Faculty Diversity in Engineering

Darryll J. Pines
Dean and Farvardin Professor
University of Maryland
College Park, MD

Engineering Deans Institute
April 10-13, 2011
Palm Springs, Ca
Economic Imperative

Economic/Workforce Capacity: Why is Faculty Diversity Important?

To maintain its scientific and engineering leadership amid increasing economic and educational globalization, the United States must aggressively pursue the innovative capacity of all of its people—women and men.
Figure 5. Science and engineering doctorates awarded, by broad field of study, for selected years, 1976-2006.
Figure 9. Doctorates Earned by Women in Selected STEM Fields, 1966–2006

- Biological and agricultural sciences: 120% (1966), 19.5% (1976), 30% (1986), 33.7% (1996), 47.4% (2006)
- Earth, atmospheric, and ocean sciences: 3.0% (1966), 9.0% (1976), 16.6% (1986), 16.6% (1996), 13.0% (2006)
- Computer science: 0% (1966), 9.4% (1976), 12.0% (1986), 15.1% (1996), 9.3% (2006)
- Engineering: 0.3% (1966), 1.9% (1976), 6.7% (1986), 12.3% (1996), 4.0% (2006)
- Physics: 1.9% (1966), 1.9% (1976), 4.0% (1986), 9.3% (1996), 16.6% (2006)
Figure 13. Female STEM Faculty in Four-Year Educational Institutions, by Discipline and Tenure Status, 2006

- **Engineering**
  - Tenured faculty: 7.2%
  - Nontenured faculty: 17.3%

- **Physical sciences**
  - Tenured faculty: 13.7%
  - Nontenured faculty: 21.8%

- **Computer and information sciences**
  - Tenured faculty: 20.6%
  - Nontenured faculty: 22.8%

- **Biological, agricultural, and environmental life sciences**
  - Tenured faculty: 22.2%
  - Nontenured faculty: 41.8%

Percentage of Faculty Who Are Women
North Carolina State University

Search Committee Representation:
- Must include at least one female and/or minority faculty member on it. With few exceptions I will not "approve" a search committee unless it includes at least one female and/or minority faculty.

Dean’s Involvement with Search Committee:
- Charge: In charging the committee make sure that they understand that this is a search committee and not a selection committee.
- Interview: Try to meet with every candidate that comes to the college to ensure that faculty diversity goals are being met.
- Associate Dean for Faculty Development: Assist with ensuring that faculty are successful in their careers.

Results:
- tripled the number of female faculty in our ranks over the last 4 years including the hiring of our first female department head (BioMed eng) and doubled the number of minority faculty.
Virginia Tech

Search Committee Representation:
- Diverse representation is highly desired.
- Brief all committees about the importance of diversity.
- Dean’s Office reviews all short lists of candidates to ensure that diversity concerns are addressed.

Family/Work Life Programs: ADVANCE-VT Program
- Improve work environment for faculty and their families. Inform faculty and their families about available services.

Daycare:
- Subsidized daycare for faculty with families to ensure that slots were available at local daycare provider.
University of Maryland

Faculty Recruitment Fair
- Annual Fair/Open House where prospective faculty/postdocs are invited to learn more about university and colleges.
- Postdoctoral Program: Invite members to become postdocs with the goal of possibly interviewing for faculty positions.

Search Committee:
- Emphasize the importance of diversity in all search deliberations.

Incentivize Departments/units
- Provide funds from Dean's Office and Provost Office for Faculty Recruitment

College Policy:
- A hire cannot be made unless a member of an underrepresented group or female is interviewed.

Campus Culture/Climate:
- NSF ADVANCE GRANT ON Inclusive Excellence: The goal of the ADVANCE program is to develop systemic approaches to increase the representation and advancement of women in academic science, technology, engineering and mathematics (STEM) careers, thereby contributing to