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Getting the most out of your *membership*

You get special resources to help you maximize the value of your AAAS membership, including all these and more.

Register and customize your online account so you can get breaking news, career support and much more!

Get started now

- » **Register:** Visit membercentral.aas.org and click “Login” at the top of the page.
- » **Log in:** Create your User ID and Password and log in
- » **Customize:** Click “My Account” and select what interests you

Did you know?

As a member of AAAS, you're entitled to phenomenal discounts on products and services from partners including Apple, Dell, Subaru, Hertz, Geico, NASA Federal Credit Union, and more. For details, visit membercentral.aas.org/benefits

Trusted Information

- Stay informed with *Science*, the most read peer-reviewed science journal in the world
- Save time with 24/7 access to the entire *Science* website, including 130 years of archived research
- Enjoy the convenience of *Science* on-the-go using our mobile app for iPad, Android or Kindle Fire

Career Support

- Discover new skills and refine your techniques during free AAAS MemberCentral webinars, podcasts and more
- Improve your approach to professional networking through special members-only events
- Make a smooth career transition by searching available job listings for STEM professionals at all levels of experience

Advocacy Opportunities

- Work with legislators to shape public policy and secure research funding by participating in AAAS forums
- Provide technical expertise to help address U.S. and international security issues through AAAS fellowships
- Advocate for scientific freedom and responsibility through AAAS coalitions and special members' groups

Community Involvement

- Enhance science education and literacy with free online resources for teachers, students and parents
- Promote dialogue about the benefits and limitations of science through annual AAAS festivals and meetings
- Help diversify the science and technology workforce by connecting with educators and working with other dedicated AAAS members

An After-School Science Class South of the Border

By Margo Pierce

Mexico figures well below average in international rankings for science education, according to a 2009 report by the Organization for Economic Cooperation and Development. Veterinarians Alicia Marroquin, a member of AAAS, and her husband, Jose Garcia, saw the problem firsthand and decided to help make a change.

When the pair returned to Mexico from Texas, after earning advanced degrees in veterinary medicine, they were concerned about the lack of science education available to children. But they knew that just having a science class wasn't enough.

An experience in Texas galvanized their understanding of the need for age appropriate, child-centered learning. Garcia served as a judge in a local elementary-school science fair, and it was the criticism of another judge that proved the point.

"A girl was presenting her research project involving some chemical calculations. Jose and another judge were listening. The other judge asked the girl about the purpose of her project, since the chemical calculations were always fixed and no changes are expected in the results if you follow them precisely," Marroquin says. "Jose saw the frustration in the girl trying to come out with a good explanation, but after a little while she gave up and the girl looked devastated, like her project was trash."

Marroquin and Garcia believe adults too often discourage children's interest in science. They wanted to do more than just pass on information—they wanted to guide and inspire.

Marroquin herself came from a rural community where her mother finished first grade and her father didn't attend school. She didn't have a role model at home, but teachers in school helped her develop an interest in education and the aspiration to attend college. "If you don't have someone who guides you, and your parents aren't able to do that, you need someone," Marroquin says. "Jose and I are trying to do that, to be that person." ■

» Read the full story on membercentral.aaas.org/border, your personal website for member profiles, blogs, webinars and more.



Communicating *climate change*

with AAAS member

RAY WEYMANN

By Laura Petersen

Retired astrophysicist and AAAS member Ray Weymann used to spend his days teaching and conducting research at the University of Arizona in Tucson or directing the Carnegie Observatories.

Now he is an expert at communicating the science of climate change to the public. Weymann shares his top tips for teaching about climate change with AAAS MemberCentral blogger Summer Allen.

AAAS Member Central blogger Summer Allen: Which audiences do you think most benefit from hearing from scientists directly about climate change?

Ray Weymann, Central Coast Climate Science Education: Editors of papers, print and TV journalists, elected officials and teachers.

AAAASMC: What are your best tips for communicating the science of climate change to a lay audience?

Weymann: Follow the “3 S’s” tips suggested by Climate Scientist Scott Denning of Colorado State: Keep the physical explanation SIMPLE, however, note that the consequences of inaction are SERIOUS, but then emphasize that we have the SOLUTIONS available to deal with the problem if we summon the political will to implement them.

