

The following are reduced versions of the overheads used in John White's presentation:

**NSF Overview:
Current Programs & New Initiatives**

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Women in Engineering Conference
June 1, 1990

CONGRATULATIONS!

**Directorate for Engineering
FY 1990 Current Plan**

	<u>FY 89 Actual</u>	<u>FY 90 Cur. Pln.</u>	<u>Change Amt.</u>	<u>%</u>
Research & Facilities	155.1	161.1	6.0	3.9%
Education and Human Resources	32.0	39.1	7.1	22.2%
Total	<u>187.1</u>	<u>200.2</u>	<u>13.1</u>	<u>7.0%</u>

(Millions of Dollars)

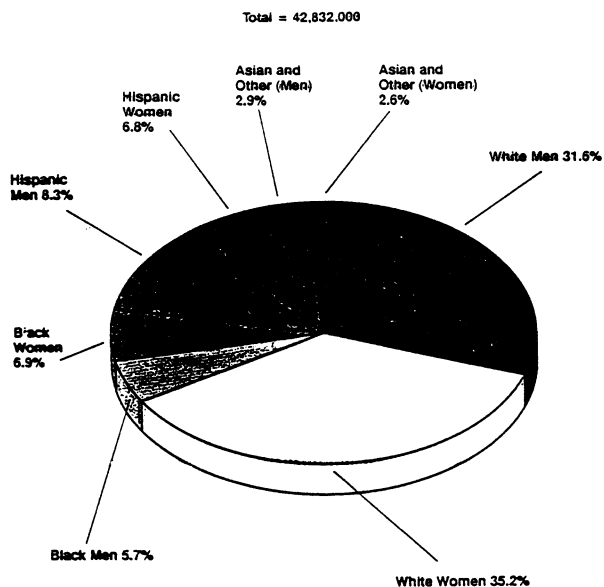
**Engineering Directorate
Thematic Summary**

	<u>FY 89 Cur. Pln.</u>	<u>FY 91 Request</u>	<u>\$ Chg.</u>	<u>% Chg.</u>
Research & Facilities	\$161.1	\$174.9	\$13.8	8.6%
Education and Human Resources	39.1	51.1	12.0	30.7%
Total	<u>\$200.2</u>	<u>\$226.0</u>	<u>\$25.8</u>	<u>12.9%</u>

(\$ in millions)

ENG VISION

- ✓ Integrated Support of Teaching and Research
- ✓ Full Participation of ALL Segments of the ENG Community
- ✓ Leadership Role Within the ENG Community
- ✓ Cross-Disciplinary, Industrially Relevant Education and Research
- ✓ Bridge Between Science and the World ("Continuous, Seamless Web")
- ✓ Balanced Portfolio of Support of IIAs, Groups, Centers

New Entrants Into Labor Force 1988-2000

Our pool of talent for new scientists and engineers is predominantly female or minority or disabled—the very segments of our population we have not attracted to science and engineering careers in the past.

Source: U.S. Bureau of Labor Statistics

HUMAN RESOURCES			
(\$ in millions)	NOW FY 90	FY 96	# Particip. FY 96
REU (Undergraduates)	\$3.0	\$10.0	2,400
Faculty Awards for Women	0	6.0	125
Alliances Program	0	8.0	?
Grad Study (W/M/D) (REU-Type Awards)	0	4.0	400
Grad Fellowships/Women	0.8	2.0	80
Grad Traineeships (GEE)	2.0	8.0	240

**INCREASING PARTICIPATION IN ENG
- A PROGRESS REPORT -**

- ✓ Professional Staff
- ✓ Support of Faculty
- ✓ Support of Graduate Students
- ✓ Support of Undergraduate Students
- ✓ Service on Advisory Committees

**ENG PROFESSIONAL STAFF
PARTICIPATION OF WOMEN**

	<u>1988</u>	<u>1990</u>
Number	3	6
Percentage	5%	13%

**ENG SUPPORT FOR AWARDS
TO WOMEN**

	<u>FY 88</u>	<u>FY 89</u>	<u>FY 90</u>
Women PI's	\$7.0 M	\$10.0 M	\$15.0 M
% of ENG Budget	4.5%	5.3%	7.5%

