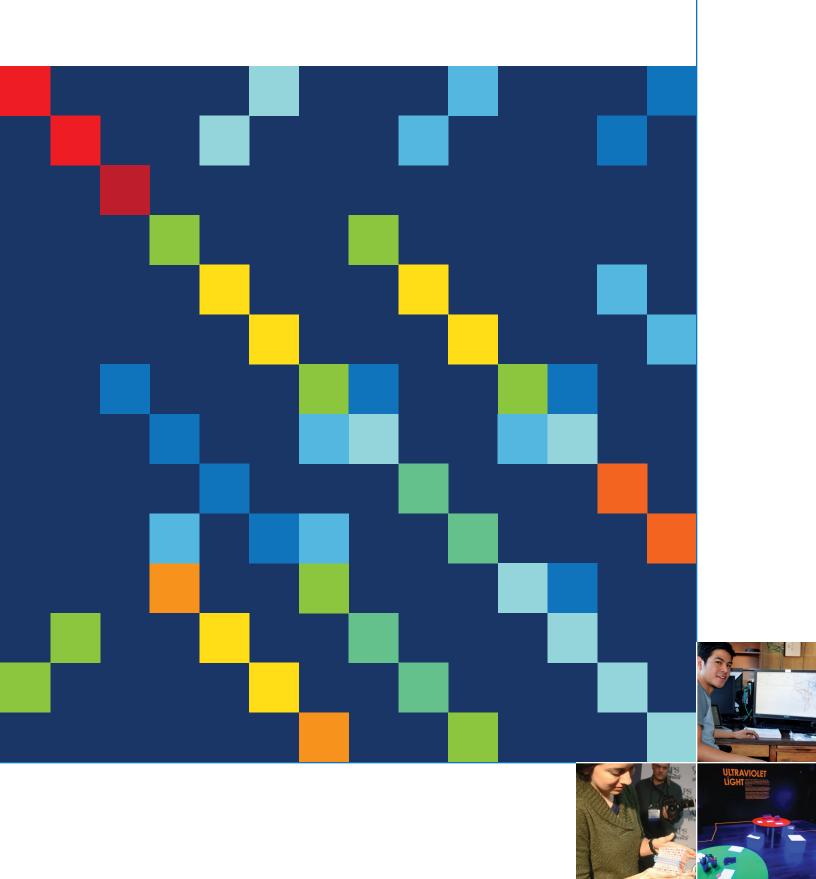
AMERICAN PHYSICAL SOCIETY ADVANCING PHYSICS







THE AMERICAN PHYSICAL SOCIETY STRIVES TO

Be the leading voice for physics and an authoritative source of physics information for the advancement of physics and the benefit of humanity

Collaborate with national scientific societies for the advancement of science, science education, and the science community

Cooperate with international physics societies to promote physics, to support physicists worldwide, and to foster international collaboration

Have an active, engaged, and diverse membership, and support the activities of its units and members



© 2016 American Physical Society



During 2015, APS worked to institute the governance changes approved by the membership in late 2014. In accordance with the new Constitution & Bylaws, in February the Board appointed our first Chief Executive Officer—Kate Kirby, the former Executive Officer—to head the APS. Kate's major task has been to transition the management of APS to a CEO model with a Senior Management Team. She appointed Mark Doyle as Chief Information Officer, James Taylor as Chief Operating Officer, and Matthew Salter as the new Publisher. Underway as of year-end is a search for an Editor in Chief and preparation for a search for a Chief Financial Officer. The CEO's leadership team is coming together very well and should be complete in 2016.

Significant positive changes have also occurred in our governance bodies, the Council of Representatives and the Board of Directors. The membership elected our first volunteer Treasurer, Jim Hollenhorst. The Council's first Speaker, Nan Phinney, together with the Council Steering Committee, have been re-energizing the Council and strengthening ties between the Council and the 45 different APS units (divisions, topical groups, forums, and sections).

Open Access (OA) publishing continues to be a critical issue for the APS Board, as our journals are the most important way that we serve the physics community and meet our objective: "the advancement and diffusion of the knowledge of physics." APS is fully committed to the principles of OA to the extent that we can continue to support the production of high-quality peer-reviewed journals. For many years APS has supported "green" OA and we have been fully compliant with the 2013 directive from the Office of Science and Technology Policy that the publications resulting from U.S. federally funded research be accessible to the public 12 months after publication. Since APS is a major international physics publisher (more than two thirds of our published papers come from outside the U.S.), we continue to respond to OA developments worldwide.

This past year, we have worked on efforts to increase and stabilize federal funding available for research in the physical sciences. Also continuing in 2015 was APS's effort to engage with physicists whose careers are in industry (a much larger cohort than academic/national lab physicists). We have met with groups of industrial physicists and they have helped us understand APS's relevance (or lack thereof) to the professional needs of that cohort. By raising the visibility of physicists outside of academia, APS will better serve its early career members, including students and postdocs.

2015 was an important transition year for the Society, strengthening our ability to be effective and nimble in a fast-moving and competitive landscape.

Sincerely yours,

Jan 16

Samuel Aronson 2015 President

Editorial Office

In April, Gene Sprouse, Editor in Chief of the APS research journals since March 2007, stepped down from the position. During his tenure as Editor in Chief, Sprouse started three new major publications—the online commentary journal *Physics* and two research journals: *Physical Review X* and *Physical Review Applied*. He also initiated the Outstanding Referee awards, which recognize the efforts and quality of the peer reviewers who globally volunteer their time for the journals. Sprouse oversaw the design and construction of a remodeled and enlarged editorial office in Ridge, New York, which was completed in late 2015. APS Editorial Director, Daniel Kulp, assumed the responsibilities of the position until a new Editor in Chief is appointed.

At the end of the year, APS appointed a new Publisher, Matthew Salter, to lead business growth of the APS publications. Before moving to APS, Salter was associate director for journals in the Asia-Pacific region based in the Tokyo office of IOP Publishing. In Fall 2015, APS released its first wave of U.S. Department of Energy (DOE) funded research articles, making them publicly accessible to non-subscribers through CHORUS (Clearinghouse for the Open Research of the United States), several months ahead of the DOE's official October 1 start date. This highlights the leadership position that APS has taken in Open Access publishing, in cooperation with other publishers, funding agencies, and institutions.

A M E R I C A N P H Y S I C A L S O C I E T Y

The 2015 Nobel Prize in Physics was awarded in October to Takaaki Kajita of the University of Tokyo, Japan and Arthur McDonald of Queen's University at Kingston, Canada for the discovery of neutrino oscillations, which revealed the unusual behavior of these misfit particles, and indicated that they have mass. The key findings behind the prize were reported in three papers published in *Physical Review Letters* between 1998 and 2002.

