The MIT Faculty Newsletter

Vol. XI No. 4 **March 1999**

Special Edition

A Study on the Status of Women Faculty in Science at MIT:

How a Committee on Women Faculty came to be established by the Dean of the School of Science, what the Committee and the Dean learned and accomplished, and recommendations for the future

Members of the First and Second Committees on Women Faculty in the School of Science

First Committee (1995-1997)

Sallie W. Chisholm - CEE and Biology
Jerome I. Friedman - Physics (department Head)
Nancy Hopkins - Biology (Committee Chair)
Daniel Kleitman - Mathematics (former department Head)
June L. Matthews - Physics
Mary C. Potter - BCS
Paola M. Rizzoli - EAPS (served 7/95-)
Leigh Royden - EAPS (served 2/95-7/95)
Robert J. Silbey - Chemistry (department Head)
JoAnne Stubbe - Chemistry and Biology

Second Committee (1997-1999)

Sylvia T. Ceyer - Chemistry
Sallie W. Chisholm - CEE and Biology
Jerome I. Friedman - Physics (former department Head)
Jacqueline N. Hewitt - Physics
Kip V. Hodges - EAPS
Nancy Hopkins - Biology
Mary C. Potter - BCS (Committee Chair)
Paola M. Rizzoli - EAPS
Robert J. Silbey - Chemistry (former department Head)

Outline

http://web.mit.edu/fnl

Number of Female and Male Faculty in Science at MIT in **1994**

	MEN	WOMEN
Tenured faculty	197	**15**
Untenured faculty	55	**7**

PROBLEMS IDENTIFIED IN THE 1999 REPORT

- **For JUNIOR WOMEN FACULTY**
  - Family-work conflict
- **For SENIOR WOMEN FACULTY**
  - Inequities in resources and rewards
  - Lack of women in academic leadership
  - Marginalization, which often increases over time
  - Undervaluation
- **SMALL NUMBER OF WOMEN FACULTY**