**WOMEN'S PARTICIPATION IN NSF
ENGINEERING PROGRAMS**

	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
PYI	7	4	12	20
RIA	6	5	13	*
GRADUATE FELLOWSHIPS	31	34	45	148

*Award Cycle Not Completed

**DISTRIBUTION OF ENGINEERING
FACULTY BY RANK**

	<u>Prof.</u>	<u>Assoc. Prof.</u>	<u>Asst. Prof.</u>
Men	11,296 (58%)	4,716 (24%)	3,533 (18%)
Women	72 (17%)	139 (33%)	210 (50%)

Source: NSF/SRS, 1987

**NSF FACULTY AWARDS FOR WOMEN
SCIENTISTS AND ENGINEERS**

- PURPOSE - To recognize and retain the nation's most outstanding women scientists and engineers in academic careers of research and teaching.
- AWARDS - \$50,000 per year for up to five years.
- DEADLINE - September 1, 1990.

**NSF GRADUATE FELLOWSHIPS
Women in Engineering Component**

- PURPOSE - To attract more students to graduate study.
- AWARDS - Stipends: \$12,900 for 12-month tenures
 - Cost-of-Education Allowance: \$6,000

**Graduate Fellowships for Women
in Engineering**

- In NSF Fellowship Program, only 4.5% of engineering applicants are women
- New program provides 80 new awards in FY 1990 and an additional 80 new awards in FY 1991
- Cost of \$1.0 million to be shared equally between ENG and SEE

Graduate Engineering Education (GEE)

- New program in FY 1990
- Provides grants to institutions to encourage W/M/PwD students top pursue Ph.D.
- \$200K average grant (up to five years)
- Provides \$15K stipend, \$5K tuition, \$5K for academic department; 8% indirect cost limit
- \$2.0 million available in FY 1990

ENGINEERING EDUCATION COALITIONS

- PURPOSE - Support a small number of major coalitions of U.S. institutions in a multi-year effort to increase the quality of engineering education.
- AWARDS - \$2 to \$3 Million per year for up to 5 years.

Engineering Education Coalitions - FY 1990

- Ten proposals received
- 104 institutions represented
- All 9 HBCU's represented
- 14 PUI's represented
- Largest number of institutions represented in one proposal - 18
- Smallest number of institutions represented in one proposal - 7
- Three awards will be made

UNDERGRADUATE CURRICULUM DEVELOPMENT IN ENGINEERING, MATHEMATICS AND SCIENCE

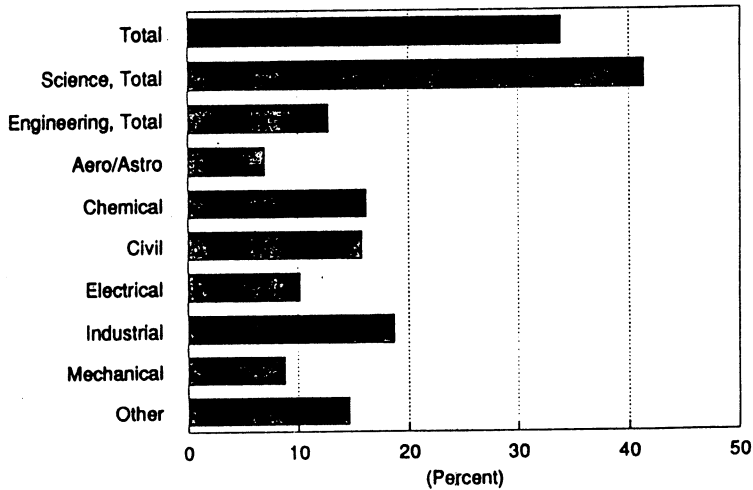
- PURPOSE - Restructure undergraduate engineering curricula and teaching methods.
- AWARDS - No limits.