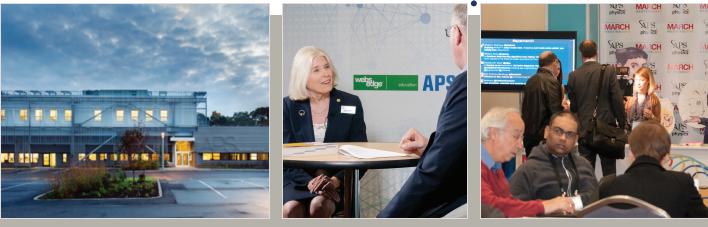
Scientific Meetings

The 2015 March meeting, held in San Antonio, Texas drew 9,138 attendees, slightly down from last year in Denver. Over 4,000 attending were students, and over 2,000 were international delegates. More than 8,500 invited and contributed talks were presented at the meeting. A highlight was the Kavli Foundation Special Symposium that included three Nobel Prize winners as speakers.

With a record attendance of 1,585, including 600 students, the 2015 April meeting took place in Baltimore, Maryland.

Over 1,100 invited and contributed papers were presented. The Kavli Foundation Symposium, *Our Changing View of the Universe* featured talks celebrating 100 years of Einstein's theory of General Relativity and 50 years since the discovery of the cosmic microwave background.

Throughout the year, APS units also held successful meetings with substantial attendance. The Division of Fluid Dynamics annual meeting was notable with an attendance over 3,000.



A view of the recently expanded APS Editorial Office, where over 37,000 manuscripts were received in 2015. PHOTO: DAVID SUNDBERG

APS CEO Kate Kirby being interviewed for APS TV at the 2015 March Meeting. PHOTO: KEN COLE

APS members networking and learning about services in the APS village at the 2015 March Meeting in San Antonio, Texas. PHOTO: KEN COLE

Industrial Physics

The American Physical Society has a renewed focus on physicists working in industry. Among the highlights from 2015 was a report, *National Issues in Industrial Physics*, rolled out in February. This publication summarizes the conclusions of an APS workshop held in 2014 that was organized by the Forum on Industrial and Applied Physics (FIAP).

Educating students about careers in industrial physics is another key objective, and FIAP collaborates with the APS Careers Department to present information sessions to hundreds of students at major meetings. That same partnership launched Industrial Mentoring for Physicists (IMPact), a new program that matches physicists working in industry or as entrepreneurs with graduate students and postdocs who want to learn what it's like to work in industry or a startup.

A M E R I C A N P H Y S I C A L S O C I E T Y

FIAP and the Division of Polymer Physics organized the first Industry Day at the 2015 March Meeting with multiple focused sessions on additive manufacturing including 3D printing. Speakers highlighted the challenges and importance of this technology for industrial applications.

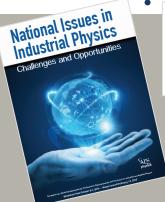
Finally, the formation of an Industrial Physics Advisory Board was approved and it will begin meeting in 2016. This group will advise APS on issues affecting industry including recommendations on policy. More information about these topics can be found online at www. aps.org/industry.

Media Relations

American Physical Society journals, meetings, programs, and members are the leading sources of physics news worldwide. The APS media relations staff strives to distribute APS news to major print, broadcast, and online media outlets through press releases, press conferences, webcasts, and online resources for journalists.

The APS Media Relations Department is available to provide assistance to members who interact with the media. Such assistance may include media training to help members prepare for interviews; assistance in preparing and editing press releases; advising on effective methods to distribute news to the media; identifying members of the media who would be most amenable to covering physics stories; and organizing, running and promoting press conferences.

In 2015, stories promoted through efforts by APS media relations staff appeared in a range of news organizations including *The New York Times*, the Associated Press, USA Today, BBC News, Wired magazine, Fox News, Los Angeles Times, The Washington Post, National Public Radio, MSNBC, ABC News, Nature News, Science Now, German Public Radio, National Geographic, the Lehrer News Hour, Quanta Magazine, Scientific American, and The Economist magazine, as well as countless blogs and websites.





Industry Mentoring for Physicists

IMPact connects industrial physicists and entrepreneurs with graduate students and postdocs seeking insight and advice on working in industry.



Critical issues concerning industrial physics are summarized in a report from an APS workshop held in October 2014.

Chihway Chang (ETH Zurich) and Bhuvnesh Jain (Univ. of Pennsylvania) present the largest gravitational map of the cosmos yet produced, at a press conference at the 2015 APS April meeting in Baltimore, Maryland. PHOTO: JAMES RIORDON

Public Affairs

For most of 2015, Washington suffered from continuing gridlock, prompting the Office of Public Affairs (OPA), guided by its advisory committees, to explore issues of concern beyond the annual appropriations process.

OPA expanded the highly successful helium brokerage pilot program it began with seven university and college campuses in 2014 to 19 participating institutions in 2015. It also initiated a state-based internship program that enables students and faculty to advocate for "e-cycling."

With federal appropriations likely to remain constrained for some time, Michael Lubell, director of the APS Office of Public Affairs, in a January *Roll Call* op-ed commentary, proposed a self-sustaining research fund to augment federal spending. Former Rep. Frank Wolf (R-Va.) and Norman Augustine, the retired CEO of Lockheed/Martin, elaborated on the proposal in an op-ed in *The Hill* newsmagazine.

A M E R I C A N P H Y S I C A L

SOCIETY

ANNUAL

OPA helped 1,752 members contact their elected representatives through letters, petitions, op-eds and the media, and it worked closely with other advocacy offices to promote federal science funding. As the year drew to a close, Congress and The White House finally struck a budget deal and enacted an omnibus appropriations bill that provided most science programs with modest increases for 2016.

Public Outreach

With the mission of exciting and informing the public, the American Physical Society's Public Outreach Department has many programs directed at a variety of audiences. In 2015, APS worked with physics societies across the globe to celebrate the International Year of Light (IYL).

On September 12, in conjunction with The Optical Society (OSA), the American Institute of Physics (AIP) and the International Society for Optics and Photonics (SPIE), APS held an IYL Family Science Day event at the National Museum of the American Indian in Washington, DC.

The APS public outreach website, www.physicscentral.com, continues to increase its reach with an average of 135,000 hits a month and 415,000 likes on Facebook. PhysicsQuest, a hands-on kit program aimed at middle school children,

is as popular as ever reaching roughly 350,000 students per year. The associated comic books featuring the laser superhero, Spectra and her battles with Miss Alignment reach even more people through schools as well as comic book and science fiction conferences. For the sixth year, APS exhibited comics at the world's largest comic book convention, Comic-Con International held in San Diego, CA. Last year, the author of Spectra was invited to participate on two discussion panels at Comic-Con, one to discuss comics for impact and learning and the other, along with Spectra artist David Ellis (Issue #7), about scientist and artist partnerships.

