

Studying networks to help women succeed in science

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For women in science and research, finding a network of colleagues in their specialized area might be difficult: relevant researchers and activists can be spread across generations, cultures and continents. Finding a mentor within this group proves particularly difficult for young women and minorities.

Northwestern University's Noshir Contractor will discuss his network research in a presentation titled "Understanding and Enabling Networks Among Women's Groups in Sustainable Development" at the American Association for the Advancement of Science (AAAS) annual meeting in Boston.

Contractor, the Jane and William White Professor of [Behavioral Sciences](#) and professor of industrial engineering and [management sciences](#) in the McCormick School of Engineering and [Applied Science](#), is using his network expertise to help women succeed in research.

He has examined both the determinants that help women persist in networks and the role of social networks among women who work in the specialized area of gender and sustainability. Now, he and his team, including Gillian Bowser, a research scientist at Colorado State University, are working to implement a social media recommender system for this group that will enhance cross-cultural mentoring.

Contractor studied members of the National Science Foundation-funded Global Women Scholars Network (GWSN), many of whom have

attended the World Congress on Sustainable Development, which has met every 10 years (in 1992, 2002 and 2012). The GWSN focuses on women who participate in sustainability through research, scholarship, mentoring and community-based action. GWSN also is interested in how sustainability differentially affects women's roles and participation in [science](#) and policy around the world.

The network is unique in that it involves scientists, policymakers, analysts and activists from all ages and regions of the world. But that makes collaboration and mentoring more difficult—particularly for younger women looking to penetrate the old guard.

Contractor and his research group attended the most recent conference and conducted one-on-one interviews with attendees to determine their social makeup.

"We wanted to find out, who are the leaders? Who are the brokers? Who brings people together?" Contractor said. Contractor found obvious groupings among people from developed countries and found a need to create an opportunity for younger women and minorities to enter those groupings.

Using that data and data from the GWSN's Facebook and LinkedIn pages, Contractor is building a social media recommender system that would help connect mentors and mentees, specifically for less-established groups. He has previously built similar systems for scientific collaborations; now he is determining how he can alter his algorithms to also work for recommending mentoring relationships.

"Our system will ultimately enhance cross-mentoring of grassroots [women](#) among academics, policy leaders and students in the globally scaled knowledge network for sustainability," Contractor said. "It also will help us understand how to promote mentoring among networks in

other interdisciplinary career fields."

Provided by Northwestern University

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