



# ENHANCING ACCESS AND EQUITY IN STEM

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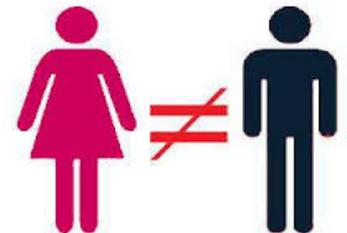
# THE UNDERREPRESENTATION OF WOMEN IN STEM IS WELL DOCUMENTED

- This is true... despite the likelihood that STEM will drive economies world wide in the foreseeable future.
- No nation can afford to under develop a population sector in building its STEM workforce to be competitive.
- In the US, 60% of all college students are women and people of color will be the majority in 20 years.
- Yet, women - and especially women of color - continue to be underrepresented in almost all STEM disciplines.

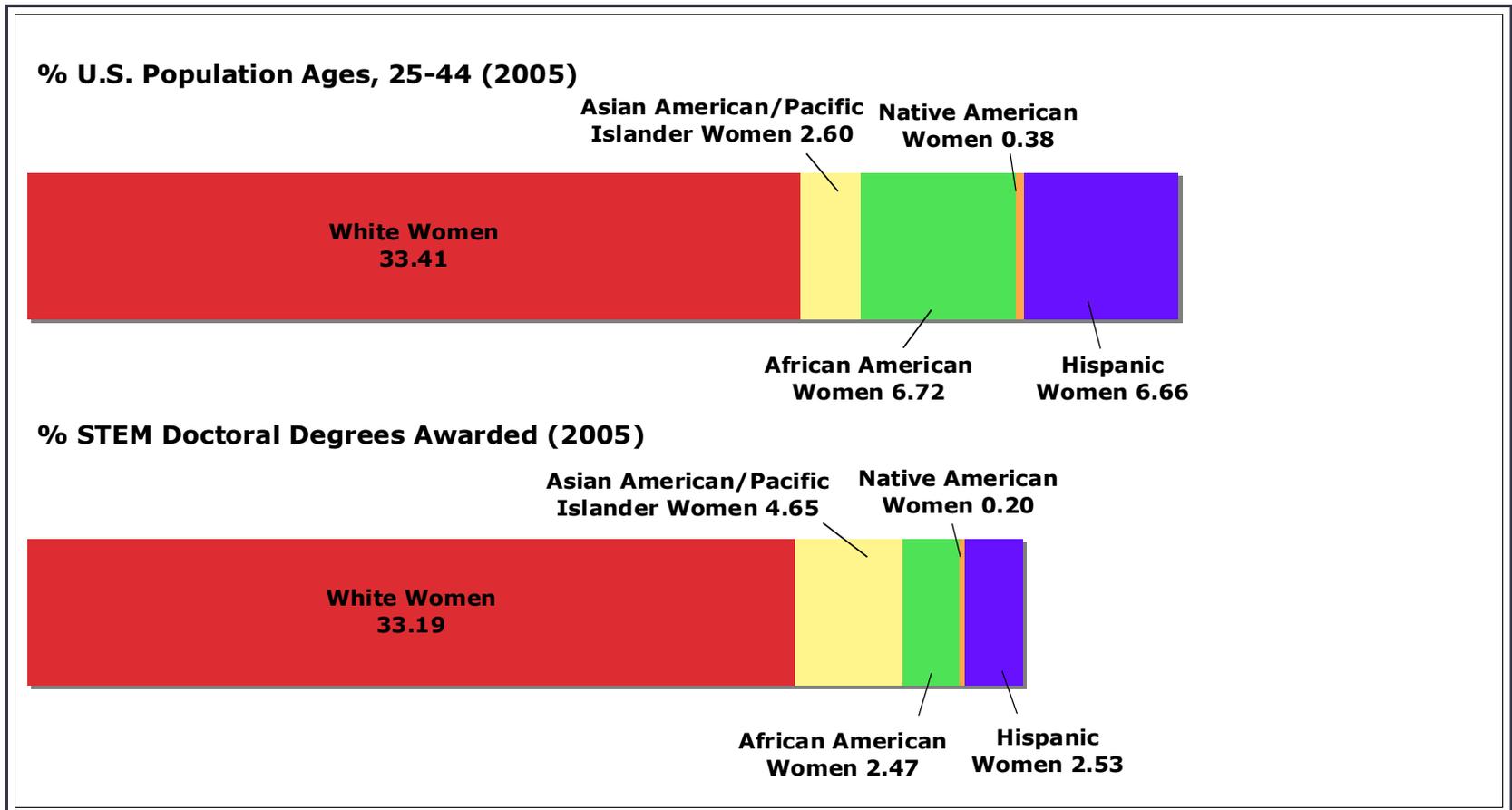


# AFTER 40 YEARS OF ATTENTION GENDER EQUITY ISSUES REMAIN IN STEM

- There has been some progress; 58% of STEM faculty at 2-year colleges are women; 46% in 4-year institutions (mainly in the life and social sciences)
- However, women are generally in lower academic ranks than men
- Women comprise 40.6%, 33.9% and 19.4% of assistant, associate, and full professors
- Women of color comprise only 4.5%, 3.7% and 1.2% of assistant, associate, and full professors and more underrepresented than general.



