

Ethical, Legal, and Societal Issues

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The DNA Files®

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SoundVision's highly acclaimed series *The DNA Files*® has twice demonstrated that complex science could be made clear and exciting to listeners with no science background. *The DNA Files 3* will continue to show the general public the importance of cutting-edge science to their everyday lives and, at the same time, expand into a larger audience of minority and rural listeners. In addition, we plan to extend the impact of *The DNA Files 3* beyond the airwaves into schools, museums, news outlets, and even the corner coffee shop through a new network of outreach services, media projects, and learning programs along with our rich and informative web site.

The DNA Files 3 will include five nationally distributed, hour-long public radio documentaries and five 5-minute features exploring the revolutionary new developments in systems biology, neurobiology, immunology and the interaction of the environment with our DNA. The programs tackle complex topics in a style that is evocative, creative and accessible. Scientists, government officials and corporate spokespeople offer their points of view as do individuals who have direct personal experience with the world of genetic research. Program topics will include: Ethics Beyond the Genome: Systems Biology and Nanotechnology; Beyond DNA: The RNA World and Immunology; Individualizing the Genome: Toxicogenomics and Pharmacogenomics; Our Common Genes: Bugs, Mice and the Human Body; Depression, Addiction and Our Genes: Neurogenetics. In addition to the documentaries themselves, SoundVision has added components to *The DNA Files*® project that will promote science journalism by less-experienced science journalists and in the ethnic media; engage the public directly in workshops employing some of the science concepts covered; and contribute to science education and journalism across a broad spectrum of platforms. The project's new outreach and education services, many of which are geared towards increasing minority and rural audiences, include:

• Media support and training

With the goal of expanding and enhancing coverage that makes science clearly relevant to a diverse population, *The DNA Files 3* will make a variety of resources available for journalists and media outlets. This and related outreach will extend the documentaries' impact by encouraging local and regional initiatives and motivating additional programs and news stories outside of SoundVision.

Materials and resources: SoundVision will provide talk show discussion topics targeted to specific ethnic communities as well as general audiences; lists of experts whom reporters can use as sources for programs and follow-up news reports, and highlights from our five documentaries. We will also develop *The DNA Files*® *Style Book*, a handbook of best practices in science reporting on genetics and molecular biology geared to both minority-owned media and public radio as a whole. In a "push" element, SoundVision will send out short news alerts to reporters and editors to identify news stories related to *The DNA Files 3* documentaries. And, working with two ethnic media consortia, we will provide targeted background material for ethnic print.

Funding and support: In addition to making the above resources generally available, SoundVision will work directly with up to 20 public radio stations. Technical support and grants (from another funding source) will be made available to stations on a competitive basis for local programming and projects related to *The DNA Files 3*. Stations will be encouraged to develop community outreach strategies and to produce programs ranging from feature reports and local documentaries to call-in programs. The impact is likely to be significant: If each of the 20 stations awarded outreach grants produced just one hour of programming, that alone would quadruple the amount of on-air content resulting from *The DNA Files 3* funding. Our outreach consultants will help these stations develop community interest, build partnerships with ethnic and minority press, and work with local science and informal learning centers.

• Educational programs

The Exploratorium, the world-renowned museum of science, art, and human perception in San Francisco, has demonstrated its support for *The DNA Files*[®] by agreeing to create up to five hands-on workshops that can be produced at the Exploratorium and other science museums around the country. The Exploratorium also will create a *DNA Files Workshop Kit* with materials to provide hands-on learning experiences. The kit will be designed for use by other museums, schools, churches, parks and recreation departments, as well as parents who home-school their children. It will be distributed to these outlets in tandem with the airing of *The DNA Files 3* documentaries.

• Enhanced website

Our information-packed multimedia website will provide toolkits to help reporters, editors, museum directors, teachers, and home-schooling parents build articles and lesson plans around *The DNA Files 3* programs. Materials on the site will include original in-depth articles related to each of the five documentaries, background information and research for editors and reporters, a library of links to related web sites, and *The DNA Files*[®] *Style Book*. *The DNA Files 3*'s improved website will support public radio programming and museum and school programs that can stimulate public interest in science long after the series airs.

Evaluation

An independent firm specializing in educational media will evaluate *The DNA Files 3*. Its principals will conduct annual online user surveys and interview listeners to gage their understanding and retention of the project's core themes. The evaluation includes an assessment of our relationship with outreach stations, plus pre- and post-production focus groups with multicultural audiences, African American audiences, and high school and junior college level biology teachers. The evaluators concluded that regarding informal educational outcomes that "the style and format were highly effective in raising comprehension and awareness of the content among the focus group participants." They further state that the "producers of *The DNA Files*[®] have established an effective, appealing model for blending traditional and nontraditional public radio science formats with valuable awareness-building content."

