

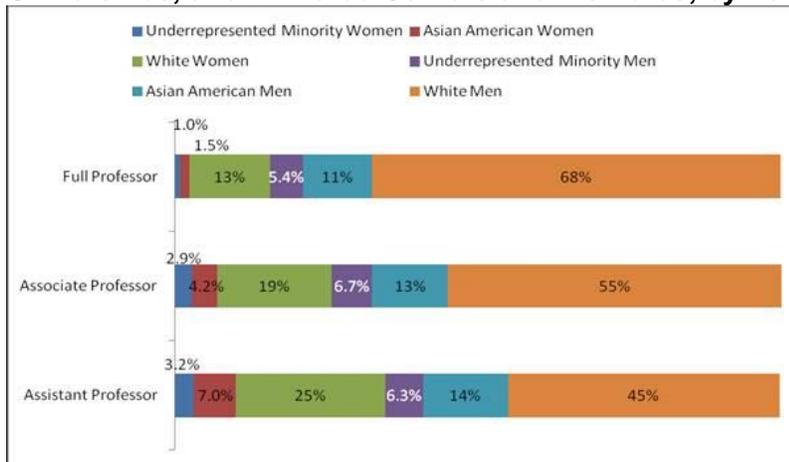
Overview of
**Accelerating Change for Women Faculty of Color in STEM:
Policy, Action, and Collaboration**

By Cynthia Hess, Ph.D., Barbara Gault, Ph.D., and Youngmin Yi,

Findings from *Accelerating Change*

- Women of color are only 5.7 percent of those with STEM doctorates who are assistant, associate, or full professors at four-year colleges, universities, and affiliated centers and institutes, but they are 15 percent of the working-age population in the United States. In contrast, white men with STEM doctorates are 58 percent of assistant, associate, and full professors, but only 35 percent of the working-age population.¹
- Underrepresented minority women (blacks, Hispanics, Native Americans, and those who identify with more than one race) are just 2.1 percent of those with STEM doctorates in the professoriate, although URM women make up 13 percent of the U.S. working age population. These groups tend to be especially underrepresented in specific disciplines, such as computer and mathematical sciences.
- The “STEM representation gap”—the increase needed to achieve full STEM representation in relation to representation in the total population—varies substantially for women and men across racial and ethnic groups. For example, while Asian American women are more likely to hold STEM doctorates than would be expected based on their share of the population, black women have a representation gap at the doctorate level of 71 percent.
- Between the level of assistant and full professor, the representation of women of color—which is quite small even at the lowest level—decreases. Asian American women, for example, are 7.0 percent of those with STEM doctorates who hold faculty positions at four-year colleges, universities, and affiliated centers and institutes, but only 1.5 percent of full professors.
- While women overall are underrepresented in the STEM professoriate relative to men, women of color face specific challenges that require distinct focus to enact change.

Distribution of Women and Men with STEM Doctorates Employed in Four-Year Colleges, Universities, and Affiliated Centers and Institutes, by Race/Ethnicity and Faculty Rank, 2010



Notes: STEM fields include the biological, agricultural, and other life sciences; computer and mathematical sciences; physical and related sciences; and engineering. Whites and Asian Americans refer to persons who are not of Hispanic origin. “Underrepresented minorities” includes blacks, Hispanics, American Indians/Alaska Natives, Native Hawaiians/Other Pacific Islanders, and those reporting more than one racial category. Figures include faculty at four-year colleges or universities, medical schools (including university-affiliated hospitals or medical centers), and university-affiliated research institutes who are U.S. citizens or permanent residents.

Source: IWPR analysis of special tabulations of data from the National Center for Science and Engineering Statistics’ 2010 Survey of Doctorate Recipients provided by the National Science Foundation.

¹ Figures and key findings include only U.S. citizens and permanent residents.

Convening Brings Experts from Across the Country to Address Strategies for Change

IWPR's report summarizes findings and recommendations from a convening, "Accelerating Change for Women Faculty of Color in STEM: Policy, Action, and Collaboration," designed to address the underrepresentation of women of color in STEM academic careers. The convening provided an opportunity for individuals across sectors—including academia, government, business, and nonprofit and membership organizations—to share their experiences and knowledge about conditions for women of color in academic STEM careers and to discuss approaches that can facilitate their success and continued advancement.