COMMITTEES ESTABLISHED TO ADDRESS WOMEN FACULTY ISSUES DURING **THE VEST – BROWN** ADMINISTRATION

Vest

Brown

Hopkins

President

Chancellor

Provost

Co-Chairs
Council on Faculty Diversity

Dean School of Engineering

Dean School of Science

Dean School of Architecture

Dean School of Humanities

Dean School of Management

Committee of Chairs

Gender Equity Committee School of Engineering

Gender Equity Committee School of Science

Gender Equity Committee School of Architecture

Gender Equity Committee School of Humanities

Gender Equity Committee School of Management

POSITIONS CREATED TO ADDRESS WOMEN FACULTY ISSUES IN **THE HOCKFIELD-REIF** ADMINISTRATION

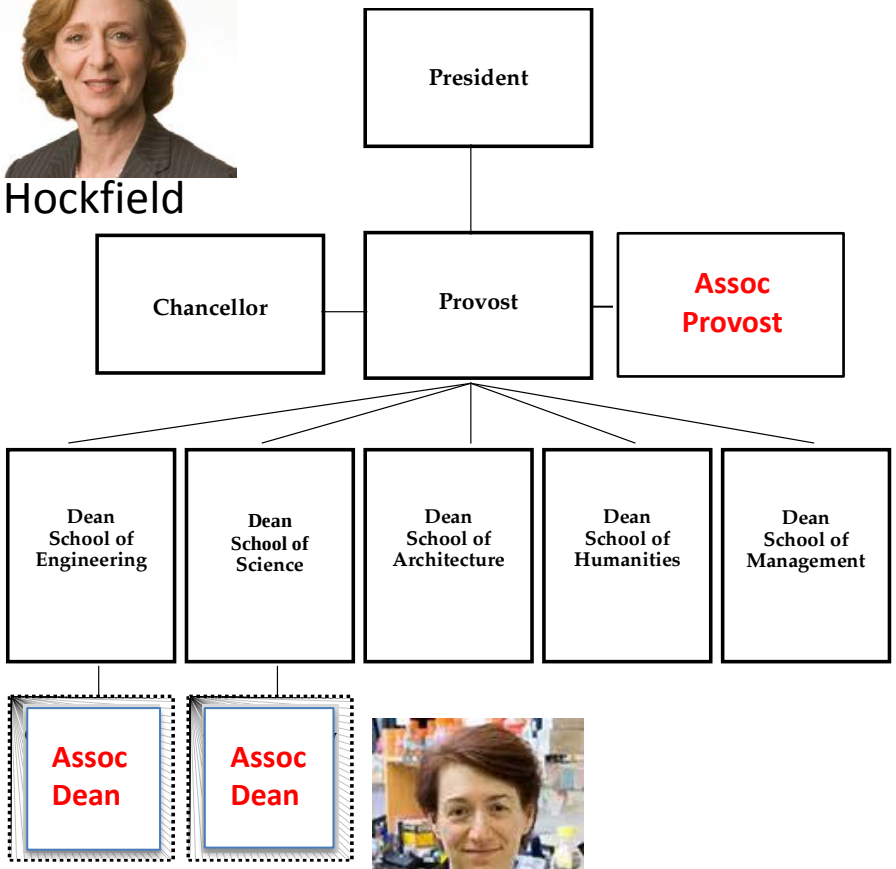
Reif

Hockfield

Liskov

Barnhardt

Sive



PROBLEMS IDENTIFIED IN THE 1999 REPORT AND SOLUTIONS

For JUNIOR WOMEN FACULTY

- Family-work conflict

SOLUTIONS

- 3 new family policies, devised with input from all women faculty, Chairs, Deans, Provost are written into MIT Rules and Regulations, and are monitored for use and impact on promotion rates over time.

- 3 day care centers built in high-traffic areas of campus

PROBLEMS IDENTIFIED IN THE 1999 REPORT AND SOLUTIONS

For SENIOR WOMEN FACULTY

- **Inequities** in resources and rewards

  SOLUTION: Monitor, correct as needed. Transparency.

- **No women in academic leadership**

  SOLUTION: Active recruitment of women as Deans, Dept and Center Heads, President; New positions to address women faculty issues held by women faculty

- **Marginalization**

  SOLUTION: Inclusion of women in administrative network helps, but can not eliminate the problem at department/colleague level

  Undervaluation

  SOLUTION: Collect data, correct inequities. Educate people to unconscious bias.

