigenous communities across North America draw upon centuries of millennia of Indigenous knowledge of sustainable practices in health care and governments and other are increasingly seeking to recognize and draw on their expertise. Recognizing a need to avoid systemic sampling biases, large-scale genomic data collection projects such as the NIH “All of Us” initiative seek to recruit participants from Native American and Indigenous communities- though a long history of exploitation and extraction, in which marginalized people have had little agency and seen few or no benefits of such research. Disparities are present in public health programs, however, as these programs lack the vision of treating the whole person which includes the scientific, spiritual, and cultural aspects of the person and the communities they are embedded in.

This symposium will explore active research and engagement projects led or co-led by Native American and Indigenous scholars working in diverse ethical, scientific, and public health disciplines. This symposium will highlight the importance of bringing diverse voices in conversation with scientific research and public health initiatives. Each integrates Indigenous knowledge within

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their respective research ecosystems of culture, policy and practice for the purpose of increasing the diversity of worldviews is instrumental in having healthy communities.

1:00 PM - 1:45 PM EST  **Can You Trust Dr. AI?**
The health care enterprise involves many different stakeholders, including consumers, health care professionals and providers, researchers, and insurers. Artificial Intelligence will play an important role in many tasks that these stakeholders undertake. These include: image diagnostics, medical decision making, prior authorization, drug design, nutrition advisor, patient scheduling, and others. Leading technological giants are making significant investments on using AI in the health care domain. This session will address the role of AI in medicine alongside discussions on research addressing bias and trust.

1:00 PM - 1:45 PM EST  **Clearing the Air: The Case for Lowering US PM2.5 Standards**
For decades, air pollution, and specifically fine particles (PM2.5), has been consistently linked with morbidity and mortality. Further, researchers have identified susceptible groups—pregnant women, older adults, children, those with pre-existing conditions, and others—who exhibit heightened responses to air pollution. In the U.S., PM2.5 levels have steadily declined, but recent studies continue to demonstrate adverse health consequences of PM2.5 levels below the U.S. Environmental Protection Agency National Ambient Air Quality Standards (NAAQS). Exposure varies across the U.S. and levels of PM2.5 follow a social gradient, with Hispanic, non-Hispanic Black, and lower socioeconomic status communities often experiencing higher levels, driven by historical land-use, industrial, and racist policies, compared with the White population. The observed effects of PM2.5 on health in these communities are amplified by their heightened vulnerability, including reduced access to healthcare, worse overall health, additional psychosocial stressors, and interpersonal and systemic racism. Recently, the U.S. EPA recommended retaining the current PM2.5 NAAQS, despite the overwhelming scientific evidence in support of lowering the standard. This session will discuss the current state of the science, known racial/ethnic and socioeconomic disparities in PM2.5 exposures and adverse health, as maintaining the current air quality standards will amplify already-present health disparities.

2:00 PM - 2:45 PM EST  **Consequences of Incarceration on Health Inequity and Racial Injustice**
Nearly 2.2 million Americans are incarcerated annually, a rate substantially higher than that of other industrialized nations. In the U.S., racial and ethnic minorities are disproportionately affected: African Americans and Hispanics comprise about one-third of the general population, but nearly two-thirds of adults in prison. Despite recent publicity about mass incarceration, few empirical studies have examined its short- and long-term consequences on health inequities and racial injustice. This session will address this omission. The session convenes the Principal Investigators of four landmark studies: the Northwestern Juvenile Project, a large-scale longitudinal study of youth in the juvenile justice system; the Michigan Study of Life After Prison, a natural experiment comparing prison inmates with convicted offenders on probation; and the Rikers Island Longitudinal Study and Pennsylvania Solitary Study, studies of jail and prison inmates. Speakers will discuss the consequences of juvenile detention and jail (houses offenders pretrial and those convicted of a misdemeanor, sentences less than a year; stays in prison greater than one year; and practices such as solitary confinement on socioeconomic well-being, recidivism, as well as physical and mental health. The panelists will address how these findings can guide public health and criminal justice reform.

2:00 PM - 2:45 PM EST  **How Thinking About Religion Can Increase Racial and Gender Diversity in Science**
There is a national, even international, effort to diversify the scientific workforce. Women and minorities, especially Black and Hispanic Americans, are significantly underrepresented in scientific

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disciplines and careers. They are also much more likely than other groups to be religious. Many Americans assume that scientists are hostile toward religion, in part because highly vocal atheist scientists in the public sphere perpetuate this view, which hurts access to science for Black and Hispanic Americans in particular. Drawing on the largest international study of scientists’ attitudes towards religion, gender, and ethics ever undertaken, including a survey of 20,000 scientists and in depth interviews with over 600 of them, this session will examine religion as an essential, but overlooked, dimension of diversity in science, with particular attention to the views of scientists in the UK and in the US. The session will consider the religiosity of scientists worldwide and their views of the relationship between science and religion, as well as the connections from these views to those of religion, gender, and racism writ large.

