Advancing Science, Serving Society

Science Agora 2014

November 7, 2014

AAAS

ADVANCING SCIENCE, SERVING SOCIETY

What's a AAAS and Why Do We Need It?

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First, a bit of general context

Science and technology have never been more important or prominent in modern life

- Science and technology are imbedded in every major issue of modern life
  - Cause
  - Cure

Some major global societal issues

- Environmentally sustainable development
- Need for renewable energy sources
- Information and communications technology
- Universal access to education
- Poverty and economic opportunity
- Technology-based manufacturing and jobs
- Intellectual property rights
- Terrorism
- International security
- Natural disasters
- Science and technology capacity building
- Vaccines and medical therapies against infectious diseases
- Quality and accessibility of health care

Science should be a factor in all discussions about solutions for major issues

To exploit the full power of science and technology, the entire enterprise must be very healthy

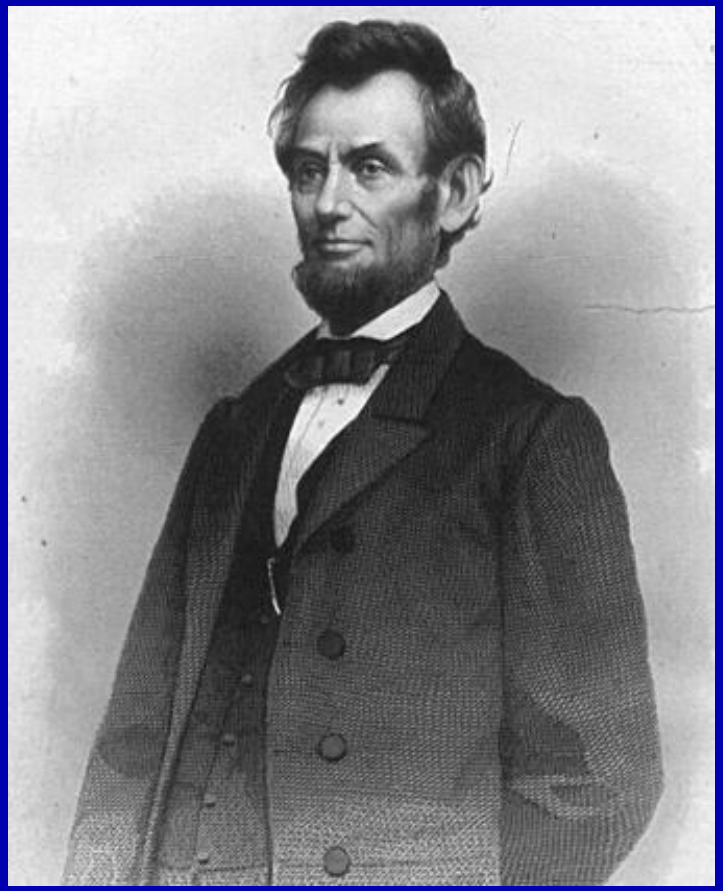
- And able to function in a coherent way
  - Nationally
  - Globally

The health of the enterprise depends on many factors

- Progress in science
  - It's going extremely well
    - But needs constant attention and advocacy
- Public views and support of science

Public sentiment is everything. With public sentiment, nothing can fail; without it, nothing can succeed.

