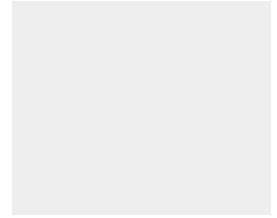
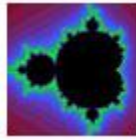


 AAAS  
Advances



Advances - The Monthly Newsletter for AAAS Members - November 2012

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## Message to Members

### 2013 AAAS Annual Meeting - The Beauty and Benefits of Science

Dear Colleagues,

On behalf of the AAAS Board of Directors, it is my honor to invite you to join us in Boston for the [2013 AAAS Annual Meeting](#), 14-18 February. This annual event is one of the most widely recognized global science gatherings, with hundreds of networking opportunities and broad U.S. and international media coverage.

The meeting's theme -- *The Beauty and Benefits of Science* -- points to the "unreasonable effectiveness" of the scientific enterprise in creating economic growth, solving societal problems, and satisfying the essential human drive to understand the world in which we live.

## Meet Up at Upcoming Events

*Science/AAAS* will have a booth at the following events. Stop by to take advantage of the event's special AAAS membership renewal rate and pick up your member pin.

[Molecular Biology Society of Japan](#),  
11-14 December,  
Fukuoka, Japan

[ASCB 2012 \(American Society for Cell Biology\)](#),  
15-19 December,  
San Francisco,  
California, USA

## Additional Meetings and Announcements

[2012 World Stem Cell Summit](#),  
December 3-5 Palm Beach County Convention Center, West Palm Beach, Florida - USA  
Discover what's new. Learn about the latest research, challenges in translational medicine and future areas of promise. Help to advance the science. Register to attend the 8th annual World Stem Cell Summit.

[Biotech 2013 in Japan](#), 8 May - 10 May 2013  
Asia's largest bio event - an indispensable business hub of the Asian bio industry,

The phrase "unreasonable effectiveness" was coined in 1960 by physicist Eugene Wigner, who explored the duality of mathematics -- both beautiful unto itself, and also eminently practical, often in unexpected ways. The scientific program will highlight the rich and complicated connections between basic and applied research, and how they bring about both practical benefits and the beauty of pure understanding.

Everyone is welcome at the AAAS Annual Meeting. Those who join us will have the opportunity to choose among a [broad range of activities](#), including plenary and topical lectures by some of the world's leading scientists and engineers, multidisciplinary symposia, cutting-edge seminars, career development workshops, and an international exhibition. You and your family can also enjoy Family Science Days, a free event open to the general public.

The Annual Meeting reflects tremendous efforts from the AAAS sections, divisions, and committees, which I gratefully acknowledge. I also extend a personal thanks to the members of the Scientific Program Committee who selected and assembled the many excellent ideas and proposals into this outstanding meeting. Please join us in Boston.

Sincerely,

William H. Press  
AAAS President and Program Chair;  
Warren J. and Viola M. Raymer Professor in  
Computer Science and Integrative Biology,  
University of Texas at Austin

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## News to Note

### AAAS Member Shares 2012 Nobel Prize in Chemistry

Robert J. Lefkowitz, a leader in the field of receptor biology, was recognized for his groundbreaking research on cell surface receptors -- the part of the cell that communicates with the rest of the cell about changes in the body. His work has led to the development of new medications that target the receptors, including beta blockers and antihistamines. Lefkowitz, a professor of medicine and research cardiologist at the Duke University Medical Center, shares the 2012 Nobel Prize in Chemistry with Brian K. Kobilka, a professor at Stanford University School of medicine and a former post-doctoral fellow in his laboratory at Duke. [Read more.](#)

### AAAS Delegation Strengthens Collaborative Efforts with China

Building bridges between U.S. and Chinese scientists, supported by relationships of trust and cooperation, is a continuing AAAS initiative in science diplomacy. During a recent trip, AAAS staff members focused on four areas. The interests of women in science were advanced during the historic conference of The World Academy of Sciences (formerly TWAS) in Tianjin. Ethics in science,

consisting of Partnering, Exhibition, Conference and Academic Forum. - 600 exhibitors and 350 presentations- Attend BIOtech 2013 in Japan and get connected with the Japanese & Asian bio industry. Following USA, Japan has its stable presence as the world's second largest pharmaceutical industry. In addition, at the initiative of government's "Open Innovation" strategy, needs of international innovation are increasing.

