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$1 million NSF grant funds grassroots support network for women geologists

Women in the male-dominated earth sciences often experience isolation and low self-confidence. Now, a Brown-based peer support network is helping them succeed.

ESWN leadership board members are, from left: Amanda Staudt, Arlene Fiore, Tracey Holloway, Meredith Hastings, Christine Wiedinmyer, and Allison Steiner. (Missing: Erika Marin-Spiotta.)

Over dinner seven years ago during the American Geophysical Union meeting in Washington D.C., six earth scientists, young women all, made a loose pact. They had seen each other before, at various scientific conferences; some had even collaborated on research. This time, though, they vowed they would keep in touch.

Communicating mostly by email, they discovered they had a lot to talk about. They came to rely on each other for advice in a field dominated by men.

It was a support group of sorts, recalls Meredith Hastings, assistant professor of geological sciences, who was at the dinner. "You could talk about your research and your personal life, and issues you faced in graduate school."

Inviting others to join their ad-hoc group, the women realized they were hardly alone in facing career challenges in the earth sciences. There were barriers to advancement, both unseen and deliberate. There was frustration about balancing a career and a family. There was a paucity of female role models in their field. And there were issues that only a woman would have to navigate: How, exactly, do you approach your boss in a mostly male workplace about creating a private area for pumping breast milk? "We clearly struck a nerve with early-career women," Hastings says.

From those conversations grew the Earth Science Women's Network (ESWN), a peer-mentoring organization of female students and geoscientists in academia, government labs, and private and nonprofit organizations. This month, the National Science Foundation awarded the group nearly $1 million over four years to expand its activities and outreach.

Brown will receive most of the grant money, just under $600,000, to host and support the network, which now has more than 750 members. The funds will sponsor career development workshops, promote professional networking opportunities, and create Web-based resources to connect more women geoscientists. The NSF award "takes us to that next stage that helps us with mentoring and elevating women in science," says Hastings, principal investigator for the grant.

Brown Associate Provost Pamela O'Neil, who wrote a letter supporting the proposal, says women scientists often feel isolated. "The network provides a mechanism for women to talk about critical issues they face in their careers," O'Neil says. "The value is that it helps keep women in science."

The funding comes as the NSF, through its ADVANCE program, seeks to increase the number of women who study science. There have been gains, such as a recent rise in the number of women scientists earning Ph.D.s. But, Hastings says, "we don't see the same percentage of women getting into senior positions."

This so-called "leaky pipeline" was examined in a 2007 report from the National Academies, Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering. The study committee, which included Brown President Ruth J. Simmons, discovered a number of factors behind women's lack of progress in the sciences. They included:

-Women who are interested in science and engineering careers are lost at every educational transition.

-Women on average hold less than 15 percent of tenure faculty positions in the social, behavioral, and life sciences, and dramatically less than that in all other fields of science and engineering. Women are very likely to face discrimination in every field of science and engineering.

-Women faculty are paid less, promoted more slowly, receive fewer honors, and hold fewer leadership positions than men – discrepancies that are not based on any of the standard measures of performance.

Other, more subtle career inhibitors include a tendency among women geoscientists to feel obliged to engage in activities that divert them from their research. "It tends to be an issue with women scientists in general," says Christine Wiedinmyer, a scientist at the National Center for Atmospheric Research who is on the ESWN leadership board. "We get asked to do a lot in the community and for our organizations. Partially it's because women are needed [for diversity], and there aren't a lot of us to serve." In addition, she notes that women are often good at outreach – another reason they're valued in committees and service.

Hastings says the ESWN also has discussed the complicated emotions women face in balancing professional and personal lives – a choice, as she calls it, between their "biological clock and their tenure-track clock." Such hard decisions can deter women from pursuing senior or tenure-track posts.

The network, Hastings says, will act as a sounding board for early-career women geoscientists, whom she calls "the voice of a generation." She adds, "I want that voice to be heard."

In September of 2009, Brown University published an article celebrating ESWN's $1 million NSF grant to help women in the geosciences succeed.