

Challenges Faced by Associate Deans of Research at Small and Mid-size Engineering Schools

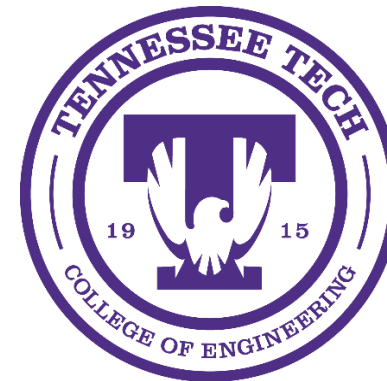
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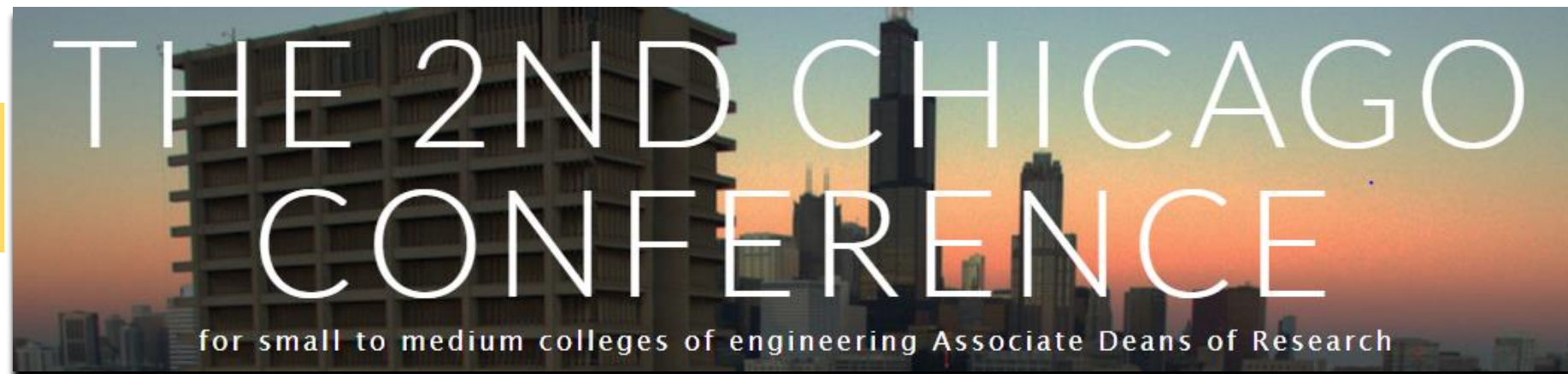
Two conferences held in Chicago



**The Chicago Conference for Associate Deans of Research
11-12 October 2016**

<https://chicago-adr-conference.engr.uic.edu/>

<https://chicago-adr-conference2.engr.uic.edu/>



Monday, October 16, 2017

ASEE ERC Conference, Washington, DC, DC, 12-14 March 2018

Acknowledgement:
Division of Chemical, Bioengineering, Environmental and
Transportation Systems (CBET)
Award 1646808



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Overall Concerns for ADRs in Small to medium Colleges of Engineering

