

**Science and Technology for the Nation:  
Issues and Priorities for the 106th Congress**

**Views from the Science and Technology Community on  
the House Science Committee's Report  
*Unlocking Our Future: Toward a  
New National Science Policy***

Results of a symposium held December 16, 1998  
under the auspices of the  
AAAS Committee on Science, Engineering and Public Policy

American Association for the Advancement of Science  
Washington, DC  
February 1999

The AAAS Board of Directors, in accordance with Association policy, has approved publication of this report as a contribution to the understanding of an important process. The views, interpretations, and conclusions are those of the symposium participants as interpreted by AAAS staff, and do not purport to represent the views of the Board or the Council of the Association.

Printed in the United States of America

AAAS Publication Number 99-02S

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Director, Science and Policy

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\*Terms expire on last day of Annual Meeting in year shown.

## **Preface**

This report presents the results of a symposium organized by the AAAS Committee on Science, Engineering and Public Policy (COSEPP) in response to the report of the House Science Committee, *Unlocking Our Future: Toward a New National Science Policy*. The Science Committee's report, prepared under the direction of vice chairman Vernon Ehlers (R-MI), was intended to begin the process of developing "a new, sensible, coherent long-range science and technology policy" for the 21st Century. Taking it as a framework for discussion, the 150 participants in the AAAS symposium held a series of spirited debates, the outcomes of which have been edited and organized by AAAS staff into the form of an S&T policy agenda for the 106th Congress.

That agenda, together with a brief summary of the symposium, is contained in this report. The authors have sought to represent fairly the sense of the discussions at the symposium. The reader should be aware, however, that, like Congress itself, the participants in the AAAS symposium were not all of one mind on the issues discussed and, while each recommendation had substantial support, few participants would likely agree with all of them.

In addition, readers should recognize that this is a report on the aforementioned symposium and not an official policy statement of AAAS, its Board, its Council, or its Committee on Science, Engineering and Public Policy.

AAAS is grateful to the members of COSEPP and especially its ad hoc subcommittee on this symposium for their guidance and advice on the symposium and their review and comments on this report. Thanks are due, also, to the speakers, to the symposium participants, and to the AAAS staff who assisted in this effort. Finally, AAAS wishes to express its gratitude to Rep. Ehlers and the House Science Committee for the thought and effort they have invested in this important enterprise. It is our hope that this report will be of use to Congress in advancing the goals of the Science Committee study.

*Joanne P. Carney*  
*Kei Koizumi*  
*Leandro Lagera*  
*Stephen D. Nelson*  
*Albert H. Teich*

Washington, DC  
February 1999

## **An S&T Policy Agenda for the 106th Congress**

The sense of the AAAS symposium was that, in formulating its science and technology (S&T) policy agenda, the 106th Congress should:

1. Examine a wide range of existing and potential funding mechanisms to assure that the federal government is supporting the best and most creative research in all fields of science and engineering.
2. Develop policy approaches that recognize the ascendancy of the private sector role in research and focus on encouraging public-private partnerships and on maintaining a favorable climate for industrial research.
3. Seek ways to encourage greater U.S. participation in international scientific cooperation, both large- and small-scale.
4. Initiate a comprehensive examination of the state of science, mathematics, and engineering education in the United States from kindergarten through graduate school.
5. Develop means to provide more rapid and comprehensive access to scientific and technical information for members of Congress and staff.
6. Strengthen mechanisms for involving those whose lives are affected by the results of research in shaping S&T policies.

## **Introduction**

### ***The Report***

On September 24, 1998, the House Science Committee, under the leadership of vice chairman Vernon Ehlers (R-MI), released the long-awaited report on its National Science Policy Study, *Unlocking Our Future: Toward a New National Science Policy* (referred to in this document as “the report” or “the Ehlers report”). The report had been prepared in response to a February 1997 letter from Speaker Newt Gingrich requesting that the Committee lead the House in “developing a new, sensible, coherent long-range science and technology policy” to take the place of the model developed by Vannevar Bush in 1945 under which the nation’s scientific enterprise has operated for over 50 years. In preparing the report, the Committee held seven hearings and two roundtable discussions. In addition, it set up a Web site to facilitate public input.

