

## 2004 Report from the Committee on the Status of Women in Astronomy

by Patricia Knezek

The previous year has been exciting one thanks to the highly successful conference “Women in Astronomy II: Ten Years After” (WIA II), but it has also been a year of transition. Meg Urry not only stepped down as chair of the CSWA, but both she and Lisa Frattare officially retired from their roles as co-editors of STATUS (although both have continued to provide valuable assistance). Lisa remains an active CSWA member, and both of them have provided continual input to the CSWA. Their outstanding efforts over the past years for women’s issues are to be commended, and the CSWA would like to express its appreciation.

CSWA committee members David Helfand (Columbia University) and Karen Kwitter (Williams College) also completed their tenure on the CSWA in June of 2003. Both members made many contributions to the committee, and we would like to thank them. We welcomed new members James Ulvestad (NRAO), Stephanie Wachter (IPAC), and Kimberly Weaver (GSFC), each of whom will be serving until June of 2006.

While the leadership has been in flux, the basic activities of the CSWA remain. We have our own website, <http://www.aas.org/~cswa>, which is expertly maintained by committee member Amy Simon-Miller. This website contains information about our ongoing activities, including meetings, surveys, and back issues of our publications. It also provides a link to the Women in Astronomy Database produced by the CSWA, which can be used to find speakers for colloquia, scientific meetings, or school visits, to solicit job applicants, or to sort by education, expertise, research interests, etc. for statistical or search purposes. We also provide links to other websites targeted at women in science.

Our committee continues to publish STATUS (the twice-yearly paper magazine). The June 2003 issue was skipped so that the AAS could divert the funds to the “Women in Astronomy II: Ten Years After” meeting (see below for more information on this conference). During the transition, I assumed the editor role for the January 2004 issue of STATUS, as well as the role of CSWA chair, but was delighted when Fran Bagenal of the University of Colorado agreed to serve as STATUS editor, beginning with the June 2004 issue. I will serve as an associate editor, and Joannah Hinz will continue in her role as an associate editor as well. Meg Urry and Lisa Frattare have helped make the transition as smooth as possible by serving as contributing editors, and Krista Wildt at STScI has ably taken on the task of designing the layout. Unfortunately, the STATUS team

suffered a true loss when Beth Holmes, an associate editor for the magazine, passed away unexpectedly in March 2004. I'd like to take this opportunity to express our gratitude for her tireless, cheerful efforts.

We have also continued AASWOMEN (the weekly electronic newsletter), edited by myself, and Michael Rupen. In January 2004 Jim Ulvestad joined that editorial team. Both STATUS magazine and AASWOMEN focus on information on the situation of women in science and engineering, with particular emphasis on astronomy, and back issues are available from the CSWA web site, <http://www.aas.org/~cswa>. This includes status reports (statistics), evidence of gender bias or influence (e.g., in evaluations, hiring practices, promotions), and attempts to improve the situation (e.g., strategies for retaining women scientists once they are hired, new efforts targeted at interesting young women in science and engineering).

Examples of each of these three areas:

(1) The CSWA completed a new survey of the 36 major astronomical institutions, to get a 2003 update on the 1992 and 1999 data. CSWA member Karen Kwitter led the effort with exceptional support from volunteer Jennifer Hoffman. The results of this survey are available on the web at <http://www.grammai.org/astrowomen/stats/>. Jennifer Hoffman and Meg Urry also wrote an article describing the results, "Portrait of a Decade: Results from the 2003 CSWA Survey of Women in Astronomy", which will appear in the June 2004 STATUS issue.

(2) A STATUS article in the 2004 January issue, written by Mary Ann Mason and Marc Goulden describes how the decision whether or not to have children, and when to have them, affects men and women in academia differently. Women who reach the ranks of tenured professors are much more likely than men to have no children, or had children later in life.

