Founded in 1848, the American Association for the Advancement of Science is an international, nonprofit organization dedicated to advancing science, engineering and innovation for the benefit of all people. With more than 120,000 individual members in more than 91 countries, AAAS is the world’s largest multidisciplinary scientific society and a leading publisher of cutting-edge research through the Science family of journals. As one of the top voices for science worldwide, we spearhead initiatives in policy, international cooperation and diplomacy, STEM education, public engagement, and more. We strive to promote and defend the integrity of science and its use, provide a voice for science on societal issues, and strengthen and diversify the science and technology workforce. More information is available at www.aaas.org.
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As we face momentous challenges around the globe in need of scientific evidence and societal decisions, AAAS and the Science family of journals further progress and advocate for the research enterprise.

The AAAS mission focuses our work to “advance science, engineering and innovation throughout the world for the benefit of all people.” By leading and partnering on initiatives in science communication, education, advocacy, public engagement and international programs, and working in concert with affiliated organizations, members and donors, AAAS significantly increased its role and impact as “the force for science” in 2017.

We have effectively shared information on the latest research advances with the scientific community, policymakers, reporters and the public; spoken out on the conditions that the research enterprise needs to thrive; provided training and resources to students, scientists and engineers; and promoted research collaboration across disciplines and borders. AAAS membership increased by more than 20,000 individuals in 2017.

We thank AAAS members and donors who serve with us collectively as the Force for Science at a time when it is needed more than ever.
We thank AAAS members and donors who serve with us collectively as the Force for Science at a time when it is needed more than ever."
Advocating for Science in U.S. Policymaking

The transition in U.S. presidential administration offered numerous opportunities for AAAS and its members to become more active in advocating for science to policymakers and other audiences.

At the AAAS Annual Meeting in February, scientific sessions, workshops and networking events found scientists and engineers more energized than disheartened by the changing political environment. Several members said they participated in the meeting specifically to find out how to get more involved in science policy — a sentiment echoed throughout the year as AAAS programs that inform and train scientists to engage with policymakers attracted increased interest in the scientific community.

Throughout the year, CEO Rush Holt made 36 public statements on issues of concern to the scientific community, including changes to travel and immigration policies, the use of science and scientists to inform and develop evidence-based decisions in government, the importance of funding U.S. research and development programs, and more.

AAAS led and participated in several advocacy efforts with other scientific organizations, including a letter to President Donald Trump and news media outreach that called attention to concerns about the future of scientific advice in the U.S. federal government and the presentation of scientific data on government websites. AAAS also offered its assistance to administrators and staff of federal agencies in connecting to experts and high-quality scientific information relevant to their decision-making.

AAAS provided resources on science policy issues through the Force for Science site (www.forceforscience.org), including an advocacy toolkit for groups and individuals, the Policy Alert weekly newsletter for members, and via media and social media.
Ben Kellman

Ben Kellman is a Ph.D. student in bioinformatics and systems biology at the University of California, San Diego. He grew increasingly concerned that the travel bans and funding cuts being proposed by the Trump administration would threaten international colleagues and the overall institution of science. Seeking to contribute to nonpartisan advocacy, Kellman decided to support AAAS efforts to connect scientists with policymakers.

An avid cyclist, Kellman organized a bike ride from San Diego to San Francisco, shining a spotlight on the value of scientific research and raising more than $5,000 for AAAS. “It isn’t a huge sum of money, but it is much more than I could have donated,” said Kellman, who was joined for part of the ride by some of his colleagues. “And I now have a lot of friends who will look to AAAS for support in Washington. AAAS is a group that can amplify our individual voices into a cohesive and compelling message.”
Science and Technology Policy Forum Recommends Engaging at Local Level

During the annual gathering of science policy experts and policymakers in Washington, D.C., attendees of the AAAS Science and Technology Policy Forum discussed the need to engage with communities at the local level. It is crucial to understand your audience — and the “assumptions and premises you are bumping up against” as you reach out to them, said David Goldston, director of government affairs at Natural Resources Defense Council. The key to effectively connecting to your audience is to “be as local as possible.”

