

UWADVANCE National Leadership Workshop for SEM Department Chairs and Emerging Leaders

- Statistics
- > Experiments
- ➤ Stories
- > Policy

- -- we are number people
- -- we are scientists
- -- we are human
- -- we are leaders

Marjorie Olmstead UW Department of Physics <u>olmstd@u.washington.edu</u> http://courses.washington.edu/wost/Win04



National Data on Faculty Composition

- Donna Nelson, University of Oklahoma
- Studies of the "Playing Field"
 - Implicit assumptions are there
- Personal Comments
 - The reality of small numbers
- Advice for Chairs
 - Small things can make big improvements



- > Donna Nelson, U. Oklahoma Chemistry
- ➤14 Fields -- 10 UW-ADVANCE fields
- Survey 50 top departments
 - Ranked by research expenditures in 1999-2000
 - Biased toward large depts supporting students
- Faculty composition by race and gender
- ≻Compare to Ph.D. Data from NSF



Example Data: Physics Faculty

http://cheminfo.chem.ou.edu/faculty/djn/diversity/top50.html

Table 2. Tenured/Tenure-Track Faculty at the 'Top 50' Physics Departments by Race/Ethnicity, by Gender, and by Rank (FY 2002)*

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"According to physics research expenditures F11999, NSF; manbers after decimals designate females. "Declined to participate, data are from other sources. ""CREOL data are re Reference: "The Nelson Diversity Surveys" Nelson, D. J.: Norman, OK, 2002; http://cheminfo.chem.ora.edu/faculty/djn/diversity/top50.html



Example Data: Physics Faculty

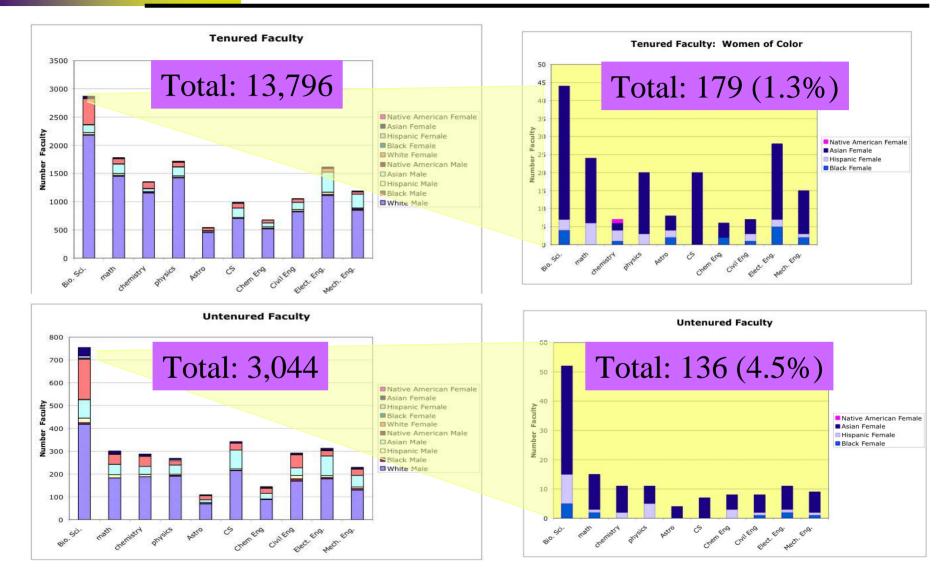
http://cheminfo.chem.ou.edu/faculty/djn/diversity/top50.html

Women of Color Hidden in Statistics

50 Departments: 1,988 Faculty in 2002 132 Women (6.6%); 263 Minorities (13%); 31 Women of Color (1.5%)
Full Professor: 1207/61 WM/WF; 6/0 BM/BF; 19/3 HM/HF; 124/11 AM/AF; 1/0 NAM/NAF Assoc. Professor: 207/21 WM/WF; 2/0 BM/BF; 6/0 HM/HF; 35/6 AM/AF; 0/0 NAM/NAF Asst. Professor: 190/19 WM/WF; 4/0 BM/BF; 5/5 HM/HF; 40/6 AM/AF; 0/0 NAM/NAF

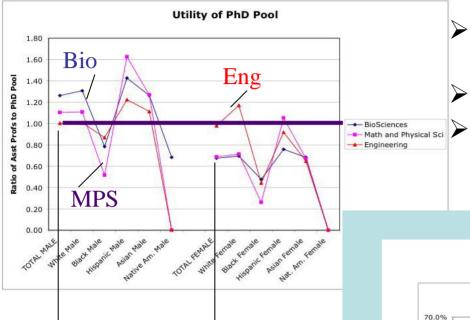


10 Fields, 500 Departments





Representation Declines with Rank

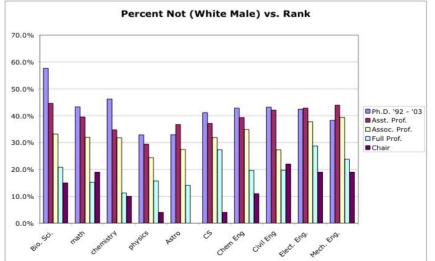


All Men 1.17

All Women 0.63

- Women nearly HALF as likely to become professors
 - Few Blacks, No Native Americans

