

*The Science of Science Communication III: Inspiring Novel Collaborations and Building Capacity: Proceedings of a Colloquium.* 2018. National Academy of Sciences. National Academies Press. Washington, DC. 118 pages. ISBN 978-0-309-46858-9. <https://doi.org/10.17226/24958>

SCIENTISTS ARE WONDERFUL COMMUNICATORS when they write in peer-reviewed journals to colleagues in the same field. In all other situations, those trying to communicate scientific concepts would benefit from reading this concise summary of the foibles of scientific communication. To paraphrase one of the colloquium organizers, Dietram Scheufele of the University of Wisconsin-Madison, the end results of the efforts of scientists to communicate with other audiences is often clouded by unscientific considerations such as ethical, moral, religious, and societal issues.

Scientists have been schooled to communicate technically, with sparse word usage in peer-reviewed print journals—maximizing message while minimizing length. Paradigms that determine tenure and grant awards impact scientific communication because they reinforce communicating to a narrow audience. Pressure to publish, and publish first, has pushed some scientists to report partially-supported findings which may turn out to be irreproducible and thus require retraction. Furthermore, only a small percentage of scientific findings reach the public. Those that do often are filtered through journalists, pundits, and factions with opposing views. As a result, scientists are considered intelligent, but not necessarily trustworthy, open, transparent, or understandable.

The 11 chapters of the proceedings tackle various aspects of the communication disconnect. These range from identifying and understanding different audiences to topic-specific alternative discourses needed to promote comprehension and dampen polarization of controversial topics. Thus, readers are offered methods for communicating with scientists in other fields, the public, policy makers, journalists, and philanthropists. We are offered stories, comparative concept papers, and tweets as alternative approaches to reach specific audiences. Advice is offered on how to present environmental issues such as fracking and climate change, rapidly evolving technology in topics such as artificial intelligence, medical dilemmas like vaccines and genetic manipulation, as well as social science issues such as immigration.

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Colloquium participants advocated cross-discipline collaboration and admonished scientists that (1) communication is more effective if it addresses issues people need and want to understand; (2) readers are hindered by language, cultural, and educational barriers to understanding scientific discourse; and (3) writers can use interdisciplinary teams to circumvent these issues. Scientists have been trained to publish the uncertainties of their data and only claim what they can statistically and logically support. This uncertainty is addressed both considering that (1) dissenting cohorts do not feel obligated to statistically back up their claims so issue unequivocal statements regardless of their ability to support their premise and (2) the impact of these diametrically opposed presentations on public perception.

The reader is given insight into how to establish public trust, garner a political ear, and potentially have greater funding opportunities. Interdisciplinary collaboration, with the broadest background of collaborators possible, is offered as one way to develop understanding of different audience perspectives to reach them more effectively.

Readers get a balance of defining the communication issues and pointers on how to address them, including use of social media, and are afforded an amusing digression into the quantity and quality of scientific tweets and their social impact (or lack thereof). Heeding their own advice, the language used in this tome is accessible, the discussions are short and to the point, and some storytelling occurs. Scientists seeking to make a broader impact of their research findings will benefit from the wisdom in these pages.

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