Abraham Lincoln

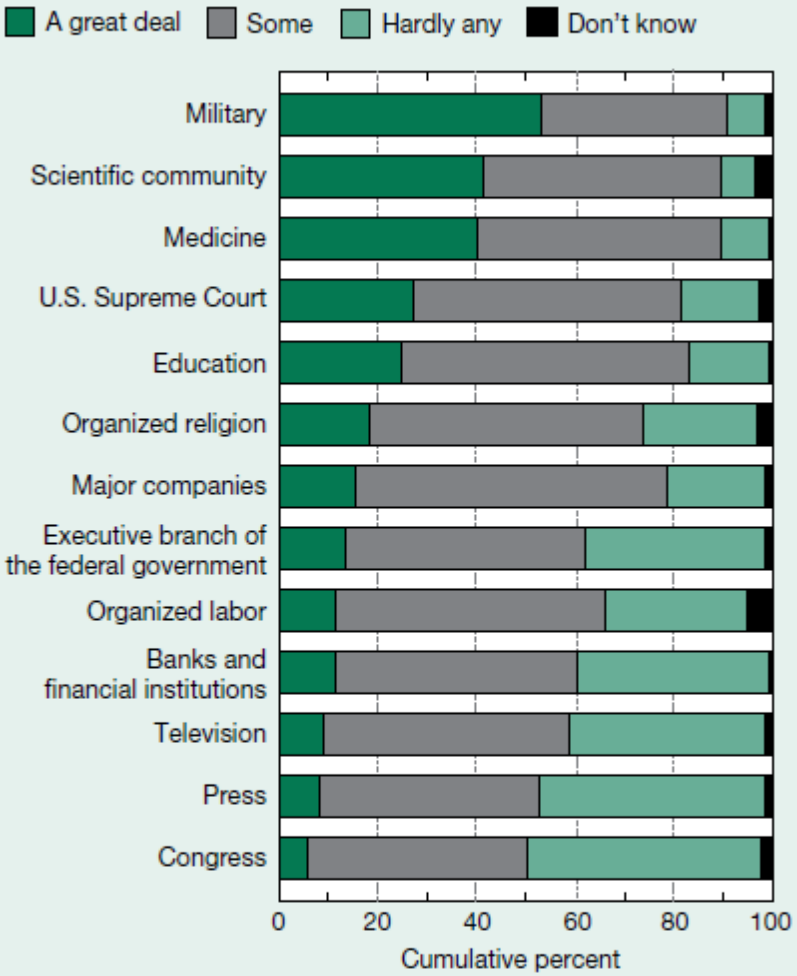


Public sentiment depends on

- Rate and form of scientific productivity
  - And rate of translation to useful products and services
- Public understanding and engagement
- Public's overall view of quality and trustworthiness of science

People generally still respect science and technology….

Figure 7-15
Public confidence in institutional leaders, by type of institution: 2012

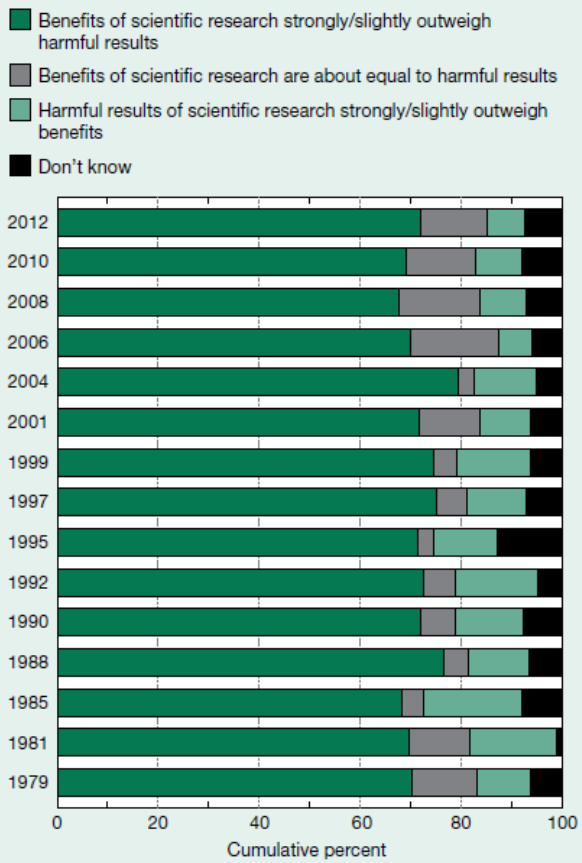


NOTE: Responses to *As far as the people running these institutions are concerned, would you say that you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?*

SOURCE: University of Chicago, National Opinion Research Center, General Social Survey (2012). See appendix table 7-25.