In 2015, APS awarded ten outreach mini-grants to members wishing to start outreach programs, many related to the International Year of Light.



Location of institutions participating in the helium brokerage program in 2015-16.



Spectra creator and author, Rebecca Thompson, on a panel with PhD Comics creator Jorge Cham discussing the impact of STEM educational comics. APS is the first professional society to exhibit at Comic-Con International. PHOTO: EMILY CONOVER



Teachers at the Arizona STEM Teachers Summer Institute learn about color and spectroscopy with APS PhysicsQuest kits. Each year APS puts 15,000 kits in the hands of middle school teachers and students to get them excited about learning physics concepts. PHOTO: GREG STAFFORD

Education and Diversity

PHYSICS TEACHER EDUCATION COALITION

Fewer than half of all high school physics teachers in the U.S. have any significant background in physics. The American Physical Society, working with the American Association of Physics Teachers, is addressing the severe shortage of qualified physics teachers through the Physics Teacher Education Coalition (PhysTEC), our flagship education program.

Since 2001, PhysTEC has funded more than 40 institutions to build model teacher education programs, which have more than doubled their number of graduates who are well-prepared to teach physics. The PhysTEC Coalition includes more than 300 member institutions, or about 40% of all U.S. physics departments.

In 2015, the project funded four new sites with innovative physics teacher preparation programs, published a book on effective practices with 21 peer-reviewed chapters, and launched a new award called the "5+ Club" to recognize institutions that graduate 5 or more physics teachers in one year. PhysTEC is supported by the National Science Foundation and by APS donors.

APS BRIDGE PROGRAM

In 2015 the APS Bridge Program (www.APSBridgeProgram.org) placed 28 underrepresented minority students into graduate physics programs, none of whom would have gained admission that year without Bridge Program assistance.

In its third year, the project has established six APS Bridge Sites and recruited thirteen additional institutions that have adopted practices supporting bridge students. Students at these sites receive individualized mentoring and assistance in making the transition to doctoral studies,



AMERICAN

PHYSICAL SOCIETY 2 0 1 5

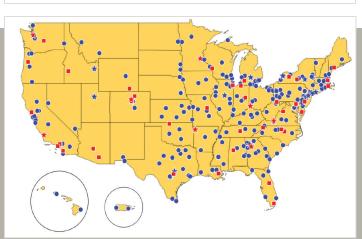
In physics, the addition of about 30 PhD degrees each year will bring the percentage of URM students receiving PhDs up to the same percentage of those students receiving bachelor's degrees. The Program has surpassed its expectations and is well on the way to achieving its goal.

and the overall program has a 95% student retention rate (the national average in physics graduate school is ~60%). As there is not enough room at these sites to accept all qualified applicants, the APS Bridge Program circulates applications to additional institutions as well.

Over the course of the program, 90+ institutions have read Bridge student applications, and 66 students have been placed in APS Bridge Sites and other graduate programs.

- The 5+ Club Member Supported Sites
 - The 5+ Club Member Institutions





More than 300 physics departments are members of the Physics Teacher Education Coalition.



Bridge Fellows (I-r) Manuel Bonilla, Olga Harrington, and Joshua Robles-Garcia pictured at the National Mentoring Community and Bridge Program Conference held at Florida International University on October 10-12, 2015. Over 40 Bridge Students attended the fall meeting, which had more than 175 total participants. PHOTO: TED HODAPP

Education and Diversity

CONFERENCES FOR UNDERGRADUATE WOMEN IN PHYSICS

The APS Conferences for Undergraduate Women in Physics (CUWiP) (www.aps.org/cuwip) bring together each year nearly 1,200 women gathered in eight regional sites across the country. Now in its eleventh year, these conferences provide undergraduate women with opportunities to understand available resources, gain motivation and confidence to seek advanced degrees or pursue professional careers in physics, and provide leadership and teamwork opportunities to women physics students planning and organizing the conferences. The National Science Foundation and U.S. Department of Energy partially fund these conferences, allowing nearly every female physics major in the U.S. to attend one or more of these events during their undergraduate studies.

APS NATIONAL MENTORING COMMUNITY

The mission of the APS National Mentoring Community (www.aps.org/nmc) is to increase the number of underrepresented minorities who earn bachelor's degrees in physics. The program aims to do this by supporting faculty and students to engage in research-based mentoring practices that are known to aid persistence and retention of underrepresented students. During its first year of operation, the National Mentoring Community grew to include 95 mentors and 41 mentees from 78 universities around the country. In October 2015, a highly successful inaugural conference was held in conjunction with the APS Bridge Program national meeting with approximately 180 attendees. Generous contributions by APS members provided travel support for mentors and mentees to attend the conference.

A M E R I C A N P H Y S I C A L S O C I E T Y

The coming year will see an expansion of the National Mentoring Community network of mentors and mentees with new training workshops for both as well as the second annual conference.

PROFESSIONAL SKILLS DEVELOPMENT WORKSHOPS

For the past eleven years, APS has run a series of influential workshops designed to improve communication, negotiation and leadership skills of female physicists. This program has been expanded to train physicists as negotiation skills workshop facilitators who can conduct seminars at their institutions and at scientific conferences for undergraduate and graduate students. Additionally, these workshops, previously only offered at APS March and April Meetings are now also conducted at larger divisional meetings. The workshops are funded in part by the National Science Foundation.



Each year, over 1200 women attend the APS Conferences for Undergraduate Women in Physics. PHOTO: WESLEYAN UNIVERSITY



Undergraduate women network at one of the eight regional APS Conferences for Undergraduate Women in Physics. PHOTO: WESLEYAN UNIVERSITY

Membership

The official American Physical Society membership count at the close of 2015 was 53,099. Over the last year, membership grew by over 1,700 members with a majority of the increase seen in student members. The early career membership category also increased by over 500 from the previous year. The number of early career, graduate, and undergraduate student members made up almost 43% of the total membership.

In February, over 100 volunteers from divisions, topical groups, forums, sections and APS Committees gathered in College Park, Maryland for the annual APS Leadership Convocation. Unit leaders were introduced to the Society leadership and key staff members to learn about the new society governance structure and how they will be able to partner to achieve common goals. Over 63% of APS members belong to at least one unit, which are critical partners in the governance of the Society and success of APS meetings throughout the year.

