

## Consider Nominating a Woman for an AGU Award

There are many ways to acknowledge scholarly achievement. One of the most prestigious is through professional society awards. Such awards recognize the achievements of society members and are important for career success. Any AGU member, even student members, can nominate someone to be a Fellow or awardee. In fact, some award, medal, and prize nominations are even open to the public.

In 2012, 165 men (92%) and 14 women (8%) were nominated to become Fellows. Of the 61 new Fellows, 57 were men and 4 were women, roughly in proportion to their nomination numbers. Why are so few women nominated? There are many possibilities. Overall, women members are newer to the profession. Possibly, they haven't had the time to achieve the professional stature to be recognized. Alternatively, the accomplishments of women may be overlooked, and they aren't nominated.

A requirement for nomination to Fellow is AGU membership. In 2011, women composed about 24% of the AGU membership. The percentage of female AGU members roughly follows the U.S. Earth, atmosphere, and ocean sciences (EAOS) Ph.D. percentage, with about a 15-year lag (Figure 1a). In 1996 and 1997, about 23% of EAOS Ph.D.s were earned by women, in keeping with 2011's 24% female AGU members.

At what point is someone likely to become a Fellow? AGU does not maintain a database of age or Ph.D. year for awardees. Fortunately, curriculum vitae are available for most U.S. academics at departmental Web sites. They are more difficult to find for Fellows at national facilities and non-U.S. institutions. By using Ph.D. year, my intention is to show that a substantial number of women have already spent a major portion of their careers in geoscience. This number should be viewed as an indicator for discussion, not as a precise benchmark.

Figure 1b shows the percentage of women elected as Fellows between 1991 and 2012. It includes those becoming Fellows by receiving an AGU medal. Also plotted is the percentage of female EAOS Ph.D.s in the United States, with a 26-year lag; that is, a Ph.D. earned in 1986 is plotted at 2012. There is wide variation (0–16%) from year to year in the percentage of new Fellows who are women. Because the number of Fellows is limited to 0.1% of the membership, differences in percentage usually reflect 1 or 2 people. Sixteen years ago, when the proportion of female Fellows peaked, 5 of 31 Fellows were women. There is no record of how this happened, but it may have been in response to *Druffel* [1994] describing the mismatch between awards given to women and men in the same age cohort. It is possible that her paper alerted AGU members to the disparity and it was dramatically corrected, even overcorrected, in 1996.

In 2012 the disparity between the percent of Ph.D.s earned by women 26 years earlier and the percent of new Fellows who are women is larger than it was in 1994. Of 61 nonmedalist Fellows, only 4 were women. But there is an interesting difference between 1994 and 2012, which supports the hypothesis that women may be overlooked. In 1994 one woman became a Fellow, and there were zero female medalists. In 2012 four women were elected as Fellows, and there were three medalists, including two who became new Fellows, a total of six new female Fellows. This suggests that the two female medalists who were not already Fellows may have been previously overlooked as Fellow candidates.

The first female AGU medalist, Inge Lehmann, became both a medalist and Fellow in 1971, at age 83, clearly an example of having been overlooked for nomination to become a Fellow earlier. The second female, non-Macelwane medalist, Margaret Shea, was not selected until 1998, and she also became a Fellow that year. In total, 13 women have received AGU medals (excluding Macelwane medalists). A continued look at this data supports the hypothesis that women are overlooked for honors, especially election as Fellows. During the past 5 years, excluding Macelwane medalists, 41 men and 5 women (11%) have become medalists. Three women were recipients in 2012, zero in 2011 and 2010, and one each in 2009 and 2008. Of the 41 male (non-Macelwane) medalists, 15% (6) became new Fellows. Of the female medalists 40% (2) became new Fellows. These were two of the three 2012 female medalists.

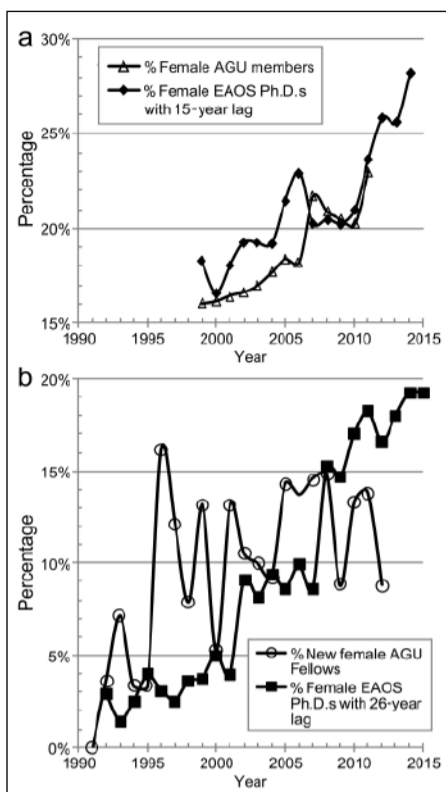


Fig. 1. (a) The percentage of female AGU members by year roughly coincides with the percentage of Earth, atmosphere, and ocean sciences (EAOS) Ph.D.s, with a 15-year lag. (b) The percentage of newly elected AGU Fellows who are women is plotted by year with the percentage of U.S.-granted EAOS Ph.D.s, with a 26-year lag (e.g., percent of female Ph.D.s in 1986 is plotted at 2012).

With such small numbers, it is impossible to identify a specific cause. But, again, as with the response to *Druffel* [1994], which possibly increased the number of female Fellows, the increased number of female medalists may have been in response to *Holmes et al.* [2011]. Their brief report described the results of an Association for Women in Science (AWIS) analysis, which depicted underrepresentation of women among awardees of four scientific societies that cannot be explained by the percentage of women in the field. One possible reason for this underrepresentation could be unconscious biases. As shown by *Moss-Racusin et al.* [2012], gender biases are common to both men and women. Practices to reduce these biases in award nominations and selections have been developed by AWIS. This information, presented in *Eos* by *Holmes et al.* [2011], may have alerted AGU members, especially those on awards committees, to identify remarkable female scientists. Both of the female medalists who became new Fellows were more than 26 years post-Ph.D., suggesting that they may have been overlooked for earlier nomination to become a Fellow despite their achievements. Having been overlooked earlier, they became Fellows through the less common route of becoming medalists.

In her recent note to the membership ([http://www.agu.org/about/presidents\\_msg/](http://www.agu.org/about/presidents_msg/)), AGU president Carol Finn said that the focus of her presidency would be to engage AGU members in many ways, including with one another. What better way to engage with one another than to nominate outstanding colleagues, male and female, for an AGU award? The details of the nomination process and the components of the nomination package are at <http://sites.agu.org/honors/fellows/fellows-nomination-criteria/>. I have never nominated anyone for an AGU award and plan to change that before 31 March 2013. How about you?

### References

- Druffel, E. R. M. (1994), Looking at gender distribution among AGU Fellows, *Eos Trans. AGU*, 75(37), 429, doi:10.1029/94EO01062.
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