### Find Other Meetings and Events

[Search our database](#) of meetings, conferences, career fairs, career workshops, courses, and awards.



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[Science Careers Feeds](#)

including plagiarism, conflict of interest, and authorship and publication issues, were addressed in Hangzhou, furthering an ongoing collaboration between AAAS and the Chinese Association of Science and Technology. Communication of peer-reviewed research was the subject of a meeting with China-based journal editors and publishers as well as Beijing-based reporters, to foster public support for the scientific enterprise. In addition, *Science* Editor-in-Chief Bruce Alberts challenged next generation Chinese innovators to investigate the major mysteries of cellular biology at universities in four different cities. [Read more.](#)



### **Science Diplomacy, Fifty Years after the Cuban Missile Crisis**

Science and science diplomacy are playing increasingly important roles in checking the spread of nuclear weapons, experts said during a workshop co-organized by AAAS and Georgia Tech. In the aftermath of the missile crisis that brought the world to the brink of nuclear war, scientists and engineers from the competing nuclear powers worked on the treaties and other arms control initiatives that helped bring a peaceful end to the Cold War. A half century later, similar efforts to advance international research cooperation through non-governmental engagement are building trust among U.S. scientists and their counterparts in nations such as Cuba, Iran, and North Korea. Following the discussions with two dozen nuclear arms and security experts from government, industry, academia, and non-governmental organizations, a public event was held to engage science and engineering students with the role of science diplomacy in arms control -- and to examine the potential of crowd-sourcing technology in detecting and tracking nuclear programs. [Read more](#) and view a summary and photos of the workshop.

### **Capitol Hill Briefing: Improved Detection of Nuclear Tests**

The worldwide ability to detect covert nuclear explosions equivalent to only a few hundred tons of chemical explosive has improved significantly during the past decade, strengthening a check on proliferation, experts said at a briefing organized by AAAS. A growing array of monitors designed to detect nuclear blasts underground, underwater, in the atmosphere, and in space would likely spot all but the most determined efforts. Although the Comprehensive Nuclear-Test-Ban Treaty has not been ratified as yet, the development of a sophisticated monitoring network has progressed. When complete, the system will include 337 facilities worldwide that employ four methods: seismic, hydroacoustic, infrasound, and radionuclide. [Read more.](#)



### **Leading Advocate of Science Diplomacy Honored by Austrian Government**

Norman P. Neureiter, acting director of the AAAS Center for Science, Technology and Security Policy, has been awarded the Austrian Cross of Honour for Science and Art. His contributions to the success of an international organization based in Vienna that addresses global challenges were lauded. IIASA, the International Institute for Applied Systems Analysis, includes scientists from 20 member nations -- developed, developing, and emerging -- that apply science diplomacy to urgent concerns such as energy, climate change, food, water, population, and ecosystem health. Neureiter also serves as senior adviser to the AAAS Center for Science Diplomacy and chair of the senior advisory board for *Science & Diplomacy*, the center's quarterly online publication. [Read more.](#)

[Science Feeds](#)



**Podcasts**

[Science Podcast](#)

[Science Update Podcast](#)

**Other Multimedia**

[Images, slideshows, video, interactives and more](#)

### **Hitachi Forum on "Eco-Engineering: Addressing Water Challenges"**

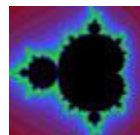
As population growth fuels increased demand for water and climate change affects availability, society must move beyond old approaches to regulations and management, veteran policy leader John Tubbs said during his keynote address to the annual forum sponsored by Hitachi Ltd. and co-organized by AAAS and the Brookings Institution. Two panels made up of water investors, private water companies, regulators, energy and environmental proponents, and public water users discussed water use in shale gas production and urban water challenges. New, more inclusive approaches, from pricing to recycling waste water, were examined. [Read more](#) and watch a video.

