Ethical, Legal, & Societal Issues

96

Science Literacy Training for Public Radio Journalists

Bari Scott (bariscot@aol.com)

SoundVision Productions, Berkeley, CA

In the genomic era, journalists bear a greater responsibility than ever to communicate science's rapid advances and their societal implications. The basics of DNA and human genetics, which most journalists still are learning, are no longer enough. Now the media must grasp concepts about the regulation of gene expression, the activity of proteins, the workings of RNA and other mechanics of the cell, both in humans and other forms of life such as microbes. Advances in these areas have profound implications, and journalists are obliged to provide timely and accurate information to the public.

SoundVision Productions®, creator and facilitator of two successful week-long workshops for public radio journalists in 1999/2000 and 2001/2002, will develop a new series of three, week-long science literacy training workshops and related activities for public radio reporters and producers. At each of the three workshops, twelve mid-career public radio producers and reporters, selected through a competitive process, will be introduced to cutting-edge research; encouraged and given the tools to report on science stories and their corresponding ethical considerations; and trained in the protocols of science journalism. Based on past experience, SoundVision anticipates that participants will represent stations and national/regional programs that reach broad audiences. The recruitment and selection process will also ensure ethnic, racial, and gender diversity, with particular emphasis on including journalists from rural and minority-controlled stations and networks.

We will explore the interactions among DNA, RNA, proteins, and the overall complex machinery of the cell, and teach reporters what scientists are learning about the most basic elements of life. Applications in the areas of environment, energy, and health will be addressed. A key workshop focus will be post-human-genome-project ethics, such as new questions in the science-business relationship, the impact of highly patented science, and the risks and responsibilities of attempting to manipulate life.

Each workshop will center around 15 to 20 presentations by scientists, science journalists, science researchers, and radio production professionals. Sessions will orient producers to basic science, focus on the craft and responsibility of science journalism, and explore techniques for presenting complex scientific content on radio. This third component is particularly important due to the specific production needs that distinguish radio from other media. Each workshop also will include a field trip and several informal gatherings with scientists to develop relationships and learn more about their ideas and research.

The week-long workshops will be held in key U.S. locations in order to reach more producers throughout the country. The first will be held in Boston, co-hosted by WGBH-FM and The Whitehead Institute. The second workshop will be held in San Francisco at KQED-FM, and the third will be in Austin, Texas in cooperation with Latino USA/KUT-FM at the University of Texas.

SoundVision's training methodology is one that has garnered positive results in previous cohorts of public radio journalists. Even years after attending, participants from small rural to large metropolitan stations report that the week-long workshops in 1999 and 2001, which were funded by the Department of Energy, still have significance to their work. Producers and reporters continue to benefit from their familiarity with the basics of DNA research, an ability to identify stories that they wouldn't previously have tackled, and skills in getting behind press releases and scientific papers in order to create compelling public radio features. These innovative workshops provide participants with methods that improve their confidence and their ability to communicate complex and emerging scientific research to the audience. The goals of these workshops are: to increase the number and quality of science stories produced for radio; to add to the number of reporters able to competently report on complex research processes, discoveries, and implications; and ultimately, to help minimize the currently widening knowledge gap between the scientific community and the public. We believe that their collective work on all geographical levels will help lead to a better public understanding of current scientific research and its social implications.

The project also includes a website that highlights transcripts and selected audio from the training sessions, "tip sheets," and online resources available to participants and interested users. There will be follow-up teleconferences to support participants in pursuing complex and rewarding science stories for their communities. In addition, if funds permit, a pilot interactive DVD with highlights of the workshop will be offered to rural and minority-controlled stations and networks. If successful, the "pilot" may be developed and used for other applications.

As in our previous workshop projects, a comprehensive evaluation will be conducted by Rockman ET AL, a well-established, San Francisco-based evaluation firm with expertise in evaluating media projects and in assessing the impact of training on journalistic practice.

Although the project targets public radio producers and reporters, with slight modifications the workshop is applicable and adaptable for training news directors and editors; live interview, call-in hosts and their producers (since so much air time is dedicated to that format); and even television staff.