(3) The AASWOMEN issues provided pointers to such things as the NSF publication "New Formulas for America's Workforce: Girls in Science and Engineering" (available at <http://www.nsf.gov/pubsys/ods> under publication number NSF 03-207). Each chapter describes a series of projects designed to achieve similar goals, such as exploring "new ways of teaching that have...proven to engage all students more;" helping educators "create a social support system" to better engage students; designing courses "to appeal to a broader base of students;" and addressing how all aspects of the system - people, pedagogy, course content, and social support networks - can be affected "to achieve lasting change."

In addition to continuing its normal activities the CSWA focused significant effort on holding the meeting "Women in Astronomy II: Ten Years After" (WIA II), at the California Institute of Technology, in Pasadena, California,

on June 27-28, 2003, and working to follow up on the main issues that were raised at the conference. There were over 150 participants when the WIA II convened approximately 10 years after the historic first conference on women in astronomy. The first conference, held in Baltimore in 1992, gave rise to the Baltimore Charter (<http://opposite.stsci.edu/pubinfo/BaltoCharter.html>). I will cover the follow up to WIA II later in this summary.

The purpose of the second conference was to examine how far the profession has progressed, and to identify the next steps. The motivation was not only equity and fairness for women astronomers but also the practical issue of providing the best workforce possible to achieve national goals. I will focus on only one aspect of the conference below, the outcome of the discussion of seven breakout groups, since Meg Urry wrote a substantive article on the meeting, "Summary of Women in Astronomy II Conference: Diversity Breeds Excellence," that appeared in the October and December 2003 issues of the AAS Newsletter. See <http://www.aas.org/publications/nlarchive/index.html> for access to these issues. Additionally, two articles appeared in the January 2004 issue of STATUS detailing alternate perspectives on the meeting. One was "A Graduate Student's Perspective on the Women in Astronomy II Conference" by Jane Rigby. The other was "The Postdoc Perspective on the Women in Astronomy Conference" by Elizabeth Holmes. Furthermore, details on the program, including speakers and their presentations, a list of participants, etc. can all be found off the link <http://www.aas.org/~cswa/WIA2003.html>.

The proceedings of the meeting are currently being edited, and will be available off aforementioned link when completed. Our thanks to Dr. Fran Bagenal (University of Colorado), who chaired the Program Committee, and committee members Daniela Calzetti (STScI), Claude Canizares (MIT), Debra Elmegreen (Vassar College), Kevin Marvel (AAS), Melissa McGrath (STScI), Charles McGruder (Western Kentucky U.), Caty Pilachowski (Indiana U.), Andrea Schweitzer (Southwest Research Institute), Keivan Stassun (Vanderbilt U.), Silvia Torres-Peimbert (UNAM), Meg Urry (Yale U.), and Donna Weistrop (UNLV). Drs. Judy Cohen, Wal Sargent (Caltech), and Barry Madore (Caltech/Carnegie) did an exceptional job as the Local Organizing Committee. Financial support was provided by Caltech, the Carnegie Institutions of Washington, the AAS, NASA, AURA, AUI, the Research Corporation, JPL, and Dr. Alice Huang (Caltech).

One key component of the WIA II meeting was a session that consisted of seven broadly defined breakout groups: Family Issues, Outside Academia, Changing the Culture, How Women Can Achieve Success, Small and Women's Colleges, Responsibilities of Larger Institutions, and

Hiring. Each group came up with a number of suggestions and recommendations. The primary recommendations fell into seven categories, with a few key suggestions for each category:

- 1) Better statistics
  - a. We need a systematic longitudinal study of career trajectories astronomers follow, and why.
- 2) Mentoring
  - a. Scientists, especially women and minorities, need mentoring both formally and informally, throughout their careers.
  - b. To be effective, training for mentors is critical.
- 3) Innovative career paths
  - a. The astronomical community needs to recognize that many astronomers do not end up as faculty at major research institutions.
  - b. With this recognition comes the need to provide information on innovative career paths to young scientists.
  - c. Ultimately, to maintain the health of the field, graduate institutions need to restructure graduate programs to include these alternate career paths.
- 4) Balance between career and families
  - a. Families need flexibility (childcare, family leave, postponing the tenure clock) from employers.
  - b. More attention needs to be paid to the fact that it currently takes 16-20 years for astronomers to achieve a stable job situation (grad school + postdocs + tenure-track), and these years overlap with those for raising a family.
- 5) Professional training for decision makers
  - a. In order to be effective and avoid potential legal ramifications, scientists should be trained how to mentor, how to recruit, and how to interview.
- 6) Major consortia (AURA, NCAR, AUI, USRA) lead by example
  - a. An opportunity is available for the major consortia to begin a culture change by developing a common set of "best practices" for such things as hiring, recruitment, family leave, etc.
- 7) Hiring practices
  - a. There is a need for better statistics on how women and minorities proceed along their career paths.
  - b. The average 16-20 year timeframe to achieve stable employment is unacceptable, and institutions need to begin to look at ways to shorten career paths if they wish to retain the best scientists.
  - c. In order for institutions to attract the best scientists, especially women and minorities, they should begin proactive recruitment practices.

- d. The astronomical field should be looking for solutions to the "two-body problem", including examining what does and does not work in fields outside our own.

The CSWA has decided that the most effective way to produce the "next steps" for the profession as a whole towards equity and fairness, as well as an excellent, diverse workforce, is to use the recommendations and suggestions provided by the breakout groups during the WIA II as a starting point for the development of a set of realistic recommendations. The goal is to present these recommendations to the AAS Council for endorsement in January 2005.

The committee is currently creating a draft set of recommendations. As a part of the process, we are soliciting comments and suggestions from the AAS community at large. Our initial step was to hold a session during the January 2004 AAS meeting where first the results from the WIA II breakout groups were presented to the community, then several institutions shared the actions that have been taken to implement some of the suggestions from WIA II. These presentations were followed by an active open discussion. This entire session was summarized in the March 2004 AAS Newsletter. Presentations from that session are available on the web at <http://www.aas.org/~cswa/WIA2003.html> under "Meeting Summaries".

After the January AAS meeting, the CSWA began a series of telecons and email discussions to formulate the draft recommendations. Our next step will be to provide a draft for viewing, comments, and suggestions, through the "Members Only" AAS web pages. Our target is to provide this draft prior to the June 2004 AAS meeting. Details of when the draft is available and how to access it will be published in the committee's weekly electronic newsletter, AASWOMEN. We will hold a session on Thursday, June 3 from 1:00-2:00 p.m. at the Denver AAS meeting to discuss the progress made on the draft with the astronomical community. We will then incorporate the comments and suggestions we receive from the community into a version to be presented to the AAS Council in January 2005.

Finally, as a separate follow up step to the WIA II conference, the CSWA is co-sponsoring a special session entitled "The Astronomy Workforce" on Thursday, June 3 from 10:00-11:30 a.m. at the Denver AAS meeting with the Committee on the Status of Minorities in Astronomy (CSMA). STATUS editor Fran Bagenal (U. Colorado) is organizing it. The purpose of this special session is to present the demographics of the astronomy profession and discuss solutions (both institutional and personal) to the challenges posed by the evolution of the astronomy workforce. The aim is to involve a broad audience from across the astronomy profession. In

particular, this session will focus on the challenges astronomers are facing to try and balance their profession and their family. The program is as follows:

- Workforce Supply and Demand in Astronomy and Physics  
R.L. Ivie, K.M. Nies (American Institute of Physics)
- AAS Statistics and the 60% Cohort  
K.B. Marvel (American Astronomical Society)
- Pragmatic Approaches to Family Issues and Workforce Implications  
F. Bagenal (Univ. of Colorado)

We would like to encourage people to attend both sessions.