Scientific Freedom and Responsibility Statement Adopted by AAAS Board

The freedom to pursue science, apply its findings and share its discoveries is inextricably linked to the obligation of the scientific community to conduct its work with integrity and keep the interest of humanity as a core tenet, according to a statement adopted by the AAAS board of directors in October. An online resource portal provides topical information for seminars, group discussions or references for policymaking efforts in scientific freedom and responsibility.

“The conduct of science — with the multiple benefits it delivers — depends on the freedom to pursue science in the directions it leads, and the expectation that science will be conducted in a responsible manner,” said Barbara Schaal, chair of the AAAS board of directors and professor of biology and dean of the Faculty of Arts & Sciences at Washington University in St. Louis. “Such formal statements help underscore the need for freedom and responsibility in science and set a benchmark for other organizations to develop their own statements.”

Golden Goose Awards Honor Basic Science

Three research teams were recognized with Golden Goose Awards in 2017, including researchers who solved a mystery to better understand and respond to a global epidemic of fungus among amphibians. The awards, founded by AAAS and others in 2012, recognize federally funded basic science investigations that have resulted in important practical applications.
AAAS facilitates scientific exchange and relationships across borders, fostering international scientific collaborations and connections among researchers, which lead to new discoveries and improved relationships between governments and benefit the public welfare.

**AAAS Signs Agreement with Mexico’s Leading Scientific Organization**

Pledging to foster scientific collaboration and find innovative ways to integrate scientific knowledge into policymaking in both countries, AAAS signed a memorandum of understanding with Mexico’s Presidential Science Advisory Council.

The outreach comes at a time of strained relations between the administration of President Trump and Mexican authorities over the renegotiation of the North American Free Trade Agreement, immigration policies and Trump’s pledge to erect a wall along the U.S. southern border with Mexico.

Speaking before the Mexican Congress on Science-Informed Policy, AAAS CEO Rush Holt underscored the importance of giving science a voice in the policymaking arena and ensuring that policymakers understand that “science is a process toward better, and better understanding of evidence and more and more reliable knowledge.”

The agreement represents the first step in extending scientific collaborations between AAAS and Mexican President Enrique Peña Nieto’s scientific advisory council. The aim is to help grow international scientific partnerships, enhance communications about scientific endeavors and provide guidance on how to build programs to place scientists in positions that deepen the role of scientific knowledge in policymaking.

**Championing Women in Science at Conferences in Jordan and Kuwait**

Speakers at two international events supported by AAAS stressed the importance of increased female representation in scientific fields to take maximum advantage of available talent and optimize solutions to global challenges.

If more women are not included in science, technology, engineering and mathematics leadership, “we lose talent, we lose perspective and we invent solutions for a few when we should be inventing solutions for all,” said AAAS Director of International Relations Julia MacKenzie at the World Science Forum in Jordan in November.
Another conference focused exclusively on women in Kuwait — Women Leaders in Science, Technology, and Engineering +10 (WLSTE+10) — drew accomplished women from all over the world who came together to serve as role models and inspiration for the next generation of women in science.

Shirley Malcom, director of AAAS Education and Human Resources programs, cited a stark illustration of gender inequity in a WLSTE+10 session on women scientists in leadership roles. Although women receive approximately half of the medical degrees awarded in the United States, only 16 percent of medical school deans are women. “So, access is one thing. Leadership is another,” said Malcom.

“We want to show the world that these exchanges are possible, despite political obstacles, that human welfare is advanced if we have full collaboration and free exchange of ideas and people,” CEO Rush Holt said during opening remarks at the four-day symposium.

Participating researchers presented their relevant work and discussed ways to accelerate progress on combating threatening mosquito-borne illnesses such as dengue fever and Zika virus. In a separate meeting, Holt and Sergio Pastrana, executive director of the Cuban Academy of Sciences, developed plans to extend scientific cooperation beyond the biomedical sciences into areas including natural disaster resilience, protection of marine ecosystems and biodiversity management.

“Despite the political differences between the United States and Cuba, both nations are strong in the sciences and have a history of fruitful collaboration,” said Julia MacKenzie, director of international relations.