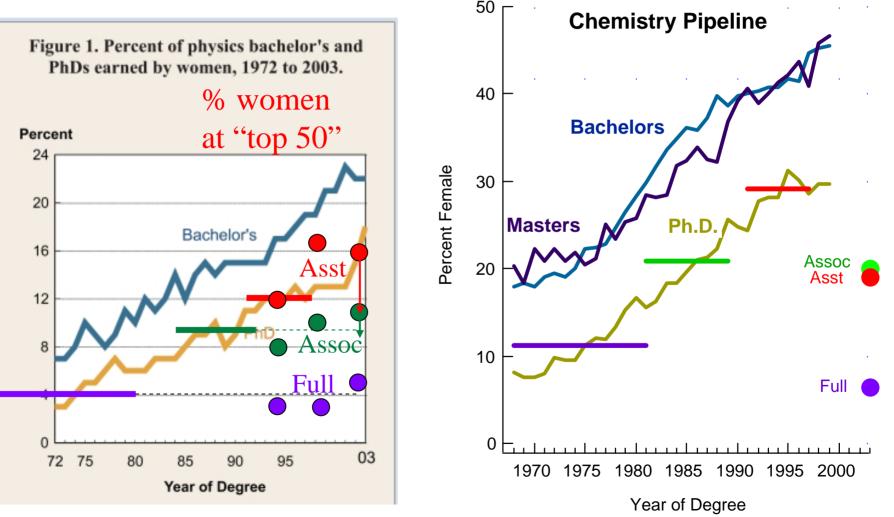
Foreign Asians and Hispanics increase ratio: US born still underrepresented on faculty





Physics vs. Chemistry Pipeline

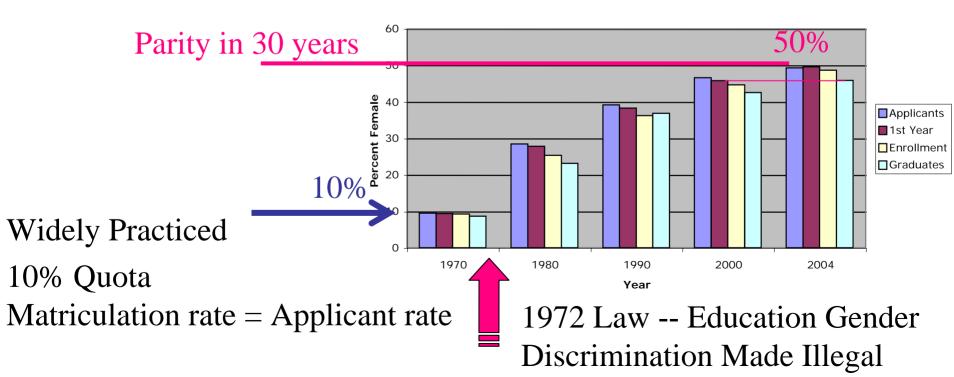
> AIP Study on Academic Women in Physics



Physics women 2x as likely to be at UG Institutions (14% vs. 7% faculty)



- > MYTH: "It's THEIR fault -- women just don't apply."
- REALITY: "My grad school experience was so awful I just want to get out of there."
- Example of Change: Medical Schools after Title IX



Medical School Gender Distribution

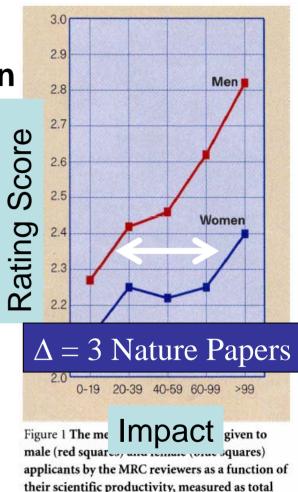


Tilted Playing Field

- Large body of research shows: Implicit Assumptions Impact Evaluation
- Gender Bias and Research Papers
 - Paludi and Bauer (Sex Roles, 1983)

Reviewer (1-5, 1 top)	John T.	Joan T. McKay	J. T. McKay
Male	1.9	3.0	2.7
Female	2.3	3.0	2.6

- Gender Bias and Post-Doc Applications
 - Wenerås and Wold (Nature, 1997)
- Gender Bias and Performance Evaluation
 - Orchestra tryouts behind curtain
 - Stereotype threat on exam performance



impact. One impact point equals one paper published in a journal with an impact factor

of 1. (See text for further explanation.)



- Lower expectations
- Uneven evaluation
- ➤ Narrow view of excellence
- Exclusion from informal networks
- > Other people feel uncomfortable
- Accumulation of Disadvantage

$$\left(\frac{0.49}{0.51}\right)^{10} = \frac{2}{3}; \ \left(\frac{0.48}{0.52}\right)^{8} = \frac{1}{2}$$



- Small numbers mean everybody counts
 - UW Physics nearly lost 60% of women in one quarter
 - Physics PhDs -- 12 years ('92-'03): 8,261 total
 - 2 Native American Women
 - -21 Black Women
 - —31 Hispanic American Women
- Each person must consciously confront their implicit assumptions
 - Grew up in 99 % white suburb
 - Adult before I knew professional, educated minorities

Scientific and educational enterprise requires trust

• Different cultural expectations must be dealt with head on



Good Chairs Make a Difference

- Take ownership of the "problem" to create a public, inclusive climate for students and faculty
- Consciously and publicly counter implicit assumptions and accumulated disadvantage
- Set transparent and inclusive criteria and processes for hiring, promotion, salary and resources.
- Give women and minorities assignments to gain leadership skills (both scientific and administrative)
- Have all faculty actively mentor and recruit minority students to the profession. One more/year is significant.
- Compare attitudes of 1st and 5th year grad students -- do they still want to be academics? Is there a gender and/or ethnicity difference in the response? Find out WHY.



UWADVANCE National Leadership Workshop for SEM Department Chairs and Emerging Leaders

- Statistics
- > Experiments
- Stories
- Policy

- -- we are number people
- -- we are scientists
- -- we are human
- -- we are leaders

To access course readings: Login: womensci Password: curie1903 Marjorie Olmstead UW Department of Physics <u>olmstd@u.washington.edu</u> http://courses.washington.edu/wost/Win04