



# ADVANCE

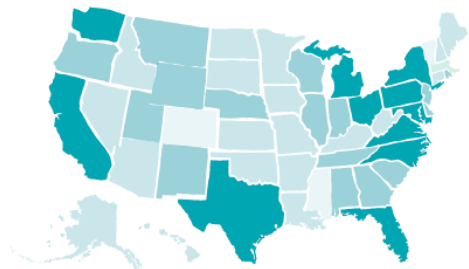
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## ADVANCE 2001 to 2021 – Lessons Learned



# NSF ADVANCE Theory of Change

***Vision: A productive, successful, and diverse STEM academic workforce***

## Challenge

Systemic inequities, & cultural & climate factors impact the interest, retention, and success of women, and racial & ethnic minorities in STEM academic careers.

### Intervention Strategies:

- Systemic change (organizational change)
- Equity focus
- Intersectional approach

### Resources:

- Grant program
- Prizes/Challenges
- NSF-wide partners
- ADVANCE brand
- ARC Network

### Outputs:

- Revised or new policies, processes, & practices
- Changes in STEM culture & climate
- New knowledge of systemic change & equity
- Sustainability, adaptability, & diffusion of ADVANCE ideas
- Community of experts on equity & systemic change

**Program Goal** to broaden the implementation of evidence-based systemic change strategies that promote equity for STEM faculty.