Science and Engineering Indicators 2014

Figure 7-10
Public assessment of scientific research: 2012–1979



NOTES: Responses to *People have frequently noted that scientific research has produced benefits and harmful results. Would you say that, on balance, the benefits of scientific research have outweighed the harmful results, or have the harmful results of scientific research been greater than its benefits?* In this figure, "Benefits...outweigh harmful results" and "Harmful results...outweigh benefits" each combine responses of "strongly outweigh" and "slightly outweigh." Figure includes all years for which data were collected. Percentages may not add to 100% because of rounding.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Public Attitudes Toward and Understanding of Science and Technology (1979–2001); University of Michigan, Survey of Consumer Attitudes (2004); University of Chicago, National Opinion Research Center, General Social Survey (2006–12). See appendix table 7-16.

Science and Engineering Indicators 2014

They have little understanding of what is and is not science

- 60% of Americans believe in extrasensory perception
- 47% still do not answer "*true*" to the statement: "Human beings developed from earlier species of animals"
- 41% think astrology is somewhat scientific

Science and Engineering Indicators, 2004

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An array of issues *within* science are not going so well…and decrease the public's trust and image of science

- Incidents of scientific misconduct
- Mistakes in scientific papers
- Human subjects concerns
- Animal welfare issues
- Conflict of interest problems
- Hyperbolic or exaggerated claims
- Appearing to suppress dissenting views
- Inadequate transparency and accountability
- "Silly-sounding" grant titles

We need to assure the public that we are monitoring and attending to all of these issues

- Is science keeping it's own house in order?

AAAS works on two goals

- Advancing science
- Serving society

American Association for the Advancement of Science (AAAS)

- Founded in 1848
  - Originally a collection of scientific societies and disciplines
- World's largest general scientific society
  - Spans all of science, engineering and technology
  - Global in membership and reach
  - 120,000 individual members
  - 250 affiliated societies and academies of science
  - Represents some 10 million scientists worldwide
- Publisher of *Science* journals

Science family of journals

- *Science*
  - Founded in 1880 by Thomas Edison
  - One million readers per week
- *Science Signaling*
- *Science Translational Medicine*
- *Science Advances*
  - Coming in February
    - Accepting manuscripts now

AAAS Mission:

- To advance science, engineering, and innovation throughout the world for the benefit of all people
  - *Advancing science, serving society*

Adopted by the AAAS Board, August 2007

AAAS Strategic Goals

- Enhance communication among scientists, engineers, and the public
- Promote and defend the integrity of science and its use
- Strengthen support for the science and technology enterprise
- Provide a voice for science on societal issues
- Promote the responsible use of science in public policy
- Strengthen and diversify the science and technology workforce
- Foster education in science and technology for everyone
- Increase public engagement with science and technology
- Advance international cooperation in science

Adopted by the AAAS Board, August 2007

AAAS works on both “faces” of science policy

- Policies surrounding the conduct of science
- Policies where science is a major factor
  - Shaped by what science says
  - Appropriate use of science and technology is a part of the solution

AAAS Policy Programs

- Office of Government Relations
- Policy Fellowships for Scientists and Engineers
- R&D Budget Analysis
- Scientific Responsibility, Human Rights and Law
- Research Competitiveness Service
- Center for Science, Technology and Security Policy
- Annual S&T Policy Forum

AAAS Program Activities – K-12 Education Reform -- *Project 2061*

- Learning goals/objectives – education standards
- Curriculum materials
- Testing and assessment
- Professional training

AAAS Program Activities – Some Other Education Improvement Programs

- *Science Books and Films*
- Science NetLinks
- Entry Point!
- DC Acts
- Kinetic City – *Mission to Vearth*
- Science in the Summer
- BioScied Net Collaborative

AAAS Program Activities – Career Development

- Center for Careers in Science and Technology
- Center for Advancing Science and Engineering Capacity
- Alliances for Graduate Education and the Professoriate (AGEP)
- Global Alliance for Diversifying the Science and Engineering Workforce
- Mass Media Science and Engineering Fellows Program
- Science and Technology Policy Fellowships
- Minority Sciences Network
- Merck/AAAS Research Program


