

Leadership Workshop for SEM Department Chairs

July 8-9, 2004

Sheila Edwards Lange
Associate Director, Research
Center for Workforce Development
University of Washington

Workshop on Faculty Diversity

Adapted from presentation given by Dr. Marjorie
Olmstead on May 14, 2004

- 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

Faculty Diversity Study

- 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)*

University	White			Black			Hispanic			Asian			Native Am.			TOTAL
	Full	Assoc	Asst	Full	Assoc	Asst	Full	Assoc	Asst	Full	Assoc	Asst	Full	Assoc	Asst	
Johns Hopkins U	24,002	-	3	27,002	-	-	-	-	-	4	1	-	3	-	-	32,002
MA Institute of Tech	30,004	5	11,002	46,006	-	-	-	-	0	2	2	6,002	10,002	-	-	76,009
U CA Berkeley	30,002	6	5	41,002	-	-	-	-	0	1	-	-	7	2,001	1	12,001
California Inst of Tech	41	-	2,001	43,002	-	-	-	-	0	2,001	1	-	3,001	-	-	46,002
U TX at Austin**	31	8	2	41	-	-	-	-	0	1	-	1,001	2,001	3	1	49,001
Cornell University	30,001	6,001	4	40,002	-	-	-	-	0	1	-	1,001	2,001	-	-	44,003
Florida State Univ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43,003
U MD at College Pk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72,004
Michigan State U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50
U CA Los Angeles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63,005
U Illinois Urbana-C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58,004
U W-Madison	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48,005
Indiana University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38,002
U of Alaska Fairban	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13,001
Pennsylvania State	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46,004
SUNY at Stony Bro	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61,002
Princeton University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39,003
U CA San Diego**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33,002
U CA Santa Barbara	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38,005
U of Pennsylvania	21,002	5	5	31,002	-	-	-	-	0	1	1,001	3	3,001	-	-	37,003
U of Washington	18,001	2	7,001	27,004	-	-	-	-	0	1	-	-	-	-	-	49,004
Duke University	11	7,001	4	22,001	1	-	-	-	0	2	-	4,001	6,001	-	-	29,002
Vanderbilt University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,001
NC State University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,005
Rutgers the State U N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,005
Georgia Inst of Tech	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,001
Yale University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,001
Harvard University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,004
University of Colorado	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,003
U of Iowa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,002
Ohio State University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,002
U of Central Florida**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,002
Purdue University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,002
University of Chicago	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,001
Texas A&M University	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,001
University of Florida	8	3	1	12	-	-	-	-	0	1	1	-	2	-	-	15

UW 2002: Full Professor: 35 WM, 3 WF, 1 HM
 Associate Professor: 2 WM
 Assistant Professor: 6 WM, 1 WF

UW 2004: Full Professor: 31 WM, 3 WF, 2 HM
 Associate Professor: 3 WM, 1 WF, 1 AM
 Assistant Professor: 2 WM, 1 WF

50 Departments: 1,988 Faculty
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

Percent within race	7.6%	4.5%	1.2%	2.6%	0.3%	1.1%	0.1%	0.2%	0.0%	1.1%	0.3%	0.3%	1.1%	6.1%	1.8%	2.1%	10.1%	0.0%	0%	0%	100%
Percent of grand total	63.2%	12.0%	10.5%	80.7%	0.30%	0.10%	0.20%	0.0%	1.1%	0.3%	0.3%	1.1%	6.7%	2.0%	2.3%	11.7%	0.0%	0%	0%	0.0%	100%
Females in column	4.8%	8.3%	9.1%	5.9%	0%	0%	0%	0%	4.3%	0.0%	0.0%	0.4%	8.1%	1.1%	1.0%	0.4%	0%	0%	0%	0%	4.3%

Reference: "The Nelson Diversity Survey" Nelson, D. J.; Norman, OK, 2002; <http://cheminfo.chem.ou.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

