

Annual Report on the Committee on the Status of Women in Astronomy for 2013-2014

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The members of the 2013-14 Committee on the Status of Women in Astronomy (CSWA) are: Joan Schmelz (Chair, Univ. of Memphis), Michele Montgomery (Univ. of Central Florida), Laura Trouille (Northwestern Univ./Adler Planetarium), Nancy Morrison (Univ. of Toledo), Ed Bertschinger (MIT), David Charbonneau (CfA), Neil Gehrels (NASA-GSFC), Meredith Hughes (Wesleyan Univ.), Jessica Kirkpatrick (InstaEDU), Nick Murphy (CfA), Nicolle Zellner (Albion Coll.), and John Johnson (CfA).

Caroline Simpson (Florida International Univ.) rotated off the committee, and John Johnson (CfA) joined the committee.

Activities at the 222nd AAS Meeting in Indianapolis, IN

CSWA chair Joan Schmelz hosted a Town Hall meeting on Unconscious Bias, Stereotype Threat, and Imposter Syndrome. Women and other underrepresented groups in astronomy can face a powerful combination of hidden obstacles. With unconscious bias, men and women both unconsciously devalue the contributions of women. This can have a detrimental effect on grant proposals, job applications, and performance reviews. Stereotype threat is the anxiety women face in a situation where they have the potential to confirm a negative stereotype about women as a group. This anxiety alone has been documented to result in lower scores on standardized math tests. Highly competent women may also face impostor syndrome, finding it impossible to believe in their own competence. They live with a fear of being discovered. The CSWA Town Hall at the Indianapolis AAS meeting discussed these issues in the context of the AAUW report entitled, *Why So Few? Women in Science, Technology, Engineering, and Mathematics*. It also included group discussion as well as questions from the audience. The slides from the presentation are available on the CSWA web site:

http://www.aas.org/cswa/jun13/CSWA_TownHall_2013.pdf

Activities at the 223rd AAS Meeting in Washington, DC

CSWA member Meredith Hughes gave a talk at the Town Hall entitled "Portrait of a Generation of Women in Astronomy." The presentation summarized the results of the 2013 demographics survey and included them in a longitudinal analysis with data collected by CSWA and STScI in 1992, 1999, and 2003. The session presented two decades of data on the representation of women at all levels in a sample of institutions that employ a large fraction of PhD astronomers in the United States, and invited discussion about the implications of the survey results for policy in our field. It was attended by approximately 60 members of the AAS, including senior faculty members from a wide range of astronomy departments. It catalyzed a lively discussion and ended with a call to action to bring the results back to individual departments so that they can

examine how they stack up against the field as a whole. Slides from the talk are available on the CSWA web site:

<http://www.aas.org/cswa/Jan14/CSWAtownhall.pdf>

Other Meetings

In September 2013, CSWA was invited to participate in a professional development program, Pathways to Success, for the Astronomical Society of Australia's Women in Astronomy Workshop. Since the meeting was held in Perth, Australia, CSWA member Nicolle Zellner participated remotely, presenting a talk on the history of CSWA and its current role in promoting the status of women in astronomy.

The resources of CSWA were also promoted at the women's networking events at the October 2013 meeting of the Division for Planetary Sciences Meeting in Denver, CO and at the March 2014 Lunar and Planetary Science Conference in The Woodlands, TX. At the DPS meeting, the topic of discussion was leadership, and at the LPSC meeting, the topic of discussion was harassment. At the latter meeting, the CSWA site visit program (see below) was advertised. About 100 people attended each meeting.

Status Magazine

At the end of 2013, Nancy Morrison took over as Editor of CSWA's semi-annual magazine *Status*, and Katy Garmany assumed the post of Associate Editor. All the other editorial personnel remained the same: Joan Schmelz (Univ. of Memphis) as acquisitions editor; Pat Knezek (NSF) and Joannah Hinz (Univ. of Arizona) as associate editors; and Meg Urry (Yale Univ.) as contributing editor.

All-electronic publication as a PDF document continued; in addition, individual articles are now being posted as separate PDF documents so that they can be more easily referenced on the Web. In addition, selected articles are being posted in their entirety to the Women in Astronomy blog so that readers can post comments.

In the past, *Status* was assembled into magazine format by the staff at the AAS Executive Office, especially Crystal Tinch, whom we thank for her excellent service. In view of the change to all-electronic publication, it makes sense to do the desktop publishing ourselves. Nancy Morrison began doing so with the 2013 June issue.

The 2014 January issue (which appeared in February) included: a report by A. Meredith Hughes on the CSWA's 2013 demographics survey of astronomers at universities and national research facilities; an article by Meg Urry on unconscious bias; the second article in a series by Nancy Morrison on the history of women in modern American science; a summary and commentary by Johanna Teske on a NextGen VOICES piece in *Science* magazine; and an article by Dara Norman on unreported sexual harassment.