### Solicitation Objectives:

O1: Intersectional approaches are integrated into ADVANCE equity strategies

O2: Adaptation of evidence-based practices by IHEs and STEM organizations

O3: Empowerment of individual and organizational stakeholders to enhance equity



# Systemic & Organizational Change

**ADVANCE focuses on “fixing” the systems and organizations that impact STEM academic careers.**

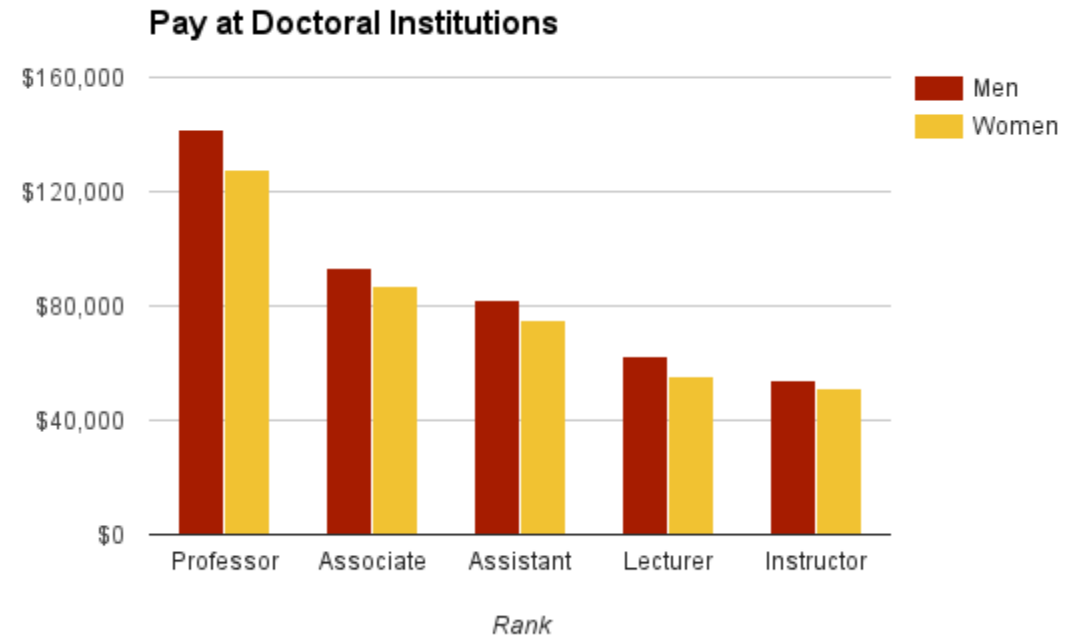
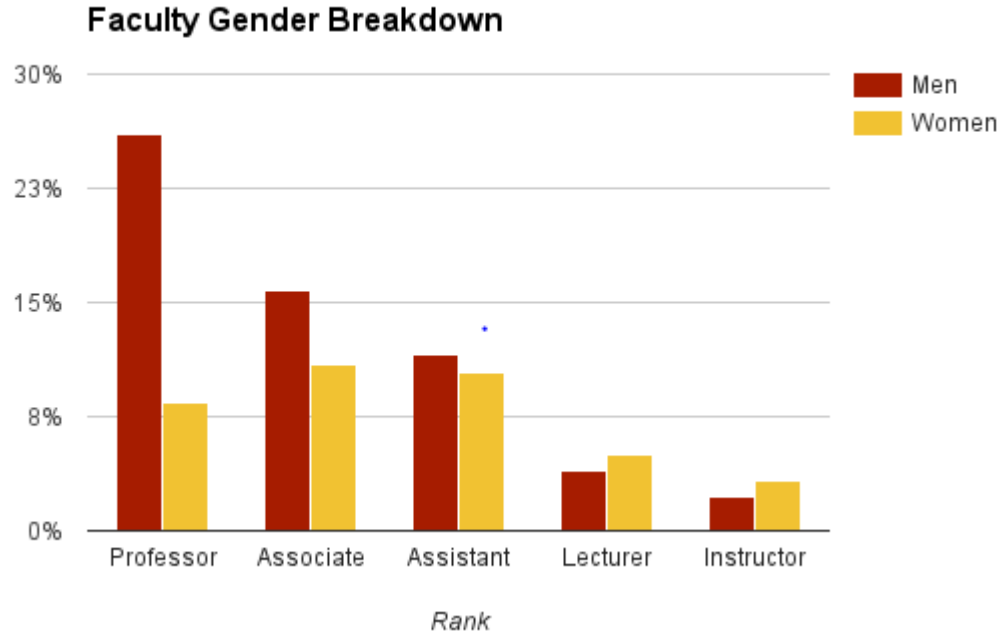
Examples of potential organizational and systemic issues:

- Recruitment, retention, tenure, and promotion policies *and practices*
- Work-life balance and career flexibility policies and programs *and usage*
- Salaries, start-up packages, and access to resources
- Institutional service allocations and requirements (committees, mentoring, etc.)
- Culture and climate of organizations and departments
- Accountability of STEM leadership and commitment to diversity

**Systemic and organizational change is most likely to result in long-term change in STEM academics.**

# Equity

- Equity issues may exist even if proportional representation is achieved.
- Pay gaps are an example of a potential gender equity issue in academics (and it may persist even with full participation of women):



AAUP Faculty salary survey data U.S. doctoral institutions 2014-2015

# Intersectional Approach

- ADVANCE recognizes that barriers to gender equity may not be identical for all groups of women faculty in STEM
- Therefore, all ADVANCE proposals are expected to offer strategies to promote gender equity for all faculty

Intersectionality is a concept in social sciences that recognizes that social identity, such as gender, do not exist in isolation from the social context or other social identities such as race/ethnicity, disability status, sexual orientation, etc. The significance or salience of a social identity and the social context may potentially change over time.

\*Note the only additional review criterion in the ADVANCE solicitation is focused on this expectation

# ADVANCE Grant Types for IHEs

## Catalyst

- Institutional self-assessment, investigate and pilot potential organizational change strategies, and develop five-year STEM faculty equity plan
- Up to \$300K over 2 years
- Single IHE that has not had IT or Adaptation before (or been the lead in any ADVANCE award before)
- Scope includes all STEM disciplines at IHE
- **Target date**
  - August 7, 2020
  - Proposals accepted before and after target date
  - Contact Program Officer before submitting for timing of submission.