WOMEN PARTICIPATION IN ENG ADVISORY COMMITTEES

	<u>87/88</u>	<u>89/90</u>
# of Women	16	24
% of Total	14%	20%

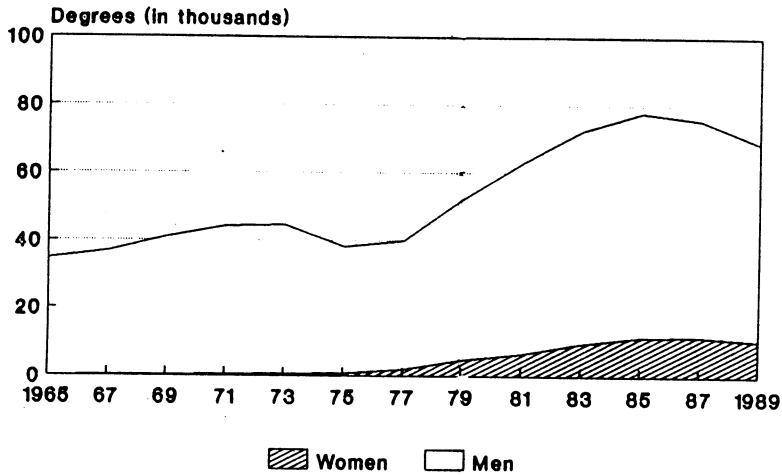
**CONSIDERABLE PROGRESS
HAS OCCURED, BUT . . .**

WOMEN AS A PERCENTAGE OF GRADUATE ENROLLMENT, BY S/E FIELD: 1988



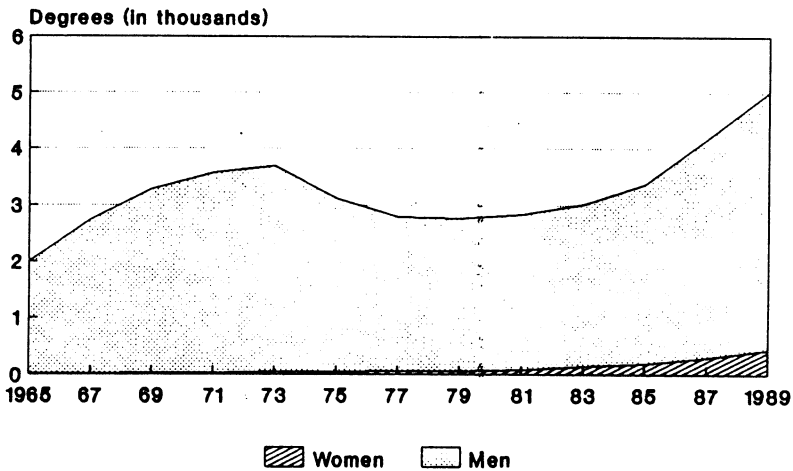
Source: National Science Foundation

BACHELOR'S DEGREES IN ENGINEERING BY GENDER: 1965-89



Source: Engineering Manpower Commission

DOCTORAL DEGREES IN ENGINEERING BY GENDER: 1965-89



Source: Engineering Manpower Commission

ENG PRIORITIES

- ✓ Education
- ✓ Human Resources
- ✓ Research

**I Came to NSF to Make
a Difference in ENG
Education and Research . . .**

POSSIBLE ENG/NSF GOALS

	BASELINE	1999 GOAL
PROFESSIONAL FACULTY (3%/YR GROWTH)		
NUMBER	400 ('87)	5,400 ('99)
PERCENT	2.1%	20.0%
RESEARCH GRANTS (2%/YR GROWTH)		
NUMBER	80 ('88)	450 ('99)
PERCENT	5.9%	25.0%

POSSIBLE ENG/NSF GOALS		
	BASELINE	1999 GOAL
BS DEGREES (5%/YR GROWTH)		
NUMBER	11,300 ('85)	55,000 ('99)
PERCENT	14.5%	35.0%
PhD DEGREES (5%/YR GROWTH)		
NUMBER	300 ('88)	1,900 ('99)
PERCENT	6.8%	25.0%

**I Soon Found that I Cannot
Make the Difference I
Wanted to Make,**

But WE Can!

**Simply Stated,
I Need YOUR Help!**