Use metaphors and analogies. The videos with climate scientists on AAAS’s What We Know website are very good in this regard, especially the one with American Meteorological Society past president Marshall Shepherd. His video serves as a model for all of us.

AAASMC: What are some common misperceptions that you have run across when you speak about climate change?

Weymann: The two most common current misperceptions are: “Climate has always changed; isn’t the present change just part of a natural cycle?” and “I hear there has been no warming since 1998 even though CO₂ has continued to rise.” ■

» Read the full story on membercentral.aaas.org/climate, your personal website for member profiles, blogs, webinars and more.

Science investment
means growth

Growth

Testimony for Congressional Record
Senate Appropriations Committee

Every federal dollar spent on basic research
leads to \$2.21 in economic growth in that
fiscal year alone.

ADVANCING SCIENCE, SERVING SOCIETY.

ADVOCACY

SPOT
LIGHT

Chairwoman Mikulski, Ranking Member Shelby, and members of the Committee, thank you for the opportunity to provide a sense of the state of scientific research in America in 2014. AAAS is the world's largest multidisciplinary scientific society, serving an estimated 10 million individuals, and is publisher of the prestigious peer-reviewed journal *Science*.

Beyond the lives saved from cancer, the wonders and conveniences of technological innovation, and the security provided by cutting-edge defense research, investing in scientific research has a remarkable return on investment. The NIH, for instance, estimates that every federal dollar spent on basic research leads to \$2.21 in economic growth in that fiscal year alone.¹ While it is difficult to identify the exact value of individual projects, scientific research is the catalyst for economic development. Economists estimate that half or more of economic growth over the past several decades is due to scientific innovation.²

The current cuts in discretionary spending have had a drastic effect on the state of scientific research in this country, the results of which will be felt for decades to come, as the pipeline from basic research to valuable technological development and industrial innovation dwindle. It is impossible to quantify the loss of potential breakthroughs and growth—the success stories not heard—but there are sufficient data to paint a distressing picture.

Where we are today

Federal funding for research and development has been largely flat over the past decade in regular appropriations, and more recently has experienced steep declines. In just the past four years, federal funding for nondefense research and development has declined by 3.3 percent (in constant dollars), after a largely stagnant decade.