### **Using Scientific Assessment to Document Torture**

For victims fleeing torture practices such as rape or waterboarding, gaining the sanctuary of asylum in the United States often requires rigorous science-based assessment, experts said during a two-day workshop. The processes and techniques for documenting the physical and psychological evidence of trauma associated with abuse were examined during the training held at AAAS in collaboration with Physicians for Human Rights (PHR). Studies show that asylum seekers who are represented by an attorney and have a clinician doing a forensic examination are approved in far greater numbers, underscoring the importance of professional scientific assistance. The AAAS Scientific Responsibility, Human Rights and Law Program works to utilize scientific methods and tools in support of human rights, with much of the work carried out through the AAAS On-Call Scientists network of some 750 volunteers. [Read more.](#)

### **Diplomat Calls on Scientists to Speak Out Against Digital Repression**

During an October address at AAAS, Michael Posner, assistant secretary of state for the Bureau of Democracy, Human Rights and Labor, said that the freedom to debate and participate in scientific research is often taken for granted. However, he stressed that up to 47 percent of all Internet users worldwide now face content restrictions imposed by their governments and some regimes go further, spying on intellectuals through the Web, gathering information to intimidate and imprison academics. Posner urged scientists to help educate policymakers and bring their expertise to public debates about Internet regulation and human rights, saying "scientific freedom will not exist without Internet freedom." During a Q&A session, concerns about murkier aspects of U.S. Internet policy, such as how to promote an open Internet while also acknowledging intellectual property rights and security issues, were addressed. [Read more](#) about the dialogue, organized by the AAAS Science and Human Rights Coalition.



### **AAAS-Trained "Mathletes" Score Medals at Olympiad in Tunisia**

Launching a new initiative to increase underrepresented minority participation in higher mathematics, AAAS developed an intensive 10-day training program to prepare students for the annual Pan-African Mathematics Olympiad in Tunisia. The U.S. team, an unofficial participant, had the third highest score among middle and high school level teams from eight countries throughout Africa. Seventy applicants sought the 20 training slots and the four U.S. "mathletes" were chosen after working their way

through the complex advanced mathematics materials. [Read more](#) and access the competition's results.

### **Project 2061 Receives Grant to Study Student Understanding of Energy Concepts**

The U.S. Department of Education has awarded AAAS's Project 2061 a US\$1.6 million grant to develop new tools to determine how students build their knowledge of energy concepts and to address any difficulties in understanding basic concepts. During the next four years, Project 2061 will design assessments for students at the elementary, middle, and high school levels. The tests will evaluate knowledge of the different forms of energy and energy transformation, transfer, dissipation, and conservation. The project will help students develop a strong foundation of energy knowledge that not only is useful in other subjects such as life and earth sciences, but also in more well-informed decisions later in life. [Read more.](#)



### **AAAS Board of Directors: Legally Mandated GM Food Labels Could "Mislead and Falsely Alarm Consumers"**

In a 20 October statement, the AAAS Board of Directors concluded that foods containing ingredients from genetically modified (GM) crops pose no greater risk than the same foods made from crops modified by conventional plant breeding techniques. Several current efforts to require labeling of GM foods are not being driven by any credible scientific evidence that these foods are dangerous, AAAS said, and GM labeling initiatives are being advanced by "the persistent perception that such foods are somehow 'unnatural,'" as well as efforts to gain market advantage and the false belief that GM crops are untested. In fact, AAAS stated, "GM crops are the most extensively tested crops ever." [Read more](#) and access the full statement.

### **AAAS Gallery Exhibits "Disposable Culture"**

Five artists present gallery goes with art inspired by trash, while encouraging dialogue about the by-product of our culture of production, consumption, and waste. A photographer captured images of more than 100 recycling centers in the United States and France. A sculptor repurposed plastic bags into crocheted sea creatures and a digital artist scanned plastic bags into transparent, reflective works of art. Abstract mixed media collages present recycled art. Photographs illustrate the process of shipbreaking to recycle scrap metal after final voyages. The exhibit is on view at the AAAS Gallery, 1200 New York Avenue, NW, Washington, D.C. from 9 a.m. to 5 p.m. weekdays through 30 November. [Read more](#) and watch an audio slideshow of interviews with the artists.

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## **MemberCentral**

Connect with colleagues at [membercentral.aaas.org](http://membercentral.aaas.org), the website for and about AAAS members with exclusive stories, photos, videos, webinars, and podcasts.

### **New on AAAS Member Central**

We recently held our latest Cutting Edge event on the topic of energy. Check out our videos of top experts giving short talks on solar, wind, wave, and biofuel at

<http://membercentral.aaas.org/cutting-edge>.

