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Training undergraduate researchers in science communication

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Participation by undergraduate students in research has been shown to have multiple benefits, starting with improved grades and increased retention, but extending further into their careers by increasing completion of advanced degrees. One additional benefit of undergraduate research is that it provides opportunities for students when they share results of their work to learn how to communicate science.

The United States National Science Foundation (NSF) supports a large network of Research Experiences for Undergraduates (REU) sites across the country that host undergraduate students (usually during summer) allowing them to gain experience conducting research, as well as obtain professional development training. The program particularly targets students who do not have opportunities to engage in research in their home institutions.

REU Site: Environmental and Earth Systems Research at Biosphere 2 based at the University of Arizona takes advantage of the unique Biosphere 2 facility to offer research opportunities at the intersection of geosciences and ecology. Another unique aspect of this program is that students have a wide range of opportunities for science communication. These include formal research presentations at the undergraduate research symposium, as well as a professional meeting of their choice. However, there are also multiple other, more informal, venues. Students make social media posts, including videos of their day-to-day engagement in research or quick updates on the progress of their work. They talk to the visitors at Biosphere 2 as they pass by, giving short summaries of substance and importance of their research. As they do, they often serve as positive role models that show visitors, particularly young visitors, that scientists may not fit their expectations and they may become scientists, too. Through all of this, students are guided and trained by their research mentors and Biosphere 2 staff, and also receive professional presentation skills training. Students also work with the outreach organizations at the University of Arizona that specialize in connecting research to stakeholders. Upon completion of the program, students have obtained training and experience in communicating science to diverse audiences.