Highlights of the AAAS Annual Meeting

Jennifer Ann Hutt

Scientists and science communicators connected at the 2002 American Association for the Advancement of Science (AAAS) annual meeting, held 14-19 February in Boston. With the theme "Science in a Connected World", this year's meeting provided opportunities for discussion among scientists in various fields and between scientists and science journalists.

At the session "Challenges for Meta-Analysis to Connect Disparate Health Care Evidence", Betsy Becker, of Michigan State University, discussed the need for communication among researchers in her presentation, "Disparate Evidence and Policy: Could Medicine Learn from Social Science?" Becker searched several journal databases, including MEDLINE, and examined articles that reference meta-analyses. In the articles she studied, 17% of the meta-analysis citations referred to articles published in the same journal, and all but 4% of the citations were within the same field of study. Becker stressed a need for more interdisciplinary research, especially in meta-analysis studies.

At a session designed to aid the communication of numbers in science, "Show Me the Data! Wanted: More Accuracy in Media Reporting", Constantine J Maletskos, Gloucester, Massachusetts, discussed the difficulties that scientists encounter when analyzing data from radium studies. His presentation, "The Saga of the U.S. Radium Toxicity Studies", was one of several to demonstrate the challenge of accurately communicating data. In the presentation "The Use of Surrogate Outcomes in Experiments of Anthrax Vaccine", Donald Rubin, of Harvard University, said numbers have been a problem in vaccine development for anthrax because of difficulties in determining the appropriate dosage with animal studies.

In the presentation "The Legal Reception of Statistical Evidence in the Implant Cases", Michael O Finkelstein, of Columbia Law School, illustrated how scientific uncertainty can affect policy and law. As an example, Finkelstein discussed the court handling of silicon implants and mentioned the book *Science on Trial: The Clash of Medical Evidence and the Law in the Breast Implant Case*, by Marcia Angell, former editor-in-chief of the *New England Journal of Medicine*.

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Like scientists and policy-makers, science journalists wrestle with data, said John Allan Paulos, of Temple University. Paulos listed several ways for reporters to improve their use of statistics in his presentation, "A Mathematician Reads the Newspaper". Paulos outlined some typical pitfalls, including insufficient risk assessment and context. "Without some feel for where the numbers come from, they're impossible to interpret", Paulos said. He then suggested that science communicators consider the following when reporting data: quantity, likelihood, rate, trend, and methods used to gather and report the numbers.

Terrence Moran, of New York University, stressed the need for cooperation between scientists and science communicators in his presentation, "Science in the Media". Journalists and scientists are both fallible, Moran said, but can maximize accuracy by working together.

AAAS sessions provided additional opportunities for cooperation between scientists and science communicators. At the session "What Message Is Science Sending—And How?", speakers discussed the need for public understanding of science and the various media available to distribute science information. Speakers included Hyman H Field, of the National Science Foundation ("Why the Public Needs to Understand the Process of Research"); Melanie Wallace, of NOVA-WGBH ("What Makes a Great Science Documentary?"); Michael N Geselowitz, of IEEE History Center ("Building the IEEE Virtual Museum: Technological History on the Web"); Eliene Augenbraun, of ScienCentral, Inc ("A New Distribution System for Science TV Stories"); and Daryl Chubin, of the National Action Council for Minorities in Engineering, Inc ("What Message Is Science Sending?"). This session concluded with a brief workshop in which scientists practiced explaining their work, with critique by media representatives.

Two career workshops, "Distilling Gets Top Billing: Crafting Better Short Science Stories" and "Presenting Science to the Public: Strategies for Scientists", also provided scientists with a chance to develop their communicating skills.

In the first career workshop, panelists Victoria McGovern, of the Burroughs-Welcome Fund; Augenbraun; Karen Hopkin, freelance writer; and Peggy Girshman, of NPR, described what they look for in a science story. Some suggestions included using analogies to explain complex ideas, presenting the negatives

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as well as the positives, showing science as a process, and tailoring the story for an American audience. Volunteers then attempted to present their research orally, with critique and suggestions from the panel of science communicators. One volunteer described the process as "donating [his] body to science". Spontaneous discussions throughout the workshop touched on how to determine whether a reporter is trustworthy, whether it is necessary to "water down" scientific information, and what role the mass media play in public education.

In the second career workshop, participants drafted the first part of a news story based on a research article in *Science*. Panelists Deborah Blum and Sharon Dunwoody, of the University of Wisconsin-Madison, and Paul Raeburn, of *Business Week*, provided critique and advice for scientists attempting science writing. In a brief presentation titled "Strategies for Successful Communication", Dunwoody offered these five tips: consider the audience, grab their attention, construct a story for skimmers, tell a good story, and explain.

For further information on the 2002 AAAS annual meeting or the 2003 meeting in Denver, Colorado, please see *www.aaas.org/meetings*. Audiotapes of 2002 sessions can be ordered from AVEN, telephone 206-440-7989 or 800-810-8273, *www.aven.com*.

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