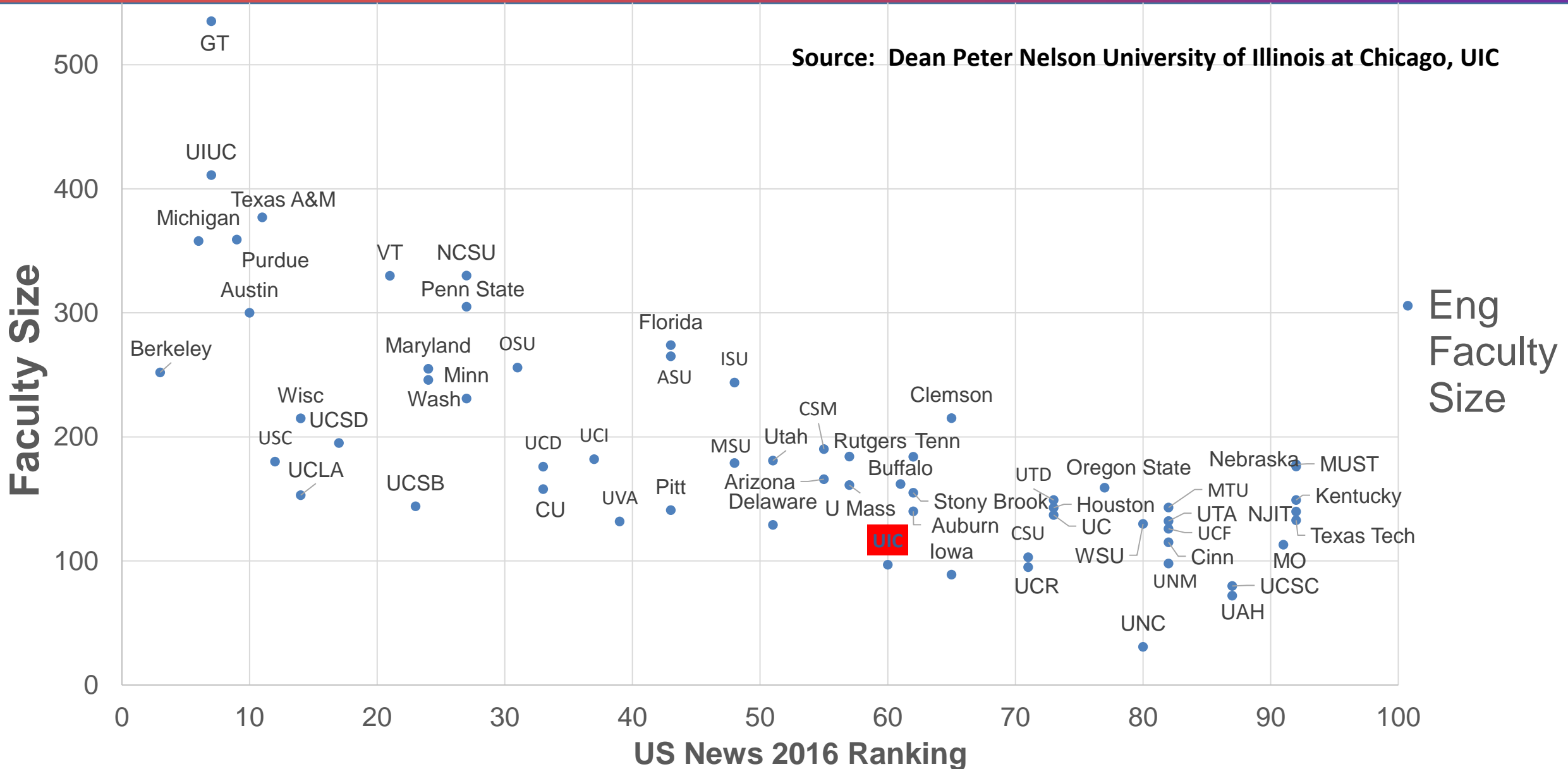
- **Professional development is challenging, no formal opportunities for “training”**
- **The responsibilities and resources available to these ADRs differ from colleges of engineering in large (often land grant) universities, and in public vs. private.**
- **The variations appear to have a clear demarcation evident in the size of the college faculty and ranking.**
- **The expectations/responsibilities of ADRs vary greatly across these universities**
- **Surveys conducted (ASEE ERC and the Chicago Conf.) have very useful data**

The 1st Chicago conference provided an intimate and open environment as a professional development and enrichment opportunity for all participating Associate Deans for Research in medium to small colleges of engineering

The 2nd Conference was organized based on “popular demand”

Public University Engineering Rank vs. Faculty Size

Source: Dean Peter Nelson University of Illinois at Chicago, UIC



Agenda – 2nd Conf.