**Science & Diplomacy**

Issues such as capacity building, health diplomacy, international research and large-scale infrastructures are explored in this quarterly online journal, providing an important forum for scholars, practitioners and others interested in science diplomacy.

**U.S. and Cuban Scientists Collaborate on Infectious Disease Research**

In continuation of a relationship started in 2014 when AAAS and the Cuban Academy of Sciences signed a historic agreement to promote scientific cooperation, researchers from the United States and Cuba met in Havana in August to plan new work on infectious disease research of benefit to both countries.
In Memoriam

Sibyl Golden

The science policy and diplomacy community lost philanthropist Sibyl Golden in August. Throughout her life, Golden and her family foundation supported a variety of science organizations, including AAAS. Her interest in science policy and diplomacy was kindled by her father, William T. Golden, longtime treasurer of AAAS, whose influence led to the development of several science advisory roles in the U.S. government.

Golden continued her interest in the mutual reinforcement of science and diplomacy by providing essential funds to support the launch of the AAAS Center for Science Diplomacy in 2008, and continued to support its expanded work to convene international science and diplomatic leaders, develop educational courses, host research scholars, and publish the online policy journal Science & Diplomacy.

“Sibyl’s commitment to enabling AAAS and the broader scientific community to help support positive relations between countries and to strengthen scientific capacity in diplomacy will not be forgotten,” said Tom Wang, chief international officer at AAAS.

PHOTO CREDIT: BARNARD COLLEGE/ASIYA KHAKI
Science Communication and Public Engagement

AAAS shares information about scientific advances and promotes science communication and public engagement among diverse audiences and stakeholders. Each year, AAAS hosts the world’s largest general science meeting, attracting researchers, policymakers, journalists and families. Throughout the year, AAAS discusses the latest science news with reporters, provides communication training and resources to scientists and engineers, and connects researchers and practitioners of science communication and public engagement.

AAAS Annual Meeting: Serving Society Through Science Policy

Concern about the impacts to the scientific community of the U.S. presidential transition led many of the news-making discussions at the AAAS Annual Meeting held in Boston in February, the 183rd meeting of AAAS.

While advocating for the use of scientific evidence to inform public policymaking, scientists and engineers must communicate that science is a public good, said AAAS President Barbara Schaal during her presidential address. Schaal, a biologist, professor and university dean, discussed how science can address challenges in her own field of agriculture, from coping with new plant diseases to increasing yields and nutritional content in the face of global climate change.

“We have an obligation as members of the science community to clearly communicate the value of science... It’s central to the function of government, to the well-being of its citizens, and to the overall health of the economy and the health of our planet,” Schaal said.

Researchers gave news briefings on the effective management of fisheries; robots that can help the elderly retain independence; education programs that combat bias and boost success for students; the ethical and regulatory issues of gene editing; ways to minimize the word gap in early childhood; and more. Hundreds of research presentations, seminars and symposia on diverse science topics were attended by the nearly 10,000 people from 60 countries who participated in the meeting.
Through their philanthropy, Lawrence Linden and Bob Litterman have advanced AAAS efforts to become a stronger Force for Science in advocacy and communication, including the communications initiative *What We Know: The Reality, Risks, and Response to Climate Change*.

In a recent discussion with membership and philanthropy staff, Linden said, “It is very important that the institutions of the scientific community stand up for... the proper use of facts in our world to support the progress of humankind and of our country.”

Litterman agreed. “It’s very useful when a respected scientific institution or body comes out and says, ‘Look, these are the realities. We have to deal with them,’” he said. “I think when AAAS did that [with *What We Know*], it lifted the conversation from one of individual scientists to one of ‘This is really the consensus of the scientific community, and this is what we know.’”
March for Science Brings Science Advocates to the Streets

AAAS partnered with the first-ever March for Science in a public effort to highlight the importance of science and evidence-based decision-making. “We encourage AAAS members and affiliated organizations to ‘be a force for science’ by participating in the March for Science and making it positive, non-partisan, inclusive and diverse,” said AAAS CEO Rush Holt. As part of its related activities, AAAS provided an advocacy toolkit, a pre-March rally and a teach-in tent on the National Mall. Held on Earth Day (April 22), the March for Science received widespread media coverage and an estimated 1 million people participated at the National Mall in Washington, D.C., and more than 600 locations around the world.

