## What Professional Societies Can Do from the Top Down

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The Virtual Center for Supernetworks


Supernetworks for Optimal Decision-Making and Improving the Global Quality of Life
Women in Science Panel - April 17, 2007

## AWIS <br> Association for <br> Sme <br> Massachusetts Chapter

## INFORMS Diversity Committee

The committee was established in 2006 by the INFORMS President, Professor Mark S. Daskin of Northwestern University, to assess
whether or not there is any sort of problem with diversity within INFORMS (The Institute for Operations Research and the Management Sciences; http://www.informs.org).

## Other Societies

Other professional societies, such as the American Physical Society, the American Chemical Society, and the IEEE indicated that no such similar intra-organizational examination had been conducted within these societies.

Recommendation - Every professional society should examine itself in terms of diversity.

## INFORMS Diversity Committee

According to President Daskin, diversity means involvement of both men and women, young professionals and more senior colleagues, as well as individuals of different racial, ethnic and national backgrounds in all INFORMS activities.

INFORMS activities include:

- INFORMS-level activities (the Board)
- publications
- national meetings
- community-based (subdivision-based) activities.

President Daskin appointed the committee because of a sense that he and others have that the INFORMS leadership may not adequately reflect the diversity of the INFORMS membership. Included in the committee's charge was that, should the committee find that diversity is an issue that INFORMS needs to address, then the committee should try to identify ways in which
we can increase the representation and involvement of any groups that are not adequately engaged in INFORMS activities.

## INFORMS Demographic Study

- Membership approximately 76\% male and 23\% female, about 10,000 members.
- $4 \%$ being under age 25; 36\% being in the age group 25 to $34 ; 25 \%$ being in the age group 35 to 44; $17 \%$ being in the age group 45 to $54 ; 14 \%$ being in the age group 55 to 64, and 4\% being 65 or older.
- $51 \%$ of the respondents to the survey had said that they had earned a doctoral degree.
- 33\% identified themselves as being professors and 12\% as students.


## Findings - Leadership Positions

- Editors-in-Chief

2 of 38 Editors-in-Chief of the 12 journals have been or are female.

The two top INFORMS journals were established in 1953/1954.
There has been no female Editor-in-Chief of either of these journals.

- INFORMS Board of Directors

Since 1995 there have been 29 females out of 117 as members in different positions on Boards of Directors.

In 2006, 7 out of 16 present members of the Board were females and/or minorities.

## Findings - Major INFORMS Prizes

Lanchester Prize Winners - Research - From 1954-2005, ALL winners have been males.

John von Neumann Theory Prize - Research - From 19752005, ALL recipients have been male.

INFORMS President Award - for Welfare of Society - From 1996-2005, ALL have been males.

George Kimball Medal - for Service - From 1974-2005, there have been three female winners or co-winners.

INFORMS Prize for More Junior Members
Dantzig Award - From 1994-2005, there has been 1 female winner.

## Findings - INFORMS Fellows

Selection as an INFORMS Fellow, marks the highest level of professional recognition.

In 2002, 4 out of 125 elected Fellows were females (3.2\%)
In 2003, 0 out of 13 elected Fellows were female ( $0 \%$ )
In 2004, 4 out of 32 elected Fellows were female (12.4\%)
In 2005, 3 out of 25 elected Fellows were female (12\%)
To-date, only 5\% of the elected INFORMS Fellows are females and this is disappointing.

In 2006, there was only 1 female out of 12 members of the selection committee for INFORMS Fellows.

In 2006, 1 out of 30 elected Fellows were female. (3.3\%)

## Sengers - Sharma Report

The report, Women for Science: An Advisory Report, written by a panel co-chaired by Johanna Levelt Sengers and Manju Sharma was issued by the InterAcademy Council in June, 2006.

The report was the result of a lengthy investigative and approval process, and is available at http://www.interacademycouncil.net
(and was cited and discussed in the June 20, 2006 issue of Science).

The report severely criticizes national academies since they are much less balanced than the demographics of a field would suggest. Moreover, it emphasizes and documents the need for more women to be represented in the highest positions of the scientific enterprise in terms of positions of leadership.

## Sengers - Sharma Report

The authors express what must have been a rather frustrating discovery that many institutions simply do not maintain data on the participation rates of women.

A conclusion of the Sengers-Sharma report is that the authors make a strong plea for collecting genderdisaggregated data.

Recommendations of the Senger-Sharma Report are Directly Applicable to INFORMS

1. Increase the number of women and minority scientists in the nomination pool for membership, prizes, and awards.
2. Give visibility to women and minority scientists and represent women and minorities in the academy's/professional society's portrayal of science.

## Additional Recommendations

3. INFORMS should try to capture gender-specific and minority-specific data wherever/whenever possible. The committee recommends that demographical questions be included on the INFORMS membership and registration forms.
4. The committee has noted that various constituencies may be feeling left out of the INFORMS organization, which has implications for the strength of INFORMS going into the future. Indeed, the committee also feels that perception is the reality and, urges INFORMS, with the support of this committee and the WORMS and Minority Issues FORA, to design and conduct a survey of its members regarding representation and diversity.