A preprint of the report was released in September. A more formal version will be produced by the U.S. Government Printing Office. The report, which is also accessible on the Internet at [http://www.house.gov/scienc/science\\_policy\\_report.htm](http://www.house.gov/scienc/science_policy_report.htm) covers four broad policy areas:

- (1) Ensuring the flow of new ideas—support for understanding-driven (basic) research, priority setting, stimulating innovative research, mission-oriented research, accountability, international collaboration, and research partnerships.
- (2) The private sector’s role in the scientific enterprise—stimulating research in industry, the R&E tax credit, partnerships, and intellectual property issues.

(3) Ensuring that technical decisions made by government are founded in sound science—ensuring the quality of research used in regulatory decision-making, dealing with scientific uncertainty, using risk assessment, and providing impartial science advice to the judiciary.

(4) The importance of education in sustaining the research enterprise—improving K-12 science and mathematics education as well as undergraduate and graduate science, math, and engineering programs, and communicating science to the public.

### ***The Symposium***

AAAS is keenly interested in issues of national science and technology policy, in the Ehlers report, and in the discussions which it is intended to stimulate. The Association's Board of Directors provided input to the report in the form of a "Framework for a National Science Policy" delivered to Rep. Ehlers in May 1998 (available on the Internet at <http://www.aaas.org/fedsci>). Following the report's publication, the AAAS Committee on Science, Engineering and Public Policy (COSEPP) decided to hold a symposium to provide an opportunity for members of the science, technology, and policy community to consider the report's implications and propose an agenda for follow-up actions in the 106th Congress. Organized under the guidance of an ad hoc subcommittee of COSEPP, the symposium was held at AAAS on December 16, 1998. This document is its product.

Approximately 150 people responded to AAAS's invitation and took part in the two-part symposium. In the morning, participants heard a panel of five speakers give brief talks representing a range of perspectives on the report. These talks were intended mainly to stimulate discussions in the breakout sessions which followed in

the afternoon and which were intended to produce the follow-up recommendations. The list of participants and the agenda are included as appendices at the end of this document.

Leading off the morning panel, Paul Gilman, director of policy planning at Celera Genomics Corporation, and former chief of staff for Sen. Pete Domenici (R-NM), stressed the report's positive contribution to reaffirming the federal role in supporting basic research and to improving understanding of the principles of science policy among members of Congress, most of whom have only passing acquaintance with it. Christopher Hill, vice provost for research at George Mason University, observed that the report seemed somewhat dated, reflecting the consensus of a perhaps a decade or more ago, rather than either a contemporary or future-oriented perspective. Susan Cozzens, Chair of the School of Public Policy at the Georgia Institute of Technology and former head of the Office of Policy Support at the National Science Foundation, noted further the report's failure to address social issues, such as social and economic inequities in society, to whose solution science and technology presumably should contribute.

Rather different views were presented by Ronald Koder, a graduate student in biophysics at Johns Hopkins University, and Richard Sclove, founder and director of the Loka Institute, an organization that promotes public participation in decision-making relating to science and technology. Koder confessed that neither he nor any of the graduate students or faculty members in his laboratory had heard of the report before he was invited to speak. He pointed out the difficulties scientists face in looking beyond their immediate research concerns to broader policy issues. Finally, Sclove criticized the process by which the report was prepared, noting that it was dominated by "insiders" and provided little opportunity for participation by those members of

the public whose lives were most affected by the results of technological decisions.

### **Participants' Views of the Report**

In the plenary session and the breakout sessions that followed, many symposium participants noted approvingly that the report advanced Congress's appreciation of the importance of science and technology for the nation's future. Participants stressed the significance of this effort to develop coherent policies to guide the allocation of S&T resources and the application of S&T for broader public benefit. They expressed particularly strong support for certain of the report's recommendations and stances:

- **The recommendation concerning the need for stability in overall federal support for research and development (R&D) is critical.** The report stresses the “stable and substantial federal funding for fundamental scientific research [as] a high priority.” This is certainly important, but the notion should extend to other types of R&D as appropriate to issues of national importance. Further, in an expanding economy in which knowledge plays an ever more crucial driving role, federal R&D investments should be increasing, not merely remaining stable.
- One of the report's most crucial concepts was that of federal investments in R&D as a portfolio, and that **a diverse portfolio across a continuum of R&D activities is absolutely essential to continued overall national strength in science and technology.** Federal support should be diverse in several respects—in terms of fields or disciplines, styles of R&D (that is, fundamental or

applied research, development, etc.), and institutions performing the R&D. Except in situations of unusual national need or emergency, support for fundamental research especially should avoid undue concentration in particular areas. Funds should not be showered on politically attractive fields while shortchanging other, equally important areas.

