

Scientists want to bridge public divide

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There's a disconnect between the goals and the delivery of scientific outreach and its actual impact. In recent years, communication around diseases like COVID-19 and a growing mistrust in science have made that gap even more apparent.

To better understand where these disconnects occur, Northwestern University scientists conducted a survey of 530 graduate students, postdoctoral fellows, faculty and staff at U.S. [academic institutions](#) to examine their motivations and barriers to participation in [science outreach](#).

Science outreach, sometimes referred to as public engagement with science, creates connections between scientific and non-scientific communities. The study, published today in *Frontiers in Communication*, found scientists and academic institutions can use science outreach as a way to promote diversity, equity, accessibility and inclusion within STEM fields.

Women, people of color and people from marginalized groups remain underrepresented in the scientific workforce, said first author Nicole Woitowich, a research assistant professor of medical social sciences at Northwestern University Feinberg School of Medicine.

"This impacts not only who gets to participate in scientific discovery, but also who benefits from it," Woitowich said. "Science outreach helps build a two-way street where we can begin to break down these barriers."

While more than 90% of respondents participated in science outreach to promote diversity, equity, inclusion and accessibility or because they found it personally rewarding, they cited lack of time and funding as major barriers. Women, who spent more time engaging with the public than men, were more likely to overcome these challenges.

This breakdown may reflect how women are trying to make the scientific workforce more inclusive for the next generation. But, by participating in science outreach, women might hinder their own professional advancement, depending on how academic institutions do—or don't—incentivize outreach, Woitowich said.

"Scientists agree that public engagement with science is great and important for our society, but it is not often valued by tenure and promotion committees," Woitowich said. "This is widening the gender gap in academia that women are ironically trying to solve through science outreach."

Building better systems

The survey intentionally included academic staff to see how groups other than students and faculty contribute to science outreach. In fact, 50% of staff reported participating in science outreach at a high frequency, implying outreach roles are increasingly becoming part of the academic research architecture.

"Staff may be key drivers of public engagement with science at academic institutions," Woitowich said. "This helps us learn how institutions are integrating science outreach into their infrastructure."

Working with staff to learn better ways to communicate with the public also could solve scientists' insecurity with [public engagement](#). Most scientists reported in the study that they had no formal training in science outreach but would like to have it.

"We need academic institutions to financially invest in the training and resources needed for effective science outreach," Woitowich said. "It's nice to have [good intentions](#), but you actually have to back it up with commitments to promote meaningful and culturally mindful engagement."

Looking at existing models

Northwestern is beginning to create an infrastructure that resembles

Woitowich's vision. The Science in Society program at Northwestern promotes mentorship and STEM learning for K-12 youth. Jeanne Garbarino, a corresponding author on the paper and a biochemist at Rockefeller University, directs science outreach at RockEDU, another innovative model aimed at engaging non-experts of all ages.

Even so, it can be difficult for scientists to know where to turn when they have something to share. The team hopes now that some basic research has been completed, further research by implementation scientists (a type of research that looks at the best way to get effective interventions into the hands of the most people) will develop tools to track effectiveness of outreach programs, help further [best practices](#) and create cohesive programs across academic institutions, rather than one-off programs.

More information: Nicole C. Woitowich et al, Assessing motivations and barriers to science outreach within academic science research settings: A mixed-methods survey, *Frontiers in Communication* (2022). [DOI: 10.3389/fcomm.2022.907762](https://doi.org/10.3389/fcomm.2022.907762)

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