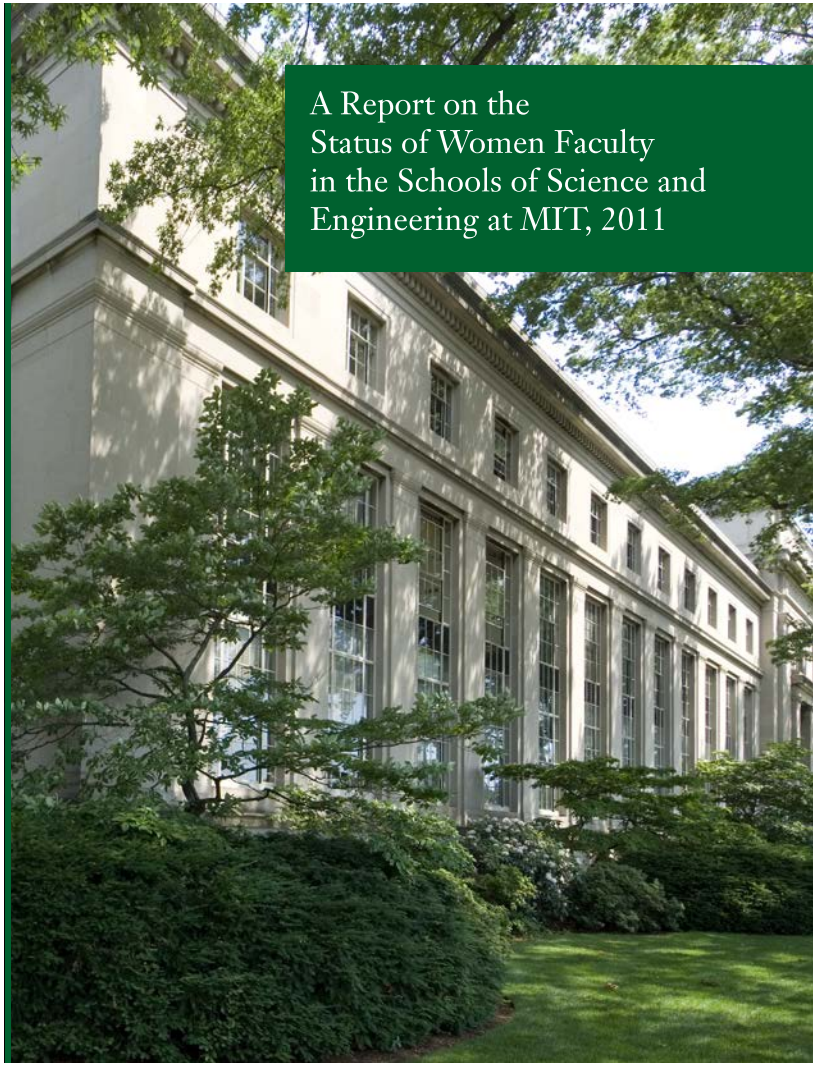
PROBLEMS IDENTIFIED IN THE 1999 REPORT AND SOLUTIONS

Small number of women faculty

SOLUTIONS:

- **Appoint and reward administrators** who successfully recruit exceptional women and minority candidates. **Goal set by top leadership.**
- **Educate departmental search committees to unconscious bias**. Review of search data by Chairs/Associate Deans/Deans.
- Proactively **seek out exceptional women** candidates (as for men).
- **Broaden area of search** to include exceptional women candidates.
- **Track hiring data at level of Deans and Provost -** numbers are too small to be monitored effectively at department level. **Tracking requires decades**.

Efforts have been highly successful according to a ***2011*** ***quality of life*** survey of all women faculty in Science and Engineering at MIT



What about the number of women faculty?

- ***GOOD NEWS***: In all departments of science and engineering at MIT, the % of women on the faculty is the same as the % of women in the applicant pools: **Implies there is no bias in hiring**.

- ***BAD NEWS***: The % of women on STEM faculty will remain low* because so few women get PhDs in Physics, Computer Science, several others. Also, women PhDs still 'leak from the academic pipeline' in half the STEM departments.

* **18% overall in Science**: 7% women faculty in physics; 40% in neuroscience, for example.
* **16% overall in Engineering**: 14% women faculty in computer science, for example.

PhD Pipeline data from Provost's Office, MIT

Department	% women PhDs '96-11
BIOLOGY	49%
CHEMISTRY	33%
EARTH SCIENCES	40%
MATHEMATICS	21%
BRAIN AND COGNITIVE SCI	38%
PHYSICS	**11%**
AERO ASTRO	**18%**
CHEMICAL ENGINEERING	27%
CIVIL ENGINEERING	26%
ELECTRICAL /COMPUTER	**18%**
MECHANICAL ENG.	**10%**
MATERIAL SCIENCES	25%
NUCLEAR ENGINEERING	**18%**
BIOLOGICAL ENGINEERING	46%

RED: <20% of PhDs are women

LESSONS WE LEARNED

- ***TIME ALONE DOES NOT FIX THIS PROBLEM***

- ***IF YOU STOP CORRECTIVE EFFORTS, PROGRESS STOPS. IT CAN EVEN GO BACKWARDS***

WHAT NEEDS TO BE DONE?

INSIDE THE UNIVERSITY

- Everything we've been doing -for at least another decade! Plus more education about bias.

- Determine at what stage women leave the pipeline *in each field* and why. Is *marginalization* driving young women away?

- Continue to adjust family policies as needed until men and women view "family-work" responsibilities equally

WHAT NEEDS TO BE DONE?

OUTSIDE THE UNIVERSITY

- **MONITOR EQUITY** for women vs men in:
  - **FUNDING** – NIH particularly
  - **PUBLISHING**
  - **VENTURE CAPITAL FIRMS and other organizations** that exploit university resources

- **UNCONSCIOUS BIAS EDUCATION** for study sections and administrators at NIH, NSF

BOTTOM LINE

THERE'S BEEN ENORMOUS PROGRESS!

THERE'S STILL A LONG WAY TO GO - particularly if we want more women faculty in physical sciences and engineering