



UNIVERSITY *of* DELAWARE

Measuring the Impact of NSF ADVANCE Programming at the University of Delaware

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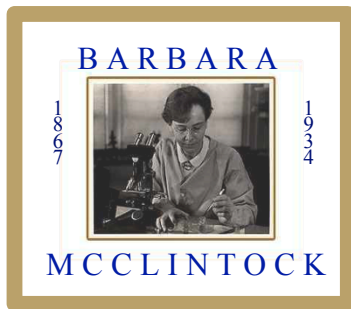
University of Delaware

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National Science Foundation ADVANCE-IT HRD 1409472



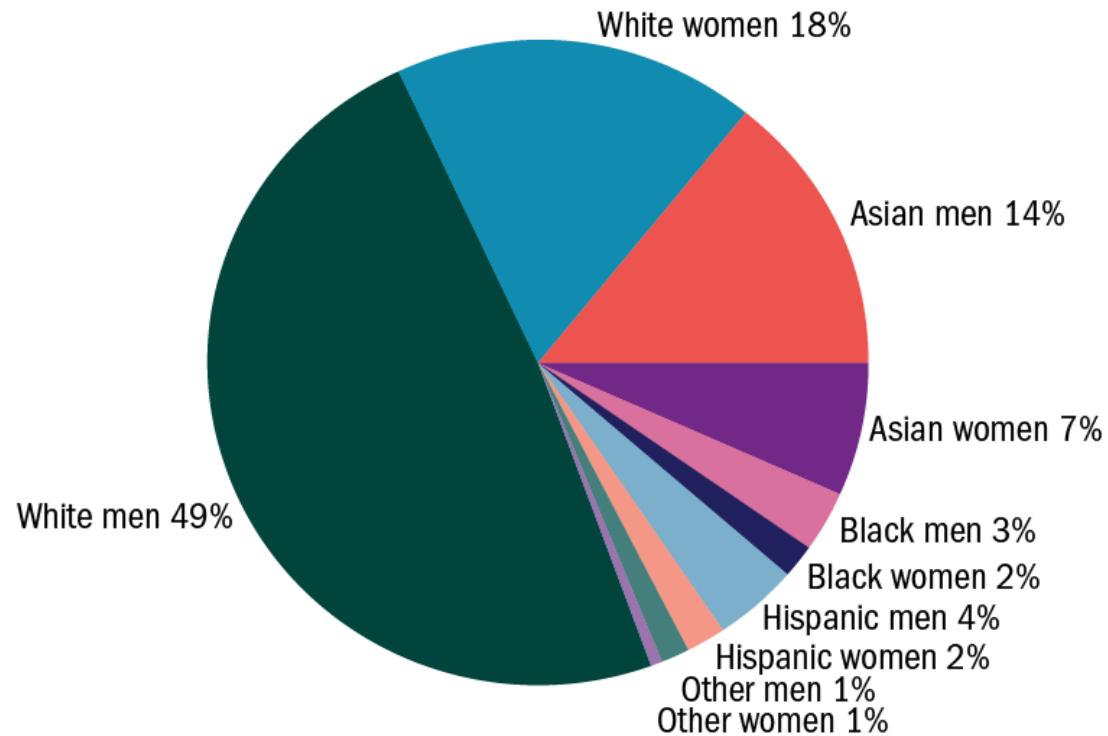


Outline

- I. Background/Context
- II. UD-ADVANCE IT
- III. Measuring Impact



Scientists & Engineers in S&E Occupations: NSF 2015



NOTES: Hispanic may be any race. Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and multiple race.
Women, Minorities, and Persons with Disabilities in Science and Engineering: 2017



NSF ADVANCE

Supports the development of a more diverse science and engineering (S&E) workforce

UD-ADVANCE: Institutional Transformation

Broad Goals:

- * Increase the **representation, retention and advancement** of under-represented faculty.
- * Address the **institutional structures** that differentially affect such faculty.



UD-ADVANCE: Leadership Team



Dr. Pam Cook, PI (Math, Assoc Dean of Engineering)



Dr. Robin Andreassen, co-PI (Ling. & Cognitive Sci.)