PHYSICS CAREERS

APS held its annual Future of Physics Days events, targeted towards undergraduate physics majors, at the APS March and April meetings. Activities included undergraduate research sessions, a panel on non-academic careers for physics bachelor's degree graduates, and a Graduate School Fair. APS also hosted a session focusing on industry careers at the APS March Meeting, which attracted nearly 300 postdoctoral and graduate students.

Other career activities included the continuation of the Distinguished Lectureship on the Applications of Physics Award and Job Fair activities at division meetings.

APS staff developed and executed several activities designed to better serve student and early career members. These include career workshops, webinars, and the downloadable *Physics InSight* slideshow for use in physics departments.

AMERICAN

PHYSICAL SOCIETY 0 1 5

APS continues its work on developing and maintaining the APS Careers Website and has developed a new online Professional Guidebook which highlights resources and addresses topics like career planning, network-building, effective resume writing, and interviewing and negotiation skills.

The APS Local Links program continued to develop mutually beneficial links between academia and industry by creating local groups of physicists from the private sector, government labs, and academia so that they can share ideas, build relationships and collaborations, and network. In 2015, APS Local Links expanded to seven active groups, adding Ann Arbor, Boston, and St. Louis. They held 24 events over the course of the year; almost one third of these events were hosted by companies.

PRIZES, AWARDS AND FELLOWS

APS bestowed over 50 prizes and awards in 2015. Recognition of the recipients was given throughout the year at the March, April, and Divisional meetings. These new prizes and awards were established in 2015: The Justin Jankunas Doctoral Dissertation Award in Chemical Physics by the Division of Chemical Physics, the Norman F. Ramsey Prize by the Division of Atomic, Molecular and Optical Physics and the Topical Group on Precision Measurement & Fundamental Constants, and the Harry Lustig Award by the Four Corners Section.

In 2015, the Society also elected 257 members to Fellowship, 26 of whom were female. This is a distinct honor reserved for no more than 0.5% of members each year, recognizing exceptional contributions to physics.



Early career physicists learn about physics research in the private sector at the "Meet Your Future: Industrial Careers for Physicists" panel at the 2015 March meeting in San Antonio, Texas. PHOTO: CRYSTAL BAILEY

International Affairs

During 2015, the American Physical Society provided its members with global experiences and opportunities to build and strengthen international networks. These experiences are especially important for graduate students and early career physicists.

In partnership with the Chinese Physical Society (CPS), APS organized the U.S.-China Young Physicists Forum in San Antonio, Texas. The event was held the weekend before the 2015 APS March meeting. The Forum provided 60 graduate students from the U.S. and China with interdisciplinary professional networking opportunities, scientific presentations, and social events with leading Chinese and U.S. physicists.

Additionally, the APS offered exchanges with Brazil and India for graduate students, post-docs, and senior physicists in partnership with the Indo-U.S. Science and Technology Forum (IUSSTF) and the Sociedade Brasileira de Física. Likewise, the APS also partnered with scientific societies in Europe and the United States in support of the SESAME Travel Award Program that provides training opportunities for scientists in the Middle East. The Society also developed a joint professorship/lectureship exchange program with the Lebanese Academy of Sciences.

A M E R I C A N P H Y S I C A L S O C I E T Y

APS joined with the European Physical Society (EPS) to designate the Einsteinhaus in Bern, Switzerland, as the first joint APS-EPS Historic Physics Site.

Through its Committee on International Freedom of Scientists (CIFS), APS advocated for the human rights of scientists around the world. The APS remains vigilant regarding important U.S. government policies that impact international scientific collaboration.



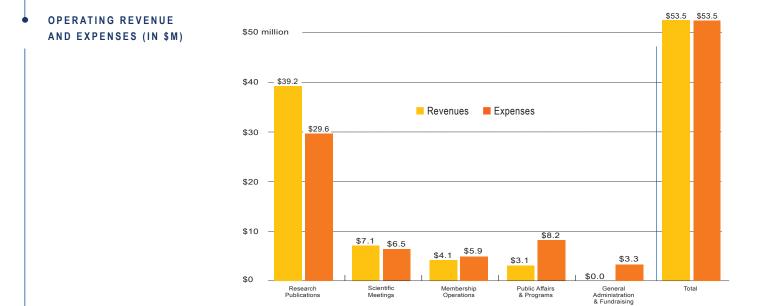
Finances December 31, 2015

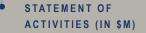
During the fiscal year 2015, the total assets of the American Physical Society increased from \$173.7M to \$176.7M, while the Society's liabilities increased to \$38.4M from \$35.0M the previous year.

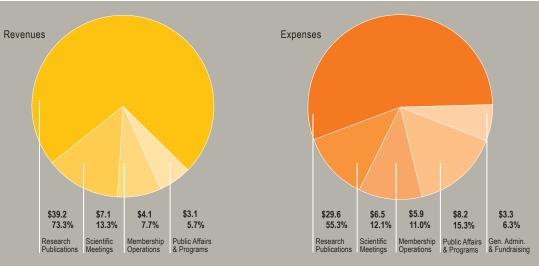
The tables and charts in this section summarize the financial operations of the Society as of December 31,2015. The table headed Statement of Financial Position shows the final financial position of the Society for 2015 and 2014. The table headed Statement of Activities shows the financial activities of the various components of the Society for the 2015 and 2014 fiscal years. The distribution of operating revenues and expenses across the components of the Society is also displayed graphically in the accompanying figures.

Net assets at the end of fiscal year 2015 were \$138.3M, compared with \$138.7M at the end of 2014. These include \$14.6M in restricted net assets, which are funds for prizes and awards and for programs supported by the 21st Century Campaign. The restricted net assets increased from \$14.1M at the end of 2014. The unrestricted net assets include the Society's operating accounts (cash and cash equivalents), totaling \$16.4M at the end of 2015, and its investments in equities and fixed-income issues. These investments were \$134.8M at 12/31/15 and \$134.7M at 12/31/14.

