

Preliminary Findings of the INFORMS Ad Hoc Committee on Diversity

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October 28, 2006

The Charge to the Committee

First, the committee would like to thank the INFORMS President, Professor Mark S. Daskin of Northwestern University, for establishing this Ad Hoc Committee in late July 2006 in order to assess, according to the charge put before the committee, ***whether or not there is any sort of problem with diversity within INFORMS.***

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, and national meetings as well as 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 is 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.***

Other Societies

Communications with such professional societies as the American Physical Society, the American Chemical Society, and the IEEE informed the Chair of the committee that ***no such similar intra-organizational examination had been conducted within these societies.***

The State of the Union and Other Recent Reports 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***; see: <http://www.nsf.gov/statistics/nsf06319/>

In addition, NSF reports data on doctorates obtained from US institutions; see: <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 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.

The authors express what must have been a rather frustrating discovery (as this committee also discovered) 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 gender-disaggregated data.***

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. This report is available at: <http://www.nationalacademies.org> This report was overviewed in a *NYTimes* article that appeared on September 18, 2006.

In addition, the *Chronicle of Higher Education* recently devoted an entire section, entitled, Diversity - Section B, in its September 29, 2006 issue; see: <http://chronicle.com/indepth/diversity/> In particular, therein, 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., August 19, 2005, which appeared in *Science*; 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.

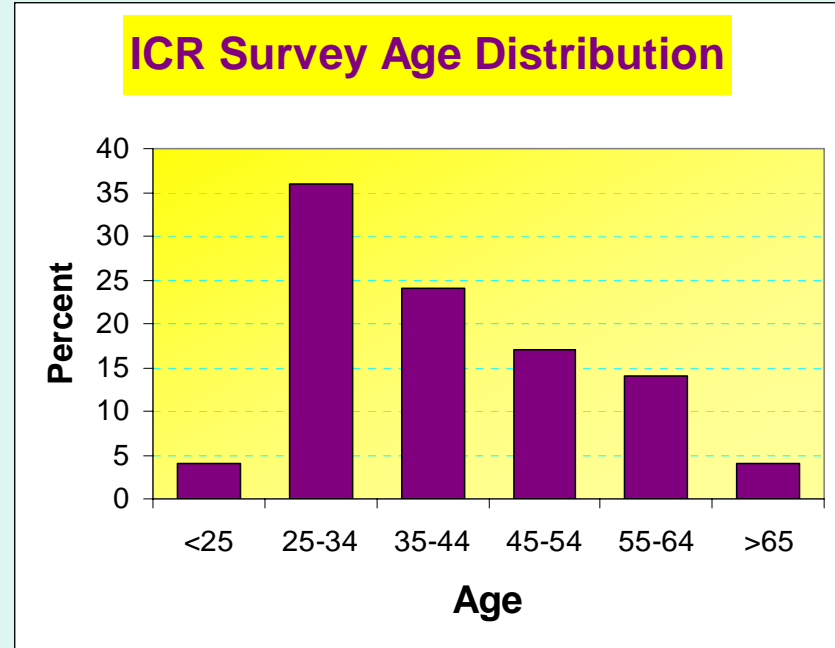
Data Requested from INFORMS

1. INFORMS membership (in terms of age distribution, male/female distribution, representation by underrepresented groups, US citizen/permanent resident/non US) and breakdown of these data by section/society, etc.
2. Officers and Board of Directors (same data)
3. Editors/Editorial Board Members (same data)
4. Division/Subdivision (same data)
5. Committee Chairs (same data)
6. Any demographic data on Annual Meeting Attendees, Organizers, etc.
7. Any demographic data on potential INFORMS members to see whether INFORMS is attracting a diverse and representative group
8. Any demographic data from INFORMS publications, such as data presented to advertisers in *ORMS Today* as to readership.

INFORMS does not track easily any of the detailed data requested and, in particular, male/female composition or race, although INFORMS does track graduation date and highest degree earned of its members.

ICR Demographic Study

- 76% male; 23% female
- 51% of respondents said they had earned PhD.
- 33% identified themselves as being professors and 12% as students.



Note: Respondents to this survey represented a higher percentage of PhD holders than data collected by INFORMS itself.

(ICR Study was conducted as part of a positioning/marketing survey of INFORMS members commissioned by Barry List, February/March 2006)

Leadership Positions/Representation

Editors-in Chief

Ms. Betsy Fruhling of INFORMS in late September 2006, ran a report on ***Editor-in-Chief*** of INFORMS publications and ***identified 2/38 editors of the 12 journals (including ITE) having been or are female***. Dr. Salwa Ammar, the incoming editor of *ITE*, replacing Dr. Erhan Erkut, is female and Dr. L. Robin Keller, will begin her term as editor of *Decision Analysis* in 2007.

The two top journals of the society are considered to be *Operations Research* and *Management Science*. *Operations Research* began publication in 1953 and *Management Science* in 1954. ***Apparently, there has been no female Editor-in-Chief of either of these two top journals.***

Board of Directors

Ms. Betsy Fruhling of INFORMS came up with ***29 females/117 as members in different positions on Boards of Directors since 1995***. Some of the same females have held different positions or multiple terms.

The Chair of the Committee then went to the INFORMS website and noted that, in 2006, 7 out of 16 present members of the Board are females and/or minorities which is commendable.

INFORMS Fellows

Selection as an INFORMS Fellow, marks one of the highest levels of recognition by INFORMS.

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.

Major INFORMS Prizes -- Research and/or Service

- **Lanchester Prize Winners - Research** - From 1954-2005, the committee believes that ALL winners have been males.
- **John von Neumann Theory Prize - Research** - From 1975-2005, the committee believes that 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, based on the INFORMS website, the committee believes that there has been 1 female winner.

Discussion and Some Preliminary Recommendations

The committee believes that INFORMS is making commendable strides in representing females and minorities on its board, especially given that two of the near-term Presidents will be females.

However, it is clear that women have achieved miniscule recognition in terms of their contributions to science and the same situation, the committee suspects, holds in terms of the underrepresentation of minorities.

Two *Immediate 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.

(Committee additions to Senger-Sharma in italics)

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, during discussions that ensued, is concerned, as the President of INFORMS, Dr. Mark Daskin 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, hence, it **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.**

Since this may be a costly endeavor, we ask that the INFORMS Board to consider the potentiality of such a survey.

Acknowledgments

The committee thanks Ms. Mary Magrogan, Ms. Ann Fishkin, Ms. Betsy Fruhling, and Mr. Barry List of INFORMS for assistance.

Acknowledgments are also given to Dr. Robin Lougee-Heimer of IBM for providing additional documentation.