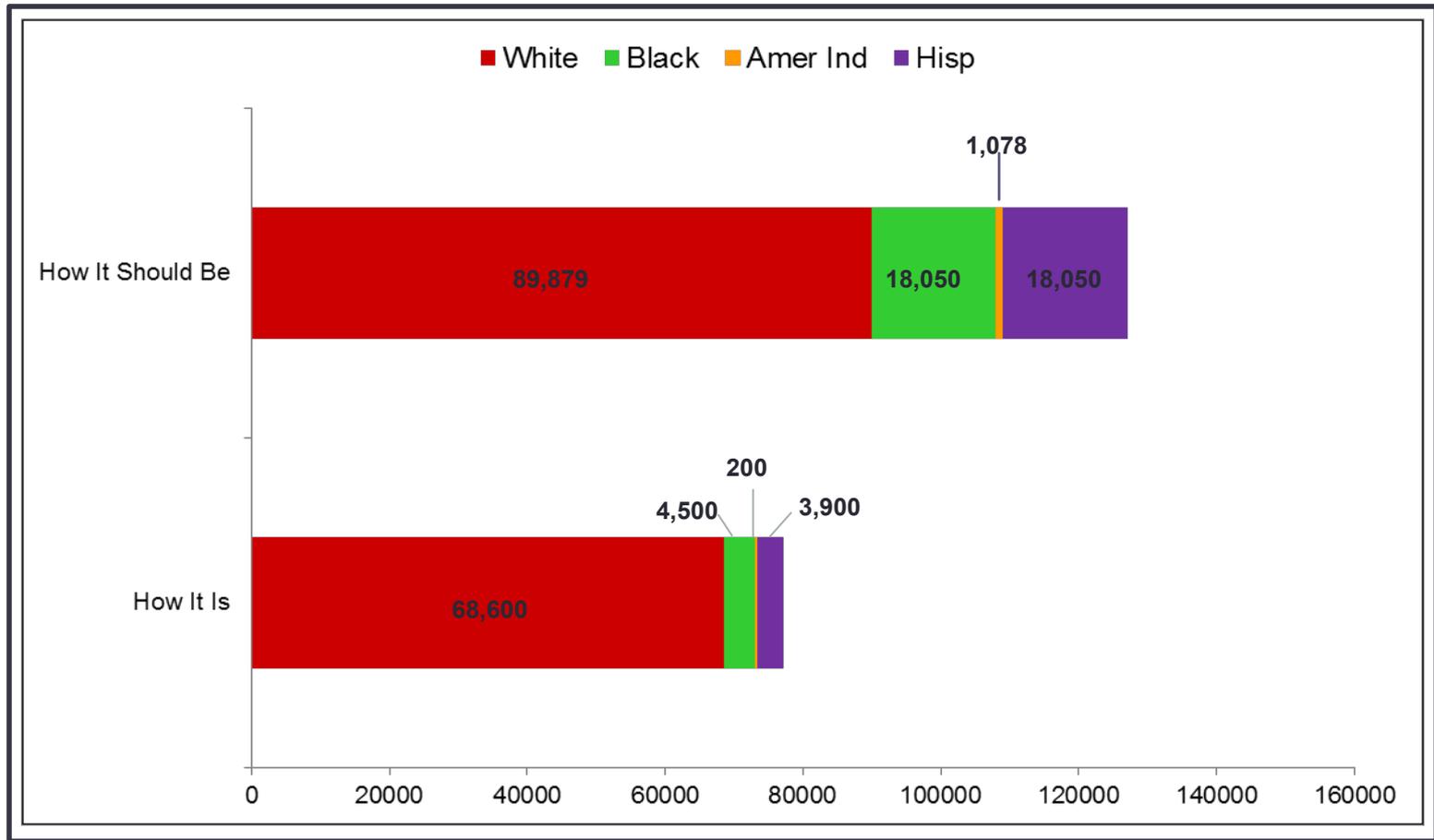
# Representation Of Women: US Population/STEM Doctoral



The US Census Bureau projects that by the year 2042, minorities in the US, will make up more than 50% of the US population

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# Representation Of Women: Science And Engineering Faculty



## FEW REMEDIES HAVE FOCUSED ON PREPARING AND ADVANCING WOMEN IN ACADEMIC LEADERSHIP

- Formal academic leadership preparation programs for STEM women have been largely understated for advancing women in academia, especially women of color.