A M E R I C A N P H Y S I C A L S O C I E T Y







Statement of Financial Position

DECEMBER 31, 2015 AND 2014

	2015	 2014
SETS		
Cash and cash equivalents	\$ 16,386,705	\$ 12,549,259
Investments, at fair value	134,808,128	134,689,451
Accounts receivable, net of allowance for doubtful		
accounts of \$56,500 in 2015 and 2014	1,068,696	1,276,746
Pledges receivable, net	241,873	1,208,761
Prepaid expenses and other assets	1,416,740	1,578,819
Equity interest in American Center for Physics	3,560,115	3,162,909
Land, building and equipment, net	18,658,981	18,720,894
Beneficial interest in perpetual trust	533,505	548,216
Total assets	\$ 176,674,743	\$ 173,735,055

Liabilities		

Accounts payable and accrued expenses	\$ 3,437,398	\$ 3,094,262
Deferred revenues:		
Publications	12,016,438	10,916,454
Membership dues	2,688,788	2,796,438
Other	559,317	697,487
Liability for post-retirement medical benefits	19,693,840	17,520,341
Total liabilities	38,395,781	35,024,982

COMMITMENTS AND CONTINGENCIES

Net assets		
Unrestricted	\$ 122,335,689	\$ 123,436,884
Board Designated	1,297,043	1,143,895
Temporarily restricted	12,092,298	11,728,625
Permanently restricted	2,553,932	2,400,669
Total net assets	138,278,962	138,710,073
Total liabilities and net assets	\$ 176,674,743	\$ 173,735,055

Statement of Activities

DECEMBER 31, 2015 AND 2014

CHANGE IN UNRESTRICTED NET ASSETS		
Revenues		
Research publications \$	39,223,627	\$ 37,166,186
Scientific meetings	7,117,052	5,588,259
Membership operations	4,134,226	4,061,428
Public affairs and programs	2,314,834	2,757,420
Net assets released from restrictions	748,304	519,117
	53,538,043	50,092,410
Expenses		
Program services		
Research publications	29,634,330	28,973,676
Scientific meetings	6,525,803	5,339,114
Membership operations	5,915,498	6,153,559
Public affairs and programs	7,391,342	7,481,050
Prizes and related costs	748,304	519,117
Total program services	50,215,277	48,466,516
Supporting services		
Fundraising	627,507	599,609
General and administrative	2,697,482	2,341,816
Total supporting services	3,324,989	2,941,425
Total expenses	53,540,266	51,407,941
Loss from operations	(2,223)	(1,315,531)
Non-operating activities		
Income from investments	2,827,396	2,818,859
Net unrealized (loss) gain on investments	(4,891,962)	1,190,443
Net realized gain on investments	1,463,110	2,345,392
Equity interest in American Center for Physics	397,206	370,555
Change in post-retirement medical benefits other than		
net periodic post-retirement medical benefit cost	(741,574)	(1,614,947)
	(945,824)	5,110,302
Change in unrestricted net assets	(948,047)	3,794,771

2015

2014

CHANGE IN TEMPORARILY RESTRICTED NET ASSETS

Change in temporarily restricted net assets	363,673	1,430,839
Net assets released from restrictions	(748,304)	(519,117)
Income from investments	718,813	671,009
Contributions	393,164	1,278,947

CHANGE IN PERMANENTLY RESTRICTED NET ASSETS

Contributions (Loss) gain on beneficial interest in perpetual trust	167,974 (14,711)	7,160 12.043
Change in permanently restricted net assets	153,263	19,203
Change in net assets	\$ (431,111) \$	5,244,813

2015 Contributions

APS is extremely grateful for gifts received from its members and other individuals, corporations, national and international labs, governmental agencies, and institutions to support our programs, benefiting the physics community and society at large, and prizes and awards, recognizing outstanding scientific achievements.

Since membership dues cover only the cost of member services, APS depends to a great extent on contributions in order to provide vital programs in Education & Diversity, Public Outreach, International Affairs, Public Affairs, and Matching Memberships to the physics community and the general public.

We are pleased to provide special recognition here to donors having made gifts totaling \$100 or more to APS this past year. We are particularly grateful and pleased to highlight our sustaining individual donors who have made consistent annual gifts totaling \$2,500 or more. These donors are highlighted in blue.

DONORS AND SUPPORT

CORPORATIONS

Altos Photonics Applied Materials AT&T Bell Labs, Alcatel-Lucent Cosylab The Dow Chemical Company Elsevier: Nuclear and High Energy Physics Polymer Solid State Communications Energy Conversion Devices, Inc. **Euclid Techlabs GE** Foundation GE Global Research General Atomics General Motors Corporation Herbert V. Friedman, Inc. HTC-VIA Group IBM Infrared Systems Development Keithley Instruments, Inc. Lighthouse Photonics, Inc. M Squared Lasers Melles Griot NEC Corporation Ovonyx, Inc. R&K Company Limited RadiaBeam Technologies Solvay Tech-X Corporation Verizon (formerly GTE) Vernier Software WebAssign Wyatt Technology Corporation Xerox

LABORATORIES

Argonne National Laboratory Brookhaven National Laboratory Brookhaven Science Associates CEA Saclay

CERN, European Organization for Nuclear Research CNRS-IN2P3 Deutsches Elektronen-Synchrontron (DESY) Fermi National Accelerator Laboratory Fermi Research Alliance GSI Helmholtzzentrum für Schwerionenforschung GmbH INFN Laboratori Nazionali di Frascati Institute of High Energy Physics, Chinese Academy of Sciences John Adams Institute for Accelerator Science KEK High Energy Accelerator Research Organization Lawrence Berkeley National Laboratory Lawrence Livermore National Laboratory LIGO Laboratory, Caltech LIGO Laboratory, MIT Los Alamos National Laboratory National Superconducting Cyclotron Laboratory, Michigan State University Oak Ridge National Laboratory Paul Scherrer Institute Pohang Accelerator Laboratory **RIKEN** Nishina Center **RIKEN Spring-8 Center** Sandia National Laboratories SLAC National Accelerator Laboratory The Cockcroft Institute Thomas Jefferson National Accelerator Facility TRIUMF

FOUNDATIONS

Alfred P. Sloan Foundation East Bay Community Foundation Energy Foundation Heineman Foundation John D. and Catherine T. MacArthur Foundation Gordon and Betty Moore Foundation Research Corporation for Science Advancement Richard Lounsbery Foundation Silicon Valley Community Foundation The Brinkman Family Foundation The Eucalyptus Foundation The Kavli Foundation The Lourie Foundation The Ovshinsky Foundation The David and Lucile Packard Foundation The Swartz Foundation UCLA Foundation University of Iowa Foundation

GOVERNMENTAL AGENCIES, INSTITUTIONS AND OTHER ORGANIZATIONS

American Institute of Physics The Journal of Chemical Physics Physics of Fluids Cornell Laboratory for Accelerator-based Sciences and Education (CLASSE) Department of Energy Fisk-Vanderbilt Masters-to-PhD Bridge Program Harvard Physics and Applied Physics Instituto de Fisica Corpuscular Jefferson Science Associates/Jefferson Lab Southeastern Universities Research Association/Jefferson Lab Massachusetts Institute of Technology Center for Theoretical Physics Laboratory for Nuclear Science Physics Department National Science Foundation Northwestern University **Open Society Institute** Stanford University Tsinghua University TUNL, Duke University Universities Research Association University of Maryland University of Pennsylvania, Department of Physics and Astronomy University of Tennessee, Knoxville Yale University

