

It starts with a poster

Scientists frequently lament the scarcity of effective scientific communicators—those who can explain complex concepts to the public, present scientifically sound alternatives to policy-makers, and make cogent arguments for the value of science to society. A few stellar programs are designed to select and train elite articulators, but some simple steps can improve the communication skills of all scientists. Most researchers learn how to talk about science at meetings. If scientists cannot explain their work clearly and succinctly to their peers, it is highly unlikely that they can explain it effectively to nonspecialists. I recently helped to judge student papers at a large scientific meeting, an experience that brought to my attention the importance of such communication early in one's career. I offer a few tips on how to make the most of this invaluable training.

I encourage students to request a poster presentation at a large meeting. This format can be less stressful than speaking in front of a large audience. Furthermore, the student personally converses with members of the scientific community who share an interest in his or her research. The back-and-forth is good training and a reminder to students that discussing their research with experts or nonexperts should be a two-way conversation. Another advantage of presenting a poster is that the student can tailor the narrative to the interests of whoever stops by, in a Q&A exchange. I recall years ago when a graduate student was disappointed that her research would be described “only” in this format, until one of the giants in her field spent considerable time at her poster to discuss the work. As he left, he said, “I wish I had thought of that.” She was later hired into his department.

To be effective, posters need to be eye-catching as well as informative. In a convention hall lined with poster boards, scientists will bypass those with large blocks of texts and tables of impenetrable numbers.

A cartoon that summarizes the model or findings, attractive displays of data, and photos that illustrate the experiment are good ways to grab attention. Creative ways to display pertinent information are a definite plus. I personally like posters that begin with the motivation for the work and end with the findings, areas for follow up, and broader implications of the results.

A 10-minute talk at a major conference is more difficult to organize and effectively deliver than an hour-long seminar. Mistakes that students often commit in preparing slides for a brief presentation are to show the same intricate multipart figures that they used in a research paper, have too much text (and in a font size too small), choose colors with insufficient contrast against the background, and use blurry images copied from the Internet. The delivery is also critical. Enthusiasm is one of the very best elements of any talk. Students should never merely recite from their slides and should never ever go over time. Recognizing who the audience is and pitching the talk appropriately are essential. Many years ago, if a scientist used unfamiliar jargon

and aimed the presentation over the heads of the audience, the speaker might just have been considered smart. No longer. Today, such a speaker is viewed as a poor communicator.

Training the next generation of scientists to communicate well should be a priority. Departments could arrange for students to hold mock presentations for other faculty, researchers, and students in advance of their presentations at conferences—a dress rehearsal before the main event. And researchers attending meetings should take some time to judge a few student papers, visit student posters, or attend student talks. This feedback to young scientists is invaluable, and the great communicators that will emerge may well trace their sharpened skills back to a moment at their poster or at the podium.

— Marcia McNutt



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