97

The DNA Files

Bari Scott (bariscot@aol.com)

SoundVision Productions, Berkeley, CA

The Human Genome Project has yielded more than simple sequence data. Scientists now have better lab technology, more sophisticated informatics, and mountains of new data to explore. Each day they discover more about the remarkably intricate workings of cells and the interdependence of living organisms. Researchers have also begun to chart genetic variation among humans, study the interconnected systems of biology, explore and manipulate the most basic elements of life, and exploit biological processes in industry and healthcare. All of these advances have benefited from a genome-based analytical framework, which incorporates data and insights from many genome projects, including microbial data as well as model organism and human genome sequence information.

This new frontier in science is immensely promising and extremely challenging – for both scientists and society. It requires us to assess risk, weigh risk against benefits, reconsider our definitions of health, normalcy, and appropriate treatment, and view human responsibility in the context of an active, complex physical environment. It raises questions about intellectual property, marketing and commercialization, and the legal and ethical roles of government and corporations. It may even require us to rethink our relationship to our environment and our understanding of the basic components of life.

We believe it is essential for society to learn more about the concepts and approaches underpinning genomics and cellular systems in order to prepare for the discoveries, medicines, and technologies likely to emerge from this new way of thinking about science. Citizens currently have little idea what questions scientists are asking, what innovations might result, and what ethical and legal challenges scientists face.

SoundVision Productions®, creator of the highly acclaimed, nationally distributed public radio documentary series *The DNA Files*, will produce, market, distribute, outreach, and evaluate one hour-long documentary, one five-minute feature, web articles and on-line resources about the scientific, ethical, legal and societal issues raised by the *Genomics:GTL* initiative. These make up one topic-related ensemble for *The DNA Files 3*, a new series of five hour-long radio documentaries, accompanying five-minute features, a multimedia web site, and promotional materials that will inform a diverse public about the complex changes being brought about by advances in genomics and systems biology. “Ethics Beyond the Genome” will alert the public to some of the most important ideas and challenges emerging from systems biology and offer the public intellectual tools to participate in legal and social policy debates about our technological future. The four other topics in the series are: “Our Common Genes: Bugs, Mice and the Human Body”; “Toxicogenomics and Individual Variation”; “The RNA World and Immunology”; “Neurobiology and Our Genes”.

Each of the new topics represents a rapidly developing field within genomics rarely covered in depth by the media. The project will help disseminate the science of genomics by highlighting recent findings and integrating these with examples of ongoing research. *The DNA Files* content will add to public awareness, knowledge

and understanding by providing a foundation in science and the scientific method, an introduction to those engaged in scientific pursuit, and a sampling of ethical, legal and societal issues. These elements will offer audiences an awareness of the societal benefits of research and the intellectual tools to join in legal and social policy debates.

The earlier two DNA Files series won many honors, including the coveted Peabody, DuPont Columbia, and AAAS awards. SoundVision promotes excellence through in-depth reporting, content development with diverse audiences in mind, targeted distribution and marketing, and ongoing evaluation. Its systematic journalistic methodology ensures accuracy and appropriate context through a reliance on traditional reporting techniques; extensive background research, producer training, reporting plans, and script reviews; plus regular consultations with scientific advisors. We also design materials to have lasting relevance by focusing on underlying trends rather than the latest press release.

SoundVision will employ the experience of its project team, and evaluation, to develop content that will engage the audience and incorporate their interests. SoundVision's experienced producers employ creative sound (such as audio montage and archival footage) and content, explaining basic research and related concepts through dramatization, description and other methods that both engage and inform listeners and web users. The materials from our programs, in-depth articles and an extensive resource library add to the infrastructure for science education through their long-term availability to educators and the public on www.dnafiles.org. As finances permit, staff updates shows, offers them for rebroadcast, and upgrades the Web site.

The DNA Files I and *II* were each featured on 200 public radio stations, including in major U.S. broadcast markets. The 2005 series will expand this strong base further by working with community radio and production entities that reach ethnic minority and rural audiences. NPR is interested in distributing the series again.

We will refine and evaluate the impact of our content through focus groups and direct observation of user activities on the web. We continue to update portions of our shows and redesign, maintain and add to www.dnafiles.org. Previous evaluations have demonstrated to us that users view the site as trustworthy and continue even to rely on material updated from the original 1998 documentaries. A nonprofit, 501(c)(3) organization, SoundVision has been producing and disseminating informational programming relating to the humanities, science and technology since 1995, focusing on the presentation of complex subject matter to a general audience.

Much of the key staff from the earlier DNA Files, including host John Hockenberry, have committed to a new series. The Department of Energy provided initial funding for the original *The DNA Files*, which has since been supported by a variety of foundations and agencies.