## Get Students Involved Early

## Welcome to the UMASS Amherst Student Chapter of INFORMS Website




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## Goals

Hot Topics confirmed speakers
On a New Frontier: Above and Beyond the Glass Ceiling 2007 National Symposium for the Advancement of Women in Science Sponsored by Harvard's Women in Science at Harvard'Radcliffe

NSAWS biannually brings together college, high school, and professional scientists from Harvard and the surrounding Boston community to participate in talks and workshops, where they can benefit from hearing the perspective and wisdom of today's prominent leaders in science. Specifically, through a series of featured speakers, panel discussion, and small-group workshops, the 2007 NSAWS seeks:
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- To highlight cutting-edge research being conducted by the country's leading female scientists.
- To proactively develop strategies to recruit, retain, and advance women in the sciences.
- To explore and discuss the impact of women scientists on economics, politics, and the practice of science.
- To promote awareness and understanding of the issues that women in science currently face.

With these goals in mind, we hope to bring together a diverse group of scientists engaged in modern research on topics ranging from AIDS and cancer to global warming and the development of new energy
technologies, in line with our conference theme of "On a New Frontier: Above and Beyond the Glass Ceiling."

## Announcements updated 3.20.07

## Other Societies' Ideas

American Physical Society Sites:

## Improving the Climate for Women in Physics

CSWP helps to fund site visits by teams of women physicists to college and university physics departments and national labs. Following the visit, the team makes recommendations to improve the climate for women undergraduates, graduate students and faculty.

- Learn more.


## APS Prizes, Awards and Fellowship

A nomination to Fellowship in the APS or for a prize or award is among the highest honors a physicist can receive.

- Nominate a woman for a fellowship from APS, and see current women fellows.
- Nominate a woman for an APS prize or award, and see current women recipients

See also information on the Maria Goeppert Mayer Award, which recognizes and enhances outstanding achievements by women physicists in the early years of their careers and provides opportunities for them to present these achievements to others through public lectures.

## National Academies Project

THE NATIONAL ACADEMIESAdvisers to the Nation on Science, Engineering, and MedicineNATIONAL ACADEMY OF SCIENCES

[^0]INSTITUTE OF MEDICINE

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LOCAL SEARCH


Guide to Recruiting and Advancing Women Scientists and Engineers in Academia
Sponsored by the Burroughs Wellcome Fund, the Howard Hughes Medical Institute, the Sloan Foundation, and the National Science Foundation

This project will prepare a guide that will identify and discuss recruitment, retention, and promotion for women scientists and engineers in academia. The issues that the guide will address are: 1) recruitment of undergraduates and graduate students; 2) ways of reducing attrition in science and engineering degree programs in the early undergraduate years; 3) improving retention rates of women at critical transition points-from undergraduate to graduate student, from graduate student to postdoc, postdoc to first faculty position; 4) recruitment of women for tenure-track positions; 5) increasing the tenure rate for women faculty; and 6) increasing the numbers of women in administrative positions.

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## Books

Stories of women in the Life Sciences in the San Francisco Bay Area.
Chapters include:
Out of Control: Managing Time and Establishing Equilibrium
Boss, Mother, Friend, Role Model:
Working with Students and Employees
Putting It Out There: Writing and Giving Talks
Nobody Taught Us This in School: Institutional Politics and Strategy

Reviewed in Physics Today, April 2007.

## Every Other Thursday

STORIES AND STRATEGIES FROM SUCCESSFUL WOMEN SCIENTISTS



Ellen daniell

Achieving XXcellence in Science: The Role of Professional Societies in Advancing Women's Careers in Science and Clinical Research
National Academy of Sciences Press, 2002

## Summary and Conclusions

For women to jump to the next level:

- Increase their leadership representation and visibility in Scientific Organizations
- Have more Female Plenary Speakers at conferences
- Recognize females for their scientific contributions
- Increase their roles as senior editors of journals
- Help them to move into management without giving up science
- Have more activities such as this!

Additional Studies and Findings

Various data/statistics are compiled by the National Science Foundation regarding Women, Minorities and Persons with Disabilities in Science and Engineering

A special report has been released by NSF US Doctorates in the 20th Century http://www.nsf.gov/statistics/nsf06319/

NSF reports data on doctorates obtained from US institutions http://www.nsf.gov/statistics/doctorates/

The Nelson Report, compiled by Dr. Donna J. Nelson, and revised on January 6, 2005, provides a national analysis of diversity in science and engineering faculties at research universities. The report is available at: http://cheminfo.ou.edu/~djn/djn.html

Some of the key findings of the Nelson Report are that there are few tenured and tenure-track women faculty in the top 50 departments of science and engineering in research universities and that minorities are significantly underrepresented.

The National Academy of Sciences convened a panel, consisting of 17 females and one male and issued a report, Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering, and chaired by Dr. Donna E. Shalala.

The panel that reviewed the report at the National Academy of Sciences consisted of ten males. The report is available at: http://www.nationalacademies.org The report was overviewed in a New York Times article on September 18, 2006.

In addition, the Chronicle of Higher Education devoted an entire section, Diversity - Section B, (September 29, 2006) http://chronicle.com/indepth/diversity/
In particular, there is an article, A Look at Minority and Female Doctorate Recipients.

Another relevant article is Careers in Science: More Women in Science, by Handelsman et al., Science, August 19, 2005.

The data upon which this article is based, along with relevant supplementary readings can be found at: http://www.sciencemag.org/cgi/data/309/5738/1190/DC1/1

This article was co-authored by 11 female leaders in science, including Dr. Donna Shalala, President of the University of Miami, Dean Barbara Grosz of the Radcliffe Institute for Advanced Study at Harvard University, and Dr. Cora Marrett of the University of Wisconsin.


[^0]:    NATIONAL ACADEMY OF ENGINEERING

