

Travel Grants to Women Researchers Led to International Scientific Collaborations and Research Productivity

From 2001-2003, 193 U.S. women scientists and engineers received small grants to nurture international research collaborations. The grants, funded by the National Science Foundation and administered by AAAS, allowed their recipients to establish international research partnerships in more than 60 countries. A new report titled "Evaluation of the AAAS Women's International Scientific Cooperation (WISC) Project" by Yolanda George and Shirley Malcom of AAAS and Lisa M. Frehill of CPST provides details about the program and its impacts.

With no more than \$5000 in seed money, the participants in the Women's International Scientific Cooperation (WISC) project came up with creative ways to meet with their foreign collaborators. Their efforts led to published research papers and presentations at international scientific conferences. And at the 2009 Women and Minorities in Science Networking Breakfast, held during this year's AAAS Annual Meeting in Chicago, speakers shared data showing how women are less likely to have international research relationships. But there are strategies that can make these valuable collaborations more accessible to women.

"We are living in unprecedented times, when our major problems and their remedies are global in scope and scale," said Vaughn Turekian, chief international officer at AAAS and director of the AAAS Center for Science Diplomacy. Turekian leads the AAAS International Office, which helped implement the WISC project, and he spoke at 14 February Women and Minorities Networking breakfast. He noted that science and technology can provide both understanding and solutions to challenges such as climate change, health, and innovation. "It is during such times that international science cooperation becomes ever more important," he said.

The National Science Foundation's 2006 Survey of Doctorate Recipients showed that women with Ph.D.s doctorates are less likely to collaborate internationally than their male counterparts. John Tsapogas, program manager at the National Science Foundation, presented these preliminary results at the 14 February networking breakfast held in Hyatt Regency Chicago. In his studies of women in international collaboration, Tsapogas has also found that foreign collaborators are more likely to travel to the United States than for U.S. collaborators to travel abroad.

The Women's International Scientific Cooperation project promoted international science collaborations, particularly for women researchers who had recently earned their doctorate degrees. At most, researchers received \$5000 to plan and develop research projects with foreign collaborators.

The awardees—scientists and engineers—visited 220 research partners in 63 countries on every continent except Antarctica. "Science is a global activity. It is hard to build meaningful collaborations just e-mailing each other," said Shirley Malcom, head of Education and Human Resources at AAAS. "Sometimes you've got to pull out the passport, get on the plane and go work with people where they live and work."

Participants used the funds to study plate tectonics in New Zealand, discuss chip-stacking technology with electrical engineering colleagues in Scotland, and collect white, flake-like microorganisms from desert waters in Mexico. Carmen Ulloa Ulloa, associate curator at the Missouri Botanical Garden in St. Louis, used her 2003 WISC grant for a three-week trip to obtain pilot data for a grant proposal on plants endemic to Ecuador. WISC recipients also traveled to Washington, D.C., to attend professional development workshops organized by AAAS.

"It's not just about wanting a trip. It's about relationship-building," Malcom said at a WISC workshop in September 2007. She emphasized the importance of women being present at international meeting. "Go to international meetings. It helps build international ties and increases your value in your home university and department," she told the WISC participants. She also recommended volunteering at international meetings. "Get known as someone who delivers," Malcom said.

The original WISC program closed when the NSF funding to AAAS was used up, but there are plans to seek new funds. "We think the program was very productive for both the women scientists and engineers involved and

the institutions that they worked with,” said Yolanda George, deputy director and program director in AAAS’s directorate on Education and Human Resources.

With a simple application form and a quick turnaround, the WISC grant process can be a foot in the door to larger grants, especially for recipients at smaller colleges and universities, said Lisa Frehill, executive director of the Commission on Professionals in Science and Technology. The process of writing the WISC grant, which had a stream-lined process, built confidence to move toward writing larger grants, she said.

Commissioned by AAAS, Frehill compiled and analyzed follow-up surveys from the WISC participants to assess the processes and impact of the program. The results from the 83 WISC participants who replied to the surveys were presented at the February 14, 2009 Women and Minorities Networking breakfast.

Most respondents reported progress in research productivity following their WISC grant: 65% of them co-authored a publication with their foreign collaborator and 86% made presentations at international science and engineering meetings.

Following their WISC grants, 57 of the 83 respondents applied for additional funds from other sources. Of the 57 respondents who applied for additional funds, 42% collectively received more than \$4.3 million with individual grants ranging from \$1600 to \$1.2 million and averaging \$143,117. Nearly half of the respondents continued their international research collaboration without funding.

Many respondents indicated that even at \$5000, the travel grant alone was not enough money to fund the trips and research expenses.

And so, said Frehill, “there were interesting strategies that the women came up with to stretch their funds. Staying in the home of their foreign collaborator or funding a trip for their foreign collaborator to come to the United States were among the creative strategies used. “There’s something to be said for pushing people to figure things out,” Frehill said.

Besides, she said, if the WISC grant had been for more money—say \$20,000—then the grant process would lose its unique, streamlined features. A larger maximum grant might attract a different pool of applicants and dissuade women researchers at smaller institutions.

The WISC follow-up survey also showed that 70% of recipients limited their visits to their foreign collaborator to three weeks, possibly easing childcare responsibilities back in the United States. Malcom and George wrote in the WISC report that “...the streamlined grants process for short term stays seems to make international science and engineering collaborations easier and more accessible for women scientists and engineers.”

On the Web: <http://www.aaas.org/programs/international/wist/>

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