



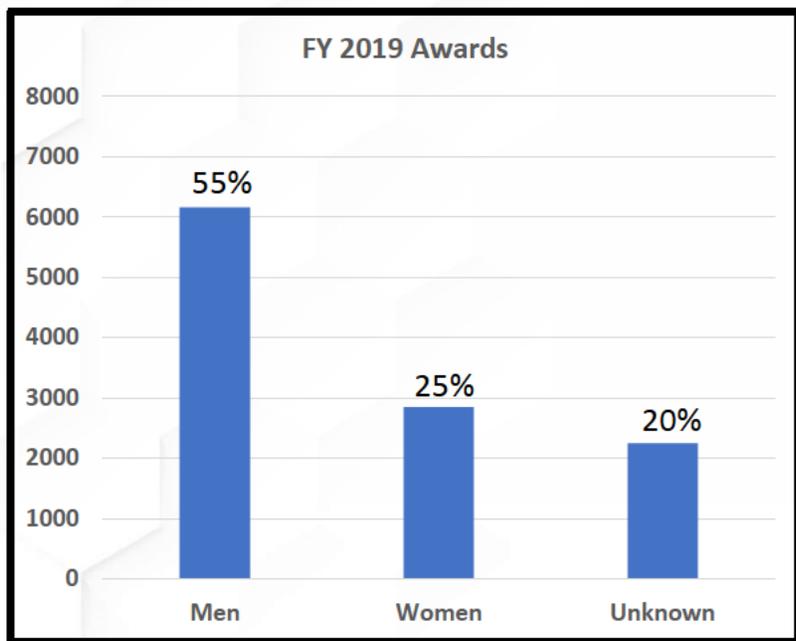
Tracking Participation in NSF's Merit Review Process

**Committee on Increasing Diversity and Inclusion in the
Leadership of Competed Space Missions – April 2021**

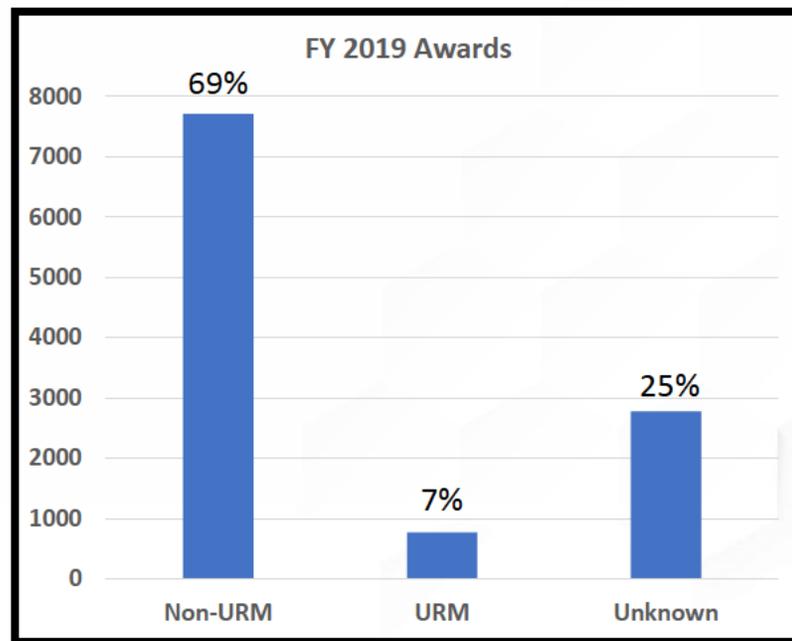
Steve Meacham, Office of Integrative Activities, NSF

Participation in NSF's Award Portfolio

By gender



By status as underrepresented racial or ethnic minority



MERIT REVIEW PROCESS



- Multi-staged process
- Involves many stakeholders
 - Institutions
 - Investigators
 - Reviewers
 - NSF staff
- Driven by scientific curiosity, moderated by mission, strategy, and risk