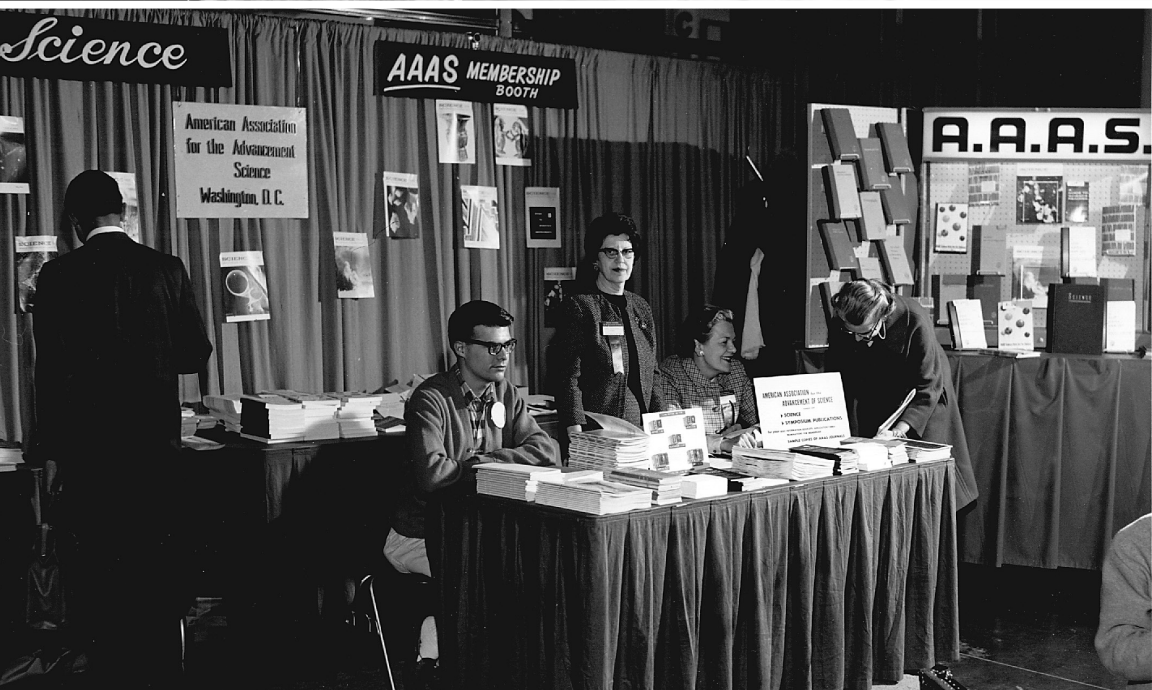
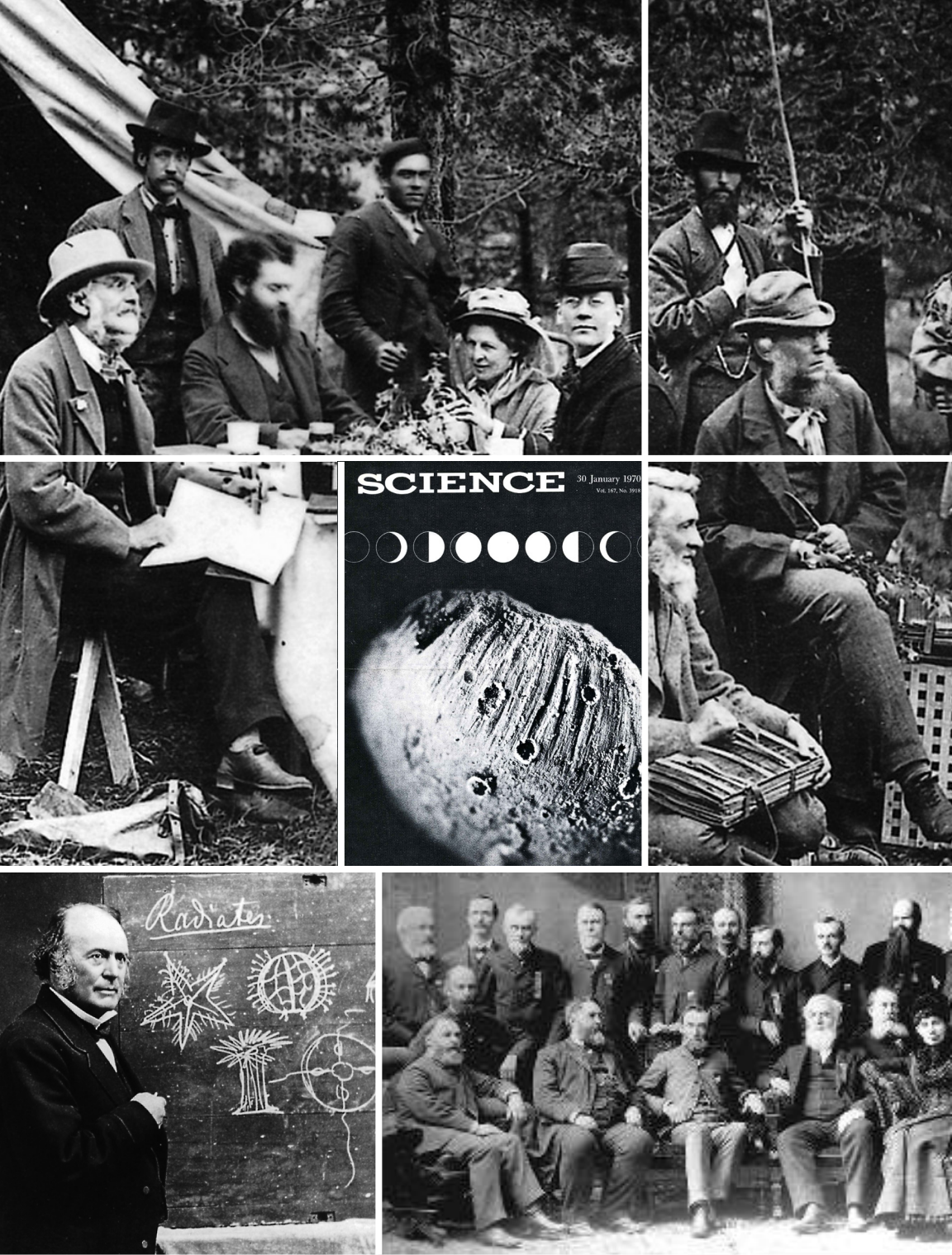
In the President's R&D budget for the upcoming year, R&D outlays as a share of the total federal budget—mandatory and discretionary—would drop to 3.4 percent, a 50-year low.³ The trend in the proposed House budget would be even more alarming: Total nondefense research and development could drop by as much as 14 percent below the current Budget Control Act discretionary baseline through 2024. ■

