

Communicating Science to Nonscientists: How Can Writers and Editors Improve the Public's Access to Scientific Information?

Moderator:

Penny Hodgson
Duke Clinical Research Institute
Durham, North Carolina

Speakers:

Ron Winslow
The Wall Street Journal
New York, New York

Ann B Tihansky
US Geological Survey
Florida Integrated Science Center
St Petersburg, Florida

Reporter:

Elizabeth L Fleischer
Materials Research Society
Warrendale, Pennsylvania

Communicating science to scientists is hard, but communicating science to the general public is harder, with pressures to publish quickly, understandably, in limited space, and while maintaining high quality.

Ron Winslow, deputy editor for health and science and a medical and health-care writer for *The Wall Street Journal*, spoke about several stories he reported and how he looks for stories that make science and the process of science accessible to general readers. One story came across his desk as a press release from the University of California, San Diego, that described research appearing in *Cell*. It noted how some people who had surgery to fix a congenital heart defect early in life were subject to serious heart problems or death later in life due to the same genetic defect. Rather than rushing to produce the story immediately, he took the risk that it would not be heavily covered and spent more time to research further. In the end, he produced a story that followed the discovery of a genetic irregularity leading

to fruit fly embryos with no heart (called the Tinman gene after the Wizard of Oz character who was missing a heart), connected it to a similar defect in humans, and described the replication of the defect in mice. Heart specimens collected from people who died prematurely from heart failure had abnormalities similar to those of the mice, and this confirmed the effect of the Tinman gene in people.

The end of Winslow's article sums it up: "People wonder why we study fruit flies, worms and zebrafish", says Dr. Silberach [a pediatric cardiologist in Portland, Oregon]. "Here you've taken a gene you've found in a simple life form and identified it as a cause of [an] important disease in humans. Then you study the mechanisms of the disease by recreating it in a mouse. It is a model for how the ideal genetic research should go."

As a supplier of scientific information to the press, Ann B Tihansky, hydrologist and science communicator for the US Geological Survey (USGS) Florida Integrated Science Center, recounted the challenges of addressing press needs at times of important natural events, such as Hurricane Katrina in 2005 and the Asian tsunami at the end of 2004. At such times, there are questions that can't be addressed for a year or more until the data are analyzed. Other questions are political rather than scientific. USGS can share data and answers about what is known but cannot give political views or specific answers when no answers are known.

A second set of challenges, Tihansky said, involve getting important but complex or "old news" stories across to the public. One example was related to how changes in the south Florida ecosystem in the Everglades affect drinking water and the health of other natural systems. A key to the story is the concept of "karst", a landscape formed

by dissolving rock, which can create sinkholes, springs, caves, and subsidence. The porous formation makes groundwater vulnerable because of the rapid, but not easily modeled, movement of the water through the structure. The issue finally made news after USGS scientists conducted a test with a nontoxic dye tracer to see where and at what rate water flowed through the ground. Groundwater containing the dye flowed into a cheese factory, which then produced pink cheese. Although it was an unintentional result of the dye-tracer test, it was this dramatic trigger that caught the media's attention.

A final discussion focused on what makes a good story. Characters, tension, and narrative, Winslow said. Tihansky added that the right photos or graphics make a difference. Indeed, Winslow described a news item that he wrote on a treatment that reduces fat in mice by cutting off the blood supply to fat cells, and it was the side-by-side images of a thin and a fat mouse that sold the story. 