INDIVIDUALS \$10,000 AND ABOVE (Including Realized Bequests)

Charlotte Anderson Jean Dickey Apker John and Elizabeth Armstrong Esther Hoffman Beller M. Hildred Blewett Fred Blum, Jr. David Braslau Bert Brown Mr. and Mrs. Kenton Brown Chope Family Trust Russell and Marian Donnelly Andrea Feshbach Norval and Alix Fortson Gerald Gabrielse Thomas Gallagher The Family of Richard L. Greene Jay Jones The Family of Richard Karplus Beverly Karplus Hartline and Fred Hartline Jason Hartline Catherine and David Karplus Elizabeth Karplus Paul and Karen Karplus Peter Karplus **Richard Karplus** Margaret Hellweg and Horst Rademacher Barbara Karplus and Rodney Womer Daniel Kleppner David Lee Beatrice Lilienfeld David Luckey Harry Lustig Keith MacAdam Kathleen A. Maloy and Heather L. Burns Ruth Marshak The Family of Stanford R. Ovshinsky Robin Dibner Steven Dibner Benjamin Ovshinsky Dale Ovshinsky Iris Ovshinsky Rosa Ovshinsky Ellie Ramsey Jonathan F. Reichert and Barbara Wolff-Reichert J.J. and Noriko Sakurai, Family, and Friends Andrew Sessler Aleksandar Svager Family and Friends of Mitsuyoshi Tanaka Virginia Trimble George E. Valley, Jr. Harry and Linda Wang David Wineland

\$5,000 TO \$9,999

Brian Schwartz and Teri Black Joseph Cecchi James Cederberg Steven Chu William Hassinger, Jr. Blayne Heckel Abram Jacobson David Johnson Eric Mazur

\$1,000 TO \$4,999

Anonymous (2) Andrew Alexander Howard Berg Beverly Kobre Berger Joseph Birman Frederick Borcherding Edith Borie Harold Breedlove William Brinkman Robert Byer Joseph Cecchi Judy Franz Hans Frauenfelder Kenneth Friedman Timothy Gay Patrick Gibbons Laura Greene Arthur Hebard Frances Hellman Randall Hulet Robert Jones Hugh Kendrick Kate Kirby James Langer Robert Lourie Zheng-Tian Lu Gregory Meisner Jagadeesh Moodera Fred Moseley Cherry Ann Murray **Richard Post** Margaret Ramsey Kasschau & Family Patricia Ramsey Rudy Ruggles Marianna Safronova Frederick Schaer Joseph Serene Michael Turner Thomas Winter Philip Wyatt Linda Young

\$500 TO \$999

Anonymous (3) David Bartran Carlton Caves Antony Chang Noel Corngold

Ramachandra Dasari Pablo Debenedetti David DeMille Roger Dixon Michael Douglas Loyal Durand III Robert Eisenstein Douglas Finkbeiner Thomas Follett Carl Gagliardi Mary Gaillard Haiyan Gao P. Roger Gillette Raymond Goldstein Tom Grav Robert Griffiths Lee Grodzins Theodore Hodapp Evelyn Hu Leonid Keldysh William Keller J. M. Kendall T. Kinoshita Leonard Kisslinger Alan Krisch Cecil Leith Chun Lin Akiyasu Makishima Mr. and Mrs. Richard M. Martin Lillian McDermott Horst Meyer Ichiro Miyagawa Brian Odom C. Kumar Patel Raj Pathria John Peoples, Jr. Michael Peskin Stephen Pordes John Preskill Lawrence Price Simon Ramo William Reinhardt Glenn Reynolds Burton Richter Stephen Schiff James Scofield Charles Sinclair James Smith Charles Sommerfield Gerard Stephenson, Jr. Edward C. Stone Mary Ann Sweeney Jacob Taylor Alvin Tollestrup Herman Winick Stanley Wojcicki Bruce Worster N. Convers Wyeth Ellen Yorke

Dave Youngblood

Anonymous (7); includes 1 Sustaining Donor Renate Albat Carl Albright Orlando Alvarez Samuel Aronson David Balamuth Kevin Bedell Ali Belkacem Richard Berger Henry Berry Marshall Blann Derek Boyd Alan Breakstone Frank Bridges Robert Brown John Browne Paul Bryant David Cassel Sudip Chakravarty Pei Chan Jagdish Chander Colston Chandler John Clark R. Fraser Code E. William Colglazier, Jr. Lee Collins Charles Crawford Peter Cziffra James Davis Robert Diebold J. William Doane Ianis Dote Charles Dunn Lewis Edelheit Geoffrey Eichholz Estia Eichten Robert Ely, Jr. Guy Emery Zachary Fisk Jerry Forbes James Fry George Ginther, Jr. Larry Gladney Mark Glauser Allen Goldman Alfred Goshaw Bernard Gottschalk Christopher Gould Hans Griem Dina Gutkowicz-Krusin Robert Haight Frederick D. M. Haldane Bertrand Halperin David Hanneke Luisa Hansen Jonathan Hardis

\$250 TO \$499

Beverly Karplus Hartline Julius Hastings Warren Heckrotte Jonathan Hoffman Stephen Holland Roy Holt James Hurt David Ignat Kenji Iijima Robert Jaffe Samson Jenekhe Kevin Jones Tetsuo Kaneko Edward Kearns Lewis Keller Michael Kelley Kirby Kemper Jin-Soo Kim Yong Kim Derek Kimball Miles Klein V Christopher Kolda Rikio Konno James Krebs Helmut Kuehl Steven Lambert P. Lambropoulos Siu-Au Lee Donald R. Lehman Roy Leigh Thomas Lemberger Robert Lempert Anthony Leonard Harry Letaw, Jr. Michael Lubell Vera Luth Thomas Marshall Paul Martin Philip Martzen Wesley Mathews, Jr. Michael May Denis McWhan Curtis Meyer John Missimer Michael Moldover Ernest Moniz Thomas Moore Larry Morford Steven Moss Alfred Msezane David Munich Mark Nagumo Sumita Nandi Bogdan Nedelkoff Anthony Nero, Jr. Philip Nielsen Grant O'Rielly Irving Ozier Alan Palevsky