» Read the full story on membercentral.aaas.org/testimony, your personal website for member profiles, blogs, webinars and more.

¹ Families USA "In Your Own Backyard: How NIH Funding Helps Your State's Economy" (2008); See also Margaret Bulme-Kohout, et al. "The Impact of Federal Life Science Funding on University R&D" (RAND Working Paper 2008) p. 23 (finding a 3:1 ratio when including associated increases in non-federal research) available at http://www.rand.org/content/dam/rand/pubs/working_papers/2008/RAND_WR641.pdf

² See, e.g., US Congress Joint Economic Committee "STEM Education: Preparing for the Jobs of the Future" (2012) p. 1. Available at http://www.jec.senate.gov/public/index.cfm?a=Files.Serve&File_id=6aaa7e1f-9586-47be-82e7-326f47658320

³ Matt Hourihan, "The President's R&D Budget for FY 2015: A Summary and Charts" (AAAS 2014) available at <http://www.aaas.org/news/presidents-rd-budget-fy-2015-summary-and-charts>



ON A MISSION FOR

— 166 —
YEARS

Our mission is simple yet very powerful: advance science and serve society by providing an international voice for all the sciences.

Today, AAAS is the world’s largest general scientific society and publisher of the journal *Science*, which has the largest paid circulation of any peer-reviewed general science journal in the world. We also publish *Science Translational Medicine*, *Science Signaling*, *Science Advances*, many scientific newsletters, reports and books—and spearhead programs that raise the bar of understanding for science worldwide.

Founded in 1848, the American Association for the Advancement of Science (AAAS) is a leading advocate, educator, communicator, and nonprofit professional association.

Your AAAS membership supports programs that:

- Help governments formulate science policy
- Promote advancements in science education
- Increase diversity in the scientific community
- Use science to advance human rights
- Assist individual scientists in developing their careers
- Communicate the value of science to the general public
- Facilitate international collaboration

As a nonprofit organization, AAAS is open to all and fulfills its mission through initiatives in science policy, international programs, science education, and more. AAAS includes more than 261 affiliated societies and academies of science, serving 10 million individuals worldwide. ■

» Learn more about the history of AAAS at aaas.org/about.



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Science

The leading journal of original scientific research, with articles that consistently rank among the most cited in the world. Published since 1880, each issue is a must-read for scientists, teachers and students looking to stay abreast of the latest developments inside and outside their fields through high-impact, peer-reviewed research across the full spectrum of sciences—plus articles, reviews, award-winning news and commentary, special reports and more.

Science Translational Medicine

An essential platform for the new, multidisciplinary field in science where basic discoveries move from the laboratory to actual clinical applications.

Science Online

24/7 digital access to all current and archived issues of *Science*, including more than 130 years of digitized research.

Science Signaling

A weekly electronic resource with the most up-to-date research and commentary in the field of cellular signaling—from basic science to design of therapeutics, and from molecules to networks and systems.

Science Advances

The new, online-only, open-access journal from *Science* and AAAS—featuring significant research with global impact. Includes research from all areas of science, engineering and mathematics.