Dr. Heather Doty, co-PI (Mechanical Engineering)



Dr. John Sawyer, co-PI (Business Admin, Inst'l Rsch)

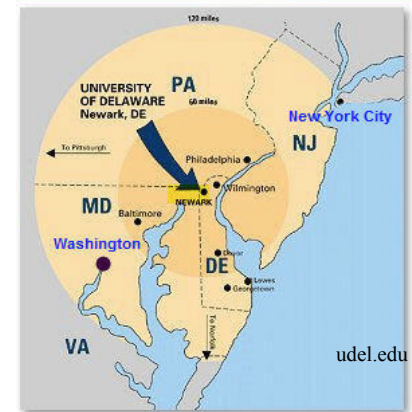


Dr. Shawna Vican, UD ADVANCE Director

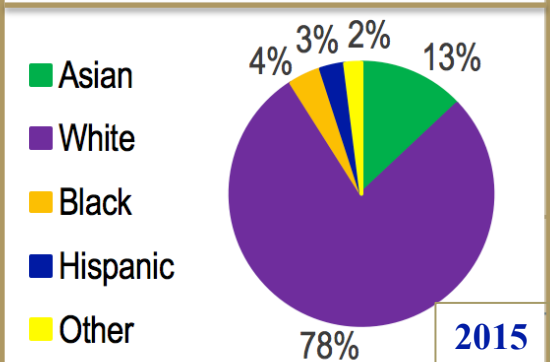


Understanding UD

- Mid-sized suburban campus
~ 22,680 students & ~1,200 faculty
- Public institution with private charter
- Research and STEM emphasis
- No law or medical school
- Seven colleges
- Low representation of women in STEM
Ex.: Eng. T/TT Faculty, 2016: 19% F
- Low representation of faculty of color.



T/TT Faculty, Race/Ethnicity

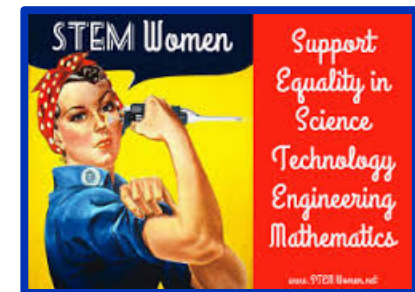




Institutional Change (Kezar 2001)

First Order Change: UD-ADVANCE PAID

- Improvements in a small number of dimensions
- Does not aim to change the institution's core.



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UD-ADVANCE PAID, 2008-2013

Colleges

- Engineering
- A&S-Natural Sciences

Workshops

- Best Practices in Faculty Recruitment
- Mentoring the Mentors ...and Mentees

Partnerships

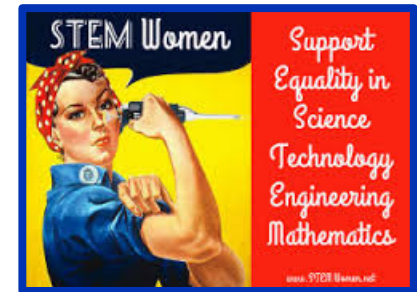




Institutional Change (Kezar 2001)

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Second Order Change: UD-ADVANCE IT

- **Multidimensional:** Many aspects of institutional change
- **Multilayered:** Targets faculty and all administrative levels
- **Interconnectivity:** Requires connections among layers
- **Gradual & Accumulative:** Small changes add up over time



UD-ADVANCE IT (2014-2019): Objectives

Four Objectives

1. Support Leaders as Change Agents



Supported by institutional/national data on areas in need of – and best practices for – change.



ADVANCE Formal Mentoring

Faculty Climate Surveys (2014)

- Assistant professors: ~ 50% receive formal mentoring
- Associate professors: ~ 25% receive formal mentoring
- Significant variation from college to college

Assistant Professors T/TT Formal Mentoring, 2014 Survey





UD-ADVANCE IT (2014-2019): Objectives

Four Objectives

1. Support Leaders as Change Agents
2. Educate and Mentor Faculty
 - Formal mentoring protocol
 - Networking events
 - Leadership workshops
 - Minigrants for leadership and professional development

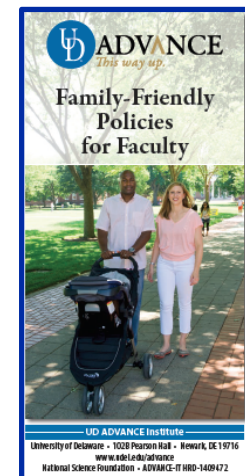




UD-ADVANCE IT (2014-2019): Objectives

Four Objectives

1. Support Leaders as Change Agents
2. Educate and Mentor Faculty
3. Clarify and Enhance Policies and Procedures
 - P&T
 - Dual career
 - Family leave & stop the clock
 - Faculty mentoring





UD-ADVANCE IT (2014-2019): Objectives

Four Objectives

1. Support Leaders as Change Agents
2. Educate and Mentor Faculty
3. Clarify and Enhance Policies and Procedures
4. Draw attention to actions & discussions of diversity around campus (and beyond).