Roberto Peccei

Wayne Pfeiffer Steven Pieper Morris Pripstein Philip Pritchett Derek Pursey Darrel and Michael Ramsey-Musolf Robert Reasenberg Edward Redish Don Reeder John Rees Paul Reimer Aurino Ribeiro Filho Mauro Rodriguez Carl Rosenfeld Lawrence Rubin Dmitri Ryutov Mitsuo Sakai Myriam Sarachik Richard Scalettar Michael Schaffer Heidi Schellman John Schroeder John Schwarz **Roy Schwitters** David Seiler Marleigh Sheaff Paul Shepard Bruce Sherwood Manfred Sigrist Arnold Silver Andris Skuja Farren Smith Stephen Steadman Raymond Stefanski Truman Storvick **James Strait** Richard Strombotne Harry Swinney G. Bruce Taggart Joseph Tan Smio Tani Doris Teplitz Peter Thieberger Maury Tigner E. Terry Tomboulis John Ullmann Jean-Francois Van Huele James Vedder Eugene Venturini Raju Venugopalan Herman White William Whitney Robert Wiringa Ryuji Yamada

York-Peng Yao

Hyuk Yu

Bing Zhou

\$100 TO \$249

Anonymous (18); includes Sustaining Donors (3) Neal Abraham Ali AbuTaha Frank Adams, Jr. Gregory Adkins Stephen Adler Lewis Agnew Glenn Agnolet Christine Aidala Daniel Akerib Noriko Akutsu Ralph Alexander, Jr. Moorad Alexanian Margaret Alston-Garnjost Charles Anderson Gordon Anderson Roger Anderson Scott Anderson Weston Anderson John Antal John Apruzese Joseph Argento Petros Argyres Marina Artuso David Aston William Atwood Daniel Auerbach Frank Avignone III Iack Avrin Andrew Bacher Christina Back Dionys Baeriswyl John E. Baglin Mei Bai Andrew Baker Marshall Baker Samuel Baker Akif Baha Balantekin John Balbach Samuel Baldwin James Ball Robert Balluffi John Balogh Henry Band Elizabeth Baranger Alexis Baratoff John Barker Daniel Barnes Lawrence Bartell David Bartlett Donald Barton Kyle Bayes Alice Bean Bret Beck Donald Beck Eric Becklin

J. Georg Bednorz James Beene Stephen Beer Nicholas Begovich Robert Behringer Eugene Beier Norman Belecki Itzhak Ben-Itzhak Roy Benedek Leo Beranek A. Beretvas Georg Berg Edmond Berger Luc Berger James Bergquist Mark Bernstein Lee Berry R. Stephen Berry Frances Berting Donald Bethune R. Russell Betts John Bieber Joachim Biele Arthur Bienenstock Ikaros Bigi George Bing Robert Birkmire James Bjorken W. Blanpied Miles Blencowe Craig Blocker Nicolaas Bloembergen L. Blokhintsev Arnold Bloom Kenneth Bloom Richard Blue Gregory Boebinger Richard Boggy Peter Bond Massimo Boninsegni David Book Corwin Booth Randy Bos James Boyce Larry Boyer Walton Boyer James Bradbury Franklin Brady Alan Brailsford Helmut Brand James Brau Martin Breidenbach David Brice Charles Brown David Brown David Norvil Brown George Brown Robert J. Brown Ludwig Bruch Alfred Buckingham

Spencer Buckner Kimberly Budil Dmitry Budker Richard Bukrey W. Murray Bullis Bruce Bunker Keith Burrell Eric Butcher Kathryn Butler Marvin Cage James Callen Gretchen Campbell Brian Canfield Gang Cao Corrado Cardarelli Lawrence Cardman Thomas Carlstrom G. Lawrence Carr Allen Carroll Thomas Carruthers James Castiglione J. Michael Cathcart Peter Celliers Charles Cerjan Jean Bio Chabi Orou David Chamberlin Gordon Chandler David Chang Lay Nam Chang Ngee-Pong Chang Chellis Chasman Ta-Pei Cheng Lalit Chhabildas Shirley Chiang Chia-Ling Chien Wai-Yim Ching Hong-Yee Chiu Alan Chodos Stanley Christensen A. Chynoweth Leonardo Civale Kenneth Claiborne Charles Clark W. Gilbert Clark John Clarke Liam Cleary Jim Clemans Richard Cline Thomas Coan C. Coffin Morrel Cohen Lawrence Coleman Mark Coles Richard Collins William Collins Andres Concha John Connell David Cook Alan Cookson Benjamin Cooper

S. Lance Cooper Pierce Corden Charles Cornwell Donald Correll Francis Correll George Coulter Robert Cousins, Jr. David Crandall Lawrence Crapo Bernd Crasemann Michael Creutz Roger Crouch Paul Crowell Thomas Crowley James Cumming David Cutts Orin Dahl Mark Daly Jerome Danburg Robert Danen James Danielson Paul Dapkus Teymour Darkhosh Timothy Darling Anne Davenport James Davenport L. Craig Davis **Richard Davis** William Davis Senarath de Alwis Jorrit de Boer Stephan de la Veaux Mark Debe James Degnan John Degrassie Marie-Agnes Deleplanque-Stephens John Delos Jason Detwiler Ronald Dickman Paul Dickson, Jr. Duane Dicus Michael Dine Laurent Divol Lance Dixon Thomas Dolan Georges Dome John Domingo Patrick Dowling Alex Dragt Gordon W. F. Drake Sidney Drell Adam Drobot Thomas Dunning, Jr. Dipangkar Dutta Stephen Early William Eaton Robert Ecke Gisela Eckhardt

Stanley Ecklund Alexander Edelman David Ederer Ariel Ederv Alan Edwards Donald Edwards Helen Edwards Theodore Einstein Elmer Eisner Robert Elgin Celia Elliott Stephen Ellis Vadim Emtsev Paula Engelhardt Ronald Enstrom Kenneth Epstein Glen Erickson Asher Etkin Robert Euwema William Evenson Viktor Evtuhov Edward Eyler Roger Falcone David Farrell L. Farrow Gervais Favrot, Jr. Benedict Feinberg Leonard Feldman Paul Felsher Joseph Feng Gregg Fenton Stephen Ferguson Thomas Ferguson John Ferron Alexander Fetter Robert Finkelstein Tomas Firle George Fisk William Fogle Raymond Folse, Jr. Jeff Fossum Michael Fowler W. Beall Fowler Eduardo Fradkin Ricardo Francke Albert Franco William Frazer Robert Friauf Joshua Frieman Klaus Fritsch Martin Fritts David Fryberger Don Fujino Eiichi Fukushima Jose Fulco Wendy Fuller-Mora S. Fung Robert Furber Richard Furnstahl Thomas Gaisser

John Galayda Robert Garcia Jose Garcia, Jr. Richard Garner S. Peter Gary Samuel Gasster Clayton Gearhart, Jr. Katharine Gebbie Cameron Geddes Daniel Gee