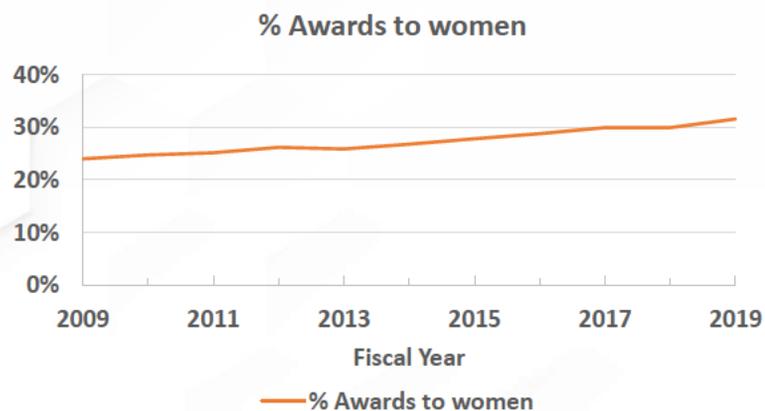


Strategies

#1. Collect demographic data and publish aggregate statistics

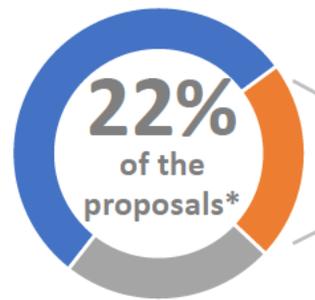
Challenges

- Provision of information is voluntary
- Demographic categories are old and may be out of date