2:00 PM - 2:45 PM EST  **Strengthening Sustainability Programs and Curricula in Higher Education**

The National Academies of Sciences, Engineering, and Medicine will release a report in Fall 2020 that focuses on strengthening sustainability programs and curricula at the undergraduate and graduate levels in the United States. Sustainability education is crucial to address urgent environmental, economic, and societal challenges. The report will include a comprehensive set of key competencies critical for sustainability education, and identify knowledge gaps and critical barriers related to the effective development of common core competencies for interdisciplinary sustainability programs. It will also identify strengths, gaps, priorities, and opportunities for university engagement with the United Nations Sustainable Development Goals (SDGs) and discuss related research agendas. The report recommends possible mechanisms to foster partnerships between schools, universities, sectors, regions, and nations in sustainability higher education, including the importance of diversity, equity, and inclusion in sustainability education.

In addition to sharing the study findings, this session will include a discussion of the feasibility of implementing the proposed recommendations, share other suggested strategies to strengthen sustainability education on the panelists’ and attendees’ own campuses, and the role of academic institutions in advancing sustainability in the context of the COVID-19 pandemic.

**[Workshops]**

**12:00 PM - 12:45 PM EST  **Navigating the Trainee-Mentor Relationship as a STEM Trainee with a Disability**

The relationship between a STEM trainee and their academic mentor(s) is central to student success in graduate and postdoctoral training programs. Since mentors provide career advice, letters of reference to potential employers and/or further mentoring after graduation, the trainee-mentor relationship often defines the trainee’s career. In graduate and postdoctoral training, particularly in STEM disciplines, personalized accommodation of students with disabilities is the norm. This process often significantly impacts, and is impacted by, the quality of the trainee/mentor relationship. This session will highlight best practices and common challenges in navigating the trainee/mentor relationship in the context of disability and accessibility.

**2:00 PM - 2:45 PM EST  **Building your Professional Networks as a WOC in STEM**

Networking is a fundamental skill to succeed in any field. Unfortunately, it is not part of standard STEM curricula and, as a result, students and early career scientists are not equipped to build their professional networks. This can be particularly true for Women of Color (WOC), who are often minoritized in their respective fields and may struggle to find peers/mentors with similar life experiences. This workshop, led by a group of WOC AAAS IF/THEN Ambassadors, aims to

Events subject to change. Please consult the [2021 AAAS Annual Meeting online program](https://www.aaas.org/annual-meeting) for up-to-date information and event descriptions.
[Exchange Events]
3:00 PM - 3:45 PM EST  **Experiences of Black Immigrant Women in Undergraduate Engineering: A Basis for Understanding**

In this work, Dr. Meseret F. Hailu and her colleagues investigate the politicized, racialized, and gendered dimensions of the presumably “objective” discipline of engineering. This work utilizes on critical discourse analysis and case studies to better understand how Black immigrant women use their cultural epistemologies to attain undergraduate degrees in engineering. The PIs of this project use a qualitative approach, involving a critical discourse analysis of 10 documents and interviews with 45 undergraduate students currently enrolled in engineering programs.
Tuesday, February 9, 2021

[Scientific Sessions]
The following events are discussions with pre-recorded content. Participants should view the pre-recorded presentations for these sessions in advance of attending the event.

12:00 PM - 12:45 PM EST  **Language Development and Health: Deaf Children During Quarantine**
Children acquire language through social interactions. For hearing children in a speaking environment and deaf children in a signing environment, this requires no heroic efforts. But the majority of deaf children globally are born into hearing families. For many, even with cochlear implants, frequent and regular exposure to sign languages is essential to experience complete competence in language, full cognitive capacities that rely on a firm first-language foundation, and good psycho-social health. Many hearing families rely on the local deaf community to help the deaf child and the whole family learn a sign language, and to support the deaf child in a conceptually, educationally, and emotionally rich way. Pandemics disrupt such interactions.

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COVID-19 has taught the value of virtual community, but there are limits. While people can learn another language from television and online exposure, acquiring a first language requires interaction. It is prudent to build strategies for surviving a quarantine while supporting language development in the deaf child’s social ecosystem. Virtual interaction with signers can help family members continue improving their language skills and strengthen ties to the community, but the young child needs direct language interaction to support virtual language access. This session discusses the situation of the deaf child in a holistic way, with suggestions about language interaction during a quarantine.

12:00 PM - 12:45 PM EST  **Science and Engineering for Humanitarian Goals**
Science advances our understanding of the world through systematic study and organization, while engineering uses knowledge and methods to help design and build things such as devices, instruments, structures, and systems. Science can explain the past and in some cases, predict the future. Engineering is often connected to manufacturing and production, and is technology-focused. Both science and engineering can be carried out with a primary intent to benefit humanity through improvements in health, safety, and overall quality of life. This session will focus on research and education that directly improves the well-being of poor, marginalized, and/or underserved communities. Targeted responses to emergency situations receive considerable attention; however, systemic issues also warrant attention. Topics to be discussed include the importance of active local engagement locally, discussed through the lenses of a how infectious diseases are reduced in Bangladesh through water filtration, and a combined research-education center focusing on significant challenges in developing countries.

