

Annual Report on the Committee on the Status of Women in Astronomy for 2009-2010

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The 2009-2010 year was an active one for the Committee on the Status of Women in Astronomy (CSWA). Committee members Geoff Clayton (Louisiana State Univ.) and John Feldmeier (Youngstown State Univ.) rotated off. Their efforts on behalf of CSWA were much appreciated. Hannah Jang-Condell (Univ. of Maryland) completed her first term and requested a second. The AAS Council increased the committee membership from 8 to 10. The current members are: Joan Schmelz (Chair, Univ. of Memphis), Hannah Jang-Condell (Univ. of Maryland), Caroline Simpson (Florida International Univ.), Joannah Hinz (Univ. of Arizona), Wal Sargent (Caltech), Michele Montgomery (Univ. Central Florida), Ann Hornschemeier (NASA GSFC), George Jacoby (NOAO), Donald Kniffen (USRA), and Marc Postman (STScI).

Efforts at the 215th AAS Meeting in DC

CSWA hosted a special session on the **Longitudinal Study** of graduate students in astronomy. Pat Knezek (NOAO) gave some background about the survey, and Rachel Ivie (AIP) presented some initial results. The longitudinal study hopes to show whether feeling engaged within the department reduces the likelihood of dropping out of the program and whether the process of deciding to stay in astronomy is different for women and men. Here are some initial results:

1. Of the respondents, 447 are female, 696 are male, and 77% are U.S. citizens.
2. The median age is 27. Students have been in the graduate program ~3.5 years.
3. 53% of females use observations for research compared to only 40% of men.
4. 54% of women and 62% of men want to eventually teach at a university.
5. Graduate students interact with faculty on research, course materials, and career opportunities. However, graduate students are less likely to discuss their personal life, other graduate students, or their advisors with faculty members.
6. Students who are not mentored are less likely to feel welcome in their department. Students who are not mentored are more likely to feel they cannot succeed and they are not as smart as their peers.
7. Research Assistants with good lab equipment available to them feel they will make good researchers someday. Likewise, teaching assistants with ample opportunities to teach feel they will make good teachers someday.
8. Women are more likely to say that other people have helped them to succeed.
9. The longer a student remained in a program beyond three years, the less likely students think they will succeed and the more likely they are to be afraid that someone will determine that they don't belong in astronomy.
10. Women seem less likely to concentrate in theory or instrumentation.

The CSMA and CSWA co-sponsored two sessions devoted to an exchange of information and best practices on **mentoring**. The intended audience was astronomical researchers and faculty, as

well as students, who act as mentors to more junior colleagues, and who will continue to be mentors as they progress through their careers. These sessions, first presenting best practices and information, and the second, a participatory workshop led by University of Wisconsin astronomer Eric Hooper, were held in the morning and afternoon, respectively, on Wednesday, January 6, 2010. Both sessions were chaired by Dara Norman. Presentations from the workshop are available on the website:

<http://www.aas.org/cswa/JAN10/Mentoring.html>

Talks included: The NSF Postdoctoral Mentoring Plan Requirement (Dana Lehr, presented by Nigel Sharp); A Mentoring Toolkit: Tips and Tools for Mentoring Early-Career Researchers (Kathleen Flint); Learning to Become a More Effective Research Mentor for Your Trainees and Questions for Case Studies (Eric Hooper) . Hakeem Oluseyi provided an especially insightful and in-depth summary of the issues facing underrepresented groups. The sessions were well attended, reflecting a growing interest in mentoring. Funding agencies, public and private institutions, and individuals, especially those recently entering the field and among underrepresented groups, are all looking for advice to help in the development of mentoring skills and the creation of formal programs.