SciLine Provides Journalists with Scientific Expertise and Context

Thanks to the strategic vision of Kathryn Murdoch, co-founder and president of the Quadrivium Foundation, AAAS launched SciLine in October to provide journalists with high-quality scientific expertise and context — on demand and on deadline. “SciLine’s ultimate mission is not only to shine a light on the best scientific evidence, but also to help inform journalists and the public about how reliable evidence is obtained and verified,” said SciLine director Rick Weiss. Contributions from the Quadrivium Foundation, the John S. and James L. Knight Foundation, the Rita Allen Foundation, the Chan Zuckerberg Initiative and the Heinz Endowments support the free service, geared toward general assignment reporters and editors in the United States.

Dialogue on Science, Ethics and Religion Brings Science to More Seminaries

Many people have questions about the theological implications of science and scientific research, but few religious leaders have training in science. In response to this need, the AAAS Dialogue on Science, Ethics and Religion (DoSER) developed the Science for Seminaries program, working with 10 theological institutions in the United States that represent a wide variety of Christian religious traditions to incorporate relevant science into core courses. Now entering its second phase, the Science for Seminaries program is focused on providing opportunities for additional seminaries to integrate science in their core curricula for the benefit of faculty and students, ultimately equipping leaders of religious communities to consider advances in science and relevant implications in the context of their faith.

“Many people look to their religious leaders for guidance on issues relating to science and technology, even though clergy members may get little exposure to science in their training,” said Jennifer Wiseman, director of DoSER. “We are pleased to see such enthusiastic interest in science, technology and implications for society in these training institutions for the nation’s religious leaders.”
AAAS provides multiple opportunities for fellowships and professional development, helping scientists and others diversify their skills and explore career pathways in policy, public engagement, journalism, diplomacy and more. AAAS Honorary Fellows are elected to recognize their achievements and contributions to science, technology, engineering and mathematics.

AAAS Fellows Elected
The AAAS Council elected 396 members as AAAS Fellows in October, recognizing their contributions to science and technology, scientific leadership, and extraordinary achievements across disciplines. Each year, honorary Fellows are nominated by steering groups of the 24 AAAS sections and recognized during the Fellows Forum at the AAAS Annual Meeting.

Science and Technology Policy Fellows Bring Expertise to U.S. Government
The 45th class of AAAS Science and Technology Policy Fellows began their two-week orientation and training in September before heading off to work in one of the three branches of the U.S. federal government for a year or two. The 278 fellows selected for the 2017 class, who all have advanced degrees in science, engineering or medicine, contribute technical expertise while learning about policymaking by direct experience.

Catalyzing Advocacy in Science and Engineering (CASE) Trains Students in Policy
AAAS and a coalition of other science and engineering organizations, universities, and academic groups offered training in basic science policy and advocacy for upper-class undergraduates and graduate students. The annual three-and-a-half-day CASE program provides workshops on effective communication, the federal budget and appropriations process, and policymaking. Afterwards, students meet with their congressional representatives in Washington, D.C.

△ Photo Credit: AAAS Science & Technology Policy Fellowships
The second class of Leshner Leadership Institute Public Engagement Fellows conducted communications programs on the subject of infectious diseases. The 15 mid-career scientists selected to become fellows received training in science communication, facilitating dialogue opportunities and engaging with policymakers. Each also developed and implemented a public engagement plan in consultation with their home institutions, and contributed to an increasing network of engaged scientists.

Ina Park, a professor of family medicine at the University of California, San Francisco School of Medicine, said participating in the fellowship “really opened my mind to what was possible” in terms of different ways to engage the public. Launched to honor AAAS CEO Emeritus Alan Leshner, the Leshner Leadership Institute is fully funded by philanthropic support.