2:00 PM - 2:45 PM EST  **The Impacts of Mobile Technology and Regulation in a Pandemic**
This session will address international technology and regulatory responses to COVID-19 within a public policy setting. The deployment of centralized and decentralized COVID-19 location tracking and automatic contact tracing applications developed by government and industry will be compared and contrasted in terms of their socio-technical-legal design. The adoption of COVID-19 apps will be discussed with respect to economic systems of governance, optionality, cultural sensitivity, social stigma and other issues affecting uptake such as accessibility, language, and usability. Global perspectives on privacy, security, trust, and control will be underscored as significant issues influencing the successful uptake of new mobile apps for the public interest. Non-digital and non-invasive responses to COVID-19, inclusive of manual tracing, voluntary testing, the use of personal protective equipment and self-quarantine practices will also be discussed for effectiveness and viability. An assessment will be provided of the overall long-term strategies employed by nation states to fight COVID-19, emphasizing the need for co-design approaches to technological interventions in future emergency scenarios and situations.

2:00 PM - 2:45 PM EST  **Interpreting Public Opinion of Scientists and Their Work**
Public perspectives on scientific and technological developments play an important role in the degree to which science-related policy and innovations are embraced. This panel brings together the latest research from Pew Research Center, Wellcome Trust and others on what international publics think about scientists and their work. Speakers will discuss public views about a range of issues including AI, climate policy, and genetic engineering, as well as public views and behaviors connected with the coronavirus outbreak. Issues to be discussed include different views and experiences with science across multicultural communities and how experience with the coronavirus outbreak influences public trust in scientists and their work.

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2:00 PM - 2:45 PM EST  **Opportunity at Times of Change: Catalyzing the Evolution of Graduate Education**

In the spring of 2020, the COVID-19 global pandemic upended the higher education system. The pandemic has offered an opportunity to proactively and intentionally envision a new, and improved, version of the U.S. graduate education system—one that will embrace innovative changes that promote the robust development of a diverse and inclusive STEM workforce. Indeed, many thought-provoking national conversations and supplementary reports that had recommended dramatic changes to graduate education have re-emerged as intriguing starting points for this transformation. A national initiative, called the Professional Development Hub, employs a structured, collaborative approach to facilitate the transformation of STEM graduate and postdoctoral professional development. This initiative further supports community building through the newly established Coalition of Higher Education Organizations, a collaborative of nine national organizations committed to advancing PhD careers and professional development. In this session, leaders from three of these organizations will share valuable insights gained through participation in these initiatives. The discussion will focus on evidence-based strategies that can be used to inform approaches to modernize graduate education and incentivize culture change through policy, research, and institutional collaboration.

2:00 PM - 2:45 PM EST  **Resolving LGBTQ Disparities in STEM Representation Through Demographic Data**

Growing evidence points to troubling LGBTQ disparities in STEM, but major data collections of our STEM educational system and workforce have not included sexual orientation and gender identity (SOGI) demographic questions. SOGI data are needed to better understand and address LGBTQ disparities in STEM and to build a STEM pipeline that is inclusive to all. The panelists in this session will explain how the future of a diverse and inclusive STEM ecosystem necessarily depends on such demographic data.

3:00 PM - 3:45 PM EST  **Exploring Tipping Points in Natural and Social Systems**

Tipping points are critical thresholds at which the future state of a system is qualitatively and irreversibly altered. Tipping points have been found in the climate system, political regimes, migration trends, consumer habits, financial markets, ecosystems, brain dynamics, cancer, the collapse of societies, linguistics, as well as the spread of disease or misinformation, to name just a few examples. Such tipping points underpin major social and ecological systems and dynamics, from the dynamics of segregation and the evolution of cooperation, to the timing and severity of ecosystem collapse. However, the research on tipping points remains fragmented and has been unable to provide comprehensive answers to some fundamental questions.

In an attempt to break disciplinary silos and to enable a truly systemic view into this vital field of research, this session will bring together experts on tipping points from both natural and social sciences. Topics to be discussed include knowledge gaps, fresh transdisciplinary perspectives, and an outline of knowledge-based strategies for science-to-action.

[Workshops]

11:00 AM - 11:45 AM EST  **Sounding the Alarm: Addressing Racism, COVID-19, and Mental Health in Science**

The combined effect of COVID-19, its disproportional impact on communities of color, and pervasive anti-Black racism has levied a significant psychological toll on the lives of graduate students of color. These traumatizing experiences coincide with new awareness within the STEM community around the mental health crisis plaguing graduate education. Efforts to broaden participation in

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science must be inclusive of the psychological implications of living and working in environments imbedded with systemic injustices. The online workshop will feature interactive activities to pinpoint and address program and institutional factors associated with graduate students’ mental health. Action steps by career stage of participants will be the focus.