## Institutional Transformation (IT)

- Develop, implement, and study **innovative** organizational change strategies to foster gender equity; perform original research; and implement organizational change strategies
- Up to \$3M over five years
- Single IHE that has not had IT before
- Scope includes all STEM disciplines at IHE
- **Target dates**
  - IT-Preliminary proposal April 22, 2021 (required)
  - IT Full proposal October 7, 2021 **only** if encouraged after preliminary proposal
  - Proposals accepted before and after target date

## Adaptation

- Adapt proven organizational gender equity strategies to an IHE
- Up to \$1M over three years + \$250K for partnering w/a NSF project
- Single IHE that has not had IT or Adaptation before
- Scope includes all STEM disciplines at IHE
- **Due Dates:**
  - Letter of Intent August 3, 2020 (required)
  - Full Proposal Nov. 4, 2020

# ADVANCE Grant Types for Organizations

## *Adaptation*


- Adapt proven organizational change strategies to address gender-based inequities for STEM faculty
- Up to \$1M over three years + \$250K for partnering w/a NSF project
- Must have a national or regional impact and significant reach
- A single non-profit non-academic organization can submit an Adaptation proposal
- Focus can be one or more STEM disciplines
- **Due Dates:**
  - Letter of Intent August 3, 2020 (required)
  - Full Proposal Nov. 4, 2020

## *Partnership*

- Diffuse and scale-up the adaptation and implementation of proven organizational change strategies to address gender-based inequities for STEM faculty
- Up to \$1M three-five years + \$250K for partnering w/a NSF project
- Must have a national or regional impact and significant reach
- Required two or more partner organizations - can include IHE partners
- Focus can be one or more STEM disciplines
- **Due Dates:**
  - Letter of Intent August 3, 2020 (required)
  - Full Proposal Nov. 4, 2020

# Lessons From the ADVANCE Program Model

## Systemic/organizational/institutional change:

- Has potential for long-term impact on diversity, equity, and inclusion in STEM
- Band aid solutions are not adequate 
  - ▣ Addresses the underlying reasons for disparities in STEM workforce – cure the problem while mitigating the symptoms
- Necessitates the involvement of those in the majority in making change
- Rejects the notion that there is something wrong with the ability or interest of individuals who have not traditionally participated in STEM education and workplaces
  - ▣ Fixes the institutions not the people!

## Sustainability of ADVANCE

UC-Irvine  
Office of  
Diversity and  
Inclusion



Douglas  
Haynes  
VP for Academic  
Equity, Diversity  
& Inclusion

Purdue  
ADVANCE-  
Purdue Center  
for Faculty  
Success



Chris Sahley  
Director Center  
for Faculty  
Success

10  
yrs

- University of Michigan
- University of Wisconsin
- Georgia Tech
- University of Washington

5 to  
9 yrs

- CUNY Hunter
- U of Colorado Boulder
- Case Western Reserve U
- UMBC
- VA Tech
- Kansas State U
- New Mexico St U
- UC-Irvine

2 to 5  
yrs

- Purdue U
- U of Illinois Chicago
- Cornell University
- U of Arizona
- UNC-Charlotte
- Iowa State University
- Washington State U
- Ohio State U
- MI State U
- North Dakota St U
- U of Nebraska Lincoln
- Northeastern U

You should  
take a  
negotiation  
skills class

...or my chair  
could be  
expected to  
treat everyone  
equally by  
their boss