ScienceCareers
From the journal Science
AAAS

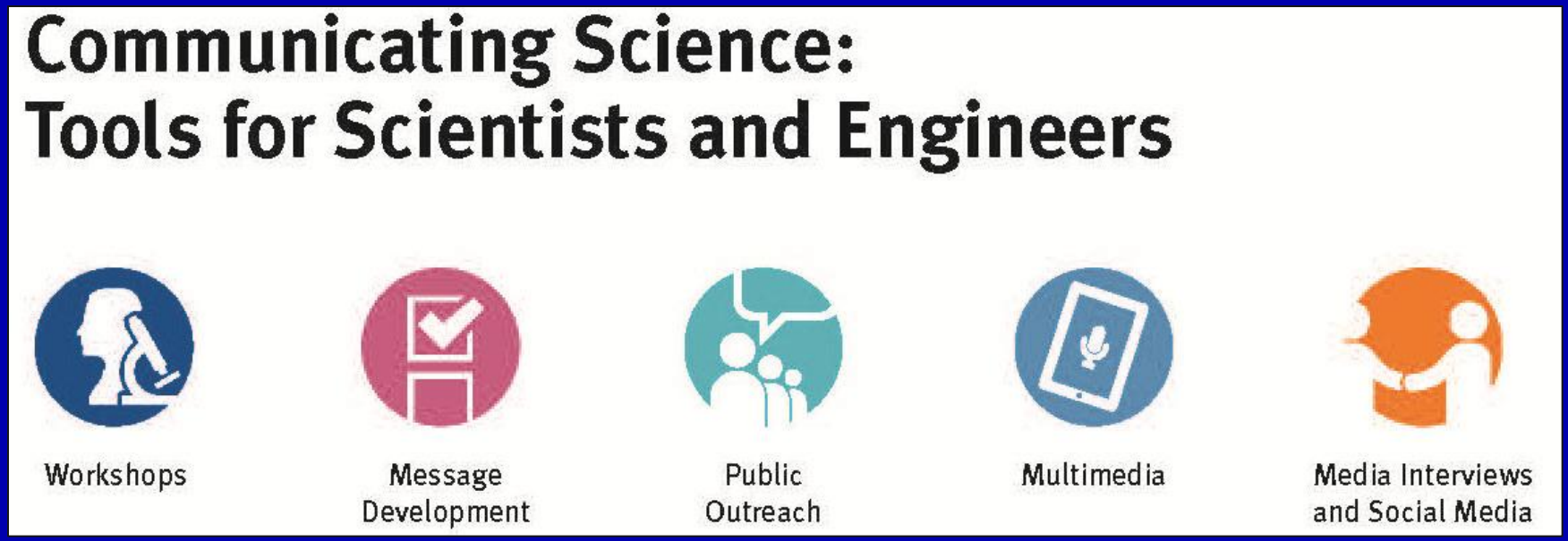
AAAS International Initiatives

- Fostering the globalization of science
  - Fostering coherence and compatibility across the scientific community
- Capacity building and workforce enhancement
  - Sustainable development
- Center for Science Diplomacy

Public Understanding and Engagement

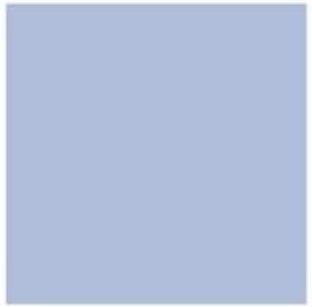
- Science Update – weekly radio show
- EurekAlert! – website for science journalists
- Mass Media Fellowships
- Dialogue on Science, Ethics and Religion
- Science literacy projects
- Work with science museums and centers
- Town meetings
- Outreach to community organizations
- Training in communicating science