2:15 PM - 3:00 PM EST  Careers in STEM Policy: Opportunities for Underrepresented Minorities

U.S. STEM Policy creates a national framework focused on building the nation’s STEM capacity. These policies influence every sector of American life from education to federal budget allocation to the U.S. defense program. For the past 20 years, the NSF Summer Scholars Internship Program has provided learning opportunities that inform STEM policy and administration as well as allow students to work on the development of STEM programming initiatives and guidelines. This session is designed to provide insights into a career path in STEM fields while focusing on internship programs that are intentional about increasing the number of underrepresented minorities in STEM-related career fields.

[Plenary Sessions]

4:00 PM - 5:00 PM EST  Ruha Benjamin:Race to the Future? Reimagining the Default Settings of Technology & Society

Race to the Future? Reimagining the Default Settings of Technology & Society From everyday apps to complex algorithms, technology has the potential to hide, speed, and deepen discrimination, while appearing neutral and even benevolent when compared to racist practices of a previous era. In this talk, Ruha explores a range of discriminatory designs that encode inequity -- what she terms the “New Jim Code.” This presentation takes us into the world of biased bots, altruistic algorithms, and their many entanglements, and provides conceptual tools to decode tech promises with historically and sociologically-informed skepticism. It will also consider how race itself is a kind of tool designed to stratify and sanctify social injustice and discuss how technology is and can be used toward liberatory ends. In doing so, Ruha challenges us to question not only the technologies we are sold, but also the ones we manufacture ourselves. Ruha Benjamin is Associate Professor of African American Studies at Princeton University, Founding Director of the Ida B. Wells Just Data Lab, and author of the award-winning book Race After Technology: Abolitionist Tools for the New Jim Code.

[Exchange Events]

1:00 PM - 1:45 PM EST  ASU: Household Water Insecurity in the Global North

This panel extends new scholarship that reveals water security in the Global North to be a myth, and explores what can be done about it. Taking a relational approach, we argue household water insecurity is a product of institutionalized structures and power, manifests unevenly through space and time, and is reproduced places many assume are water-secure. Our research shows how “social infrastructure”—relationships, cultural norms, and informal institutions—can address people’s urgent needs for safe, sufficient water against the backdrop of gaps in public water provision. Research and policy roadmaps to build from this work will be discussed.

- Weathering extreme climate and geological changes
- Social ecosystems
- Systems of interaction
- Anthropology
- Urban Ecology

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2:00 PM - 2:45 PM EST  **AAAS: Science Communication and Engagement with Religious Publics**

Though more than 70% of US adults claim a religious affiliation (Pew 2018), faith is often perceived as a source of tension in STEM. This workshop is intended for attendees concerned about religious inclusion in science spaces, including classrooms, labs, on social media, in policy discussions, or in public settings. Participants will review and discuss why culture, worldview & identity (including faith) are important in science communication & engagement, consider examples and best practices, and participate in a small-group exercise on a challenging question. This workshop was co-developed by the AAAS Dialogue on Science, Ethics, and Religion (DoSER) and the Center for Public Engagement with Science & Technology (PES).

3:15 PM - 3:45 PM EST  **AAAS: SEA Change: A Primer**

Description: For decades, AAAS has worked to support diversity, equity, and inclusion (DEI) in STEMM fields. We have conducted research, analyzed data and policies, and advanced promising practices. We have also called for more systemic approaches to advancing DEI in US colleges and universities. In 2017, encouraged by equity-minded colleagues and inspired and informed by Athena SWAN and Advance HE Equality Charters in the UK, we launched STEMM Equity Achievement (SEA) Change for US institutions of higher education. SEA Change supports institutional transformation in science, technology, engineering, mathematics, and medicine by providing a change community and systemic change process. Collaborations with disciplinary societies are also underway to support departmental/unit level transformation. Join us to learn more about this exciting AAAS initiative that makes DEI in STEMM the norm for advancing excellence.

**[Special Events/Special Sessions/Topical Lectures]**

1:00 PM - 2:00 PM EST  **Minority and Women Scientists and Engineers Awards** (Special Events)

Celebrate scientists who are making a positive impact on our world while demonstrating the strength and broadened perspective that diverse voices bring to the scientific endeavor. Join us for the ceremony where remarkable researchers who were announced as the 2021 OWSD-Elsevier Foundation Award for Early-Career Women Scientists in the fields of Physical sciences: chemistry, mathematics and physics.

After this ceremony, join the awardees and fellow attendees for the Minority and Women Scientists and Engineers Networking discussion session. Here you can discuss with the awardees about their achievements and their life experiences. Check the program for details for “click in” information.