Challenges Facing Women Faculty of Color in STEM

Multiple factors hinder progress for women faculty of color in STEM. These factors include workplace climate issues, such as "microaggressions" and "incivilities" (statements that unintentionally send demeaning messages to people of color), as well as the failure of academic departments to adopt a multicultural perspective that would acknowledge racial/ethnic differences and embrace diversity. In addressing workplace climate issues, one presenter spoke about what she calls the "pet to threat" phenomenon, in which women faculty of color often move from being seen as a novelty and asset ("pet") because of the diversity they bring, to being seen, as they ascend through the ranks, as a challenge to the status quo ("threat").

Women faculty of color in STEM also face many of the same challenges that affect women of color in our society more broadly. For example, speakers and participants also discussed the critical impact of work-life balance issues on the careers of women faculty of color in STEM. Many women of color—including those with doctorates—experience social challenges, health disparities, and familial responsibilities that make it difficult to succeed without policies that support them as they balance the demands of their careers with other obligations. While the National Science Foundation has recently recognized the importance of work-life balance policies for scientists and engineers through its Career-Life Balance initiative, more needs to be done to implement these policies and understand their importance for women faculty of color.

In addition to workplace climate and career-life balance issues, participants identified numerous other factors that contribute to the slow nature of progress for women faculty of color in STEM. They noted that many women faculty of color face high demands to perform unpaid activities—such as mentoring undergraduate students of color and serving on committees and national boards—that institutions often do not value when making tenure and promotion decisions. Women of color may also have more limited access to mentoring and social support networks than white women and men, which can hinder their career advancement.

Promising Practices to Accelerate Change

Convening participants emphasized that strategies for advancing the academic careers of women of color in STEM must include additional research, new and expanded program initiatives, and more convening opportunities where women of color can share experiences and knowledge and develop ongoing networks of support. In particular, participants identified a need for more data on issues such as the utilization of initiatives to support work-life balance among faculty, factors contributing to the underrepresentation of women faculty of color in fields that are heavily dominated by whites and men, and the roles of sponsorship and mentoring in promoting the advancement of women faculty of color. They also suggested there is a need to expand mentoring for women faculty of color in STEM, strengthen efforts to combat the social isolation of women faculty members of color, and increase cross-institutional collaborations.

Recommendations for Expanding Opportunities for Women Faculty of Color in STEM

Advocacy Recommendations

- Increase access to information and raise awareness about the status of women faculty of color in STEM, through resources such as a web portal that provides data on women of color in STEM, online tools that enable users to generate data tables, and information about scholarships or fellowships available to women faculty of color.

- Develop metrics for monitoring and publicizing individual institutions' progress on diversity in STEM, such as a scorecard system that tracks and reports institutions' performance and the gender and racial/ethnic diversity of their STEM faculty.

Recommendations for Improving Funding Opportunities

- Structure funding opportunities in ways that increase the visibility and prestige of women faculty of color, such as through grant programs for junior women faculty of color that would help to ensure that their scientific contributions receive recognition and open up new sources of support.
- Provide greater transparency about both the gender and racial/ethnic backgrounds of those who apply for and receive federal grants.

Recommendations for Improving Institutional Practices

- Develop institutional leadership that values diversity, in part by ensuring that hiring policies requiring potential employees to demonstrate cultural competence and a commitment to diversity.
- Improve the academic work climate for women faculty of color in STEM by implementing initiatives such as offering more sabbaticals targeted for women of color in STEM, strengthening policies that support career-life balance, and educating tenure and promotion committees about the specific challenges that women faculty of color often face.
- Encourage institutions to implement “contextualized” mentoring plans that acknowledge common barriers and inequities affecting women of color and that include tools and processes for mentor training and evaluation.

Expanding opportunities for women of color to pursue and succeed in academic STEM careers is essential for improving labor market outcomes and advancing the nation's global leadership in STEM. When portions of the STEM talent pool are untapped, the scientific community and nation do not fully benefit from the scope of innovations, breadth of knowledge, and range of experiences that a more diverse STEM workforce can bring.