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STEM Graduate Students: Learning How to be Effective Storytellers

By Nancy H. Marcus

To be successful in academia, graduate students must learn how to give effective presentations to peers and other technical audiences, but more and more, success in the workplace demands that scientists be able to articulate the importance and value of their work to groups that are much more diverse (e.g., investors, legislators, policymakers, and the general public, both young and old). The programs described below were established to help graduate students learn how to make their science more accessible to diverse audiences through storytelling and by using concise and jargon-free language.

Stony Brook University established the Alan Alda Center for Communicating Science in 2009 (<http://www.centerforcommunicatingscience.org/our-mission-2>) to help “train the next generation of scientists and health professionals to communicate more effectively with the public, public officials, the media, and others outside their own discipline.” An important aspect of the training is learning how to connect and tell a story to which an audience can relate. Storytelling, as an effective approach for communicating one’s science, has also been emphasized by Randy Olson, marine biologist turned filmmaker (http://www.randyolsonproductions.com/randy_olson/randy_olson_index.html). Olson and his colleagues have conducted storytelling workshops at past Association for the Sciences of Limnology and Oceanography (ASLO) meetings and at colleges and universities across the country. Other grassroots efforts aimed at learning how to be effective communicators have been initiated by students. In 2013, graduate students from Harvard University and the Massachusetts Institute of Technology initiated ComSciCon (<http://comsicon.com>), which emphasizes writing for a broad audience and now includes workshops at both local and national levels.

Recognizing graduate students for outstanding research efforts is no longer limited to awards for excellent posters and oral presentations at the standard scientific conferences. Three Minute Thesis (3MT[®]) is a communication competition that challenges students to explain the significance of their research projects in just three minutes without using jargon. The program was started at the University of Queensland (<http://threeminutethesis.org>) in 2008, and competitions are now held worldwide in more than 18 countries and involve

more than 200 institutions. Presenters are limited to a single slide. Judges of diverse backgrounds, for example, a newspaper reporter, a member of a Board of Trustees, a radio journalist, and a community member, select a winner and a runner-up. One or two “People’s Choice” winners are also selected by the audience. This last option is especially useful in attracting attendees to the event, as the audience fills up with ardent supporters of the various participants. At Florida State University, the Graduate School provides workshops throughout the year to help students hone their communication skills; special sessions are offered to help them prepare for the 3MT[®] competition. These competitions often target researchers from diverse fields, but field-specific competitions have also taken place—for example, the Virginia Institute of Marine Sciences hosted an event in fall 2014 that focused entirely on marine topics.

An alternative to the 3MT[®] format is IGNITE[®] (<http://igniteshow.com>). Not necessarily competitive, these events include rapid-fire, five-minute presentations consisting of 20 slides that automatically advance every 15 seconds. The motto of IGNITE is “enlighten us, but make it quick.” IGNITE gatherings have particularly taken hold among the business community as a means to stimulate community interest and discussion, but the concept has also been embraced in some academic settings. An IGNITE[®] event was held during the Marine Technology Society (MTS)/IEEE Oceans ’12 conference, with presentations by US National Oceanic and Atmospheric Administration (NOAA) staff and other ocean scientists describing how ocean and coastal observations contribute to the everyday lives of Americans (<http://www.ioos.noaa.gov/oceans12mts/welcome.html>).

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