Science Diplomacy and Leadership Workshop Trains Scientists and Diplomats

Trust-building, effective communication and hands-on diplomatic experience were the focus of the Science Diplomacy and Leadership Workshop, held in September in Washington, D.C. The immersive course trains the next generation of scientists seeking to address societal problems through international cooperation and policymakers looking to ground their work in scientific evidence. “Organizations like AAAS have always sought to use the power of science and the natural connection between scientists to work with counterparts, no matter what the political obstacles have been,” said Tom Wang, chief international officer at AAAS.

AAAS-Lemelson Invention Ambassadors Raise Visibility of Innovation

A partnership between AAAS and the Lemelson Foundation, established in 2014 to celebrate the importance of invention and cultivate a diverse generation of inventors dedicated to solving difficult global challenges, added eight ambassadors to its ranks in July. The AAAS-Lemelson Invention Ambassadors participated in a three-day orientation program, presenting their inventions to public audiences, meeting with congressional staff and attending sessions describing federal agencies and programs that help inventors.

Mass Media Fellows and Minority Science Writer Interns Spend Summer as Reporters

The AAAS Mass Media Science and Engineering Fellowship and the AAAS Pitts Family Minority Science Writer Internship programs allow scientists and students to spend their summer as science journalists in newsrooms across the United States. Now in its 43rd year, the Mass Media Fellowship has sent nearly 700 scientists and engineers into newsrooms. Nineteen Mass Media Fellows were sponsored by a scientific society or foundation in 2017. In addition, two undergraduate students from underrepresented communities with a serious interest in science writing spent the summer at AAAS headquarters in Washington, D.C., writing news stories for Science magazine.
Ayanna Howard

Robotics engineer Ayanna Howard builds robots that can handle glaciers, the rocky surface of Mars and the sudden moves of inquisitive children. Howard is a AAAS-Lemelson Invention Ambassador, professor and chair of computing at Georgia Institute of Technology, and chief technology officer at Zyrobotics, a Georgia Tech VentureLab startup company. She previously worked on the Mars Technology Program at NASA’s Jet Propulsion Laboratory, and her current work develops robots for children with motor limitations and special needs, including cerebral palsy, autism and Down syndrome.

“You improve rehabilitation outcomes with robots: They are very good at repetition, they don’t get bored, they don’t get frustrated at people, and so it allows you to have this long-term engagement in the home,” Howard said. As a AAAS-Lemelson Invention Ambassador, she communicates on the value of innovation and inspires audiences from middle-school students to policymakers.

PHOTO CREDIT: GEORGIA INSTITUTE OF TECHNOLOGY
Improving education and opportunities for students and professionals in science, technology, engineering and mathematics (STEM) is a primary goal of AAAS, benefiting individuals and society, which needs science-literate citizens and a well-trained STEM workforce. AAAS facilitates training programs, conferences, awards and internships that reach out to women and underrepresented groups to ensure society can access the full spectrum of STEM talent.

SEA Change Program Aims to Transform STEM Diversity Efforts in U.S.

With support from the Heising-Simons Foundation and The Kavli Foundation, AAAS has launched the SEA Change program, working with colleges and universities in the United States to create institutional systems that improve outcomes and opportunities for underrepresented and underserved groups in STEM. Participating educational institutions commit to removing barriers to STEM achievement for women, minorities and people with disabilities through review and voluntary self-assessment, facilitated by AAAS.

“We have been able to advance in science and technology because of people who generate ideas, who provide the creative spark that expands our economy and who ensure increased productivity as well as improved health, security and overall quality of life,” wrote Shirley Malcom, head of AAAS’ Education and Human Resources programs, and Paula Rayman, professor at the University of Massachusetts Lowell and advisory board chair of the SEA Change program. “But our nation has so far failed to use all of the talent available to us.”

Systematic transformation efforts of participating educational institutions will be appraised as part of each assessment, and institutions will be awarded bronze, silver or gold ratings for their efforts — similar to the rating system used to recognize and encourage energy-efficient buildings.

△ Photo Credit: University of Warwick Media Library
Melody Mobley

The United States’ first black female forester and now a volunteer with the AAAS STEM Volunteer Program, Melody Mobley had her first experience in nature growing up in Louisville, Kentucky. When starting her career in forestry, Mobley said she had to seek out mentors that did not look like her because there were none that did. Now she is working to change that through volunteer work with the AAAS STEM Volunteer Program, which brings professional scientists and engineers into classrooms to assist teachers with science instruction.