1:00 PM - 2:00 PM EST  **Eduardo Fernandez-Duque: Fatherhood Matters: Lessons on Paternal Care from Evolutionary Anthropology** (Special Session)

Evolutionary anthropology has a long history of contributing to our understanding of how humans establish and maintain relationships, a central area of research in the behavioral sciences. Relationships are paramount to social animals; the effects of social bonds have been documented in relation to health, mortality, and reproduction. I will share results of our research on the evolution and maintenance of parenting relationships in titis and owl monkeys. For 25 years we have examined the behavior, physiology, and genetics of pair-bonding and paternal care (i.e. care by the father) in wild free-ranging populations, as well as in primate centers in the US. The owl monkeys of the Argentine Chaco and the titis of the Ecuadorian Amazon live in groups that contain only one reproductive adult male and only one adult female. In both species, the males are committed to infants to an extent that is unparalleled in any other mammal. In both species, from very soon after birth, males transport, play and share food with the infant more than the mother. Titis and owl monkeys offer a simplified model of “only two care-givers” for examining the potential role of

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parenting strategies in the evolution of human and nonhuman primate societies. Furthermore, they can help us identify behavioral mechanisms that facilitate the development of strong, healthy bonds between fathers and young.

The John P. McGovern Award Lecture in the Behavioral Sciences, first delivered in 1990, honors outstanding behavioral scientists from around the world. The lecture was endowed by the John P. McGovern Foundation to enable scholars to learn and explore the accomplishments and challenges of the behavioral sciences. The awardee is chosen by an independent selection committee, and nominations for the 2022 John P. McGovern Award Lecture will be accepted starting April 2021. For more information, visit https://www.aas.org/awards/john-mcgovern-lecture for more information.

1:00 PM - 2:00 PM EST  **Anne H. Charity Hudley: Talking College: In Sociolinguistic Pursuit of Black Student Justice** (Topical Lecture)

This session will be available for on-demand viewing 24 hours after live event. Anne Harper Charity Hudley is the North Hall Endowed Chair in the Linguistics of African America at the University of California, Santa Barbara (UCSB). She served for three years as the inaugural faculty director of undergraduate research for UCSB. Her research and publications address the relationship between language variation and Pre-K-16 educational practices and policies and high impact practices for underrepresented students in higher education.


She is a Co-PI on several current grants, including NSF Research Experience for Undergraduates and NSF Alliances for Graduate Education and the Professoriate program grants that are designed to reimagine how we educate students who are underrepresented in the academy, particularly in the social, behavioral, and STEM sciences. Charity Hudley has served on the Executive Committee of the Linguistic Society of America, the Standing Committee on Research of the National Council of Teachers of English, and as a consultant to the National Research Council Committee on Language and Education.

1:00 PM - 2:00 PM EST  **Ayanna Howard: Demystifying AI Through the Lens of Fairness and Bias** (Topical Lecture)

This session will be available for on-demand viewing 24 hours after live event. Ayanna Howard, Ph.D. is the Linda J. and Mark C. Smith Professor and Chair of the School of Interactive Computing at the Georgia Institute of Technology. She also holds a faculty appointment in the School of Electrical and Computer Engineering and serves on the Board of Directors for the Partnership on AI and Autodesk. Dr. Howard’s career focus is on intelligent technologies that must adapt to and function within a human-centered world. Her work, which encompasses advancements in artificial intelligence (AI), assistive technologies, and robotics, has resulted in over 250 peer-reviewed publications in a number of projects - from healthcare robots in the home to AI-powered STEM apps for children with diverse learning needs.

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To date, her unique accomplishments have been highlighted through a number of awards and articles, including highlights in USA Today, Upscale, and TIME Magazine, as well as being recognized as one of the 23 most powerful women engineers in the world by Business Insider and one of the Top 50 U.S. Women in Tech by Forbes. In 2013, she also founded Zyrobotics, which develops STEM educational products to engage children of all abilities. Prior to Georgia Tech, Dr. Howard was a Senior Robotics Researcher and Deputy Manager in the Office of the Chief Scientist at NASA’s Jet Propulsion Laboratory. She has also served as the Associate Director of Research for the Institute for Robotics and Intelligent Machines, Chair of the Robotics Ph.D. program, and the Associate Chair for Faculty Development in ECE at Georgia Tech.
Wednesday, February 10, 2021

**Scientific Sessions**
- **12 PM** Inequities in the Criminal Justice Ecosystem: Policing, Monetary Sanctions, Jail
- **12 PM** Polygenic Risk Scores: Uses and Misuses in Health, Research, and Society
- **3 PM** Computing, Artificial Intelligence, and Societal Impacts: An Inflection Point
- **3 PM** The Dynamic Past: How Science Helps Give Voice to Silenced Stories

**Workshops**
- **12 PM** Conceptualizing Student Diversity in the Classroom
- **12 PM** Inclusive Online Teaching: Toward More Impactful and Engaged Learning
- **3 PM** Movement-Building in STEM in the Midst of the Black Lives Matter Movement

**Special Events**
- **1 PM** Yalidy Matos: The “American DREAM”: Understanding White Americans’ Support for the DREAM Act and Punitive Immigration Policies

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**[Scientific Sessions]**

The following events are discussions with pre-recorded content. Participants should view the pre-recorded presentations for these sessions in advance of attending the event.