Facilitated Discussion Topics

- 1) Defining and empowering the position of Associate Dean of Research in a consistent way
- 2) Optimizing Associate Deans' relationships with their engineering faculty colleagues
- 3) Optimizing Associate Deans' relationships with their Deans
- 4) Providing Associate Deans of Research a system of metrics both for self-evaluation and for evaluation of their Colleges/Schools of Engineering

Presentation and Facilitated Discussion Topics

“Recruiting Women Faculty”, **Dr. Adrienne Minerick**, Associate Dean for Research and Innovation, Michigan Technical University

“Recruiting Faculty From Underrepresented Minority Groups”, **Dr. Jeremiah Abiade**, Faculty Director, UIC President's Award Program for STEM Initiatives

Chicago Conference Summary Findings

a) Helping faculty to be successful, i.e. getting more funding and national recognition

- 1) Appropriate startup for new faculty and its management.
- 2) Assist faculty to find collaborators.

b) Assist junior faculty, through mentoring, particularly for highly prestigious and competitive grants.

c) Providing faculty the necessary infrastructure for developing proposals for large funding amounts

d) Increasing research productivity, enhancing the impact of the research

- 1) Faculty who are no longer research active.
- 2) “Launch Committees” – early career management for 1st year, external advice.
- 3) “Lift Committees” for existing faculty

Chicago Conference Summary Findings

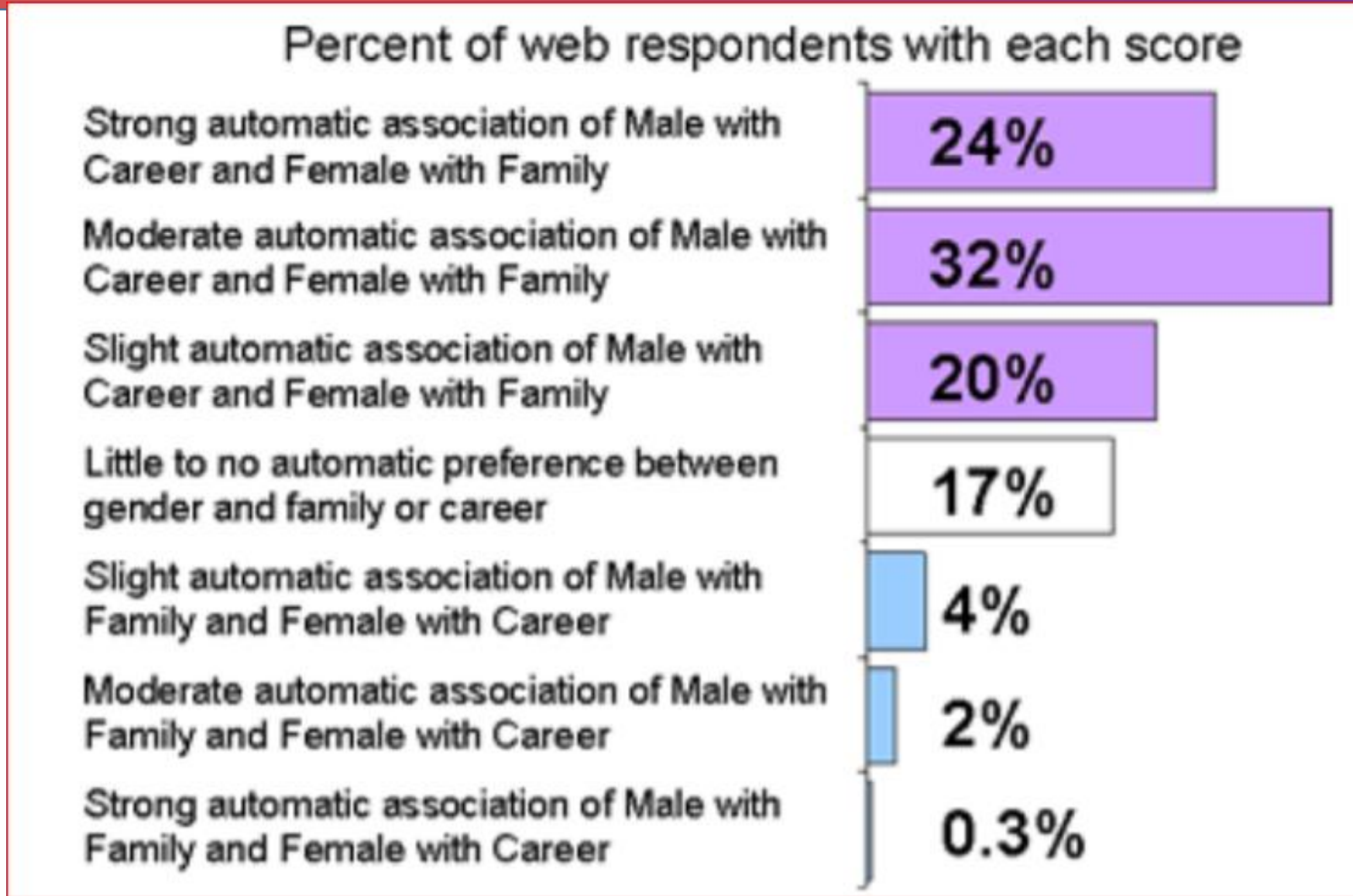
e) Cultivating research leaders who might be PIs on large proposals