During the past year, total visits to the *Status* web site:

<http://www.aas.org/cswa/STATUS.html>

numbered (according to Google Analytics) 809, not including visitors who accessed the PDF files via the direct link. Google Analytics now enables users to record visits to PDF documents, and this feature will be used in the future to count downloads or views of each issue of *Status*.

***AASWomen* Electronic Newsletter**

The CSWA continues to publish a weekly email newsletter called *AASWomen*. In 2013, Michele M. Montgomery replaced Caroline Simpson as Senior Editor. Now the other regular editors are Daryl Haggard (non-CSWA member), and Nick Murphy, as well as Nicolle Zellner, who joined the editorial staff in 2013. Also in 2013, we added as guest editor another non-CSWA member, Elyse Voyer, who just finished a postdoc at the Laboratoire d'Astrophysique de Marseille and has since returned to the USA.

A typical issue of *AASWomen* contains cross-posts of commentaries from the Women in Astronomy Blog; information about AAS special sessions, including CSWA events; requests for and responses to information and/or advice; links to news items about women in science; announcements of honors and awards given to women in science; information about upcoming programs and meetings; proposed bills or policy changes affecting women in science; and links to internship and job opportunities. Topics covered within the past year include:

- Advice on responding to bullying, sexual harassment, and unprofessional behavior
- Updates to the CSWA web pages on the statistics of invited women speakers at conferences and the numbers of women with tenure in astronomy
- Information on family leave policies and childcare for graduate students and postdocs
- Research and news on gender and unconscious bias
- Invitation to participate in the CSWA-led survey on two-body careers and other surveys
- Academic and non-academic career paths in astronomy

To increase readership, the newsletter is cross-posted on the Women in Astronomy Blog, and *AASWomen* editors now oversee some of these cross-posts. The newsletter is also cross-posted on the CSWA Facebook page and sometimes on Twitter. *AASWomen* also lists the table of contents of each new issue of *Status*.

As of April 2014, *AASWomen* increased its readership to 1143, growing by 93 since 2012 to include more international subscribers. The newsletter's archives can be found at

<http://www.aas.org/cswa/AASWOMEN.html>

Women in Astronomy Blogspot

The Women in Astronomy Blog has continued to increase its readership and the range and frequency of its posts since its inception in May 2008. We now publish a new blog post at least three times a week and receive an average of ~10,000 visits per month (twice as many as last year). The average post receives 1000 page views (almost 3 times the average of last year). Our

rotation of bloggers includes current members of the CSWA (Ed Bertschinger, Dave Charbonneau, Neil Gehrels, John Johnson, Jessica Kirkpatrick, Joan Schmelz, and Laura Trouille) and over a dozen external contributors. Our writers span career stages from graduate student to full professor and include astronomers who have moved to careers outside academia. As a result of the diversity of our contributors, the blog is highly effective in addressing concerns, providing relevant resources, and giving advice to our readership across a wide range of career stages. Some of the most popular topics discussed this past year include sexual harassment, affirmative action, two-body problems, job/career advice, unconscious bias, impostor syndrome, stereotype threat, and academic bullying. The Blog is linked to share entries on Facebook, Twitter, Google+ and LinkedIn, which has increased our readership and exposure significantly. We are also seeing significant discussion of the blog posts in several Facebook Groups (Astronomers, Diversity in Physics and Astronomy) and LinkedIn Groups (AAS, APS, APS Women). Indeed, these discussion fora have resulted in significantly more comments than can be found in the comments section associated with the blog itself. We have partnerships with other professional science blogs such as AstroBetter, Lady Paragons, and Women in STEM, which further increases our exposure and diversifies our readership. The blog had a redesign this past year which included a different layout, fonts and color-scheme, photos of the contributors, popular posts, popular topics, and advice sections.

<http://womeninastronomy.blogspot.com>

Twitter & Facebook

Activity on the AAS CSWA Twitter account (@AAS_Women) again increased during the year, and followers have accrued at an increased rate. By mid-April, the account had 543 followers, to be compared with 274 followers a year earlier. Research on the demographics of our followers is in progress. Our Facebook page

<https://www.facebook.com/pages/Committee-on-the-Status-of-Women-in-Astronomy/43977374494>

likewise experienced growth in activity during the past year. As of April 9, 2014, it had 902 total 'Likes,' having received an average of 4.4 new 'Likes' each week during the preceding six months. Anywhere from 50 to nearly 400 people clicked on, liked, commented on, or shared the page each week (mean: 146.5, median 97). Most of the posts on this page are cross-posts from the Women in Astronomy blog.

CSWA Web Site

Compared with last year, the site underwent only modest development. The statistics pages on invited women speakers at conferences and on tenured faculty and scientific staff members continued to be updated on an occasional basis. No new resource pages were added, and the number of updates to the existing pages was smaller than last year. A reorganization of the resource pages is planned. The most popular resource page continued to be Unconscious Bias, which received 1,987 visits during the past year according to Google Analytics.