www.aaas.org/communicatingscience

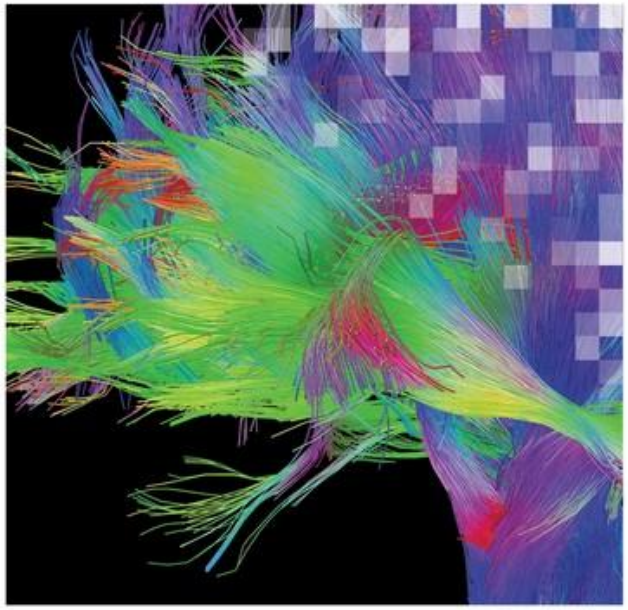


Communicating Science: Training workshops for scientists

- 4,000+ scientists and engineers since 2008
- 50 workshops and 32 lectures to date
- Communication tips, resources, practice



AAAS | 2015
ANNUAL MEETING
12–16 FEBRUARY • SAN JOSE, CA



INNOVATIONS,
INFORMATION,
AND IMAGING

AAAS Annual Meeting

www.aaas.org/meetings

- 181st meeting of AAAS will be held in San Jose, CA in February
- Historically, meeting focused on scientific academic community. Over time, it grew to be more interdisciplinary and inclusive.
- Currently: high international participation, policy discussion, media coverage, and public events
- Future: increasing need for global interdisciplinary discussion about science, communication, and policy issues

www.aaas.org/meetings

Who attends?

- Researchers and academics
- International science ministers
- Government officials, policymakers
- Corporate stakeholders
- Administrators and managers
- Teachers and librarians
- Students - high school, undergrad, and grad
- Families and children
- Journalists from around the world

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www.aaas.org/meetings

Scientific program

150+ symposia, plenary and topical lectures, career development workshops, networking receptions

www.aaas.org/meetings

Diverse scientific symposia topics

- Science of memory
- Advances in Earth observation
- Developing designer vaccines
- Reproducibility of science
- Future of the internet
- Global food security
- International research partnerships
- Dementia research and policy
- Citizen science
- Science during natural disaster crises

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News services for 750 to 1,100 journalists and press officers

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www.aaas.org/meetings

Meeting newsroom activities

- 24 news briefings and press breakfasts
- Virtual newsroom
- AAAS staff-writing news releases (~36)
- Speaker-contributed news releases (~150)
- Live webcasts of all news briefings
- Advance video and podcasts
- International Science Reporter Fellowships
- AAAS Kavli Science Journalism Awards
- Social events for the press

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2014 Meeting news coverage highlights

- Coverage in *The Economist*, *New York Times*, *Washington Post*, *Wall Street Journal, Financial Times,* other influential outlets
- 140 original, print articles in U.S. outlets
- 190 original, print articles in international outlets
- 1,163 print articles worldwide580 reprinted U.S. stories

How else is AAAS helping to communicate science to journalists?

www.eurekalert.org

A non-profit consortium of news sources

- EurekAlert! is always free to reporters worldwide
- Credentialed reporters can view embargoed news before it happens
- Institutions pay a small annual fee to post news releases

EurekAlert! is working with JST and leading Japanese universities to enhance its Japanese-language portal!

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Public engagement

Family Science Days: hands-on science activities and demonstrations for 3,500 to 6,400 members of local community (primarily children, families, teachers)

Family Science Days

AAAS Has Evolved Over the Years

To Become A Multipurpose Science Society

Advancing Science, Serving Society -- Science Agora 2014