ECSEL Initiatives for Women: A Summary in Overheads

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ECSEL - Engineering Coalition of Schools for Excellence in Education and Leadership

Participant Schools:

City College of New York
Howard University
Massachusetts of Technology
Morgan State University
The Pennsylvania State University
University of Maryland, College Park
University of Washington

ECSEL materials and reports are available on the WWW at
http://web.mit.edu/ethics/www/ecsel.html

MOST OF WHAT FOLLOWS ARE SAMPLES OF THE INFORMATION AVAILABLE AT OUR WEBSITE

On the MIT ECSEL homepage you will find these links:

* Abstracts from Expert Papers on Minorities and Women
* Brochure for Incoming Faculty
* Other Women and Minority Related Home Pages
* ECSEL Members
* Some Statistics on Women and Minorities

The 'web pages were created by Marlon L. Buchanan, Heidi W. Shih, Jagruti Patel, Juliet Midgley & Xiaobo Li, at the Massachusetts Institute of Technology.

ECSEL - Engineering Coalition of Schools for Excellence in Education and Leadership Abstracts from expert papers on minorities and women on the WWW

* Written by students, who learn about barriers
* Make it easier, and therefore more likely, that the ECSEL faculty (and others) will become familiar with the actual barriers to women and minorities
* First distributed to ECSEL faculty and others by e-mail
* Now the WWW makes them continually available on demand to faculty and to others around the country

ABSTRACTS FROM EXPERT PAPERS ON WOMEN AND MINORITIES
(SOON TO BE PUT IN SUB-CATEGORIES)

* Gender Differences in student Performance & Attitudes
* Sci/Eng Attrition Rates with Attention to Race and Gender
* A Study of Failure Rates of Black & Hispanic Students in Calculus
* Science and Engineering Horizons, Minority Edition
* The Role Model Argument and Faculty Diversity
* They're not Dumb, They're Different: Stalking the Second Tier
* National Action Council for Minorities in Engineering -- NACME
* AAAS Presidential Lecture: Voices from the Pipeline
* Learning From Failed Programs
* Science and Engineering Programs: On Target for Women? A series of nine abstracts dedicated to methods of increasing female participation in science
* Women in Science and Engineering: Increasing Their Numbers in the 1990's An earlier report on issues addressed in Sci/Eng Programs On Target for Women?
* Experiencing Technical Work - A Comparison of Male and Female Engineers
* New NSF Report on the Salaries of Ph.D.'s Reveals Gender Gap in All Categories
* A Report on the Glass Ceiling Initiative
* Why Have All the Women Gone?
* Does Your Organization Welcome Diversity?
* The Technicolor Workplace
* Engendering Equity-Fostering Computer Science Success Among Women and Minorities
* Women Scientists, Engineers Seek More Equitable Industrial Environment
* Women in Science and Engineering
* Black Issues in Higher Education

Sample Abstracts of the National Academy of Sciences Volume: Science and Engineering Programs: On Target for Women?

The abstracts are condensed excerpts and ideas from each chapter. Each chapter was originally fourteen to twenty pages long; these abstracts represent what was perceived to be each author's major ideas and suggestions to correct historical trends of low female participation in science and engineering. see original text information for more details. Abstracts are of the individual chapters.

Chapter 1. The Benefits of Diversity in the Science and Engineering Workforce
by Linda S. Wilson
Chapter 2. Interventions Defined, Implemented, and Evaluated
by Elizabeth Stage
Chapter 3. Overview: The Status of Women in Science and Engineering
by Marsha Lakes Matyas

EDUCATION

Chapter 4. Promoting Undergraduate Studies in Science and Engineering
by Marsha Lakes Matyas
Chapter 5. Promoting Graduate and Postdoctoral Studies in Science and Engineering
by Joan Sherry and Linda Skidmore Dix

EMPLOYMENT

Chapter 6. Promoting Science and Engineering Careers in Academe
by Garrison Sposito
Chapter 7. Promoting Science and Engineering Careers in Industry
by Esther M. Conwell
Chapter 8. Promoting Science and Engineering Careers in the Federal Government
by Linda Skidmore Dix

SUMMARY

Summary: Cross Cutting Issues
by Mildred S. Dresselhaus and Linda Skidmore Dix

Sample Abstract from ECSEL from:

A Longitudinal Study of Engineering Student Performance and Retention:
Gender Differences in Student Performances and Attitudes
by Richard Felder, Gary Felder, Meredith Mauney, Charles Hamrin, & Jacquelin Dietz, Journal of Engineering Education, April 1995, pgs. 151-163

elder et al. compared men and women in several areas of how they approach their course work and deal with academic difficulty. The participants were all involved in chemical engineering, but the authors believe their findings can be generalized to all engineering students. Key issues addressed in the report are:

* Student's attitudes towards their education and themselves
* Gender differences in student's academic performance
* Factors encouraging/discouraging persistence

(EACH OF THESE BULLETS IS A LINK TO AN ABSTRACT ON THAT SUBTOPIC)

INFORMATION BROCHURE FOR INCOMING [Female] FACULTY

* Designed to accompany the initial offer of appointment to women who are joining the engineering faculties at colleges and universities in the ECSEL coalition. We strongly recommend that a women joining the faculty be assigned a mentor, and include a description of the mentor's role and guides the new faculty member in selection of a mentor.

This brochure is based on one developed by the Women Faculty Network (WFN) at MIT during the 1991-1992 academic year. Major contributions to that brochure were made by: Mary Boyce, Peggy B Cebe, Lorna Gibson, Simone Hochgreb, Vera Kistiakowsky, Heather Lechtman, Ruth Perry, KarenPolenske, Mary Rowe, Lynn Stein, Lisa Steiner, Judith Thomson, Lena Valavani, and Caroline Whitbeck. Each new female faculty member at MIT is now assigned a mentor, and that assignment is described in the MIT brochure. The present brochure was revised by Heidi Shih (MIT '95) and Caroline Whitbeck in light of comments by representatives in each of the ECSEL campuses.

The Mentor Profile
1. Qualities of a good mentor
2. Tasks for the mentor
3. Changing mentors

Questions for Thought: A Guide for New Faculty and Their Mentors
1. Before Coming to the University
2. On Arrival
3. Later
   - Research & Resources
   - Student Supervision
   - Teaching
   - Administrivia

1. Qualities of a good mentor

   Examples of good mentoring have included the following:

* Advocacy - the mentor should be willing to argue in support of the junior faculty member for space, funds, and students.
* Accessibility - the mentor must take time to be available to the mentee. the mentor might keep in contact by dropping by the mentee's office, calling, sending e-mail, or inviting the mentee to lunch. The mentor should take time to ask questions, to read proposals and papers, and to give periodic reviews of progress.
* Networking - the mentor should have enough experience and contacts to be able to help establish a professional network for the mentee.
* Independence - the mentor must not be in competition with mentee; the mentee's intellectual independence from the mentor must be carefully preserved.

2. Tasks for the mentor: Long term goals

* Every mentor should ask:
  What should the profession profile of the mentee be?
  Where should the mentee be in her career during the first 3 years?
  How can I facilitate this?
* Explain department's typical or general criteria for promotion and tenure; impart any flexibility that exists in the promotion/tenure schedule; the mentor should be aware that there is no rigid set of requirements for junior faculty, but that there are acceptable ranges of performance in various categories (e.g., scholarship, publications, supervision of graduate students, presentations at conferences, funding, changing of field, teaching, administrative duties, consulting, collaborations with colleagues)
* Inform other senior faculty of mentee's progress
* Help the mentee develop many options for the future; from the beginning, the mentor and mentee should pan for multiple job opportunities.

Questions for Thought: A Guide for New Faculty and Their Mentors

2. On Arrival - see WWW site

2.1 General
Who is your administrative officer? What is his/her responsibility? How do the mechanics of your department/lab work (e.g., purchase orders)? How is your department organized? (Divisions, committees?) How are decision made? What should you expect from your support staff? What fraction of a support staff member's time is typical? What kind of work can you expect from him/her?

2.2 Research and Resources
How important are grants? How do you become involved in the process of regular grant writing? Where should you look? Who can help you to find out where to meet people, to write the best possible proposal, to draw up a budget? How much effort should you be investing in fundraising? What are the tradeoffs? Who, if anyone, will "introduce you around" to government and other funding agencies? Are there any programs within the university for Industrial Liasons? If so, how do they work, and what can they do for you?

Other Women and Minority Related Homepages

* Society of Hispanic Professional Engineers (MIT SHPE_
* The American Indian Science & Engineering Society (MIT AISES)
* La Unin Chicana por Aztln at MIT (LUChA)
* Minority On-line Information Service (MOLIS)
* Women's Homepage (MIT)
* Society of Women Engineers (SWE)
* Women and Minorities in Science and Engineering
* Women's Web
* AISESnet, the American Indian Science and Engineering Society Information Server Network