

GOVERNMENT-UNIVERSITY-INDUSTRY-RESEARCH ROUNDTABLE
 List of selected reports from the National Academies related to the meeting topic

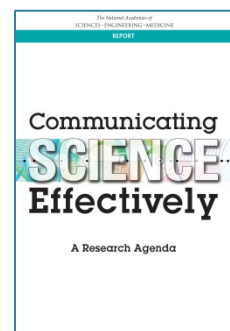


Fostering Integrity in Research (Forthcoming 2017)

Several decades ago, prompted by a series of high-profile cases where data fabrication, falsification and plagiarism were alleged and investigated, the U.S. research enterprise began to institute new approaches aimed at strengthening the capacity of researchers and research institutions to foster integrity and to address research misconduct. The Committee on Science, Engineering, and Public Policy (COSEPUP) undertook a major study of issues related to scientific responsibility and the conduct of research. Completed in 1992, *Responsible Science: Ensuring the Integrity of the Research Process* recommended steps for reinforcing responsible research practices. Several years ago COSEPUP commissioned a new committee to prepare a second edition of *Responsible Science*. In undertaking this effort, it became clear to the committee that changes in the research environment and the extent of the current challenges posed by research misconduct and other detrimental research practices that clearly damage research required the development of a substantially new report. This report will identify best practices in research and recommend practical options for discouraging and addressing research misconduct and detrimental research practices.

Communicating Science Effectively: A Research Agenda (2016)

Science and technology are embedded in virtually every aspect of modern life. As a result, people face an increasing need to integrate information from science with their personal values and other considerations as they make important life decisions about medical care, the safety of foods, what to do about climate change, and many other issues. Communicating science effectively, however, is a complex task and an acquired skill. Moreover, the approaches to communicating science that will be most effective for specific audiences and circumstances are not obvious. Fortunately, there is an expanding science base from diverse disciplines that can support science communicators in making these determinations. *Communicating Science Effectively* offers a research agenda for science communicators and researchers seeking to apply this research and fill gaps in knowledge about how to communicate effectively about science, focusing in particular on issues that are contentious in the public sphere. To inform this research agenda, this publication identifies important influences – psychological, economic, political, social, cultural, and media-related – on how science related to such issues is understood, perceived, and used.



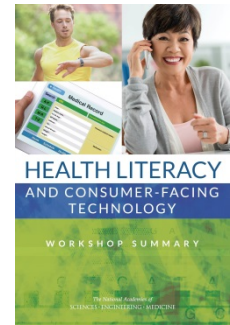


Science Literacy: Concepts, Contexts, and Consequences (2016)

Science is a way of knowing about the world. At once a process, a product, and an institution, science enables people to both engage in the construction of new knowledge as well as use information to achieve desired ends. Access to science—whether using knowledge or creating it—necessitates some level of familiarity with the enterprise and practice of science: we refer to this as science literacy. Science literacy is desirable not only for individuals, but also for the health and well-being of communities and society. More than just basic knowledge of science facts, contemporary definitions of science literacy have expanded to include understandings of scientific processes and practices, familiarity with how science and scientists work, a capacity to weigh and evaluate the products of science, and an ability to engage in civic decisions about the value of science. Although science literacy has traditionally been seen as the responsibility of individuals, individuals are nested within communities that are nested within societies—and, as a result, individual science literacy is limited or enhanced by the circumstances of that nesting. *Science Literacy* studies the role of science literacy in public support of science. This report synthesizes the available research literature on science literacy, makes recommendations on the need to improve the understanding of science and scientific research in the United States, and considers the relationship between scientific literacy and support for and use of science and research.