“Science is my great love and my passion, so it’s the field that academically I’m strongest in,” Mobley said. “I’m able to show them my passion for science, that I love it, and that I can do it. And if I can do it, they can do it.”

PHOTO CREDIT: MELODY MOBLEY
Role Models in STEM Needed for Emerging Researchers

The need for role models was discussed at the 7th Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM), held in Washington, D.C., in March. The conference, co-sponsored by AAAS and the National Science Foundation, provides undergraduate and graduate students who are underrepresented minorities and persons with disabilities an opportunity to present research posters and oral presentations and attend career workshops.

A special panel at the meeting featured Margot Lee Shetterly, the author of *Hidden Figures*, which tells the story of African-American women who worked as “human computers” in the space program at NASA’s Langley Research Center in Hampton, Virginia, in the 1950s and 1960s. Moderated by Kelly Mack, vice president for undergraduate STEM education at the Association of American Colleges and Universities, the panel also included Shetterly’s father, Robert Benjamin Lee, a retired Langley climate scientist, and Christine Darden, a former Langley aerospace engineer and one of the women profiled in *Hidden Figures*. Shetterly gave the following advice to students: “Don’t stop asking” for what you want. “Sometimes a ‘no’ is the first step to a ‘yes.’”
Science research publications encompassed advances across the biological, physical and social sciences, and news and analysis expanded our understanding of mental health issues in refugees, work needed before autonomous cars go mainstream, and how scientists identify countries to call “home” for research purposes, among many other issues.

Special Issue and News Highlights

Science published special issues on a range of topics, from “Autonomous Cars” to “Human Migrations” to “Artificial Intelligence.” The 28 April “Vaccine Wars” special issue explored (and debunked) common myths surrounding vaccines and addressed how skeptical parents might be persuaded to vaccinate. In the 19 May special issue, “Human Migrations,” contributing correspondent John Bohannon highlighted a unique way to track the migration of scientists around the globe — by tapping into the ORCID database. His data analysis uncovered a number of surprising patterns about the migratory patterns of knowledge producers.

Investigative Reporting Fund Established

Thanks to the Science Fund for Investigative Reporting, the Science News team increased its support of ambitious projects in investigative reporting and data journalism in 2017. Established by donor Daniel Pinkel, the fund provides resources that allow Science to facilitate challenging and time-consuming investigations by journalists.

The Science Fund for Investigative Reporting supported the 6 October 2017 publication of “Disturbing allegations of sexual harassment in Antarctica leveled at noted scientist,” an exclusive story by Meredith Wadman.

2017 Research Highlights

PRESIDENT OBAMA BELIEVES U.S. CLEAN ENERGY TREND “IRREVERSIBLE” In a Policy Forum, former President Barack Obama conveyed “...trends towards a clean energy economy that have emerged during [his] presidency will continue,” outlining reasons for his confidence. (Science, 13 January)
2017 Research Highlights
Continued

SPACE CALLS EARTH, ON THE QUANTUM LINE  In a landmark study, Chinese scientists reported the successful transmission of entangled photons between suborbital space and Earth — at a distance that far exceeded previous transmission records, with important implications for communication networks. (Science, 16 June)

NEW APPROACH PUSHES THE BOUNDARIES WITH CRISPR: EDITING RNA  Scientists developed a new version of the gene-editing tool CRISPR that can target and edit RNA. The ability to edit RNA allows scientists to correct mutations during key developmental periods. (Science, 27 October)

OCEAN CURRENT DUMPS PLASTIC IN REMOTE ARCTIC WATERS  The Arctic Ocean is a dead end for plastics, researchers reported. Their study confirmed that plastics are abundant and widespread even in seas where human populations are low, a result stressing the importance of properly managing plastic litter at its source. (Science Advances, 19 April)

ARTIFICIAL LIGHTS INCREASE ‘LOSS OF NIGHT,’ ESPECIALLY IN SOME NATIONS  A global analysis of nighttime light emissions revealed that the artificially lit surface of our planet is still growing in most countries. The growth in nighttime light nearly matched the global rise in GDP, suggesting access to solid-state lighting does not decrease global energy consumption for outdoor light. (Science Advances, 22 November)