**12:00 PM - 12:45 PM EST**  *Inequities in the Criminal Justice Ecosystem: Policing, Monetary Sanctions, Jail*

Criminal justice is an intricate ecosystem that reflects and produces racial inequities in the sociocultural system in which it is embedded. Disparities are longstanding, endemic, and currently front and center in the United States. Our first presenter examines how on-the-ground policing produces disparities justified in legal and race-neutral terms. The author uses officers’ self-reported accounts of enforcement activities, justifications, and decision-making from official reports of drug arrests. Inductive qualitative analyses expose tacit policing practices that generate racial disparity. Our second presenter considers how statutory and institutional structures governing the use of monetary sanctions (MS) influence an individual’s exposure to the criminal justice system and exacerbate racial inequities in it. Statute language and interview data with debtors and court professionals reveal how MS scope and severity, extent of court system discretion, and a state’s penal burden characterize MS policy and practice and unequally distribute its effects. Our third presenter studies how incarceration, which is concentrated among people of color, can have proliferating consequences for families. Using interview data from a study of families with an incarcerated male, the author examines how a son’s incarceration impairs a mother’s health, showing the destructive impact of stigma, criminal justice system contact, and increased financial, emotional, and instrumental responsibilities.

**12:00 PM - 12:45 PM EST**  *Polygenic Risk Scores: Uses and Misuses in Health, Research, and Society*

The use of polygenic risk scores (PRS) is increasingly becoming a standard scientific methodology for gaining novel insights into the genetic underpinnings of observed phenotypes in humans. These phenotypes range from genetic risk for disease to characteristics like height, IQ, sexual orientation, and educational attainment. Much work is still required, however, to ensure that PRS-based...
estimates are accurate, including ensuring that estimates work well across diverse ethnic groups. Scientists and society at large need to address the ethics of using PRS for various purposes, such as to guide healthcare or inform educational policy. This crosscutting session will educate attendees on how PRS are being employed in research and the clinic, and will include the perspective of leaders in the social sciences on how society should appropriately employ PRS.

3:00 PM - 3:45 PM EST  Computing, Artificial Intelligence, and Societal Impacts: An Inflection Point

Computing and its applications now pervade every aspect of our society. In science and engineering, scientific instrumentation, data capture analysis, predictive analytics and control systems, artificial intelligence (AI), and computational modeling, have reshaped how science is conducted. In business, computing and AI have both disrupted and disintermediated existing models in areas as diverse as goods and services, transportation, and information dissemination. Equally importantly, computing and AI have reshaped how we communicate, socialize, and influence human behavior, and the rise of edge AI and the Internet of Things promise to further reshape cities, the environment, and health care.

The computing revolution has democratized access to information and disrupted and reshaped entire economic sectors, with associated human effects, both positive and negative. Likewise, the continuing shift of decisions from humans to algorithms and machines is raising important questions of ethics and fairness for a wide range of computing-mediated transitions and decision processes. To quote a well-known comic book character, “with great power comes great responsibility.” This session will examine the interplay of evolving computing technologies and societal dynamics, as well as fair and equitable policies and practices.

3:00 PM - 3:45 PM EST  The Dynamic Past: How Science Helps Give Voice to Silenced Stories

Modern scholars recognize that the past is not static, and that advancing historical knowledge is a process of searching out the marginalized, forgotten and unknown. This process provides opportunities for contemporary scholars to give voice and agency to people and communities whose stories have long been ignored or deliberately silenced. This session will highlight Black scientists, historians, community representatives, and others. It will explore how tools of science, including new technologies, techniques and collaborations in genetics, linguistics, archaeology, and archival research, have supported the reclamation and revitalization of culture, heritage, and identity - including dimensions of faith and spirituality - for communities of African descent. The session will conclude with reflections and dialogue with attendees about the role of community engagement, including planning, assessment of risks and potential rewards, and the need for equitable and just decision-making around the impact of scientific research.

[Workshops]

12:00 PM - 12:45 PM EST  Conceptualizing Student Diversity in the Classroom

When we hear the word diversity, what comes to mind? With increasing calls for equity and inclusion in science, diversity seems to be at the forefront of national conversations. The classroom is one space where we, as scientists, communicate our values and invite students into the research and scholarship of our disciplines. In this interactive session, we will facilitate a discussion on the different ways in which diversity can be conceptualized in the classroom and how these conceptions inform instructors’ approaches to teaching, learning, and curriculum design. Together, we will examine the features and variations that make up these different conceptions and reflect on approaches to create more equitable and inclusive spaces.

Events subject to change. Please consult the 2021 AAAS Annual Meeting online program for up-to-date information and event descriptions.
12:00 PM - 12:45 PM EST  **Inclusive Online Teaching: Toward More Impactful and Engaged Learning**

A well-trained science, technology, engineering, and mathematics (STEM) workforce is necessary for building a resilient nation. Yet, the number of students entering STEM disciplines and persisting to degree completion has been a consistent concern, especially for those from groups traditionally underrepresented in the sciences. The time of COVID-19, the emergence of wide-spread online learning, and the recent focus on systemic racism in higher education provide a unique opportunity to implement strategies that positively influence the inclusion of diverse groups, particularly women of color, in key majors. This interactive workshop will provide culturally relevant insight into the nature of student training in STEM.