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

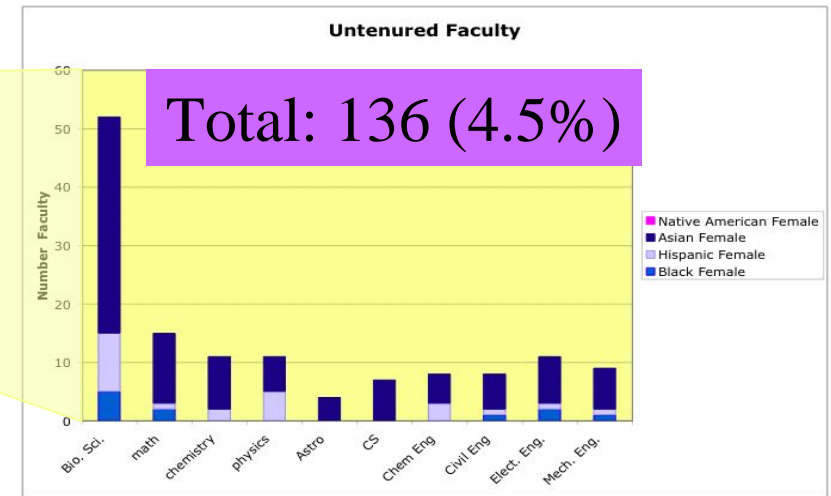
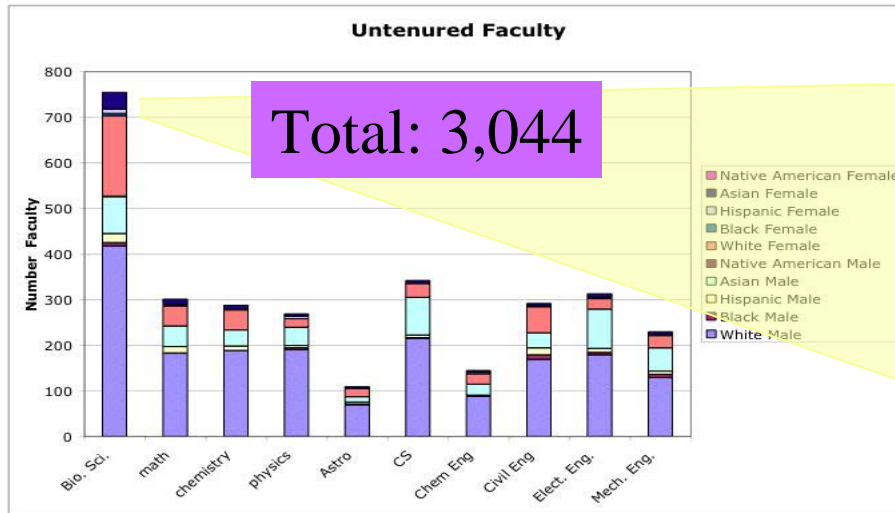
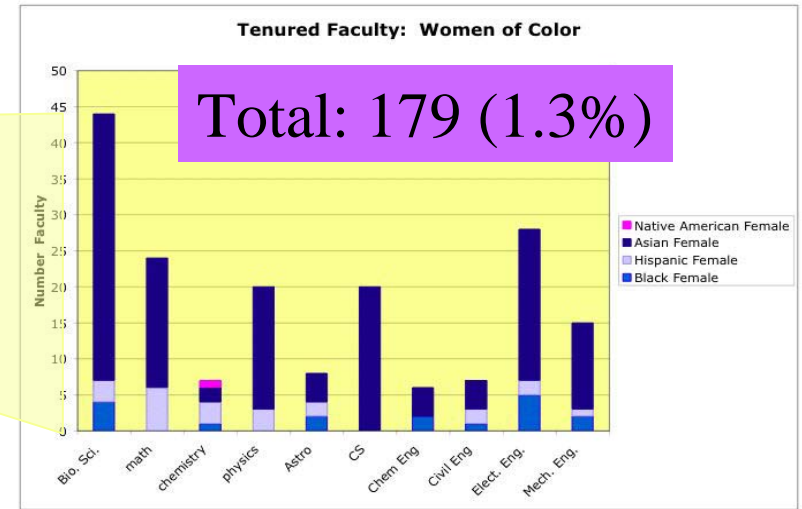
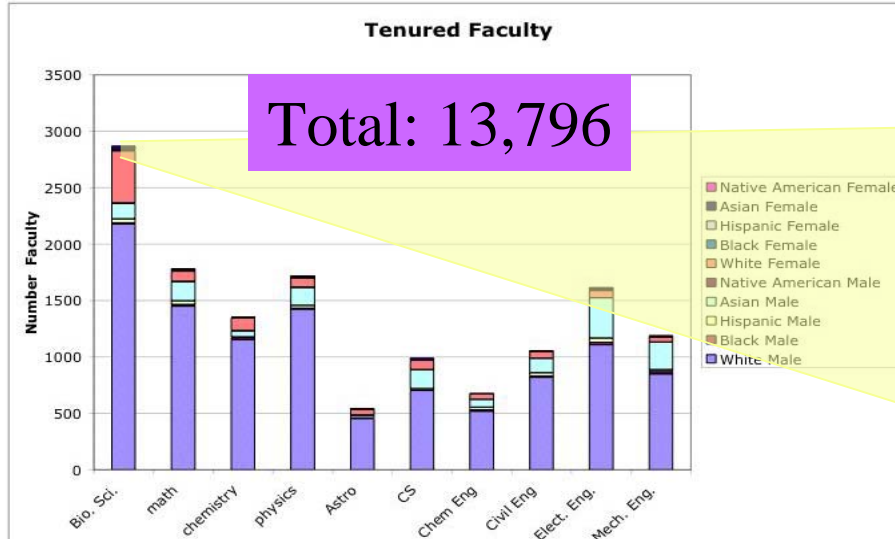
Assoc. Professor: 207/21 WM/WF; 2/0 BM/BF; 6/0 HM/HF; 35/6 AM/AF; 0/0 NAM/NAF