MR Data From FY 2019

Female PIs FY 2019



25%
of the awards

31%
funding rate

■ Male PIs ■ Female PIs ■ Unknown

URM PIs FY 2019

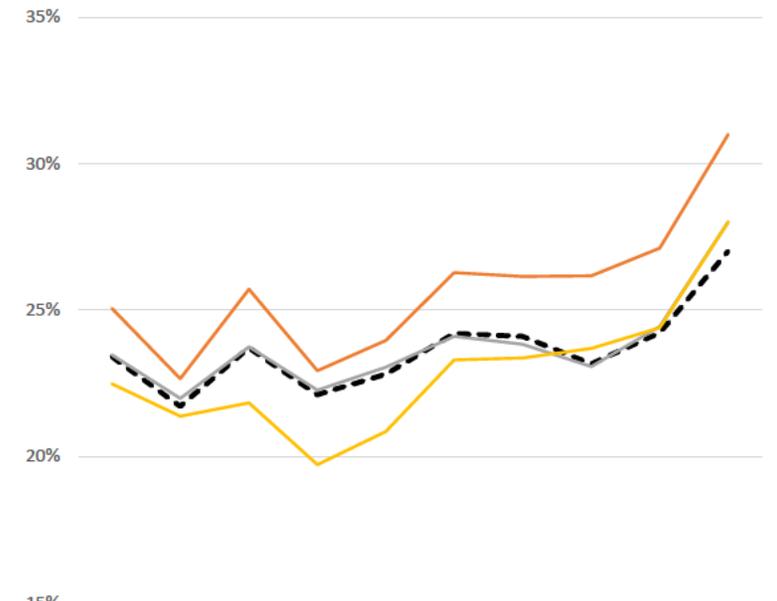


7%
of the awards

28%
funding rate

■ Non-URM PIs ■ URM PIs ■ Unknown

PI Funding Rate Trends

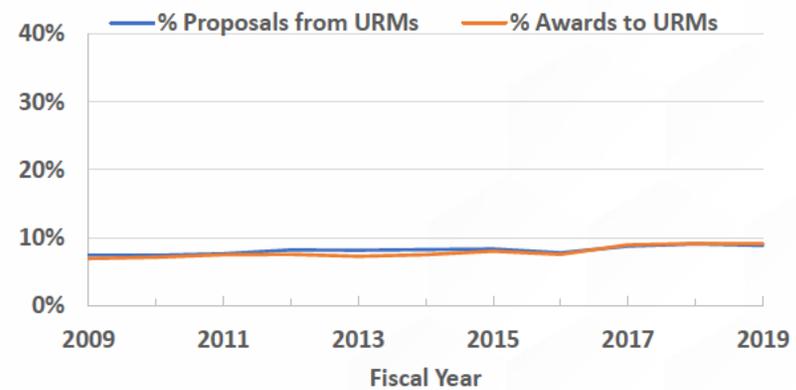
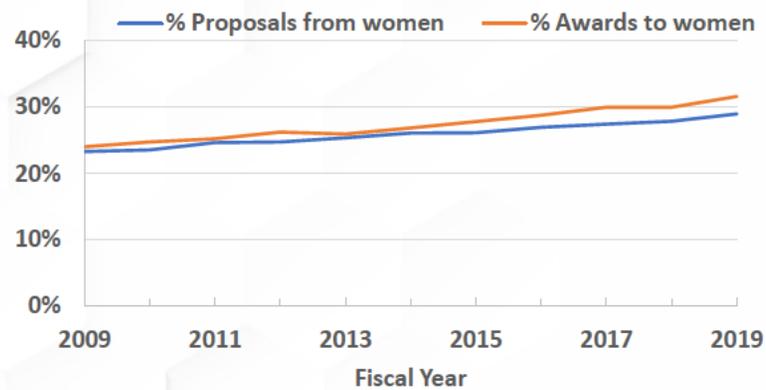


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All PIs	23%	22%	24%	22%	23%	24%	24%	23%	24%	27%
Female PIs	25%	23%	26%	23%	24%	26%	26%	26%	27%	31%
Male PIs	23%	22%	24%	22%	23%	24%	24%	23%	24%	28%
URM PIs	22%	21%	22%	20%	21%	23%	23%	24%	24%	28%

--- All PIs — Female PIs — Male PIs — URM PIs



A very slow upward trend



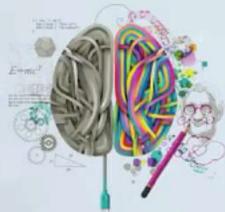
Strategies

#2. Provide reviewer orientation

Includes:

- Writing an analytic review
- Broader Impacts criterion
- Unconscious bias

THE LIMITS OF INFORMATION PROCESSING



Unconscious cognitive processes can produce unintentional biases in assessments.

BIAS IN LANGUAGE

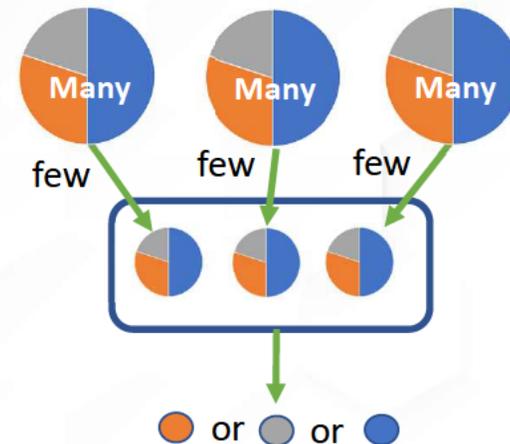
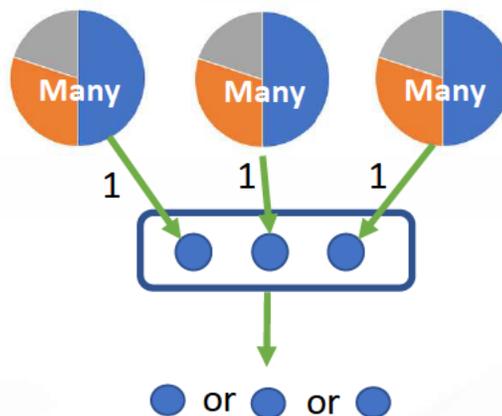
A giraffe can go without drinking water longer than a camel can.



#3. Design of multi-stage review

Examples:

- Waterman
- Mid-scale Research Infrastructure



The Academic Workforce

Figure 9. Gender distribution of tenure-line professorial faculty at select AAUDE institutions in STEM and non-STEM disciplines