- **Evaluation of R&D is essential for public accountability, but it should be approached carefully, with due regard for the uniqueness of R&D activities, particularly fundamental research.** Evaluation should be conducted in the aggregate (that is, upon programs of research, rather than particular projects) and over time (rather than at a single point in time).
- Although the report represents significant progress in Congress's understanding of S&T issues, it is a beginning, not an end. **There should be follow-up studies to extend the report's findings and recommendations.** Such studies should acknowledge and reflect recent developments in science and technology—for example, collaborative models of R&D (as distinct from the traditional individual-investigator model), information technology developments which have revolutionized S&T worldwide, and the growing trend toward globalization of S&T efforts.

### **Recommendations for an S&T Policy Agenda**

The symposium's breakout sessions were organized along the lines of the report's major themes: federal support for research, the role of the private sector, science for government decision-

making, and science education. Each of the four sessions was assigned a chair from among the participants and a AAAS staff member to serve as rapporteur. Comparing notes following the meeting, the rapporteurs found that there were many points of convergence among the discussion groups. Rather than simply summarizing each of these discussions individually and making a laundry list of recommendations, therefore, the staff chose to integrate the ideas from the various groups into a single list of agenda items for science policy discussions in the 106th Congress, organized around six themes.

***Agenda Item 1. Congress should examine a wide range of existing and potential funding mechanisms to assure that the federal government is supporting the best and most creative research in all fields of science and engineering.***

Regardless of the level of federal support for R&D, it is in the nation's interest to assure that work of the highest quality and promise for the advancement of science and the benefit of society is supported. It is important to highlight certain mechanisms and features of allocation decisions, some of which were mentioned in the report, to maximize this potential.

- Merit-based, competitive review, using advice from groups with a range of recognized scientific-technical expertise, is the surest mechanism for assuring that support will go to the highest quality R&D. Congress and the federal agencies should not only take action to reinforce this principle, but should also not undermine it by treating R&D projects, equipment, or facilities as earmarked items to be dispensed in traditional political fashion.

- Congress and the agencies should actively encourage the support of work that is not only methodologically and intellectually strong, but also (in the words of the report) “particularly creative [and] groundbreaking.” A variety of means for encouraging and supporting such work should be actively explored, including the use of “set-aside” funds for this purpose (despite significant difficulties that can be anticipated in implementing such measures).
- Congress should actively encourage the federal agencies to improve the degree and quality of their inter-agency cooperation and collaboration on issues of mutual interest. Progress has been made in this area, facilitated in part by the National Science and Technology Council within the White House Office of Science and Technology Policy, but there is considerable room for improvement to overcome traditional agency “turf” concerns

***Agenda Item 2. Congress should develop policy approaches that recognize the ascendancy of the private sector role in research and focus on encouraging public-private partnerships and on maintaining a favorable climate for industrial research.***

Industrial R&D now accounts for about two-thirds of the nation’s total R&D. Although it is not as directly subject to federal actions as is federally funded R&D, it is nevertheless affected indirectly by federal decisions. Federal policies therefore should seek not only to improve the climate for industrial R&D, but should actively promote ways of utilizing this sector’s strengths in partnerships to benefit the nation as a whole.

- The R&E tax credit should be made permanent. However, it should be amended to make it more useful to small and emerging companies.
- Federal laws and regulations should be reviewed to determine whether they could be amended to foster greater private sector investment in R&D. Issues such as intellectual property rights, information technology standards, and anti-trust laws should be closely examined, in the United States and abroad, so that they do not hinder private sector commitments to R&D.

***Agenda Item 3. Congress should seek ways to encourage greater U.S. participation in international scientific cooperation, both large- and small-scale.***

Science, especially basic research, has long been recognized as an activity that, by its nature, does not recognize national borders. The free flow of information is vital to the progress of science and has, to large extent, taken place in a manner independent of the political and economic relations among nations. Increasingly, however, in the post-Cold War world, economic globalization and the rapid growth of information technology worldwide are changing the international context in which science is conducted.