Asst. Professor: 190/19 WM/WF; 4/0 BM/BF; 5/5 HM/HF; 40/6 AM/AF; 0/0 NAM/NAF

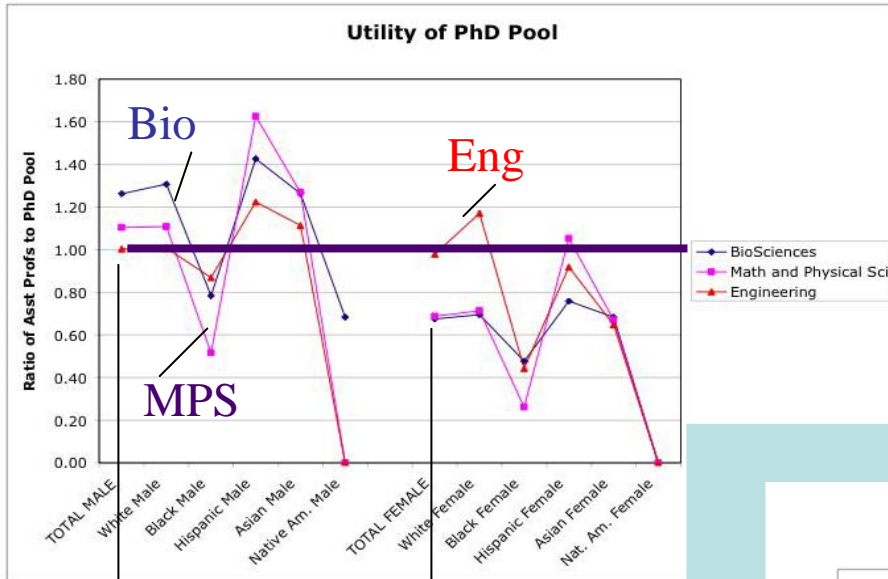
	1%	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%	98%	99%	100%
Percent within race	1.4%	4.5%	12.4%	29.4%	43.0%	51.4%	58.0%	63.0%	67.0%	70.0%	72.0%	73.0%	74.0%	74.5%	75.0%
Percent of grand total	0.025%	0.125%	0.250%	0.500%	0.750%	1.000%	1.250%	1.500%	1.750%	2.000%	2.250%	2.500%	2.750%	3.000%	3.250%
Females in column	4.0%	8.0%	12.0%	16.0%	20.0%	24.0%	28.0%	32.0%	36.0%	40.0%	44.0%	48.0%	52.0%	56.0%	60.0%

Reference: "The Nelson Diversity Survey" Nelson, D. J.; Norman, OK, 2002; <http://cheminfo.chem.ou.edu/faculty/djn/diversity/top50.html>