- 1) Create a mentorship program; mentors have records of having developed successful research programs. Mentors may be from the college, or university, and in some cases from other universities.
- 2) Encourage junior faculty to participate in summer fellows programs at national labs where they can develop skills in building a successful research program.

f) Faculty recruiting: women and underrepresented minority groups

- 1) Support from upper administration (College, University)
 - Address **Implicit Bias** (diversity training)
- 2) Opportunity hires
- 3) More mentoring and retention issues, special accommodation, social interaction, Use mentoring as a recruiting tool

Chicago Conference Summary Findings



Chicago Conference Summary Findings

f) Faculty recruiting: women and underrepresented minority groups (cont'd)

- 1) Faculty network “Phone Tree” can be an excellent tool for faculty recruiting
- 2) Higher Education Recruiting Consortium (HERC) (<http://www.hercjobs.org/>)
- 3) Reasons for loss of women faculty – (Diversity, Salary, Work–Life Balance)
<https://www.nap.edu/download/12062>
 - Do not get tenure due to a lack of mentoring, peer support
 - Pay inequality – estimates show women are getting paid 20% less than men
 - Family issues typically fall to the woman while man continues with his career path
 - Females were significantly less satisfied than males with the work environment
- 4) Help women to achieve tenure and to climb the career ladder
 - Support participation in leadership workshops and institutes HERS – Leadership Training Institutes for Women in Higher Ed -- <https://hersnet.org/>

Chicago Conference Summary Findings

g) Developing inter-institutional collaborations since smaller sized schools do not have the critical mass necessary

- 1) Need to team with a school with a similar size to even the playing field
- 2) First, explore activity within a campus
 - Bring faculty together and have discussions overseen by a facilitator
 - Focus discussions on some “Grand Challenge” of a “Wicked Problem”
- 3) Options for identifying external partners
 - Start a conversation at a high level, e.g. Vice Provost or Vice Chancellor for Research
 - Host a workshop focused on the collaboration topic
 - Use a grass roots approach, i.e. individual faculty use their network to build a team by contacting faculty at other small institutions – email “phone tree” approach