A GECKO-LIKE ROBOTIC GRIPPER GETS A GRASP ON SPACE DEBRIS  A gecko-inspired robotic gripper built to capture “uncooperative” objects in space could help astronauts clean up space debris, paving the way toward safer and more cost-effective space exploration. (Science Robotics, 28 June)

SOFT ROBOTS HUG THE HEART TO HELP PUMP BLOOD  Scientists designed and tested an implantable soft-robotic device that could help failing hearts pump blood by giving the organ gentle squeezes, mimicking the natural motion of cardiac muscle. (Science Translational Medicine, 18 January)

FASTING LOWERS RISK FOR AGE-RELATED DISEASES IN CLINICAL TRIAL  A fasting-mimicking diet regimen reduced indicators for age-related diseases among people who adhered to it for 90 days in a phase 2 trial. (Science Translational Medicine, 15 February)

TWO RECEPTORS OFFER BALANCING ACT FOR PAIN  The balance in signaling between two neuron receptors that produce pain-relieving and pain-promoting signals is controlled by a sodium channel in the same neuron. The findings provide a platform for identifying potential drug candidates that can magnify the pain-relieving abilities of medications like opioids. (Science Signaling, 10 January)

THE NOSE KNOWS HOW TO STOP THE FLU VIRUS IN ITS TRACKS  Scientists identified nose-specific immune cells as potential new therapeutic targets for thwarting influenza infection, which continues to be a major public health burden. (Science Immunology, 2 June)
Science chose as its 2017 Breakthrough of the Year the first observations of a neutron-star merger, a violent celestial event that transfixed physicists and astronomers. The merger “tested the general theory of relativity as never before,” said Science News staff writer Adrian Cho.
Thank You to Our 2017 Donors

**Lifetime Giving Society**
The Lifetime Giving Society recognizes individuals who have contributed a cumulative total of $100,000 or more during the course of their involvement with AAAS.

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- Sadie Kendall
- Pauline P. Lee, in memory of Bernard S. Lee
- Robert B. and Bethany Millard
- Thomas P. Moran
- Paul E. and Carol Neiman
- Edith D. Neimark
- Barbara Nettlesheim
- Gilbert S. Omenn and Martha A. Darling
- Charles E. Reed†
- David A. and Janet H. Rice
- Phillip A. and Ann H. Sharp
- Leslie Stermleib
- Daniel Vapnek
- David Waddington†

**$2,500-$4,999**

- Lawrence H. Linden
- Robert B. and Mary Litterman
- Daniel Pinkel
- David Evans Shaw

**$10,000-$24,999**

- Franklin B. Barker†
- Margaret A. Hamburg
- and Peter F. Brown
- David E. Shaw and Beth Kobliner Shaw
- Hezekiah E. Zeiber†

**Edison Society**
The Edison Society recognizes individuals who pave the way for the success of AAAS and our efforts on behalf of science and society through their leadership gifts throughout the year.

**$100,000 and above**

- David Waddington†

**$5,000-9,999**

- David R. Atkinson
- Thomas R. and Johanna K. Baruch
- Daryl Cobranchi
- Troy E. Daniels
- Derik de Bruin
- Dennis L. Director
- Albert T. Dosser
- Richard Dudley
- Daniel Hitchcock
- Ben Killman
- Dennis C. Liotta
- Gordon Prescott
- Robert L. Smith Jr.
- Ann M. Stock
- Jean E. Taylor
- Peter B. Wiley
- Thomas A. and Cynthia Woolsey

- Anonymous
- Caroline M. Barrett
- Jonathan Bellack
- Fred A. Blum
- Lewis and Constance Branscomb
- Roy Curtiss III
- Gary and Denise David
- Gregory S. Ferriss
- Stephen and Janelle Fodor
- Sadie Kendall
- Pauline P. Lee, in memory of Bernard S. Lee
- Robert B. and Bethany Millard
- Thomas P. Moran
- Paul E. and Carol Neiman
- Edith D. Neimark
- Barbara Nettlesheim
- Gilbert S. Omenn and Martha A. Darling
- Charles E. Reed†
- David A. and Janet H. Rice
- Phillip A. and Ann H. Sharp
- Leslie Stermleib
- Daniel Vapnek
- David Waddington†