Project History

SoundVision Productions[®], a 501(c)(3) nonprofit organization, has produced two previous *The DNA Files*[®] radio projects and a related multimedia website supported by major grants from a variety of sources. *The DNA Files*[®] has won numerous awards, including the George Foster Peabody Award, the Alfred I. duPont-Columbia University Award, the American Association for the Advancement of Science Journalism Award, the Robert Wood Johnson Foundation Award, the Society of Professional Journalists Excellence in Journalism Public Service Broadcast Award, the American

Institute of Biological Sciences Media Award for Broadcast Journalism, and the Association of Women in Communications Clarion Award. National Public Radio, which aired *The DNA Files*[®], will continue to air *The DNA Files 3*, which is hosted by John Hockenberry and guided by an outstanding panel of advisors, to its member stations.

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Science Literacy Project for Public Radio Journalists

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In the genomic era, journalists bear a greater responsibility than ever to communicate science's rapid advances and their societal implications to the public. Understanding the basics about 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 clear and accurate information to the public.

SoundVision Productions[®] presents three new workshops in its lauded Science Literacy Project series: October 16–22, 2005, in Boston, co-hosted by WGBH-FM and The Whitehead Institute; March 2006 in San Francisco at KQED-FM; and October 2006 in Austin, Texas, in cooperation with KUT-FM at the University of Texas.

In each intensive six-day training workshop, twelve competitively selected, mid-career public radio journalists gain the tools and knowledge to tackle complex science stories in a perceptive, clear and imaginative way.

"I am a better reporter because of what I learned at that workshop, [and] I use what I learned there almost every day."

Today's scientific developments affect all of us. In this technologically advanced and rapidly changing world, the general public needs to grasp not only the science itself, but also its interaction with economics, politics and public policy.

Yet public radio journalists face tremendous challenges as they strive to present such complex information to their audiences. Their hurdles include keeping up with fast-paced science and identifying reliable sources quickly. The creative challenges are also immense: how to unfold a multilayered story using only sound.

The Science Literacy Project addresses these issues.

The SoundVision workshops incorporate three goals. They are designed to increase the number and the quality of science stories produced for radio; increase the number of reporters able to report competently on complex research processes, discoveries, and resulting societal implications; and ultimately, increase civic literacy and help minimize the widening knowledge gap between the scientific community and the public. Workshop lectures explore the interactions of DNA, RNA, and proteins and the overall complexity of the machinery of the cell; teach reporters what scientists are discovering about the most basic elements of life; examine the characteristics of one or more nonpathogenic

microbes of environmental importance; and delve into the interactions between the human genome and the environment and toxicogenomics. A key workshop focus is ethics in the post-human-genome-project era, including new questions about the relationship between science and business, the impact of highly patented science on society, and the risks and responsibilities of attempting to manipulate life.

Each workshop centers around 15 to 20 presentations by scientists, science journalists, scientific researchers, and radio production professionals. Sessions orient producers to basic science, focus on the craft and responsibility of science journalism, and explore techniques for presenting complex scientific content on radio. The focus on radio is particularly important given the specific production needs that distinguish radio from other media. The trainees will develop additional insight from constructive critiques of their work, support materials, and two follow-up teleconferences. Each workshop will include a field trip and several informal gatherings with scientists to develop relationships and learn more about their ideas and research. The project also includes a website that provides transcripts and selected audio from the training sessions, “tip sheets” and online resources for participants and interested users. Follow-up teleconferences will support participants in pursuing complex and rewarding science stories for their communities.

By the end of the six days, the journalists will have sharpened their capacity to probe into emerging scientific issues, to transform their findings into compelling radio, and to enjoy greater confidence in their science reporting abilities.

“As a liberal arts major I confess I was worried I’d have a hard time getting my head around physics, statistics, DNA, gene splicing and biotechnology. But your presenters made it all very understandable, and dare I say it, fun.”

SoundVision’s training methodology has had long-lasting positive effects on public radio journalists who have attended previous workshops. Even years after attending, participants from rural to large metropolitan stations report that the workshops still help them with 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 better skills in getting behind press releases and scientific papers to create compelling public radio features. SoundVision’s innovative workshops boost participants’ confidence and their ability to communicate complex and emerging scientific research accurately. We believe that their collective work throughout the country will help lead to a better public understanding of current scientific research and its social implications.

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

“I left the workshop feeling both inspired with creative approaches to science radio and armed with a formidable set of tools to help me produce better science programming.”