Understanding the Challenges in Recruiting URM Faculty

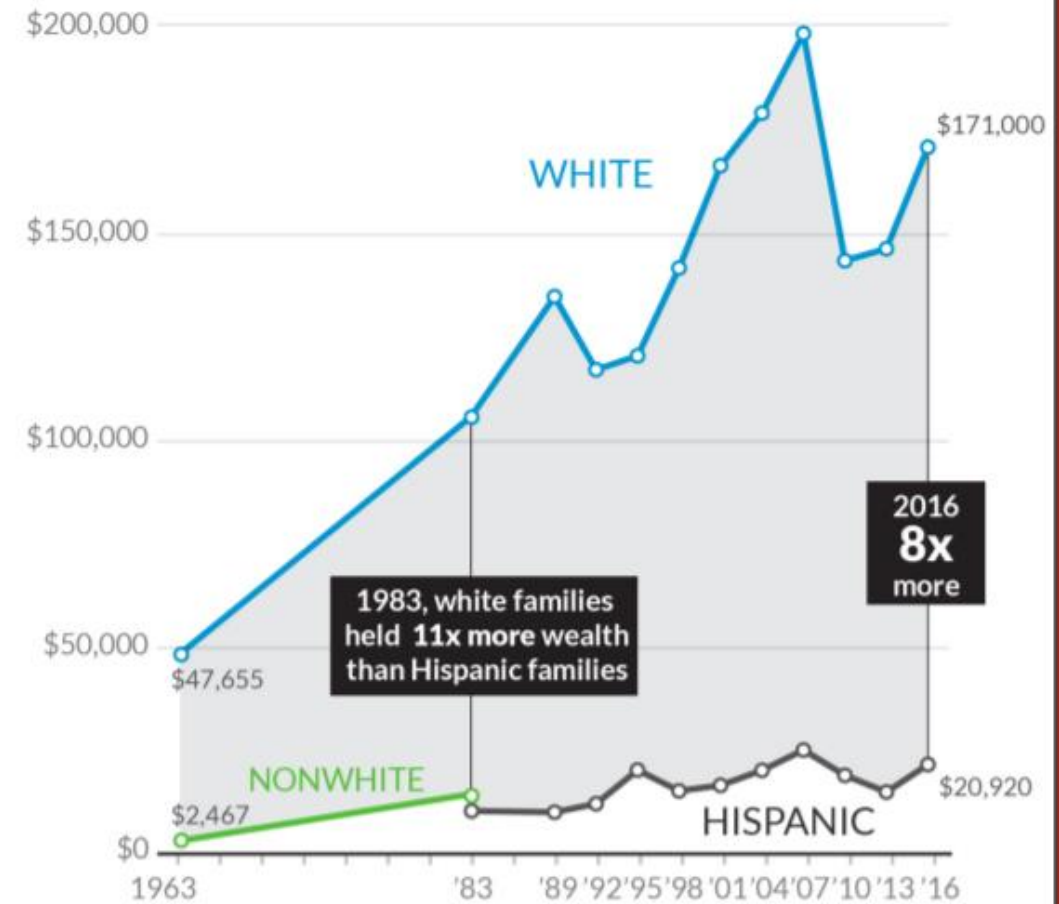
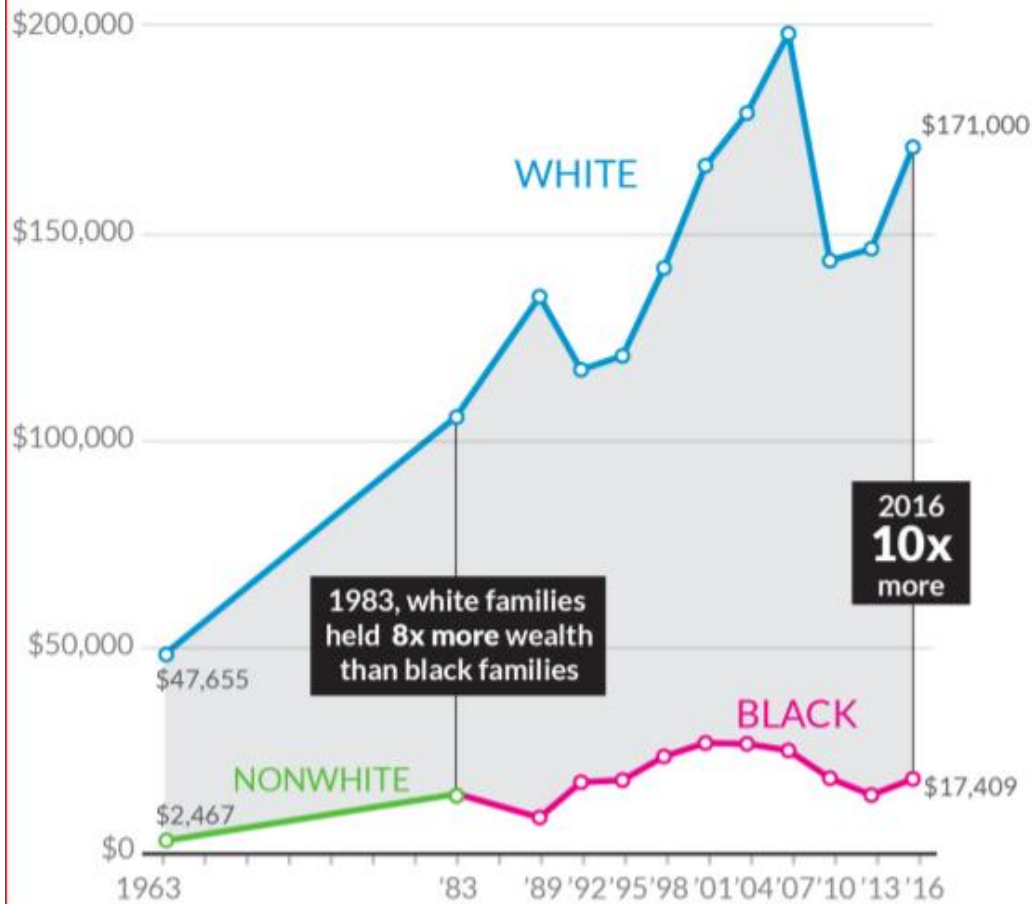
Who are not 'Minorities'?