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## Science Careers

Science Careers, published by AAAS, offers many resources to help you advance your career. Whether you're seeking a new job, advice on career advancement in your chosen field, or ways to stay current on industry trends, you'll find helpful tools on the site -- all for free. Thousands of searchable jobs from academia, industry, and government are available as well as job alert e-mails, career advice, a resume/CV Database, webinars, and more. Visit [ScienceCareers.org](http://ScienceCareers.org) today.

### Leveraging Expertise into an Exciting Career Path: My Individual Development Plan

A new Web-based career planning tool from Science Careers helps graduate students and postdocs in the sciences define and pursue career goals. The tool includes exercises to examine skills, interests, and values; predictions of which of 20 science career paths are the best fit; strategic one-year goals and reminders; and articles and resources to guide you through your development plan. Get started at <http://myidp.sciencecareers.org>.

#### ScienceCareers Featured Jobs:

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Drexel University College of Medicine  
Philadelphia, PA

##### [Faculty - Statistical Genetics](#)

Max F. Perutz Laboratories GmbH

##### [Head, Biotechnology Cluster](#)

&Technology Parks Corporation  
Hong Kong

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## Member Benefit

### Updated Apple Discounts for Members Located Outside the United States

A range of updated discounts are available on orders placed by phone, online, or in-store. Go to [AAAS MemberCentral](#) for details.

### Dell Discount for Members Located Outside the United States

Save 10% on Dell products. See [AAAS MemberCentral](#) for terms & conditions.

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## Announcements

### 2013 AAAS Annual Meeting

14-18 February, Boston, Massachusetts

*Theme: The Beauty and Benefits of Science*

Join thousands of leading scientists, engineers, educators, and policymakers at the 179th AAAS Annual Meeting. The program for 2013 will highlight the rich and complicated connections between basic and applied research, and how they bring about both practical benefits and the beauty of pure understanding.

[Register today](#) to receive discounted rates on meeting registration and hotel reservation.

### **2013 Meeting Schedule Now Online**

Visit [www.aaas.org/meetings](http://www.aaas.org/meetings) to browse symposia, career development workshops, seminars, and topical and plenary speakers.

### **Recently Confirmed Speakers**

**Curiosity's Mission at Gale Crater, Mars** -- [John Grotzinger](#) is a geologist, project scientist for the Mars Science Laboratory, and member of the Mars Exploration Rover Science Team.

**Mechanisms for Life Extension in *C. Elegans*** -- [Cynthia Kenyon's](#) findings in molecular biology led to the discovery of an evolutionarily conserved hormone signaling system that controls aging in animals.

**Modernist Cuisine: The Art and Science of Cooking** -- [Nathan Myhrvold's](#) book chronicles the history of cooking and explains the science behind it.

### **AAAS Science & Technology Policy Fellowships: Applications Deadline 5 December**

Online applications are now open for 2013-2014 fellowships. Interested applicants are encouraged to start their application early and contact their references as soon as possible. The deadline for submission of all materials and letters of recommendation is 5 December, 5:00 p.m. U.S. Eastern Time. For more information, go to

<http://fellowshipapp.aaas.org/applications/>.

### **AAAS Charles Valentine Riley Memorial Lecture: Deadline for Nominations 14 January**

AAAS invites nominations for well-respected scientists working at the forefront of a pressing issue at the nexus of agriculture and society to deliver the 2013 AAAS Charles Valentine Riley Memorial Lecture (to be held next spring). Nominees should have outstanding scientific contributions or significant policy accomplishments related to agriculture with demonstrated societal impact. For more information and to submit nominations, please e-mail Anne Moraske at [amoraske@aaas.org](mailto:amoraske@aaas.org) or call 202-326-6759.

### **AAAS Mass Media Science & Engineering Fellows Program: Applications Deadline 15 January**

The program seeks to increase communication skills in student scientists as they not only become more adept at describing scientific concepts to the journalism community, but also better equipped to engage the public about the impact of their work. The fellowship places 10 to 15 senior undergraduate, graduate, and postgraduate science and engineering students at media sites nationwide to work as summer science reporters for 10 weeks. Past sites have included the *Los Angeles Times*, *Chicago Tribune*, and NPR. An eligible applicant's field of study must be in the natural, physical, health, engineering, computer, or social sciences, or mathematics. Students enrolled in English, journalism, science journalism, or other non-technical fields are not eligible. The



fellowship includes a \$4,500 stipend, plus travel expenses. [Application and more information](#).