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Weekly and monthly news updates delivered to your inbox. Get the latest information from *Science*, *Science and Technology in Congress* newsletter, and *Science Roundup* and *Biomed Roundup*—which deliver summaries of top research published in *Science*, *Science Translational Medicine* and *Science Signaling*.

AAAS MemberCentral

Your personal website for connecting with other AAAS members and sharing in the global journey of science. AAAS MemberCentral offers context for scientific breakthroughs, illuminates connections among disciplines, and presents helpful tools for managing your research, classrooms and labs.

As a AAAS member, you can stay connected to the ever-evolving world of science through breaking news, policy developments and member discoveries.

» To read the latest science news every day, go to sciencemag.org.





Advance Your *Career*

With Boundless *Opportunities*

Science Careers

The largest network in the world for launching and growing careers in science, technology, engineering and mathematics. Science Careers helps to match qualified scientists with positions in academia, industry and government—providing a major recruitment tool for top science and technology employers worldwide.

Independent Development Plan

A powerful online career tool for tactical career planning, job searching and networking. The new Independent Development Plan (IDP) on the Science Careers website can help you evaluate your skills and passions online and provide personalized, step-by-step recommendations on career goals—whether you're a postdoc contemplating teaching or research, or a midcareer scientist looking for a change.

Whether you want to discover new skills, improve your approach to professional networking, or simply make a smooth transition to your next job, AAAS can help you take the next step in your career.


Mass Media Fellows

Work for 10 weeks during the summer as a reporter, researcher or production assistant in mass media organizations nationwide. The student-scientists and their host-journalists strive to enhance coverage of science-related issues in the media and improve public understanding and appreciation of science and technology. Fellows have worked as reporters, editors, researchers and production assistants at such media outlets as the Chicago Tribune, Los Angeles Times, National Public Radio, and Scientific American.

AAAS MemberCentral

Your portal for connecting with other members also helps you develop new skills and techniques to advance your career. Whether it's interactive webinars or professional networking opportunities, AAAS MemberCentral provides valuable resources to help you get that promotion or land a new job. ■

» Search thousands of available jobs, watch skill-building webinars and expand your network by connecting with other professionals at sciencecareers.sciencemag.org/you.



We are a passionate
public advocate for every
branch of science on today's most
pressing issues as they move
through the halls of Congress,
the hallways of schools, and across
international borders.

AAAS provides objective analysis to decision makers and helps experts contribute to policymaking by:

- Fighting to save funding for science
- Leading discussions on global security, health issues, climate change and human rights
- Protecting the scientific enterprise
- Promoting international science and diplomacy
- Transforming science curriculum
- Fostering communication among scientists, engineers and the public

Speaking Up for Science

Through op-ed articles, letters to policymakers, speaking appearances, media placement, and policy statements, AAAS leadership and members are influencing public perception about the science-based challenges shaping the planet today. AAAS staff and leaders regularly organize Congressional briefings, meet with policy leaders, provide testimony, and petition to preserve funding for Research & Development.

Office of U.S. Government Relations

Your inside track on these policy developments as they take shape on Capitol Hill, and as they affect legislation in your state. The AAAS Office of U.S. Government Relations provides timely, objective information to legislators on current science and technology issues—hosting Congressional briefings on topics such as biomedical innovation, climate science and brain mapping. ■

» See why AAAS is a respected voice for all branches of sciences, or to learn how you can get involved through fellowship opportunities at [aas.org/policy](https://www.aas.org/policy).

A Leading Voice
for *Science*
and *Scientists*



WORKING TOGETHER TO SOLVE GLOBAL CHALLENGES

International Scientific Collaboration and Diplomacy

Even where political ties are strained between nations, delegations of AAAS members and leaders are initiating science diplomacy efforts so that scientists can reach out to one another in the interests of their common goals of improving the lives of people worldwide.

AAAS Center for Science, Technology and Security Policy

We engage researchers, government policymakers and security experts through regular meetings and workshops to help address global security issues through collaborative science. Recent in-depth reports include: International Science and Security, Assessing the Security Risks of Biological Research in Academia, and Future Opportunities for U.S.-Uzbekistan Cooperation in the Life Sciences.