The increasing costs of frontier research in many fields and the growth of the Internet and other media of communication have provided both the motivation and the means for intensifying international collaboration in research, at the level of governments, institutions, and individual scientists and engineers. At the same time, the increasingly blurred lines between basic research and application and the growing importance of science

and technology to economic growth have made government policymakers more aware of national interests in research and raised concerns about the risks of collaboration.

It is important for policymakers not to take too narrow a view of what constitutes “national interest” in research. The United States benefits from scientific advances made in other nations. It is widely recognized that the risks of isolation are usually greater than risks from others exploiting our ideas. The best way to stay ahead in global competition is to do the best research and apply it quickly and effectively.

U.S. policymakers need to approach issues of international scientific collaboration pragmatically, giving high priority to the health of U.S. science and the participation of American researchers in international activities while addressing concerns about trade, intellectual property, information technology standards, and anti-trust laws in appropriate international forums.

***Agenda Item 4. Congress should initiate a comprehensive examination of the state of science, mathematics, and engineering education in the U.S. from kindergarten through graduate school.***

The report’s attention to these issues is to be commended, although jurisdictional boundaries in Congress may pose barriers to further progress. The Science Committee should not lose momentum on these issues and should work closely with relevant committees to follow up with a more detailed, comprehensive report on science, mathematics, and engineering education.

Certain issues should be given greater priority in any future study:

- The prospect of a future shortage of adequately trained teachers is of grave concern, and therefore the topic of training, recruiting, and retaining teachers at the K-12 level is vital.
- Greater attention should also be paid to the importance of inquiry-based learning as a method for improving science and math education curricula.
- Given the jurisdictional boundaries surrounding the establishment of curriculum standards at the national level and their implementation at the state level, the relationship between the federal, state, and local governments should be frankly addressed.
- Undergraduate education should be more broadly conceived, not seen simply as a step toward graduate study. It is important to recognize that many individuals within the workforce will only obtain a four-year degree, and therefore a follow-up study should examine the undergraduate level within this context.

***Agenda Item 5. Congress should develop means to provide more rapid and comprehensive access to scientific and technical information for Members of Congress and staff.***

The report wisely articulated the case for policy decisions based on sound scientific and technical advice, but it did not adequately address how decisionmakers should acquire scientific and technical information, nor what kinds of information they should receive. The following recommendations are a beginning step toward helping policymakers better incorporate scientific and technical information into decisions:

- Congress should establish a formal organization or process for incorporating science and technology information into congressional decision-making processes. Such an organization should provide timely advice, drawing upon its own resources as well as the resources of the wider scientific community. It should also serve as institutional memory, capable of learning from past scientific problems and applying their lessons to future ones.
- This organization should also develop foresight capabilities to provide Congress with ranges of possible technical futures, agendas for potential research in emerging problems, and advance warning of science-related policy issues. This will enable Congress to confront science-related issues in a more timely manner.
- Congress and executive branch agencies should seek out comprehensive, multidisciplinary perspectives on scientific issues. Policymakers are assisted in their decisionmaking by numerous advisory committees, but there is a danger that by using only a limited set of disciplines, the advice may be incomplete or unbalanced. It is essential that advisory committees should offer multidisciplinary perspectives, including those from the social and behavioral sciences.

***Agenda Item 6. Congress should strengthen mechanisms for involving those whose lives are affected by the results of research in shaping S&T policies.***

~~Public Policy and Science, Technology, and Society (STS) Program~~

- Decisions on scientific and technical issues should incorporate input from affected communities and other members of the public, as many European nations have done.
- Congress should examine alternative, community-based forms of research. Community-based research involves affected local communities in setting research agendas and also in performing the research, and has proved successful in epidemiological and pollution research on local problems.

#### **An Agenda for the Science and Technology Community**

A healthy U.S. science and technology system depends on robust cooperation between the federal government, industry, academia, and other partners. Although this document focuses on suggestions for a congressional agenda, there are also many challenges that other partners in the U.S. S&T system need to confront, some of which were recognized in the report.

