

# Scientists Need to Talk to the Public

And plenty of resources are available to help them learn how to do it well



*By Esther Ngumbi on February 21, 2019*

Recently, I gave a talk on volatile organic compounds as multitrophic messages among plants, microbes and insects at the University of Illinois at Urbana-Champaign. This seminar was attended by graduate students and faculty members from science and non-science departments, and the topic probably sounded technical and daunting to the non-specialists in the audience.

But when it was over, several of them came up to me to say my presentation was “inspiring.” The reason: as someone who cares deeply about effective science communication, and with the help of my mentor, May Berenbaum, I spent weeks preparing for my talk, trying hard to simplify the science I was going to present into language that would be easily understood by non-scientists. So, for example, I compared volatiles and volatile organic compounds to 911 calls. I explained that in nature, 911s frequently go out from plants, insects and even soil microbes. Many of these are distress calls, made by plants that are being eaten by insects, or going through other stresses, such as drought. Many organisms, including the natural enemies of herbivorous insects, listen to these highly specific coded messages. Plants talk through volatiles. Insects talk through volatiles. I shared how my research has focused on deciphering the identity of the signals and the organisms that listen for them. I further shared that once we’ve

deciphered these signals we can manipulate the conversations to minimize the losses by insect pests and promote crop yields.

Most importantly, I shared how we can develop technologies such as smart sensors to allow farmers to rapidly detect the type of distress growing plants are going through. Using analogies and showing how science can be used solve challenges is what inspired people. Of course, I was pleased by the outcome.

The truth is that science is inspiring, and I always try to convey that in my writing and speaking, in terms that are understandable to non-scientists. I am not alone. “Science communication” is a popular buzzword these days in the science community, especially among younger scientists—because communication is an important part of the scientific process. It can help non-scientists understand how discoveries make communities healthier and lives better. It can offer novel solutions to the many of our society’s grand challenges.

Most importantly, when science communication is done well, it can stimulate critical thinking and allow scientists to make connections between their fields of specialization, leading to interdisciplinary research that can lead to more novel discoveries.

For those who are new to science communication and unsure of how to begin, they can tap into some of the many resources that are available: textbooks; including the Chicago Guide to Communicating Science; workshops offered by organizations including ComSciCon, the American Association for the Advancement of Science, the American Geophysical Union, and the Alan Alda Center for Communicating Science; and classes offered at many universities.

Scientists can also turn on social media, where they can meet other science communication enthusiasts. Twitter, for example, is a good place for scientists wanting to improve their communication skills. Using the #SciComm hashtag, they can meet and learn from other science communication enthusiasts who can help them learn how to avoid jargon and explain difficult words and concepts.

Ultimately, the goal of science should be to serve society as it strives to solve problems such as a changing climate, food insecurity and numerous public health issues. By getting better at communicating research, we scientists can empower and inspire the public—while simultaneously improving the public’s perception of science and scientists.

#### ABOUT THE AUTHOR(S)



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