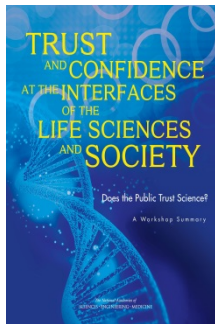
Health Literacy and Consumer-Facing Technology: Workshop Summary (2015)

The proliferation of consumer-facing technology and personal health information technology has grown steadily over the past decade, and has certainly exploded over the past several years. Many people have embraced smartphones and wearable health-monitoring devices to track their fitness and personal health information. Providers have made it easier for patients and caregivers to access health records and communicate through online patient portals. However, the large volume of health-related information that these devices can generate and input into a health record can also lead to an increased amount of confusion on the part of users and caregivers. The Institute of Medicine convened a workshop to explore health literate practices in health information technology and then provide and consider the ramifications of this rapidly growing field on the health literacy of users. *Health Literacy and Consumer-Facing Technology* summarizes the discussions and presentations from this workshop, highlighting the lessons presented, practical strategies, and the needs and opportunities for improving health literacy in consumer-facing technology.



Public Engagement on Genetically Modified Organisms: When Science and Citizens Connect: Workshop Summary (2015)

The National Research Council's Roundtable on Public Interfaces of the Life Sciences held a 2-day workshop on January 15-16, 2015, in Washington, DC to explore the public interfaces between scientists and citizens in the context of genetically engineered (GE) organisms. The workshop presentations and discussions dealt with perspectives on scientific engagement in a world where science is interpreted through a variety of lenses, including cultural values and political dispositions, and with strategies based on evidence in social science to improve public conversation about controversial topics in science. The workshop focused on public perceptions and debates about genetically engineered plants and animals, commonly known as genetically modified organisms (GMOs), because the development and application of GMOs are heavily debated among some stakeholders, including scientists. For some applications of GMOs, the societal debate is so contentious that it can be difficult for members of the public, including policy-makers, to make decisions. Thus, although the workshop focused on issues related to public interfaces with the life science that apply to many science policy debates, the discussions are particularly relevant for anyone involved with the GMO debate. *Public Engagement on Genetically Modified Organisms: When Science and Citizens Connect* summarizes the presentations and discussion of the workshop.



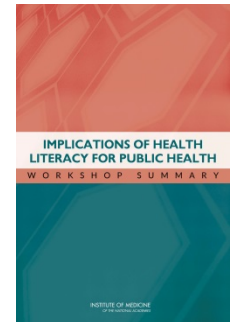
Trust and Confidence at the Interfaces of the Life Sciences and Society: Does the Public Trust Science? A Workshop Summary (2015)

Does the public trust science? Scientists? Scientific organizations? What roles do trust and the lack of trust play in public debates about how science can be used to address such societal concerns as childhood vaccination, cancer screening, and a warming planet? What could happen if social trust in science or scientists faded? These types of questions led the Roundtable on Public Interfaces of the Life Sciences of the National Academies of Sciences, Engineering, and Medicine to convene a 2-day workshop on May 5-6, 2015 on public trust in science. This report explores empirical evidence on public opinion and attitudes toward life sciences as they relate to societal issues, whether and how contentious debate about select life science

topics mediates trust, and the roles that scientists, business, media, community groups, and other stakeholders play in creating and maintaining public confidence in life sciences. *Does the Public Trust Science? Trust and Confidence at the Interfaces of the Life Sciences and Society* highlights research on the elements of trust and how to build, mend, or maintain trust; and examine best practices in the context of scientist engagement with lay audiences around social issues.

Implications of Health Literacy for Public Health: Workshop Summary (2014)

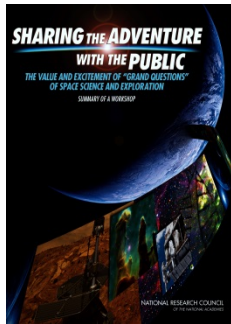
Health literacy is the degree to which individuals can obtain, process, and understand the basic health information and services they need to make appropriate health decisions. Nearly half of all American adults - 90 million people - have inadequate health literacy to navigate the health care system. *Implications of Health Literacy for Public Health* is the summary of a workshop convened by the Institute of Medicine Roundtable on Health Literacy in November 2013 that focused on the implications of health literacy for the mission and essential services of public health. The workshop featured the presentation of a commissioned paper on health literacy activities under way in public health organizations. Other presentations examined the implications of health literacy for the mission and essential services of public health, for example, community health and safety, disease prevention, disaster management, or health communication. This report includes the commissioned paper and summaries of the workshop presentations.