3:00 PM - 3:45 PM EST  **Movement-Building in STEM in the Midst of the Black Lives Matter Movement**

BIPOC are under-represented, under-valued, and not being retained in STEM spaces. In the light of the Black Lives Matter (BLM) movement, there are new calls for systemic transformation across society to value Black lives --- undeniably, this includes STEM. This moment is an historic opportunity to effect transformational change in STEM to build recruitment and community engagement efforts, increase representation, develop equitable and healthy work environments that lead to the retention of BIPOC. As Black professionals in STEM, the panelists have experience and expertise in navigating and dismantling white supremacist structures in STEM. Each panelist will outline efforts they’ve co-led and discuss tools they’ve developed in this context.

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[Special Events]

1:00 PM - 2:00 PM EST  **Yalidy Matos: The “American DREAM”: Understanding White Americans’ Support for the DREAM Act and Punitive Immigration Policies**

This session will be available for on-demand viewing 24 hours after live event.

Yalidy Matos is an assistant professor of political science and Latino and Caribbean studies at Rutgers University – New Brunswick. She earned her Ph.D. from The Ohio State University in Columbus and her B.A. degree from Connecticut College. Originally from Dominican Republic, Yalidy is a 1.5 generation immigrant and first-generation scholar, who is passionate about complicating the ways in which Americans think about immigration and immigrants. Matos’ scholarly work examines the intersections between race, ethnicity, and immigration. By drawing on theoretical frameworks from various disciplines, she uses a mixed methods approach to understand the racialized nature of immigration policies and contemporary immigration policy and politics in the United States. As an immigration scholar, immigration is at the center of Matos’ work. Professor Matos examines the political behavior of different racial and ethnic groups in relation to immigration policy in the United States, the ways immigration is framed by media and elites, the effects of immigration policies on Latinos, and how immigrants claim space even amidst anti-immigrant national and subnational rhetoric. Matos’ work can be found in the American Behavioral Scientist, American Politics Research, LABOR: Studies in Working-Class History, and Perspectives on Politics. Matos is also the recipient of a Career Enhancement Fellowship (2020) for Junior Faculty from the Woodrow Wilson Foundation.

Events subject to change. Please consult the [2021 AAAS Annual Meeting online program](https://www.aaas.org/meetings/2021) for up-to-date information and event descriptions.
Thursday, February 11, 2021

**Workshops**

- **1:15 PM** Community Engagement and Outreach for STEMM Educators
- **1:15 PM** Pursuing Environmental Justice Through Science and Religion
- **2:30 PM** Leveraging our Privilege to Address Systemic Biases
- **2:30 PM** Science-Dance for Inclusive Community Engagement, Education & Social Change

**Exchange Events**

- **11 AM** ASU: Expanding Access in Engineering: The Efficacy of a Professional Development for High School Guidance Counselors
- **12 PM** ASU: Mapping the Border Laboratory: Knowledge, Experimentation, and Justice in the Mexican Borderlands
- **2:15 PM** AAAS: Benchmarking Our Diversity

**Special Events/ Special Sessions**

- **10 AM** Socially Distant Mingle
- **12 PM** From the Journal: “Black in Robotics” Leaders Call for Roboticists to Build Thoughtfully

[Workshops]

1:15 PM - 2:00 PM EST  **Community Engagement and Outreach for STEMM Educators**
Educators are needed to contribute accurate, reliable information to address ecological and social justice concerns, but many do not know how to get started. Translating scientific data into actionable evidence is vital for communities tackling pollution, climate change, and public health disparities. Community-based science is emerging as a best practice for naming place-based issues of concern, sharing community culture, knowledge and needs, and learning how to collect, interpret and apply knowledge. Presenters will introduce participants to community-based science and highlight the opportunities for educators. Participants will start a personal action plan that they can develop in online small group sessions later in 2021.

1:15 PM - 2:00 PM EST  **Pursuing Environmental Justice Through Science and Religion**
Vulnerable populations are often housed in neighborhoods filled with health hazards or at severe risk from natural disasters. As climate change worsens and extreme weather events become more frequent, these communities are the most affected. Leaders in the community, including local civic representatives, grassroots organizers, religious leaders, and environmental advocates, have been spearheading efforts for environmental justice. These leaders help ensure voices from affected communities are included in decisions related to developing, implementing, and enforcing environmental laws in their neighborhood. This session will explore the effects of environmental degradation and discrimination on vulnerable populations and discuss how elements of various faith traditions, combined with forefront science, can assist environmental justice efforts.

2:30 PM - 3:15 PM EST  **Leveraging our Privilege to Address Systemic Biases**
Structural biases in STEM fields limit these disciplines from fully achieving their creative potential by excluding BIPOC individuals from the field. The current national focus on eliminating racism on a large scale presents an opportunity for STEM academics to effect significant change. All members of the academy possess some level of privilege. This workshop invites participants to reflect on past

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and present practices within their own scope of influence that are maintaining inequitable outcomes in STEM, with the goal of identifying actions we can take to effect immediate and sustained changes that will create a more inclusive faculty and administration.