- **Scientists and engineers should be more engaged in the political process and the wider community.** Individual

scientists and engineers must become more willing to discuss their work with the public. The scientific community also needs to encourage the development of leaders who can bridge the differences between science and politics and who can articulate the importance of scientific progress for the public's everyday concerns.

- **Congress and the scientific community should work together to incorporate understanding of scientific uncertainty into the policy-making process.** Because it is not well understood that scientific uncertainty is not the same as unsound science, there needs to be a better appreciation of the nature of scientific uncertainty.
- **The academic community should work to increase flexibility in graduate education for students to prepare for careers outside of specific areas of research.**
- **The academic community and federal agencies should work together to better integrate teaching and research in the nation's universities and colleges.**

### **Next Steps**

The Ehlers report is labeled "An Interim Report," and in releasing it, Rep. Ehlers described it as a "starting point" for discussions in Congress that he hopes will raise Members' awareness and understanding of S&T policy issues and lead to further development of the ideas the report outlines. As the report itself states,

We make no claim to have all of the answers or possess the ability to identify all of the steps necessary to reach our vision. Instead, this report attempts to lay out, in broad strokes, the problems we must address and constitutes the beginning of a lengthy process that we must all engage in together.

We hope that the December 16 symposium and this document have helped to move another step in that lengthy process. AAAS is committed to the development of sound policies for the cultivation of science and for its use to benefit the nation and humankind. We stand ready to work with Congress in continuing the process that *Unlocking Our Future* has begun.

**Committee on Science, Engineering and Public Policy**

Symposium

On

**“UNLOCKING OUR FUTURE: TOWARD A NEW NATIONAL  
SCIENCE POLICY”****December 16, 1998****AAAS, Second Floor Conference Center****1200 New York Avenue, NW****Washington, DC****AGENDA**10:00 AM **WELCOME***Albert H. Teich**Director, Science and Policy Programs, AAAS*10:15 AM **PLENARY PRESENTATIONS****Moderator:** *Albert H. Teich****J. Paul Gilman****Director of Policy & Planning, Celera Genomics Corp.****Ronald Koder****Institute for Biophysical Research on Macromolecular  
Assemblies, Johns Hopkins University****Christopher T. Hill****Vice Provost for Research, George Mason University****Richard E. Sclove****Director, Loka Institute****Susan E. Cozzens****Director, School of Public Policy, Georgia Institute of  
Technology*

- 12 NOON **Q&A/GENERAL DISCUSSIONS**
- 12:30 PM **LUNCH** - Move to Breakout Rooms
- 1:00 PM **BREAKOUT SESSIONS**
- (1) **Federal Support for Basic/Applied Research**  
Facilitator: Tom Weimer, NAS  
Rapporteur: Stephen D. Nelson, AAAS
  - (2) **The Role of the Private Sector**  
Facilitator: Margaret Grucza, IRI  
Rapporteur: Leandro Lagera, AAAS
  - (3) **Sound Science for Government Decision-Making**  
Facilitator: Howard Gobstein, Michigan State University  
Rapporteur: Kei Koizumi, AAAS
  - (4) **Importance of Science Education**  
Facilitator: James M. McCullough, Consultant  
Rapporteur: Chris McPhaul, AAAS
- 2:30 PM **PLENARY SESSION - OVERVIEW OF BREAKOUT DISCUSSIONS**

**List of Symposium Attendees**

<u>Name</u>	<u>Organization</u>
Hyunsil Ahn	Korea Institute of Industrial Technology
David Applegate	American Geological Institute
Thomas Arrison	National Academy of Sciences/National Research Council
Amy Bacon	PPSV
Jack Bagley	Battelle Memorial Institute
Elizabeth Baldwin	Optical Society of America
Mary Barber	Ecological Society of America
Donald Barnes	Environmental Protection Agency
Andrea Baruchin	National Institutes of Health
Pamela Beatrice	Off of the Asst Sec of the Army for Res, Dev, and Acquisition
David Beckler	Carnegie Commission on Science, Technology, and Government
David Benfield	South Dakota State University
William Blanpied	National Science Foundation
Carrie Booth	Van Scoyoc Associates
Mark Boroush	National Institutes of Health
Ken Brown	National Science Foundation
Alphonse Buccino	Contemporary Communications, Incorporated
April Burke	Lewis-Burke Associates
John Burres	Duke University
James Burris	Department of Veterans Affairs
Xuejun Cao	Embassy of the People's Republic of China
Elias Carayannis	George Washington University
Connie Chang	National Institute of Standards and Technology
Wang Chunfa	George Washington University
Melanne Civic	Department of State
Elizabeth Clarke	American Society of Civil Engineering
Susan Cozzens	Georgia Institute of Technology
Jaleh Daie	University of Wisconsin-Madison
Tim Delobe	AAAS, Science and Policy Programs
Ed Derrick	AAAS, Science and Policy Programs
Bertha Dong	General Accounting Office
Paul Doremus	National Institute of Standards and Technology
Brian Dougherty	American Institute of Chemical Engineers
Laura Douglass	Office of Naval Research
Tina Drake	AAAS, Science and Policy Programs

