Research Roadmap for the Communication of Science and Technology in the 21st Century (R2)

- Initially chartered by NASA/George C. Marshall Space Flight Center
- 3-year charter beginning in 1998
- Focus 1: Set a research agenda for S&T communication
- Focus 2: Identify and articulate "best practices" in public communication of S&T from (mostly U.S.) research institutions
- $900K annual budget (including webworks)

Science Communication Research

- Reviewed the existing literature
- Identified priority areas for research funding
- Funded pilot projects in critical areas

Science Communication Research -- Funding Priorities

(1) Relationship (if any) between science communication, science literacy, and science advocacy

(2) Understand the interests/behaviors of the consuming publics (audience analysis)

(3)Understand the PIO-researcher-reporter nexus

Science Communication: Best Practice

Finding 1

There is no such thing as a “general audience” for S&T communication -- there are many people with many different uses for S&T information, and many levels of understanding with which to deal.

Audiences That Matter

- Policy makers
- Press (general-circulation and trade)
- Third-party validators and magnifiers (university and industry research communities, scientific associations)
- Science-attentive public

Each audience requires a separate message and message venue

The Science-Attentive Audience

- 18-25 million in U.S.
- Mostly (70%) male
- Mostly (80%) under 45 y.o. (changing)
- High discretionary income
- High likelihood of voting, political activism
- Technology-friendly, easy to reach *with minimal translation*
- High level of "crosstalk" with other audiences

Dialogue with Policy Makers

- Who are they? Characterization and identification (~10,000)
- What do they care about? Need audience needs analysis
- How do they communicate? Need audience technology analysis

Proactive responsiveness is critical to reaching this audience

Dialogue with Press

- Current DOE focus is on a small number of visible national reporters
- TV network news no longer dominates public discourse--focus on specialty press
- Need to identify the *quid pro quo*--what does the reporter gain from the transaction?

Science Communication: Best Practice

Finding 2

The scientific community and managers of the science enterprise routinely fail to distinguish between *understanding* of science and *appreciation* for science and its benefits

Science Communication: Best Practice

Finding 3

The myriad of audience needs and interests should drive public communication of S&T. Communication should not be driven by the research enterprise's desires about what it believes publics *should* know.

Science Communication: Best Practice

Finding 4

The active involvement of scientists and engineers is critical to the success of science communication.

The "Webby" Awards: Class of 1999

PBS On-line

Smithsonian Magazine

Yahoo!

CNN

Amazon.com

Ebay.com

Science@NASA

Nominated, Non-Winners:

- Scientific American
- Wall Street Journal
- MSNBC
- New York Times
- BBC News
- Federal Express
- Alta-Vista Translator

Science Communication: Best Practice

Finding 5

Science communicators who can foster mutual respect between science and the media also are essential for effective public communication of science.

The Key to Public Relations

"Public relations is about relationships, not transactions. Without a prior relationship, you have no basis to conduct the transaction."

(Scott Cutlip, public relations researcher)

Science Communication: Best Practice

Finding 6

The impact of new media and the fragmentation of existing media will have profound impacts on how and with whom we communicate about science and technology.

Science Communication: Best Practice

Finding 6 (corollaries)

- Science communication/public info programs that define success as entrée to the evening news already are dinosaurs -- based on a 1940's model of information flow.
- The convergence period for transition to new media will occur over the next 5-10 years.

Daniel Yankelovich, pollster

- “Dialogue is the single most underutilized tool in the public affairs portfolio, and the one most likely to yield the greatest long-term credibility and success in the communications arena of the 21st century.”

DOE/SC's Challenge:

- Move from public information to a dialogue model
- Establish true dialogue with key audiences (policy makers, press, associations and NGOs, and university research enterprise)
- Responsiveness to these key audiences should be *real*, not just *cosmetic*

The NASA Comparison

"Why Can't DOE Do As Good A Job As NASA In Public Communications/Image?"

- NASA has a single, discrete mission
- No organized opposition to space program
- Neutral social impact

The NASA Comparison -- 2

- Dollar for dollar, NASA outspends DOE by 3-1 in public outreach support
- Sustained, not episodic, support
- Internal dissent never publicly aired
- NASA has a cadre of living heroes
- NASA jumps on new communications technologies as soon as available

Gaps in DOE/SC Portfolio

- Understanding of the research literature in communications theory and practice
- A commitment to approaching communications as it does science: As a research enterprise, experimental in nature and responsive to research results/feedback
- Understanding management of the "trust portfolio"