### **AAAS Science and Human Rights Coalition Meeting: 31 January - 1 February**

You are invited to participate in the upcoming meeting of the Coalition, to be held at AAAS in Washington, D.C. In addition to the Coalition's working meetings, this event will highlight the intersections of science, technology, and children's rights. Panels and workshops will feature innovations in researching children's rights, children's rights online, and the implications of children's rights for research ethics. [More information](#).

### **December 7 - Writing Letters for Human Rights Day**

To commemorate International Human Rights Day, the Capital Hill chapter of Amnesty International USA will hold its annual Write-A-Thon at AAAS. Letter writing actions will spotlight human rights concerns for scientists, engineers and health professionals around the world. Special guests will include Dr. Arash Alaei and Dr. Kamiar Alaei, whose work on behalf of patients with HIV and AIDS was honored by the World Health Organization. For more information, visit the AAAS Science and Human Rights Coalition website <http://srhrl.aaas.org/coalition> . If you cannot attend but would like to write a letter, please visit the AAAS Action Alert page <http://srhrl.aaas.org/actionalert/index.shtml>.

### **AAAS Entry Point Program Accepting Applications for Summer 2013**

Entry Point refers undergraduate and graduate students with disabilities in companies, government agencies, and summer research programs that hire STEM interns for paid work in their fields. For more information about the program and to apply, go to [www.entrypoint.org](http://www.entrypoint.org). To find out about hiring an Entry Point Intern, email the program at [entrypoint@aaas.org](mailto:entrypoint@aaas.org).



### **Courses That Explore Fungi and Worm Mutants Win *Science* IBI Prize**

Two undergraduate biology courses that encourage creative experiments and independent discoveries by using fungi and worm mutants as raw materials have won the *Science* Prize for Inquiry Based Instruction (IBI).

***The Endophyte Discovery course*** at Yale University has inspired students to identify endophyte products that might prove useful in degrading polyurethane and in treating Alzheimer's disease. Research started in the class has resulted in the publication of three scientific papers.

***The Worm Mutants lab*** at the University of North Texas guides students in learning about the collaboration and work associated with scientific inquiry by designing their own genetic experiments. Students also show understanding of the concept of a genetic screen by writing research proposals.

[Read more](#) and access the essays published in the 26 October issue of *Science* by Yale University lecturer Carol Bascom-Slack and colleagues and University of North Texas associate professor of biology Pamela Padilla and Ph.D. candidate Candace LaRue.

**Give the Gift of *Science***

Give a gift that lasts all year long! 51 issues of *Science* plus full membership in AAAS at discounted rates. Plus, you'll receive our NEW "I love science" shirt with purchase. [Order here.](#)

### **U.S. Federal Workers Can Support AAAS through the CFC**

U.S. government employees can select AAAS on the Combined Federal Campaign's national/international list, supporting innovations in science, engineering, and technology to serve society around the world. Your donation through CFC helps to enhance science education, infuse policy issues like climate change with sound science, ensure national security, improve international relations, promote scientific integrity, and much more. The contribution period is 1 September to 15 December. **AAAS's CFC number is 10134.**

### **Join the AAAS President's Circle**

AAAS's undertaking to advance science in the service of society is an enormous one, especially now as we are increasingly called upon by the administration and Congress, the science community, and the public to speak up for science on a host of global issues. You can help to ensure that the voice of science -- your voice -- is heard by becoming a part of the President's Circle today with a philanthropic contribution of \$500 or more. You will receive updates about our activities and invitations to AAAS events. Visit us online at [www.tinyurl.com/dye8kn](http://www.tinyurl.com/dye8kn) or call +1-202-326-6636 for more information.

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## **More About AAAS**

[AAAS News & Notes](#) appears in *Science* in the last issue of each month.

You can also read more about AAAS at [www.aaas.org](http://www.aaas.org).

*Science* magazine is available at [www.sciencemag.org](http://www.sciencemag.org).

Change your mailing address or other info at [www.aaasmember.org](http://www.aaasmember.org)

### **Invest in AAAS**

Contributions from our members and friends are needed to support AAAS's mission to promote science in all forms. [Visit us online](#) to make a gift, or call +1-202-326-6636. With your support, we can continue to speak up for *you* -- and advance science for the benefit of society worldwide.

