ADDRESSING DIVERSITY, EQUITY, INCLUSION, AND ANTI-RACISM IN 21ST CENTURY STEM ORGANIZATIONS

Response to a request from Congresswoman Eddie Bernice Johnson (D-TX), chair of the House Committee on Science, Space and Technology:

Define research and policy actions related to diversity, equity, inclusion, and the systemic racial biases that disadvantage people from marginalized backgrounds in pursuit of STEM careers.
Convene a national summit that will:

- Highlight how racism operates at different levels in STEMM settings
- Recognize the effect of systemic racism on the careers of individuals historically underrepresented in the STEMM workforce (Black/African American, Hispanic/LatinX, American Indian, Alaska Native, Asian, and Pacific Islander communities)
- Identify policies, strategies, and practices for confronting systemic racism
- Identify ways to advance diversity, equity, and inclusion in STEMM settings
- National Institutes of Health
PLANNING COMMITTEE

- Gilda A. Barabino (Co-Chair), Olin College
- Keith R. Yamamoto (Co-Chair), University of California, San Francisco
- Marielena DeSanctis, Community College of Denver
- Susan Fiske, Princeton University
- Juan Gilbert, University of Florida
- Darryl Monteau, Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS)
- Roderic I. Pettigrew, Texas A&M University and Houston Methodist Hospital
- Kecia M. Thomas, University of Alabama at Birmingham
John Anderson, National Academy of Engineering
Modupe Akinola, Columbia University
Twyla Baker, Nueta Hidatsa Sahnish College
Mahzarin Banaji, Harvard University
Marie Bernard, NIH Office for Scientific Workforce Diversity
Camille Charles, University of Pennsylvania
Sapna Cheryan, University of Washington
Cheryl Crazy Bull, American Indian College Fund
Buju Dasgupta, University of Massachusetts Amherst
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Nicole Joseph, Vanderbilt University
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Elen Ochoa, National Science Board
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Shirley Tilghman, Princeton University
Keith Wailoo, Princeton University
Reynold Verret, Xavier University of Louisiana
David Yeager, University of Texas at Austin
WHAT ARE WE TALKING ABOUT??

- **Diversity**: proportional representation of groups of individuals based on their primary and secondary characteristics and identities
- **Equity**: support provided to individuals, according to need, for access, opportunity, and advancement
- **Inclusion**: acknowledged, impactful participation and contribution, to the benefit of the individual and the organization
- **Racism**: devaluation and the denial of rights, dignity, and value of individuals due to race, ethnicity or geographical origin
Racism and its sequelae, inequity and injustice, are foundational in the US, rooted in colonization, expansion, and development occurring over four centuries.

Settler Colonialism displaced Indigenous cultures, and denied STEMM skills and insights of Indigenous people, producing educational policy and law that precludes equal access to quality education.

Black Americans were consigned to slavery and discrimination in housing, education, and health services.

Many policies that sought to broaden access to education included detrimental impacts on the Black community.

Racism is deeply embedded in all elements of society, including educational policy and law, including STEMM organizations.
VALUE AND IMPORTANCE OF DEI AND ANTI-RACISM

- The moral case for DEI&A – it’s what’s right
- Racism breeds and exacerbates disparities, which are corrosive to society and its people
- DEI increases the quality and significance of research and innovation – it is an engine for advancing STEM.
Biases create mental associations between race and other characteristics, such as competence or capability.

White behavior is seen as status quo, devaluing actions and mannerisms of Black, Indigenous, and people of color.

Stereotypes contribute to tokenism, isolation, and exclusion for those outside the status quo.

Implicit bias can be demonstrated even in individuals who disavow it, and is very difficult to change. However, we can learn to align values with intention, and to recognize bias and produce the right responses, despite the persistence of bias.
Academia’s admissions policies and culture have historically exclusionary roots.

Faculty and administrators serve in gatekeeping roles, which are impacted by intrinsic bias, causing exclusion of individuals from historically underrepresented backgrounds.

For admissions decisions on borderline students, faculty depend on racialized signals, e.g., test scores, undergraduate university, hometowns.
BIASED POLICIES IN STEMM ORGANIZATIONS

- Exclusionary, gender- and race-biased hiring
- Job postings that list ideal candidate characteristics based on White male stereotype
- "Colorblind" policies, which seek to provide equal treatment by ignoring race and gender, fail to provide equitable treatment - treatment that addresses unequal needs
- Employees from historically underrepresented backgrounds receive less support than White male employees.
APPROACHES AND POLICIES THAT FAIL TO ADVANCE DEI&A

- Control tactics, compliance-based training, hiring tests, and performance rating procedures
- Policies focused on promoting the under-represented individual’s grit and resilience, without changing the larger system
- Harassment and civil rights grievance procedures
- Training focused on eliminating bias
PROGRAMS THAT ADDRESS ISSUES IN STEM M DEI&A

- HBCUs allow students to avoid the isolation they feel on majority White campuses
- Shift focus from attempts to eliminate bias to teaching about disparities and ways to enhance diversity
- A holistic approach with coordinated changes: engagement through active recruitment and mentoring, interaction through cross-training and self-managed teams, and mechanisms for social accountability, e.g., diversity task forces, diversity managers – all institutionalized as formal practices applied to all employees/trainees
- In “cluster hiring” approach, institution opens multiple positions explicitly encouraging gender, race, or ethnic diversity, together with follow-on developmental resources and mentoring
LEADERSHIP STRATEGIES FOR SUSTAINED DEI&A ADVANCES

- Provide incentives and resources, e.g., faculty positions, research funds, awards, to departments who identify candidates who would expand faculty diversity.
- Align institutional priorities around DEI; recognize that DEI advances innovation and excellence; allocate resources to drive needed changes; set a culture that celebrates differences and invites individuals to embrace their diverse backgrounds.
ONGOING RESEARCH AND PROGRAMMATIC EFFORTS

- The National Center for Science and Engineering Statistics is a resource for exploring representation and trends across disciplines.
- NSF’s Racial Equity Task Force reviews internal processes and external programs to address the inequity in STEMM.
- The NIH UNITE initiative uses five interacting work streams to address a range of intramural and extramural issues including stakeholder experiences, research on health disparities, transparency, and accountability.
- A 3 year, $60 million, multiphased NIH Common Fund program is focused on transformative health disparities research.
- The National Academies DEI&A Initiative will next host an expert meeting in November 2021 to begin to consider recommendations and actions.
CONCLUSIONS AND NEXT STEPS

- Racism is embedded in all elements of society, including STEM organizations.
- Both individual-level psychological tendencies and the broader institutional/sociocultural frameworks are problematic for DEI&A efforts.
- A major barrier to overcome is the false perception of a tradeoff between DEI&A and research innovation and excellence; notably, inclusion is the biggest challenge.
- Traditional anti-bias trainings, policies, and grievances procedures, in isolation, generally fail to combat discrimination.
- Solutions require a holistic approach, including recruitment, mentoring, interaction through educational training and mechanisms for social accountability, institutionalized as formal practices and policies and thereby making them accessible to all employees.


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