In an effort to ensure an opportunity for attending the AAS meetings and other professional society meetings for parents with small children, there needs to be a mechanism for allowing children to attend the meeting venue with their parents(s). In an effort to make the AAS meetings more family friendly an on-site **childcare** facility was made available for a nominal rate of \$8 per hour per child. The CSWA and the AAS advertised this service to ensure that all who wished to take advantage of this program were aware of its existence. It appears the initial use was modest and the AAS and CSWA hope that, through increased awareness and use by the community, it will become a regular feature of AAS meetings. The AAS will provide these on-site childcare services at the next two winter meetings. AAS data indicate the facility was used moderately, peaking at 10-12 children and infants during the middle of the meeting. The ages of the children ranged from 6 months through 12 years old. The CSWA considers this to be a good start, but more extensive use will only occur if this facility is made a regular feature of AAS meetings. The CSWA will work with the AAS to promote this as a standard service. This would be in the best interest of the society and its members.

Communication with the Community

This year, the long-time editor of **STATUS**, Fran Bagenal (Univ. of Colorado), stepped down after preparing the winter issue. A new issue of **STATUS** is planned for publication this summer under the guidance of interim editor Pat Knezek (NOAO). She will be paving the way for Katy Garmany (NOAO), who has agreed to take the role of lead editor for **STATUS** beginning this fall. Also joining the team as an associate editor is Arti Garg, an APS Congressional Fellow on leave from her postdoctoral position at Lawrence Livermore National Lab. This summer's issue will contain summaries and impressions from October's Women in Astronomy III meeting in Baltimore, including Rachel Ivie's results from the first survey of the Longitudinal Study, Adam Burgasser's look at mentoring, and Anne Kinney's meeting conclusions. There will be a reprint

of the important Peggy McIntosh article "White Privilege: Unpacking the Invisible Knapsack", as well as a book review, a Spotlight article, and more.

The CSWA publishes a weekly email newsletter called **AASWOMEN**. There are usually three co-editors who take weekly turns compiling items into the newsletter and mailing it out to the subscribers. For the 2009-2010 year, the AASWOMEN weekly email newsletter was sent to approximately 800 subscribers. A typical issue contains requests for information or advice, links to news items about women in science, announcements of honors and awards given to women in science, information about programs and meetings, and internships and job postings. Some of the topics covered over the past year included requests for information on research about women's salary negotiations, how to handle a hostile working environment, and on the numbers of women working in space-based vs. ground-based astronomy. Articles discussed included "Self-Doubt Plagues Women Astronomers," "Female Teachers May Pass on Math Anxiety to Girls," and "Progress, but Long Way to Go for Women in Science." The editors also published short summaries of several of the talks given at the Women in Astronomy and Space Science workshop given in October 2009, as well as publicizing posts made to the Women in Astronomy blog. Everything from childcare issues, workplace environment, work-life balance, how to negotiate, how to mentor, how to get more women and girls engaged in science, and historical women in science came up at least once in the newsletters over the past year. The AASWOMEN newsletter is also frequently used by employers seeking a more diverse workforce. Job postings at all levels from undergraduate internships through full professorships are a frequent feature in the newsletter. Over 20 such announcements have been published in the newsletter in the past 4 months alone.

The **Women in Astronomy Blog** has been up and running for just over two years now, with the first posting on April 17, 2008, though its official launch was in December 2008. The Blog is an effort by CSWA to update its outreach to the 21st century and to reach out to a younger and broader audience. Currently, the goals of the blog overlap those of the AASWOMEN: posting news articles and discussing issues of current interest. Blog entries are posted to AASWOMEN, and the AASWOMEN is regularly re-posted to the blog. The blogger-in-chief is Hannah Jang-Condell, although contributions also come from other members of the CSWA and other guest bloggers. Topics the blog has covered include soliciting advice from women astronomers, offering advice, reviews of conferences, discussion of studies on women in science, and general musing about the status of women in astronomy.