More results from Google Analytics are as follows. Total visits to the site during the 6-month period ending Oct 9, 2013 vs. that ending April 9, 2014 were 4,603 vs. 5,472, an increase of 19%. Although most of these visitors came from the US, there were major increases in the number of visitors accessing the site from the UK (380 visitors during the second six-month period), India, Australia, and Canada (about 200 visitors each). In both time frames, about 60% of the visitors were new.

The Google Analytics results on referral traffic are interesting. During the second half of the year, 397 visitors came from the "Thank You" page on the two-body survey on surveymonkey.com. The second largest source of visitors was the Women in Astronomy blog, which yielded about 150 visitors during each of the two six-month periods. Another major source of traffic is Twitter.

CSWA 2013 Demographics Survey

The latest CSWA Demographics survey of PhD-producing astronomy/astrophysics departments and research institutions in the US concluded this year. Data collection was completed by early summer 2013. Data analysis occurred during summer and fall 2013, with the help of volunteers Julia Kamenetzky, Brian Morsony, Karly Pitman, Stephanie LaMassa, and Johanna Teske. They combed through the data, checked work, and suggested new investigations for the analysis. The results were disseminated primarily via: a Town Hall at the 223rd AAS Meeting in Washington, DC (see above); and an article in the January 2014 issue of *Status*. In addition, the survey results were discussed in a post by CSWA member Dave Charbonneau on the Women in Astronomy Blog:

<http://womeninastronomy.blogspot.com/2014/03/do-women-have-advantage-in-faculty.html>

They were also mined for information about the astronomy career pipeline by Eric Bellm on his astrostatistics blog:

<http://bellm.org/blog/2014/03/18/how-is-the-us-astronomy-career-pipeline-changing/>

CSWA Survey on Two-Body Careers in Astronomy

In 2013-2014, CSWA conducted a survey on dual-career academic couples - colloquially referred to as the 'two-body problem.' This survey effort was led by Erica Rodgers of the Space Science Institute (SSI) with assistance from CSWA members, particularly Nick Murphy. The goals of this survey are to gauge the difficulties that dual career couples face when trying to find employment in geographic proximity to each other, and to determine the extent of any gender disparities. The survey opened on October 11, 2013 and was advertised in the *AASWomen* and SSI newsletters, the Women in Astronomy Blog, the CSWA facebook group, the CSWA, AAS, and AstroBetter websites, the AAS News Digest, and the CSWA's town hall during the January 2014 AAS meeting. The survey closed on January 31, 2014 with approximately 600 responses. Approximately 22% of the people surveyed reported living in a separate location from their spouse or partner. The majority of the non co-located respondents are female (69%), and 43% of

the non co-located group reported that their partners also work in science, with 24% in astronomy or a related field. Analysis of the survey results continues.

AAS Career Profiles Interview Project

In collaboration with the AAS Committee on Employment, CSWA member Laura Trouille spearheaded an effort to compile dozens of interviews highlighting the diversity of career trajectories available to astronomers both inside and outside academia. The interviews share advice and lessons learned from individuals who have gone on to careers in administration, consulting, data science, defense, finance, government, industry, management, museums, national labs, science communication, software, teaching, academia, and more. For access to all fifty Career Profiles accrued to date, visit

<http://aas.org/jobs/career-profiles>

We post a new Career Profile every Thursday to the Women in Astronomy Blog and the AstroBetter website and expect to continue posting new profiles through at least January 2015.

CSWA Climate Site Visits for Astronomy Departments

At the AAS meeting in Indianapolis, IN in June 2013, the AAS Council approved a proposal by CSWA to implement climate site visits for astronomy departments. At a department's invitation, a small team appointed by the CSWA will conduct preliminary surveys of department personnel at all levels. Then, during the visit, the team will interview department members in order to identify problems that may be impeding the progress of women and other underrepresented groups in that setting. It will summarize its findings in a confidential report to the department chair. The proposed program is modeled on the highly successful visits done by the Committee on the Status of Women in Physics (CSWP) for physics departments, as described in the CSWP index, procedures, and summary web pages:

<http://www.aps.org/programs/women/sitevisits/index.cfm>

The goals of the CSWA's visits will be to: increase the committee's knowledge about problems experienced nationally by women students, postdocs, and faculty in astronomy; work with departments to identify problems; suggest means by which the department might solve those problems; and improve the climate for women generally. Details about the program can be found in these documents:

<http://www.aas.org/cswa/SiteVisits-policy.pdf>

<http://www.aas.org/cswa/SiteVisits-procedures.pdf>

The CSWA has formed a subcommittee on climate site visits, chaired by Ed Bertschinger.