10 Fields, 500 Departments



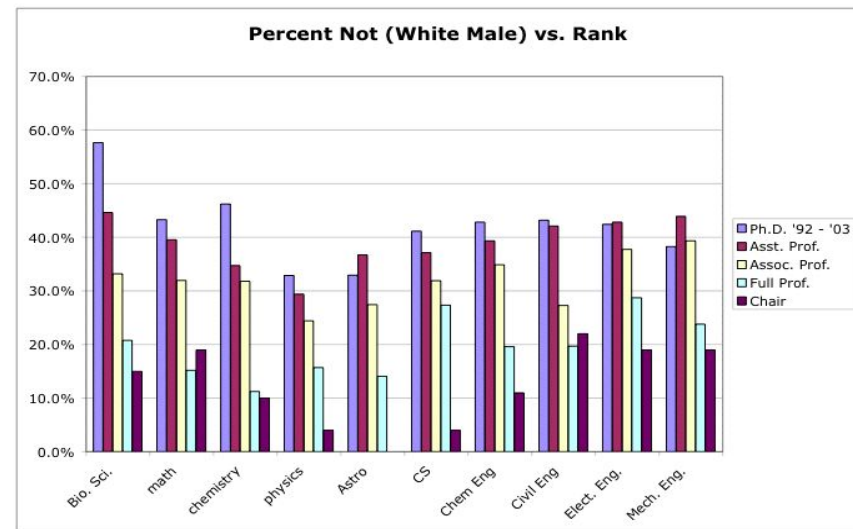
Representation Declines with Rank



- 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

All Men 1.17

All Women 0.63



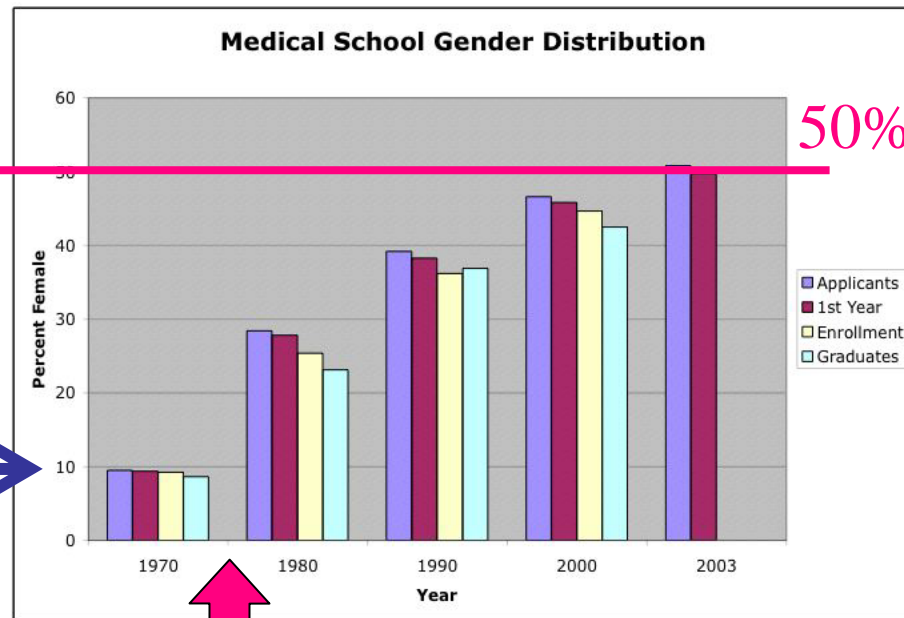
Why so Few?

- 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

Parity in 30 years

10%

50%



Widely Practiced
10% Quota

Matriculation rate = Applicant rate

1972 Law -- Education Gender
Discrimination Made Illegal

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. McKay	Joan T. McKay	J. T. McKay
Male	1.9	3.0	2.7
Female	2.3	3.0	2.6

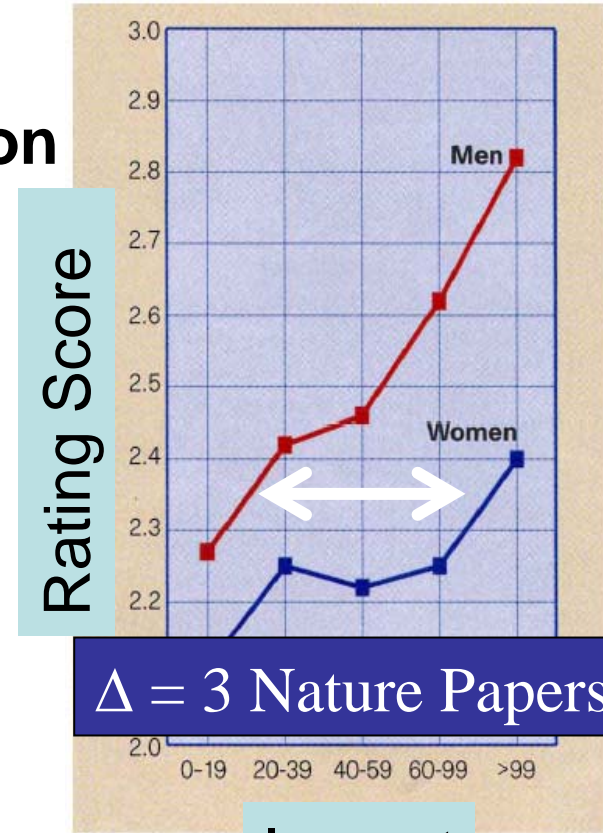


Figure 1 The mean **Impact** given to male (red squares) and female (blue squares) applicants by the MRC reviewers as a function of their scientific productivity, measured as total impact. One impact point equals one paper published in a journal with an impact factor of 1. (See text for further explanation.)

- 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

(Implicit) Discrimination

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

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

Personal Observations

- Small numbers mean everybody counts
 - UW Physics nearly lost 60% of women in one quarter
 - Physics PhDs -- 10 years*50 departments: 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 racial difference in the response? Find out WHY.