

Communicating Science a Focus of AAAS Career Workshops

Claudia Clark

The theme of the 2005 American Association for the Advancement of Science (AAAS) annual meeting, held 17-21 February in Washington, DC, was “The Nexus: Where Science Meets Society”. It seems appropriate that several of the career workshops focused on the communication of science to scientists and nonscientists alike. As Eliene Augenbraun, a presenter in the first workshop to be highlighted here, stated, “Not only are we communicating science to the public, but other scientists: If you’re 16 feet outside your field, you’re unintelligible!”

Arti Patel, a cancer-prevention fellow at the National Cancer Institute, began the Friday, 18 February, workshop “Better Science Through Storytelling” with a 17-minute PowerPoint presentation of some results of her research on cervical cancer in Shanxi Province, China. For the remainder of the session, three panelists—Richard Harris, science correspondent of National Public Radio; Augenbraun, president of ScienCentral, which produces science materials for television, video, CD-ROM, and the Web; and Karen Hopkin, freelance science writer—discussed how they would present the same material. Suggestions included the following:

- Know your audience. For example, this presentation began with an overview of what is known about the relationships among cancer prevention, nutrition, and immunity, which was followed by a detailed description of the study and the results. That structure, the amount of numerical data presented, and the large amount of text on the slides were considered more appropriate for a medical audience than a general audience.

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- “You need to hook them in to get them interested”, noted Harris; it was a sentiment echoed by the other presenters, who suggested starting with what is most memorable, compelling, and captivating (or what has the “prettiest picture”, noted Augenbraun). For example, in this study, the “hook” could be one of the intriguing results. Hopkin noted that, in a lot of print journalism, “you have to give the punch line first . . . and then fill in all the background”.
- Tell an interesting story. For example, instead of “just blurring the news out”, Harris tries to “tell a story that has a beginning, a middle, and an end”. Topics include stories that people can relate to—including water on Mars, disease (not necessarily local), or the scientists themselves. Augenbraun looks for topics that can be “discussed around the dinner table”, calling them “‘Hey, Martha’ stories”. Hopkin looks for interesting characters to tell their stories.
- Focus on one or two main points, possibly including why the research matters. Asking the researchers why they are interested in the research will help the writer find these points, both Harris and Hopkin noted. Hopkin treats each story as “an unfolding mystery”, presenting the story as a series of questions, as in research.
- Use numbers sparingly. If the presentation is audiovisual, use lots of images and limit the amount of text on the screen.
- Be specific. In this presentation, more pictures of rural China could have helped people to place what was happening. Pictures and words can also serve as helpful analogies.
- Although the writer must simplify the story—Harris noted that “you can’t tell all of it”—he also stressed that the story must be “coherent, balanced, and accurate” and “give people a sense of a whole”.

On the next day, three science writers spoke about their work in a presentation aptly titled “Science Writers on Science Writing”. Panelists were Hopkin, *Time Magazine* senior science writer Mike Lemonick, and *Science* magazine writer (and *ScienceNOW* managing editor) Erik Stokstad. Each was drawn to science—both Hopkin and Stokstad earned advanced degrees in science—but ultimately not to being scientists: Lemonick spoke of his childhood love of his father’s stories about the natural world, but of not enjoying any of his science classes “even a little bit”. All three were good at writing, however. And each found attending a journalism program, science-writing program, or 10-week science-writing internship a useful way to gain critical experience and credentials.

After discussing their typical days, they responded to questions from the audience. One audience member asked, Is it possible to circumvent struggle and poverty on the path to becoming a science writer? Lemonick said there was no way to avoid it, but Hopkin noted that the 10-week AAAS Mass Media Fellowship gave her the opportunity to work as a science writer and was a “short circuit” through the system. As a freelance, she also noted that it helps to live in parts of the country where the science is being done or where magazine editors are easy to “run into” and therefore more likely to think of you when a story idea comes up. (She recalled a long conversation at a party with an editor about the toilet training of his cat; a few days later, the same editor called her with a story assignment.) And an audience member noted that writing jobs at academic institutions, although not science journalism, are a well-paying alternative for those wishing to write about science.

Lemonick was asked about the best way to get stories published in *Time*. He noted that he is interested in “very new, very important information”; he won’t accept

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a story idea on a topic that the magazine has just covered extensively. However, as Stokstad noted, it is important to know the outlet, as well as the audience.

On the next day, a panel of six writers spoke about their work at AAAS in a session called “Communicating Science in Plain Language”. Suggestions included the following:

- “Plain language” consultant Catherine Baker spoke of working with an advisory group and using focus groups to get feedback during the writing of *Your Genes, Your Choices*, a book about current genetics topics affecting the public. Personal stories that people could relate to were used to introduce each topic, such as different types of genetic testing. Baker also noted helpful techniques, such as “keeping the writing around scientific terms as simple as possible” and using a conversational tone in writing.
- Tracy Gath, who was the primary editor of the project “How Drugs Affect the Brain: A Tool Kit for Literacy Programs”, noted the importance of making material accurate and interesting and of respecting the audience, many of whom had faced drug addiction. Rather than being proscriptive—“Don’t do drugs”—Gath noted that this material taught “how a healthy brain would work and how drugs might affect the physiology of the brain”. She felt that this opened the students up by “taking the judgment away”.
- Kirstin Fearnley spoke about the

“Healthy People Library Project”. Six booklets were written—and made accessible to public libraries—that explain the science behind health issues most likely to affect minority communities. The materials were written at an eighth-grade reading level on the average—compared with the higher reading level required by most other available health materials—and libraries can select the project materials most pertinent to the communities they serve.

- Kandice Carter spoke of how the radio programs “Science Update” and “Why Is It?” worked to make science accessible to their audience, generally envisioned as “truck drivers”. That included getting to the main point immediately, avoiding terms with multiple meanings, and getting researchers to give simpler, “cocktail party explanations” of their research.
- Mass Media Science and Engineering Fellowship program manager Stacey Pasco spoke of the program’s focus on teaching each summer’s fellows—generally science graduate students—how to communicate science to the public. It includes teaching fellows to identify stories of interest to the public and to eliminate scientific jargon from their writing.

Good science communication goes beyond the written word, however, and science illustrator Sheri Amsel demonstrated that in her presentation on “Writing, Illustrating and Teaching Science: Careers

in Science Education Do Not Always Lead to the Classroom”.

Amsel first focused on biomedical illustration. Her presentation contained numerous examples of the types of work that could be done for hospitals, medical textbooks, and courtroom evidence, including detailed drawings of a surgical technique, a medical condition, and a hospital procedure. Much of Amsel’s work has been done outdoors, and she provided a number of examples of animals and plants that she has researched for books, nature-trail signage, and museum murals.

Amsel then spoke of school science programming as another way for people who love to teach science to work outside the classroom. That could include working at a local science museum or nature center to develop and maintain programming and creating science programs and getting them to teachers (or making them available on the Web). She completed her presentation by discussing her writing of nonfiction science picture books for children. Amsel stressed different ways to make that work, including talking with teachers and librarians about what interests students, learning what materials already exist and what is “hot” in publishing (such as science picture books), and finding the right publisher.

Those are just a few of the ways, and a few of the people, helping society to meet science. 🧑🏻‍🔬