Finishing the Job:
Graduate Education
and the NASA Workforce

dedicated to the memory of Dr Harriet Jenkins
2007: US prosperity threatened by loss of STEM preeminence

2011: increasing participation critical to enhance innovation & meet technology needs
# of physics PhDs earned by African-American and Hispanic students, 1996-2017

[Graph showing the number of physics PhDs earned by African-Americans and Hispanic-Americans from 1996/97 to 2016/17. The graph indicates a significant increase in the number of PhDs awarded to Hispanic-Americans, while the number awarded to African-Americans remains relatively stable at around 2%.]
Final Report of the
2018 AAS Task Force on Diversity and Inclusion in Astronomy
Graduate Education

Task Force Members:
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partner with and recruit from programs that produce large numbers of graduates from underrepresented groups
The underrepresentation of African Americans in physics is a systemic problem that cannot be solved through the work of individual faculty, departments, or professional societies. It requires coordinated efforts acting at all of these levels. In addition, standard approaches of strategic planning are unlikely to succeed because the underlying norms, values, and culture of the profession need to be addressed before lasting changes can occur. Fortunately, there is a growing body of literature on successful culture change in higher education to inform this work.
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<th>6a: Departmental Learning and Change</th>
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<th>6c: Ongoing Data Collection, Assessment, and Accountability</th>
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<td>The department has little capacity to review national reports. Guidance for change comes internally from the Dean.</td>
<td>Some new faculty members attend the national physics and astronomy New Faculty Workshop. Their enthusiasm for innovation in education wanes when they learn that achieving tenure requires a single-minded focus on research.</td>
<td>The departmental HR representative collects basic demographic data required by the institution for every enrolled student, postdoc, and employee: binary gender, race/ethnicity, and citizenship/visa status.</td>
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<td>The department aspires to learn from reports of the physics and astronomy professional societies. Speakers are occasionally invited to present on these efforts but faculty generally see no reason to change.</td>
<td>The department encourages faculty of all ranks to propose new directions in education and diversity efforts, and supports faculty travel for professional development.</td>
<td>The department invites members to provide additional optional data on multiple social identities including gender identity, first generation college status, and anything else the member feels is important to their identity. The academic progress of majors through the curriculum is tracked and is used only by advisers for mentoring purposes.</td>
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<td>Faculty are strongly committed to improving educational outcomes for underrepresented students. A Departmental Action Team includes faculty, staff, and students dedicated to assessing the culture and preparing a theory of change. The team has the support of the department chair and all members have attended a national workshop on leading change in physics departments.</td>
<td>To support its newly formed equity and inclusion committee, the department has joined a national network organized by the professional societies. Coaches and facilitators work with committee members to help them create a culture of caring that can spread in the department.</td>
<td>The department performs annual self-audits on equity, inclusion, and accessibility as well as education, recruitment, and other processes, using self-assessment rubrics similar to this one. Policies and procedures are periodically reviewed for efficacy and equity across social identities and updated as needed. Every year the department prepares a summary of quantitative, qualitative, and descriptive data on diversity, equity, and inclusion for sharing with the Dean and visiting committees.</td>
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<th>Stage 1: Emerging</th>
<th>Stage 2: Developing</th>
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Leadership and Structures
Jennifer Ross-Nazzal: What was your understanding of what you would be doing at NASA at that point [1972]?

Dr Harriet Jenkins: Helping the agency to achieve the legal requirements of a federal agency, to abide by the law, to be able to achieve all of the aeronautical and space objectives that NASA was accomplishing with an integrated staff. In my mind I would have explained that meant not just having all underrepresented groups of people there, but at all levels, in all kinds of occupations doing the job in an outstanding manner. In other words an integrated staff carrying out the work and the charter that NASA had. I thought that was very important. I knew a little bit about the reputation of NASA. I felt it was one of the best managed federal agencies. It certainly had an exciting mission and vision.
2020 SACNAS DISTINGUISHED MENTOR AWARD

Lorenza Levy, PhD

Associate Professor, San Diego City College

Lorenza Levy is Associate Professor of Physics and Astronomy at San Diego City College, where she has been since 2007. She was born in Mexico and was raised bicultural and biliterate between Mexico City and San Diego. This bicultural upbringing planted the seeds of what would blossom into her drive for social justice and equity in the STEM professions. She obtained a BS in Physics and Astronomy at Northern Arizona University, and during her time there, was a NASA undergraduate student observer at Lowell Observatory. During her years at Lowell Observatory, she studied comet evolution and she discovered two asteroids: lorenzalevy (10938) and urquiza (11711). She continued her academic journey and obtained a PhD in Astrophysics from the University of North Carolina at Chapel Hill, though her research interests shifted into galactic cluster evolution. She continued as a NASA Fellow, though this time as a Harriet G. Jenkins Predoctoral Fellow. While she was a graduate student, she started a family, and learned how to juggle the demands of school and motherhood. After defending her thesis, she moved to San Diego and began teaching at San Diego City College. She has dedicated her years at San Diego City College to growing their SACNAS Chapter, and creating equitable paths for all her students, while modeling balance between work and family duties.
last decade has not seen the progress we need to address underrepresentation in STEM

current efforts focus on examining and changing institutional culture, and requires commitments from all partners

finishing the job means doubling down on long-term, targeted investments in workforce development