AAAS Science and Technology Policy Fellowships

For more than 40 years, AAAS has connected accomplished scientists and engineers from a broad range of disciplines to congressional offices and federal agencies. These experts learn firsthand about the intricacies of federal policymaking and policy-relevant research and lend their expertise and analysis to decision makers confronting increasingly complex scientific and technical issues. Today, there are nearly 3,000 alumni, many of whom have risen to high-impact positions in Congress, the White House, State Department, federal agencies, and research and non-governmental organizations.

Stay Current on S&T Policy and Funding News

The AAAS Government Relations office publishes daily updated State and a Federal Legislative Trackers that chart legislation of critical importance to the S&T research community. You'll find robust R&D Public Policy Program data and downloadable slide decks that break down spending by federal agencies for current and past funding cycles. Stay on top of S&T discoveries and policy news with the e-newsletter Science and Technology in Congress. ■

» Learn more about getting involved with the AAAS Science & Technology Fellowships at fellowships.aaas.org/you.

We live in an era in which every major challenge has both a global component and the fingerprint of science in its cause or cure. AAAS members provide objective analysis to decision makers and help experts contribute to policymaking at home and abroad.



Bringing the *best minds* to the table

Annual Meeting

It's the largest general scientific conference in the world. Each February, the energizing, four-day event draws thousands of attendees from dozens of countries and scores of newsrooms worldwide for the latest breaking research news and presentations on future directions in science. The AAAS Annual Meeting features public talks by world-renowned scientists and speakers, lectures by influential researchers, symposia from a broad spectrum of disciplines—as well as free public talks and kid-friendly demonstrations to spark the wonder of science in future generations.

Forum on Science and Technology Policy

Held since 1976, this forum delivers the latest in-depth analysis, information and debate about budget and other policy issues facing the science and technology community. The meeting draws 400 to 500 of the nation's top science and government leaders to Washington, D.C., every spring.

To help you connect with colleagues and expand the public dialogue around science and technology, AAAS sponsors an array of meetings, topical forums and events. As a member, you'll enjoy special rates at all AAAS events.

AAAS Divisions

As a member of AAAS, you help shape the direction of regional initiatives as part of four geographic divisions, governed by elected Division Officers. Each of the AAAS Divisions—Arctic, Caribbean, Pacific, and Southwest/Rocky Mountains—is open and accessible to all members and provides an important cross-disciplinary network for collaboration on common issues. Through Divisional events and annual meetings, scientists and scholars can identify and investigate topics of regional significance—and develop opportunities for public participation.

Sections

AAAS membership is organized by 24 disciplinary sections that correspond to fields of interest by AAAS members—from hydro-spheric science to linguistics, chemistry to computing. Through your section, you can interact with thought leaders inside and outside of your field, give input on symposia topics at the AAAS Annual Meeting, and vote in your peers as AAAS Fellows, one of science's highest career honors. ■

» For more information about upcoming events and forums, go to aaas.org/press.



Future Scientists

Science Netlinks

A free online educational resource and community with hundreds of lesson plans, online tools, kids' news, and interactive challenges for K-12 teachers, students, librarians and families.

Kinetic City

Fun online scientific activities and games for K-12 students.

We need a future generation of scientists, engineers, policymakers and citizens with nimble minds. That's why AAAS encourages K-12 curriculum improvements, undergraduate research, and fellowships that support all scientists and engineers from the earliest stages of their careers through retirement.

Project 2061

Brings together top scientists and educators to make scientific literacy possible for all students and identifies skills needed to help our society remain competitive in the face unparalleled growth in technological innovation. Project 2061 began in 1985 – the year Halley's Comet was last visible from Earth. Children starting school now will see the return of the Comet in 2061 – a reminder that today's education will shape the quality of their lives as they come of age amid profound scientific and technological change.