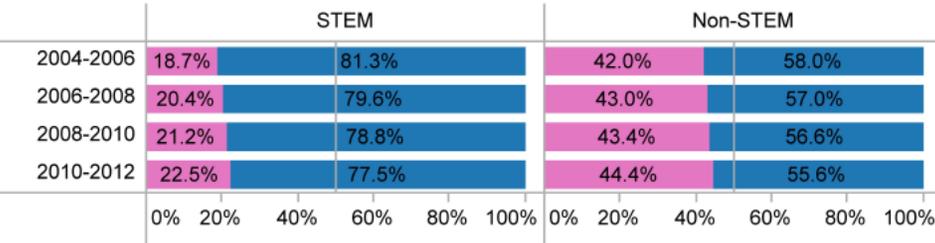
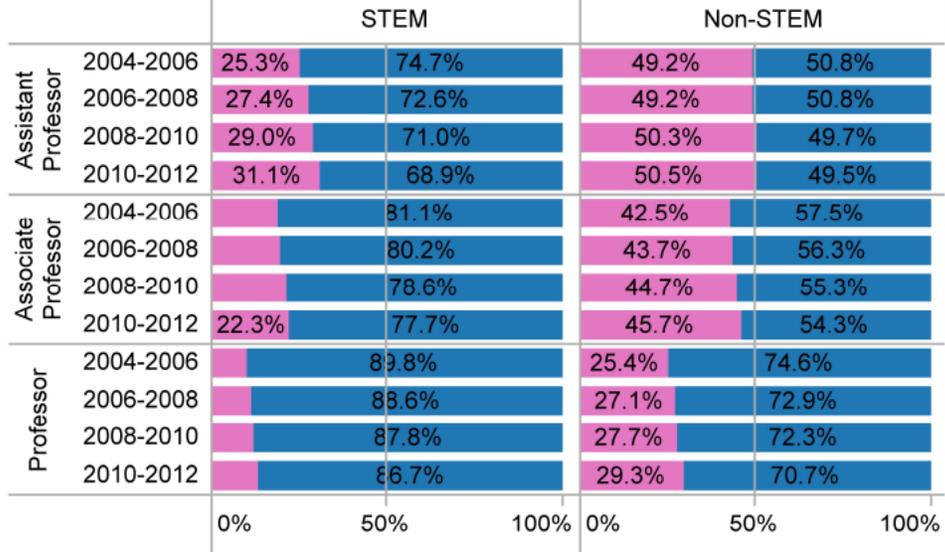


Figure 11. Gender distribution of tenure-line professorial faculty by rank at select AAUDE institutions in STEM and non-STEM disciplines



Strategies

#4. Outreach

- Provide information about available programs and how to apply
- NSF Days, Regional Grants Conferences, Webinars
- Awards to groups to provide training to potential PIs
- Listening to feedback
 - E.g., sponsored research office / research development support



NSF CAREER Virtual Proposal Development Workshop

Friday, April 23, 2021
10:00 AM - 2:30 PM

A banner for the NSF ENG CAREER Workshop with the text 'NSF ENG CAREER Workshop' in white sans-serif font against a dark blue background with a pattern of glowing orange and yellow spots.

NSF ENG CAREER Workshop



Strategies

#5. Systemic change

Examples:

- ADVANCE (<https://www.nsf.gov/advance>)
- SEA Change (<https://seachange.aaas.org>)
- ARIS – Advancing Research Impact in Society (<https://www.researchinsociety.org>)

#6. Targeted capacity-building opportunities

Examples:

- HBCU-Excellence in Research & HBCU-UP Research Initiation Awards
- EPSCoR (Established Program to Stimulate Competitive Research{



BP Programs in FY 2021

<https://www.nsf.gov/od/broadeningparticipation/bp.jsp>

The screenshot shows a Safari browser window with the URL https://www.nsf.gov/od/broadeningparticipation/bp_portfolio_dynamic.jsp. The page features a blue sidebar on the left with the following navigation links: NSF Broadening Participation, BP Home, BP Portfolio, BP Reports and Analyses, BP Impacts, BP Videos, BP Outreach, and BP Links of Interest. The main content area displays a table of BP programs for FY 2021.