Using Science as Evidence in Public Policy (2012)

Using Science as Evidence in Public Policy encourages scientists to think differently about the use of scientific evidence in policy making. This report investigates why scientific evidence is important to policy making and argues that an extensive body of research on knowledge utilization has not led to any widely accepted explanation of what it means to use science in public policy. Using Science as Evidence in Public Policy identifies the gaps in our understanding and develops a framework for a new field of research to fill those gaps. For social scientists in a number of specialized fields, whether established scholars or Ph.D. students, Using Science as Evidence in Public Policy shows how to bring their expertise to bear on the study of using science to inform public policy. More generally, this report will be of special interest to

scientists who want to see their research used in policy making, offering guidance on what is required beyond producing quality research, beyond translating results into more understandable terms, and beyond brokering the results through intermediaries, such as think tanks, lobbyists, and advocacy groups. For administrators and faculty in public policy programs and schools, Using Science as Evidence in Public Policy identifies critical elements of instruction that will better equip graduates to promote the use of science in policy making.



Sharing the Adventure with the Public: The Value and Excitement of 'Grand Questions' of Space Science and Exploration: Summary of a Workshop (2011)

On November 8-10, 2010, the National Research Council's Space Studies Board (SSB) held a public workshop on how NASA and its associated science and exploration communities communicate with the public about major NASA activities and programs. The concept and planning of the workshop developed over a period of two years. In conjunction with the SSB, the workshop planning committee identified five "Grand Questions" in space science and exploration around which the event was organized. As outlined in the summary, the workshop concluded with sessions on communicating space research and exploration to the public.

Headline News, Science Views (1993)

Why all the talk about biodiversity? Is malaria really making a comeback? Just what are computer viruses? Many Americans are confused about these and other issues involving science, technology, and health care. But they lack the time or technical background to read scientific reports. **Headline News, Science Views II** provides short, readable answers directly from the experts. Leading scientists, engineers, and others discuss today's issues in language that is understandable and compelling--without jargon. The essays originally were distributed by the National Academy Op-Ed Service and published in more than 250 newspapers. Many are tied to studies of the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council. Together, they make ground-breaking scientific achievement accessible, fascinating--and fun.



Headline News, Science Views (1991)

Many Americans want information on how to eat a healthier diet, clean up the environment, or improve their children's education. Yet, all too often, people lack the time or background to read scientific reports for answers to these questions. Now, scientists and nonscientists alike will enjoy **Headline News, Science Views**, a collection of easy-to-read short articles on many of today's most important issues. These readable essays are written by some of the country's leading scientists, engineers, physicians, and other experts. The authors discuss intriguing issues in language that is understandable and compelling...without jargon. Celebrity Bill Cosby contributes an essay on "Getting the Facts Straight About Science."

Television journalist Hugh Downs asks "Who Owns Antarctica?" Readers learn the many ways in which science and technology affect their daily lives. This volume makes groundbreaking scientific achievement accessible, fascinating--and fun. Bridging the gap between the experts and the public, it is a "must read" for anyone concerned about the future.

About the Government-University-Industry Research Roundtable (GUIRR)

GUIRR's mission is to convene senior-most representatives from government, universities, and industry to define and explore critical issues related to the national and global science and technology agenda that are of shared interest; to frame the next critical question stemming from current debate and analysis; and to incubate activities of on-going value to the stakeholders. The forum is designed to facilitate candid dialogue among participants, to foster self-implementing activities, and, where appropriate, to carry awareness of consequences to the wider public.



For more information about GUIRR, visit our web site at www.nas.edu/guiirr
500 Fifth Street, N.W.
Washington, D.C. 20001
guiirr@nas.edu