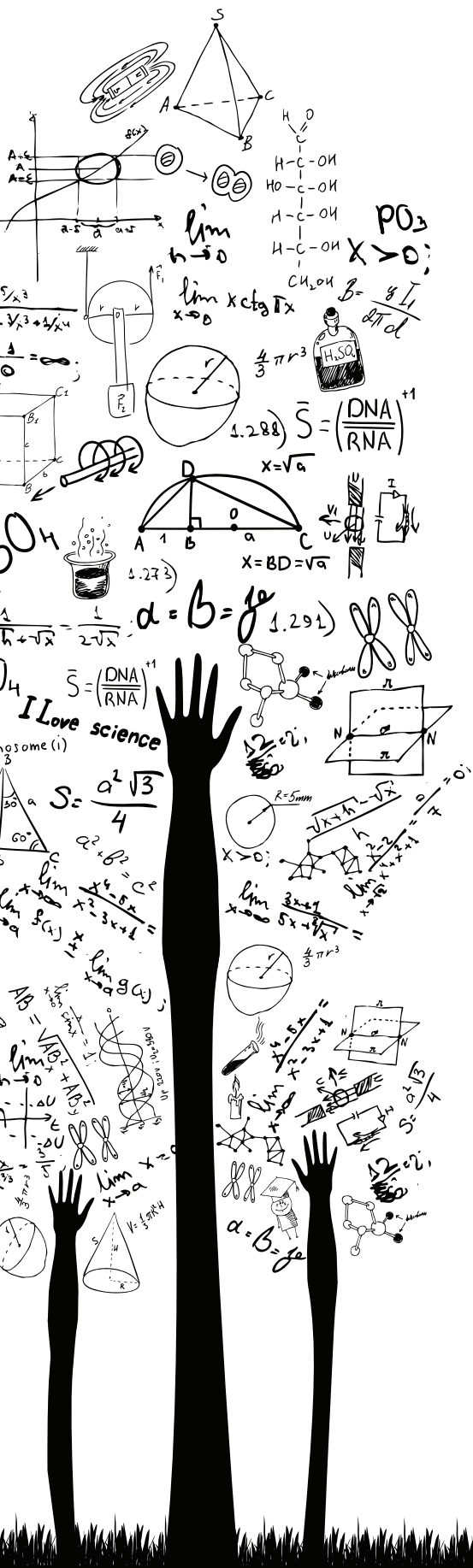
ENTRY POINT!

Paid summer internships for aspiring scientists and engineers with disabilities at leading agencies, research institutions and corporations.

The Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM)

Aimed at college and university undergraduate and graduate students who participate in programs funded by the National Science Foundation, including underrepresented minorities and persons with disabilities. ■

» Download free lesson plans, activities and more educational resources at [aaas.org/education](https://www.aaas.org/education).



AAAS members are helping students reach new heights.

With more than 100 volunteers spending a day a week in K-12 classrooms in the D.C. area, and a budding program in Seattle, AAAS is committed to working with scientists and engineers to make scientific literacy possible for all students.

Now, thanks to a generous donation from a AAAS Fellow, we are growing these efforts into a nationwide network. AAAS is pleased to announce the launch of the pilot stage of the AAAS National STEM Volunteer Program. AAAS National STEM Volunteer seed grants have just been awarded to seven members to work with non-profits in their communities to bring scientists and engineers into local classrooms in an ongoing and meaningful way.

The awardees are: Dr. Julie Luft, University of Georgia; Dr. Ronald Evans, Salk Institute for Biological Studies; Dr. Philip Bell, Institute for Science and Math Education, University of Washington; Dr. Barry Shur, University of Colorado, Denver; Dr. Audrey Gasch, Foundation for Madison's Public Schools; Dr. Stefi Baum, Rochester Institute of Technology; and Dr. Edward Bilsky, University of New England.

In addition to funding, AAAS will provide resources for developing, implementing and sustaining the volunteer effort.

Please join us in congratulating all of the awardees and in thanking the nearly 70 AAAS members who applied to be a part of the AAAS National STEM Volunteer Program.



Always here for you!

If you ever have questions about your AAAS membership or *Science* subscription, here are the fastest and easiest ways to reach us:

1.866.434.2227 (Mon-Fri; 9AM-4PM EST)

Email: membership2@aaas.org

Web: membercentral.aaas.org

American Association for the Advancement of Science
1200 New York Ave, NW
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