Strategic Plan

In November 2009, the CSWA created its first strategic plan to help ensure we tackle the most pressing challenges in a coherent way over the near and long terms. The over-arching objective of the CSWA is to work with the astronomical community to create a climate of equality of opportunity, which ultimately renders the existence of the CSWA moot. To move towards this lofty goal, the strategic plan is based on three basic tenets: 1) Women and men are equally talented and deserve equal opportunity, 2) Full participation of men and women will maximize excellence in astronomy, and 3) Gender equity will have been attained when the percentage of women in the next level of advancement equals the percentage in the pool.

A key component in drafting our strategic plan was to identify those obstacles to gender equality in astronomy that can be realistically and effectively addressed within the constraints posed by the limited human and financial resources of the CSWA. The outcome was to focus our long-range goals on addressing four key areas:

1. The importance of achieving a healthy work-life balance over the course of an astronomical career;
2. Broad and consistent implementation of institutional policies that address the two-body problem and breaks in the career advancement clock for astronomers who are also key childcare givers;
3. Identification, minimization, and, ultimately, elimination of unconscious bias throughout the community of employers, applicants, and students (e.g., mothers entering workforce are often viewed as less capable than equally qualified fathers)
4. Confronting the inequality in the male-female ratio in astronomy.

A prime CSWA strategy is to continue to engage in researching the available scientific data and statistics that have direct bearing on the development of guidelines that can mitigate these problems. The CSWA will also actively undertake steps to increase the visibility of women in astronomy by encouraging the nomination of women for AAS prizes and awards, encouraging high-school students and undergraduates to consider science as a viable and exciting career, and encouraging public outreach events aimed at girls. The CSWA will set up career mentoring sessions as well as special topical sessions on work-life balance and gender bias at AAS meetings. The CSWA will continue to support the Longitudinal Study, gather demographic data, and disseminate our findings and recommendations in our community newsletters, blogs, and website. The concise (4-page) 2009 CSWA strategic plan is available on-line at:

http://www.aas.org/cswa/CSWA_StratPlan_2009.pdf

Women in Astronomy III

Goddard Space Flight Center, together with the University of Maryland, hosted a meeting on 21-23 October 2009 at the University of Maryland Conference Center on the topic of women in astronomy and space science with a focus on not only gender but generation and minorities.

This meeting follows up on the "Women in Astronomy" meeting hosted by Space Telescope Science Institute in 1992 and the Pasadena meeting hosted by Caltech in 2002. The topics included: 1) statistics on the state of the field, establishing trends over the last 15 years including the "longitudinal studies" of age vs. makeup of the field and identifying areas for celebration or for concern; 2) research on the impact of gender/generational/cultural differences in the science workforce; 3) issues concerning the work environment and best practices for success of scientists in a diverse work force; and 4) a special session on issues of minorities in science, and women in Earth Science. There is evidence for considerable success in increasing the percentage of women in the field of science and so the aim was to focus on issues concerning the success of those in the field. This meeting highlighted best practices to help the diverse scientific work force to succeed, and addressed both the junior members of the field, as well as those who mentor and manage today's diverse scientific workforce. Information on this meeting is available at:

<http://wia2009.gsfc.nasa.gov>.

On-Line Presence

The CSWA has been working to increase our presence online.

1. Web page: www.aas.org/cswa

2. We are continuing our weekly email newsletter. To subscribe to AASWOMEN go to <http://lists.aas.org/cgi-bin/mailman/listinfo/aaswlist> and fill out the form. To submit items for inclusion in the AASWOMEN newsletter, send email to aaswomen@aas.org. Access to past issues of AASWOMEN is available on our web page at <http://www.aas.org/cswa/AASWOMEN.html>.

3. The Women in Astronomy blog is here: <http://womeninastronomy.blogspot.com/>.

4. Our Facebook page includes all of the entries on the Women in Astronomy blog and the AASWOMEN newsletter. You can find our page at: <http://www.facebook.com/pages/Committee-on-the-Status-of-Women-in-Astronomy/43977374494>