- Anonymous
- Caroline M. Barrett
- Jonathan Bellack
- Fred A. Blum
- Lewis and Constance Branscomb
- Roy Curtiss III
- Gary and Denise David
- Gregory S. Ferriss
- Stephen and Janelle Fodor
- Sadie Kendall
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- Robert B. and Bethany Millard
- Thomas P. Moran
- Paul E. and Carol Neiman
- Edith D. Neimark
- Barbara Nettlesheim
- Gilbert S. Omenn and Martha A. Darling
- Charles E. Reed†
- David A. and Janet H. Rice
- Phillip A. and Ann H. Sharp
- Leslie Stermleib
- Daniel Vapnek
- David Waddington†

**$2,500-4,999**

- Lawrence H. Linden
- Robert B. and Mary Litterman
- Daniel Pinkel
- David Evans Shaw
## 2017 Financial Statements

**Consolidated Statements of Financial Position for the years ended December 31, 2017 and 2016**

($ in thousands)

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>8,104</td>
<td>7,792</td>
</tr>
<tr>
<td>Accounts receivable, net</td>
<td>5,117</td>
<td>4,507</td>
</tr>
<tr>
<td>Grants and contributions receivable, net</td>
<td>19,976</td>
<td>7,616</td>
</tr>
<tr>
<td>Prepaid expenses and other</td>
<td>2,577</td>
<td>2,540</td>
</tr>
<tr>
<td>Investments</td>
<td>59,397</td>
<td>58,858</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>55,655</td>
<td>57,867</td>
</tr>
<tr>
<td><strong>Total assets</strong></td>
<td>150,826</td>
<td>139,180</td>
</tr>
</tbody>
</table>

| **LIABILITIES AND NET ASSETS** |         |         |
| Liabilities:                |         |         |
| Accounts payable and accrued expenses | 11,109 | 10,384  |
| Deferred dues, subscriptions revenue and other | 20,232 | 20,613  |
| **Total liabilities**       | 31,341  | 30,997  |

| Net assets:                |         |         |
| Unrestricted              | 70,111  | 77,284  |
| Temporarily restricted    | 34,251  | 15,825  |
| Permanently restricted    | 15,123  | 15,074  |
| **Total net assets**       | 119,485 | 108,183 |

| **Total liabilities and net assets** |         |         |
| **Total assets** | 150,826 | 139,180 |

**Consolidated Statements of Changes in Net Assets for the years ended December 31, 2017 and 2016**

($ in thousands)

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member dues</td>
<td>9,405</td>
<td>8,730</td>
</tr>
<tr>
<td>Publishing</td>
<td>55,809</td>
<td>54,251</td>
</tr>
<tr>
<td>Grants and other program support</td>
<td>22,965</td>
<td>29,090</td>
</tr>
<tr>
<td>Leasing, investments and other</td>
<td>11,423</td>
<td>10,381</td>
</tr>
<tr>
<td><strong>Total revenues</strong></td>
<td>99,602</td>
<td>102,452</td>
</tr>
</tbody>
</table>

| **Expenses:**          |         |         |
| Publishing             | 53,527  | 50,334  |
| Education, policy and other programs | 38,137 | 39,892  |
| General and administrative expenses | 16,943 | 19,040  |
| **Total expenses**     | 108,607 | 109,266 |

| Operating income, before tax | (9,005) | (6,814) |
| Provision for income tax    | 101     | 133     |
| Nonoperating revenue and expense | 1,933  | 620     |
| **Change in unrestricted net assets** | (7,173) | (6,327) |
| **Change in restricted net assets** | 18,475 | (2,436) |
| **Change in net assets**    | 11,302  | (8,763) |
| Net assets, beginning of year | 108,183 | 116,946 |
| **Net assets, end of year** | 119,485 | 108,183 |
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Director, Project 2061
Beth Rosner
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Thank you