Measuring Impact

Short-Term Outcomes. Expected within first 3 years

Ex: Improved understanding of implicit bias and best practices.

Ex.: Greater access to mentoring, networking, leadership training

Mid-Term Outcomes. Expected by end of grant

Ex: Enhanced policies and procedures, including formal mentoring

Ex: Increased recognition of women faculty

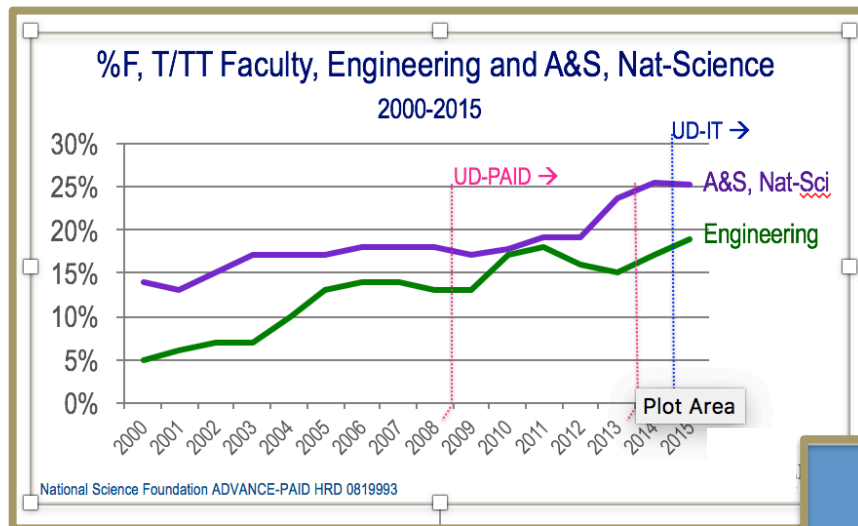
Long-Term Outcomes. Expected 10+ years after start of grant

Ex: Improved representation, retention, advancement, and climate

While important, these measures have limitations when thinking about progress towards institutionalization.



Measuring Impact, Limitations



Long-Term Outcomes. It can be difficult to observe meaningful change during the lifetime of the grant.

**UD, College of Engineering
% F, T/TT Faculty, Over Time**

| Year | # T/TT Faculty | # T/TT Female | # T/TT Male | % T/TT Female |
|------|----------------|---------------|-------------|---------------|
| 2016 | 125 | 24 | 101 | 19% |
| 2015 | 127 | 24 | 103 | 19% |
| 2014 | 127 | 21 | 106 | 17% |
| 2013 | 125 | 19 | 106 | 15% |
| 2012 | 123 | 20 | 103 | 16% |



Measuring Impact, Limitations

Progress toward short and midterm outcomes, examples.

- Reports of greater access to networking and professional and leadership development opportunities.
- Reports of greater access to faculty mentoring.
- Measure the success of workshops and training sessions... numbers and surveys, etc.

Short and MidTerm Outcomes: Evaluation of these outcomes is often localized.



Informal Indicators of Institutional Change

1. Evidence of increased interest and support for our work.

Ex.: Ad hoc requests

Ex.: Increasing participation levels

2. Evidence of sustainability and structural changes

Ex.: Wider fabric of administrative support

Ex.: Increased collaboration with key players

Ex.: Creation of formally recognized institutional structures.



Faculty Fellows



- Diversity liaisons
- Equity advisors
- Recruitment workshops
- Formal mentoring

| | |
|-----------------|-----------------|
| Engineering | Michael Chajes |
| Earth, O, Env. | David Kirchman |
| Arts & Science | Karen Rosenberg |
| Arts & Science | JP Laurenceau |
| Health Science | Regina Wright |
| Ed, Human Dev. | Myae Han |
| Ag & Nat. Resc. | Jung-Youn Lee |



UD Institutionalization Plan

In provost's budget

- 1 full time director
- Faculty, 1 full-time equivalent, divided as
 - One 50% time (Faculty Associate to the Provost)
 - Two faculty 25% time each
- 1 half time research analyst (Office of Institutional Research)
- Enhanced and continued support by deans (ex.: Faculty Fellows)
- Current space
- Operating budget
- To be augmented by efforts to obtain grant/development funding



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Thank You!!!!

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Questions???