PROGRAM NAME	Publication No.	Directorate	Division
ADVANCE: Organizational Change for Gender Equity in STEM Academic Professions	20-554	All	All
Alliances for Graduate Education and the Professoriate	16-552	EHR	HRD
Broadening Participation in Computing	21-571	CISE	CCF, CNS, IIS
Broadening Participation in Engineering	19-7680	ENG	EEC
Build and Broaden 2.0	21-542	SBE	SMA
Centers of Research Excellence in Science and Technology (CREST) and HBCU Research Infrastructure for Science and Engineering (RISE)	18-509	EHR, ENG	HRD
Coastlines and People	20-567	BIO, EHR, ENG, GEO, OIA, SBE	
Computer and Information Science and Engineering Minority-Serving Institutions Research Expansion Program	21-533	CISE	CCF, CNS, IIS, OAC
Disability and Rehabilitation Engineering	20-5342	ENG	CBET
EPSCoR Research Infrastructure Improvement Program Track-1:	20-571	All	All
EPSCoR Research Infrastructure Improvement Program Track-3: Building Diverse Communities	13-553	All	All
Established Program to Stimulate Competitive Research: Workshop Opportunities (EPS-WO)	19-588	All	All
GEO Opportunities for Leadership in Diversity	18-516	GEO	



Strategies

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#7. Help removing barriers

Examples:

- Career Life Balance supplements
- Post-doc fellowships

#8. Inclusive environments

Examples:

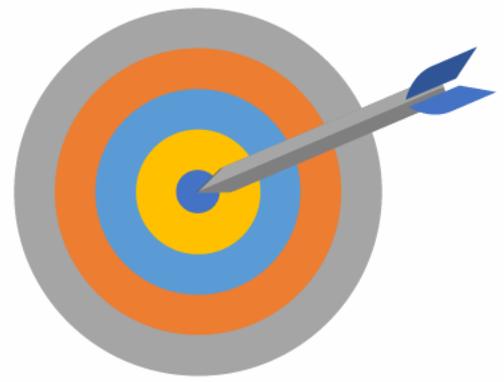
- NSF Policy on Harassment

The image displays two screenshots of the National Science Foundation (NSF) website. The top screenshot shows a news item titled "Dear Colleague Letter: Career-Life Balance (CLB) Supplemental Funding Requests" dated November 13, 2020. The bottom screenshot shows an "Important Notice No. 144" titled "Harassment" dated February 8, 2016. Both screenshots feature the NSF logo, the tagline "WHERE DISCOVERIES BEGIN", a search bar, and a navigation menu with links for Research Areas, Funding, Awards, Document Library, News, and About NSF. The top screenshot also includes a "Home" link and "Email" and "Print" icons.



Broadening Participation Framework

Types of NSF Broadening Participation Activities



Research

Focus on scientific research to increase the knowledge base, including BP



Education

Focus on interventions to enhance BP teaching and learning and increase uptake and sustainability.



Research Infrastructure

Focus on the development of tools and infrastructure to advance skills and capacity to learn.



Outreach/Inreach

Engage external stakeholders and the research community as well as NSF staff to brainstorm.



Policies & Practices

Focus on policies, procedures and practices that strengthen diversity and inclusion as well as build capacity.



BP Framework across NSF

Program examples



Research

Focus on scientific research to increase the knowledge base, including in BP.

Examples include: HBCU-EiR, EPSCoR // Science of Broadening Participation, BP in Engineering, NSF INCLUDES



Education

Focus on interventions or capacity building to enhance BP teaching and learning and increase uptake and sustainability.

Examples include: HBCU-UP, LSAMP, HSI, NSF INCLUDES // BPC-A, GOLD



Research Infrastructure

Focus on the development of tools and infrastructure to advance skills and capacity to learn.

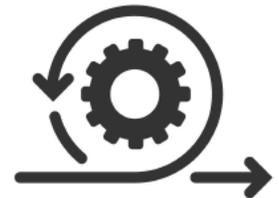
Examples include: MRI, EPSCoR // potential EHR MSRI-1 projects, Science of Learning Projects



Outreach/ Inreach

Focus on external stakeholders and the research community as well as NSF staff.

Examples include: CEOSE and their reports, AC subcommittees, ODI's Special Emphasis Programs, World Café, ...



Policies & Practices

Focus on policies, procedures and practices that strengthen diversity and inclusion.

Examples include: Harassment Policies, new term and condition, investments in NASEM studies, AAAS SEA Change



Thank you

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