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 (1997-1998)
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

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http://web.mit.edu/fnl
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Number of Female and Male Faculty in Science at MIT in **1994**

<table>
<thead>
<tr>
<th></th>
<th>MEN</th>
<th>WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenured faculty</td>
<td>197</td>
<td>15</td>
</tr>
<tr>
<td>Untenured faculty</td>
<td>55</td>
<td>7</td>
</tr>
</tbody>
</table>
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

President

Provost

Chancellor

Brown

Committee of Chairs

Co-Chairs
Council on Faculty Diversity

Dean of School of Engineering
Dean of School of Science
Dean of School of Architecture
Dean of School of Humanities
Dean of School of Management

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

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

President

Chancellor

Provost

Assoc Provost

Dean School of Engineering

Dean School of Science

Dean School of Architecture

Dean School of Humanities

Dean School of Management

Assoc Dean

Assoc Dean
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.
<table>
<thead>
<tr>
<th>Department</th>
<th>% women PhDs ‘96-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOLOGY</td>
<td>49%</td>
</tr>
<tr>
<td>CHEMISTRY</td>
<td>33%</td>
</tr>
<tr>
<td>EARTH SCIENCES</td>
<td>40%</td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>21%</td>
</tr>
<tr>
<td>BRAIN AND COGNITIVE SCI</td>
<td>38%</td>
</tr>
<tr>
<td>PHYSICS</td>
<td>11%</td>
</tr>
<tr>
<td>AERO ASTRO</td>
<td>18%</td>
</tr>
<tr>
<td>CHEMICAL ENGINEERING</td>
<td>27%</td>
</tr>
<tr>
<td>CIVIL ENGINEERING</td>
<td>26%</td>
</tr>
<tr>
<td>ELECTRICAL /COMPUTER</td>
<td>18%</td>
</tr>
<tr>
<td>MECHANICAL ENG.</td>
<td>10%</td>
</tr>
<tr>
<td>MATERIAL SCIENCES</td>
<td>25%</td>
</tr>
<tr>
<td>NUCLEAR ENGINEERING</td>
<td>18%</td>
</tr>
<tr>
<td>BIOLOGICAL ENGINEERING</td>
<td>46%</td>
</tr>
</tbody>
</table>

*PhD Pipeline data from Provost’s Office, MIT*

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