Whiteness is socially constructed

- **Whites** – according to the US Census refers to those persons originally from the countries of Europe, N. Africa and the Middle East (and also Hispanics) – note Middle Easterners and indeed some Europeans and Jews were not always considered White.
- **Whiteness** – refers to the intersection of the privileged 'racial' category and the underlying social, cultural, political, and economic factors that undergird White dominance.

Understanding the Challenges in Recruiting URM Faculty

Median Family Wealth by Race/Ethnicity, 1963–2016



Source: Urban Institute calculations from Survey of Financial Characteristics of Consumers 1962 (December 31), Survey of Changes in Family Finances 1963, and Survey of Consumer Finances 1983–2016.

Notes: 2016 dollars. No comparable data are available between 1963 and 1983. Black/Hispanic distinction within nonwhite population available only in 1983 and later.

Overall Challenges Identified by ADRs in Small to medium Colleges of Engineering

- a) Helping faculty to be successful, i.e. getting more funding and national recognition
- b) Assisting junior faculty, especially during their pre-tenure years, through mentoring, particularly for highly prestigious and competitive grants such as the NSF CAREER awards and its equivalent awards from other agencies (e.g. Air Force Young Investigator Award)
- c) Providing faculty the necessary infrastructure for writing proposals for large funding amounts
- d) Facilitating both disciplinary and interdisciplinary collaborative groups or clusters
- e) Increasing research productivity as well as enhancing the impact of the research
- f) **Cultivating research leaders who might be PIs on future large proposals**
- g) **Defining and empowering the position of Associate Dean of Research in a consistent way**

Overall Challenges Identified by ADRs in Small to medium Colleges of Engineering - continued

- h) Providing Associate Deans of Research a system of metrics both for self-evaluation and for evaluation of their Colleges/Schools of Engineering
- i) Recruiting best quality graduate students especially domestic students, possibly from one another's institutions
- j) Recruiting women faculty and faculty from underrepresented minority groups
- k) Developing inter-institutional collaborations since smaller sized schools do not have the critical mass necessary for having the program managers, proposal managers, research assistantships needed to put together large funding proposals especially for Institutes or Centers
- l) Optimizing Associate Deans relationships with their Deans
- m) Optimizing Associate Deans relationships with their engineering faculty colleagues.

Survey of ADRs

- Chicago Conference Survey compiled by **Adrienne Minerick**
 - Focused on understanding what are the roles and responsibilities of the ADRs in small to medium colleges of engineering (responders mostly <100 faculty)
 - 60% teaching duties.
 - 73% on 12-months appointment.
 - All with less than 100 faculty.
- ERC Survey – 63 responses
 - 71.5% from colleges with less than 150 faculty.
 - 66.6% less than \$25M in research expenditure.
 - about 50% have 75%-100% level of efforts.
 - 60% have teaching duties.
 - Duties include: 92% Res. Dev., 50% Grad Studies, 50% Facilities, 46% Innovation and Commercialization.