Joan Dudik-Gayoso	Department of State
Peter Farnham	American Society for Biochemistry and Molecular Biology
Eduardo Feller	National Science Foundation
Kevin Finneran	National Academy of Sciences/National Academy of Engineering
Eric Fischer	Congressional Research Service
Peter Folger	American Geophysical Union
Njema Frazier	House Committee on Science
Joan Fuller	Secretary of the Air Force
Carolyn Fuller	Van Scoyoc Associates
Franco Furger	George Mason University
Ed Furtek	University of California San Diego
Ray Garant	American Chemical Society
Aaron Garcia	AAAS, Science and Policy Programs
Midge Gardner	Vanderbilt University
J. Paul Gilman	Celera Genomics Corporation
Suzy Glucksman	American Society of Mechanical Engineers
Howard Gobstein	Michigan State University
Rose Gombay	National Science Foundation
Claude Gravatt, Jr.	National Institute of Standards and Technology
Lisa Greenhill	Association of American Veterinary Medical Colleges
Bob Greenkorn	Purdue University
Margaret Grucza	Industrial Research Institute
Keiji Habara	George Washington University
Risto Harisalo	George Mason University
Erin Hatch	National Academy of Sciences/National Research Council
Bo Hedberg	Embassy of Sweden
George Hedge	Washington State University
Lee Herring	National Science Foundation
Robert Hershey	O'Donnell Consulting Engineers
Antonia Herzog	Office of Senator Jay Rockefeller
Terry Heuring	Off of the Asst Sec of the Army for Res, Dev and Acquisition
Kazunori Higuchi	Japan Society for the Promotion of Science
Greg Hilgenberg	George Washington University
Chris Hill	George Mason University
Ron Hira	George Mason University
Elaine Hoagland	Council on Undergraduate Research
Rachelle Hollander	National Science Foundation

Betsy Houston	Federation of Materials Societies
Doug Hussey	National Institutes of Health
Satoko Ishida	Japan Society for the Promotion of Science
Gary Isom	Purdue University
Robert Jaeger	Department of Education
Ashok Jain	Embassy of India
John Jankowski	National Science Foundation
John Jennings	Office of Senator Jeff Bingaman
David Johnson	Federation of Behavioral, Psychological and Cognitive Sciences
Richard Jones	American Institute of Physics
Ron Kelley	Strategic Partners
Kathleen Kingscott	International Business Machines Corporation
Elizabeth Kirk	AAAS, Directorate for International Programs
Kelly Kirkpatrick	Office of Science and Technology Policy
Ronald Koder	Johns Hopkins University
Kei Koizumi	AAAS, Science and Policy Programs
Jodi Kolber	American Institute of Biomedical Sciences
Alan Kraut	American Psychological Society
Melissa Kuckro	American Chemical Society
Anssi Kujala	Embassy of Finland
Todd La Porte	George Mason University
Allan Ladwig	National Aeronautics and Space Administration
Leandro Lagera	AAAS, Science and Policy Programs
Merlin Lawson	University of Nebraska
Peter Leon	American Association of Engineering Scientists
Flint Lewis	American Chemical Society
James Lightbourne	National Science Foundation
Rajeev Lochan	Embassy of India
Michael Lubell	American Physical Society
Janet Lynch	General Electric Company
Nadine Lynn	Ecological Society of America
Robin Mackar	National Institutes of Health
Shirley Malcolm	AAAS, Education and Human Resources
Edward Malloy	George Washington University
Brian Mannix	Manufacturers Alliance
Robert Marlay	Department of Energy
Terry Marlow	Aerospace Industries Association
Kevin Marvel	American Astronomical Society
Sarah Mathias	University of California
George Mayer	Army Research Office-Ballston
Katherine McCarter	Ecological Society of America
James McCullough	Consultant