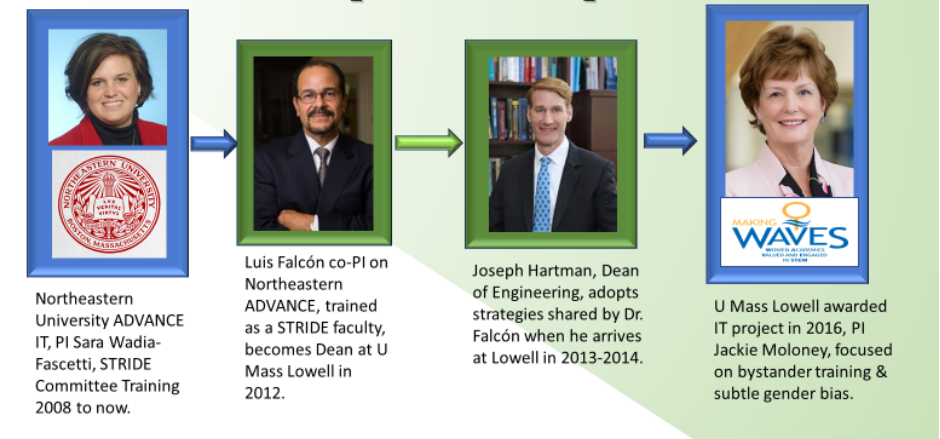
# Lessons From the ADVANCE Program Model

## Federal Grant Program Design:

- Focus on an important component of the STEM work force – academic faculty
  - Fund the development of organizational change strategies that can be scaled up
  - Build an organizational “pay it forward” model
  - Design and build “organizational peer pressure”
  - Support and promote the community of experts that are created
- Reward and recognize them as experts and leaders
  - Provide platforms for communication and information sharing among them and with others
  - Incentivize diffusion and adaptation when move into new roles and/or organizations



## Lateral and Upward Mobility of ADVANCE Empowered People



# Lessons From the ADVANCE Program Model

## Metrics to measure organizational change program success:

- Cannot only count individuals in STEM if the actual goal is diversity and equity and inclusion
- Change agents' professional and leadership success is a metric of program success
- Measure change from institutional baseline
  - Each institution will have different starting points and different long-term goals
  - Changes should reflect these parameters and context
- Diffusion of strategies to non-grantees
  - Scale and rate of uptake
- Transition to “standard operating procedures”



## Implicit Bias Research Informing NSF Practice



### \*Important Notes:

1. Awareness of one's own implicit biases is NOT enough to eliminate the impact of implicit biases in decision making – structures and policies around decision making need to be created to ensure mitigation of implicit bias influence.
2. “Implicit bias training” does NOT change an individual's implicit biases – rather it provided strategies and tools to mitigate the impact of implicit biases in decision making.

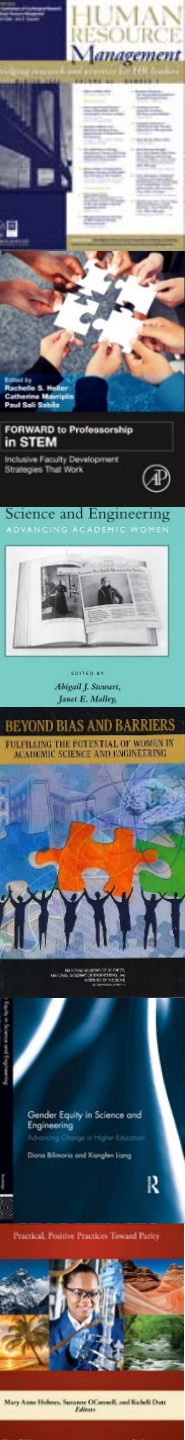
# ADVANCE Resources

## Synthesis or collections of ADVANCE products and strategies:

- ADVANCE Resource Coordination Network [www.equityinSTEM.org](http://www.equityinSTEM.org) (community of practitioners and researchers)
- Strategies for Effecting Gender Equity and Institutional Change <http://www.colorado.edu/eer/research/strategic.html> (synthesis of past ADVANCE grantee strategies)

## Individual ADVANCE project websites, for example:

- University of Michigan <http://advance.umich.edu/>
- WISELI <http://wiseli.engr.wisc.edu/>
- Hunter College <http://www.hunter.cuny.edu/genderequity/>



# Thank you!

Email questions to [ADVANCE@nsf.gov](mailto:ADVANCE@nsf.gov)