- Anecdotal evidence suggests more women academic leaders produce more access, achievement and retention in STEM
- Academic leaders set climate, have budgetary oversight, and have hiring influence within academic units and institutions

# EXAMPLES OF ACADEMIC LEADERSHIP PROGRAMS

Higher Education Resource Services (HERS)

- Executive Leadership in Academic Medicine (ELAM)
- Executive Leadership in Academic Technology and Engineering (ELATE)
- American Council On Education (ACE) Inclusive Excellence Group



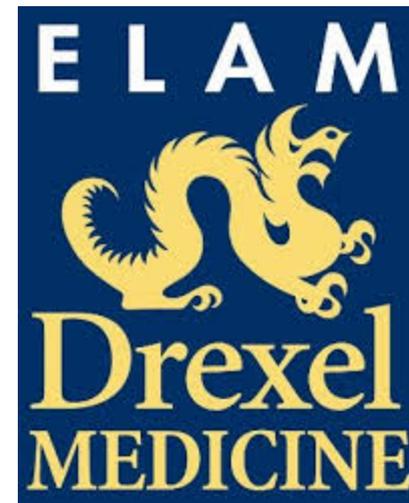
# Higher Education Resource Services (HERS)



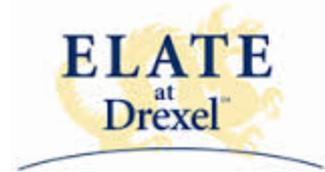
- Institutes located at Wellesley College, Bryn Mawr & University of Denver
- Four weekend seminars throughout the year
- Leadership development to advance women to senior leadership positions throughout the ranks of faculty and staff

# Executive Leadership in Academic Medicine (ELAM)

- Drexel University, College of Medicine
- Preparing senior women faculty at schools of medicine, dentistry and public health
- One-year fellowship program



# Executive Leadership in Academic Technology and Engineering (ELATE)



- Drexel University, College of Engineering
- Three 4-6 days residencies
- National leadership development program to advance senior women faculty in STEM into effective leadership roles within their institutions

# AMERICAN COUNCIL ON EDUCATION (ACE) INCLUSIVE EXCELLENCE GROUP



- Three-day leadership program for senior level women administrators (typically deans and above) seeking presidency, vice presidency or major deanship.
- Held both in June and December
- Fosters discussions with women presidents and executive search firm consultants who help participants develop effective job search strategies

# OURS IS THE MOST STEM FOCUSED ACADEMIC LEADERSHIP PROGRAM IN THE U.S.

- Opportunities for Underrepresented Scholars (OURS) was launched in 2012 and funded by the NSF
- Housed at The Chicago School of Professional Psychology
- Launched initially for women STEM faculty and emerging leaders from Historically Black Colleges and Universities
- Recently added a component from Tribal Colleges & universities
- Offers post graduate certificate in academic leadership upon completion

## MORE ON OURS

- Interdisciplinary and intercultural
- Builds on research in organizational psychology, organizational leadership and the related social sciences
- Seeks to advance career identities and aspirations of STEM women participants in academic leadership
- Contains a 10 month online graduate curriculum based on an initial Needs Assessment
- Requires an initial Leadership Effectiveness Assessment
- Requires an action learning project at the home campus
- Access to a career and personal coach provided to each participant

# THEORETICAL FOUNDATIONS OF OURS

- Attends to issues of intersectionality, inclusive excellence and presumed incompetence of STEM women
- Addresses issues of the “double bind”
- Addresses such psychosocial issues as emotional intelligence, resilience, and self-efficacy.

# MAJOR TOPICS IN THE OURS CURRICULUM



- Current and future landscape in higher education
- Essential leadership competencies
- Influencing and negotiating toward high visibility and career advancement
- Building staff and curriculum to meet needs of the 21<sup>st</sup> century student
- Governance and accreditation issues for leaders in colleges and universities

# Examples of Curriculum Considerations from Tribal College Needs Assessment

- Leadership preparation must be reflective of culture
- Leaders must be connected to the larger community
- Leaders must understand cultural systems of organization and management, e.g., flattened hierarchies
- STEM leaders must value traditional STEM knowledge
- STEM leaders should support cultural ways of knowing
- Mentoring should be conducted from a cultural perspective

# SCALABILITY AND IMPLICATIONS OF OURS FOR THE GLOBAL COMMUNITY



- Greater attention to formally preparing STEM women for academic leadership roles
- One Size Doesn't Fit All
- Cultural competence is a key ingredient for academic leadership preparation
- Coaching and mentoring on personal, psychosocial and career issues are a plus

## SCALABILITY AND IMPLICATIONS OF OURS FOR THE GLOBAL COMMUNITY (continued)

- Consider academic, hands-on and psychosocial components of leadership preparation and training
- Leaders from home institutions should be engaged in the process of removing barriers faced by women in ascending to leadership.
- Advocate for government and private funding and support for academic leadership preparation for STEM women generally and for underrepresented and marginalized women especially.