2:30 PM - 3:15 PM EST **Science-Dance for Inclusive Community Engagement, Education & Social Change**

Dance is an effective, accessible tool for the communication of science, especially in an era of information saturation, technology reliance, silos, and injustice. Science dance partnerships support embodied learning in schools, culturally meaningful exchanges with marginalized groups, such as between refugees and researchers, and emotional engagement and social change, such as is needed to reverse biodiversity loss. This interactive workshop with three leaders of Science-Dance reveals the utility of science dance through hands-on exercises, reflective discussions, sharing of case-studies, and evidence-based tools. Attendees will gain a science dance toolkit and ways to apply it to their work to create a broader inclusive practice.

[Exchange Events]

11:00 AM - 11:45 AM EST **ASU: Expanding Access in Engineering: The Efficacy of a Professional Development for High School Guidance Counselors**

There is a critical imperative within STEM to increase representation of diverse peoples and ways of thinking to better meet pressing contemporary needs. The lack of diversity within undergraduate engineering is rooted in the K12 education system. Within the K12 education system, there are a variety of complex, interacting systems that influence students’ educational pathways. One component within this system is high school counselors, who play a pivotal role in educational choices made by students through selection of elective courses, achievement, and fostering an environment through outreach activities.

This session details the development and evaluation of a professional development (PD) program for high school counselors. The PD was situated within the context of a larger secondary-level school engineering initiative aimed at demystifying the engineering experience through inclusive engineering curricula for high school students. In total, 15 counselors participated in the virtual PD program, which included hands-on activities about the engineering design process and informational sessions about engineering majors and career pathways. In this session, we provide an overview of the PD program, evaluation, and results. We also discuss how these findings can be expanded to other settings to promote sustainable and lasting change to harness and meet future scientific needs.

12:00 PM - 12:45 PM EST **ASU: Mapping the Border Laboratory: Knowledge, Experimentation, and Justice in the Mexican Borderlands**

In the face of a migration crisis, with an estimated 70,000-120,000 migrants disappeared in the Mexican borderlands in the last ten years, migrants and human rights activists are relying on emerging digital and forensic technologies to navigate this humanitarian challenge. In this presentation we will examine an assemblage of humanitarian technologies used in US-Mexico border region. Focusing on the Mexican borderlands, from Guatemala to the United States, we will discuss consolidation of four border technologies that straddle state-based and grass-roots responses to migration and migrant death: GPS and ICT technologies, forensic DNA, isotope analysis, and biometrics. Although emerging from disparate intellectual traditions ranging from molecular biology to spatial sciences, taken together these technologies highlight (1) borders as spaces of innovation and experimentation on the part of migrants (2) the role of technologies in migrant citizenship, and (3) the rise of hybrid technologies that fuse human rights and security goals.

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2:15 PM - 2:45 PM EST  **AAAS: Benchmarking Our Diversity**
In October 2020, AAAS released a baseline report so AAAS/Science could measure its continued progress in diversifying its workforce and endeavors. As a group, we will review this summary and the methodologies we employed, and discuss next steps in becoming a more inclusive organization.

[Special Events/Special Sessions]

10:00 AM - 4:30 PM EST  **Socially Distant Mingle**
Take some time to visit one of these lounges and visit with old and new friends. Also look out for special Speaker Chats and other gatherings in these break rooms.

- Sci-Tech of Color
- LGBTQ+
- Women in STEM
- Early Career
- SciComm
- SciPol
- Future Possibilities
- Freestyle

12:00 PM - 12:30 PM EST  **From the Journal: “Black in Robotics” Leaders Call for Roboticians to Build Thoughtfully**

Science Robotics 18 Nov 2020:
Vol. 5, Issue 48, eabf1364
DOI: 10.1126/scirobotics.eabf1364

Roboticians and AI developers must consider racial biases and inequities when developing a new technology, “especially when robot use could result in harm to any group,” argue Ayanna Howard and Monroe Kennedy III, academic co-leads of the organization “Black in Robotics,” in this Editorial that describes the goals of their organization. Only when potential benefits of a given robot or robotic system outweigh possible risk of harm to all affected groups, and only when the technology’s performance is uncorrelated with a group’s protected characteristics (including race, ethnicity, age, gender, sex, etc.), should a new technology be deployed, they say. An important step to ensure potential racial biases do not permeate into the performance of a new robot is to ensure the creators of these new technologies are diverse, the authors say. This will open the way for unique perspectives to view and predict uses and implications of a new robot. “Black in Robotics’ was born to address the systemic inequities found in our robotics community by focusing on three primary pillars—community, advocacy, and accountability,” Howard and Kennedy write. “Our mission is a call to action for the entire robotics community to increase diversity and to build with thoughtfulness for disadvantaged groups.”