Bernard McDonald	National Science Foundation
Chris McPhaul	AAAS, Science and Policy Programs
Dennis Meredith	Duke University
Ray Merenstein	Research!America
Stephen Merrill	National Academy of Sciences/National Research Council
Norman Metzger	National Academy of Sciences/National Research Council
Kenneth Miller	American Association of Colleges of Pharmacy
Rachel Mintz	Industrial Research Institute
Heidi Monroe	Consultant
Youhyun Moon	Embassy of the Republic of Korea
Geoffrey Mumford	American Psychological Association
Robin Nazzaro	General Accounting Office
Stephen Nelson	AAAS, Science and Policy Programs
Elaine Newton	Columbia University
Kathy Olsen	National Science Foundation
Suzanne Ortega	University of Nebraska
Andrea Ousley	University of Pennsylvania
Bob Palmer	House Committee on Science
Raymond Paul	Institute of Electrical and Electronics Engineers
John Peterson	Embassy of Denmark
Rolf Piekarz	Consultant
S. T. Quigley	Quigley/Rogers
Rebecca Racosky	National Center for Manufacturing Sciences
Douglas Read	International Society of Automotive Engineers
Kathleen Ream	Council for Chemical Research
Chris Rhatigan	National Institutes of Health
Robert Rich	AAAS, Science and Policy Programs
Andras Roboz	Embassy of Hungary
Laura Rodriguez	Office of Representative Vernon Ehlers
Philippa Rogers	Embassy of Great Britain
Sally Rood	Federal Laboratory Consortium
Jerold Roschwalb	National Association of State Universities and Land-Grant Colleges
Allison Rosenberg	Department of Commerce
Stephanie Roy	Futron Corporation
Deborah Rudolph	Institute for Electrical and Electronics Engineers
Rosalie Ruegg	National Institute of Standards and Technology
Robert Samors	University of Michigan
Susan Sauer	National Science Foundation
Wolfram Schoett	Embassy of Germany
Aaron Schwartz	Johns Hopkins University

David Schutt	American Chemical Society
James Schuttinga	National Institutes of Health
Richard Sclove	Loka Institute
Linda Scott Lane	National Institutes of Health
Howard Silver	Consortium of Social Science Associations
Steve Smartt	Vanderbilt University
Ellen Smith	Columbia University
Ken Smith	Office of Naval Research
Michael Snyder	AAAS, Directorate for International Programs
Ann Speicher	Association of American Universities
Marsha Stanton	Department of Agriculture
Bruce Steiner	National Institute of Standards and Technology
Michael Stephens	Van Scoyoc Associates
Stephanie Stitzer	American Electronics Association
Claudia Sturges	AAAS, Science and Policy Programs
Kasuke Takahashi	Japan Society for the Promotion of Science
Hiroyuki Takahashi	Japan Society for the Promotion of Science
Albert Teich	AAAS, Science and Policy Programs
Mitch Teich	Research!America
Lourdes Tinajero	National Science Foundation
Kathryn Tollerton	American Society for Engineering Education
Jonathan Tucker	George Mason University
Gerrit van der Wees	Embassy of the Netherlands
Virginia Van Horne	AAAS, Education & Human Resources
Sonthi Vannasaeng	Embassy of the Kingdom of Thailand
Geoffrey Vincent	Vanderbilt University
Nicole Wade	Lewis-Burke Associates
George Walker	Indiana University
Robert Webb	Embassy of the Dominion of Canada
Tom Weimer	National Academy of Sciences/National Academy of Engineering
Steven Weiss	George Washington University
Nan Wells	Princeton University
Noreen Wells	Van Scoyoc Associates
Christopher Whaley	Embassy of Great Britain
Isabel Wolte	Embassy of Austria
Heidi Wood	Analytic Services, Inc.
Shirley Young	AAAS, Science and Policy Programs
Jean Zettler	Communications Consultant