Donald Geesaman

Neil Gehrels Peter Gehring Walter Gekelman Eugene Gellert Thomas Gentile Edward Gerjuoy Joseph Giaime Bruce Gibbard Sarah Gilbert Jonathan Gilligan Joseph Giordmaine Charles Glashausser George Glass James Glazier Sharon Glendinning Henry Glyde Nickolay Gnedin Brendan Godfrey Howard Goldberg J. Goldberg Alfred Goldhaber Jeffrey Goldstone Peter Gollon Philip Goode Lev Petrovich Gor'kov John Gosling Dave Goss Steven Gottlieb Harvey Gould Alexander Gramolin

Paul Grant Luis Grave de Peralta Mark Gray James Greene Henry Greenside Brooke Gregory D. Grether

David Griffiths

David Griggs Benjamin Grinstein James Grochocinski Donald Groom E. Gross Irving Haber Robert Hackenburg Rudolf Hackl Willy Haeberli Nancy Haegel Roger Hagengruber

Sharon Hagopian Vasken Hagopian Gerhard Hahne Thomas Hahs John Hall Douglas Hamilton D. Hamlin David Hammer Charles Hancock, Jr. William Hansen W. Harker O. Harling Alexander Harris Frederick Harris J. Harris, Jr. Richard Harris M. Harrison Michael Harrison H. Hart, Jr. Robert Hart Terry Harter Everett Harvey, Jr. Masayuki Hasegawa Ryusuke Hasegawa Gerwin Hassink John Hastings Edward Haugland Jack Haugsnes U. Hauser Charles Hawkins William Hawkins Kazuhiro Hayasaka Andrew Hazi Steve Heald Alan Heeger Volker Heine Kenneth Heller Leon Heller Philip Hemmig James Hendrickson Robert Hengehold Ronald J. Henry Steve Herb Dean Herr Dennis Herzo Daryl Hess Roger Hess Michael Hibbs Takekoshi Hidekuni Bernard Hildebrand John Hill Gene Hilton Kai Ming Ho David Hobill M. Pottenger Hockaday M. Hodara

Allan Hoffman

Nelson Hoffman

Richard Holmes

Wayne Holman III

Donald Holmgren Rush Holt

C. Greg Hood Frank Horrigan Wendell Horton, Jr. Robert Hosken R. Hosteny Paul Hough Ruth Howes Alan Howsmon Chi-Yu Hu Bruce Hudson Walter Huebner Robert Huff Thomas Hughes Rusty Humphrey Winifred Huo Alan Hurd John Huschilt Mark Hybertsen Hiroshi Ichise Gary Ihas Richard Ikeda Gerhard Ingold Muhammad Islam Wayne Itano H. Jackson, Jr. Howard Jackson W. Jackson Peter Jacobs William Jacobs Kenneth Janda Stephen Jardin John Jaros Thomas Jernigan Jeffrey Jewett Brant Johnson Peter Johnson Robert Johnson Rolland Johnson David Johnston J. Jonas Keith Jones Lawrence Jones Robert Jones Thomas Jones W. Joyce Robert Kaeser Sheldon Kahalas Nobuyuki Kambe Hiroshi Kamimura Charles Kane L. Kannenberg Daniel E. Kaplan Daniel M. Kaplan John Karanikas Kathleen Kash Michael Kash Tomotaro Katsura Shigeo Kawata

Daniel Kay Boris Kayser William Keery Paul Kellogg Stephen Kelly Charles Kennel Andrew Kent Donald Kerr, Jr. R. Kidder Charles King, Jr. Paul King Thomas King Edward Kinney O. Kistner John Klepeis William Klink James Knauer Randall Knight Stephen Knox James Knudson Peter Koehler Horst Koeppel Shigeru Koikegami Charles Kolb, Jr. Noemie Koller Seiki Komiya Victor Korenman Diana Kormos Buchwald Jan Korringa Joze Kostelec Bruce Kowert Jonathan Krall Laird Kramer Stephen Kramer Robert Krasny Herbert Kroemer Andreas Kronfeld Predrag Krstic Mark Kryder Moyses Kuchnir Klaus Lackner Vasudevan Lakshminarayanan Frederick Lamb Gerard Lander Harry Landon Robert Lanou, Jr. Richard Lanza Louis Lanzerotti John Larabee Rudolf Larsen Bennett Larson Shane Larson Barbara Lasinski Thomas Lasinski Victor Laurie R. Jeffery Lawrence Walter Lawrence Norman Lazar

Donald Lazarus Albert Lazzarini David Lee Tsung-Shung Lee Anthony Leggett Dietrich Leibfried Mark Leising Gabriel Lengyel Frieder Lenz Richard Lerche Jeffrey Lerner Judah Levine Raymond Lewis Zvie Liberman A. Lewis Licht Elliott Lieb Donald Liebenberg Peter Limon Li-Jen Lin Likai Lin Sung Piau Lin Erick Lindman Rulon Linford Laurence Littenberg Keh-Fei Liu Walter Lockwood Lvnda LoDestro Gabrielle Long David Look Frances Lopata Robert Loser Richard Loveless Clark Lowman Tom Lubensky Michael Lubin Sergei Lusin John Luthe Harry Lutz David Lynch Peter Lyons Rosemary MacDonald James MacLachlan Douglas MacLaughlin Charles Maguire Yousef Makdisi Ernest Malamud Stanley Mandelstam Paul Mantsch Eugene Margerum Hans Mark Alan Marshall John Mather M. Keith Matzen John Mauer IV Robert Maurer John McCarthy Kevin McCarty Donald McClure Bruce McCombe William McCormick

Chas McCutchen Michael McDaniel Malcolm McGeoch Stephen McGuire Robert McKibben Larry McLerran Thomas Mcnab Dennis McNabb Laurie McNeil J. Michael McQuade Thomas Mehlhorn Robert Meier Forrest Meiere Matthew Meineke Adrian Melissinos Anton Menth Curtis Menyuk Robert Mercer Richard Meserve Sydney Meshkov Harold Metcalf Fred Meyer Jerry Meyer Verena Meyer Karnig Mikaelian D. John Millener G. Lorimer Miller Gerald Miller Philip Miller, Jr. John Milton John Mitchell George Mitev Luke Mo H. Keith Moffatt Peter Mohr David Moir Hendrik Monkhorst Stephen Montgomery Kuk Moon Charles Morehouse John Moriarty Dornis Morin, Jr. Melvin Moriwaki David Morrow Steven Moszkowski Toshio Motoba Theodore Moustakas George Mueller Gregory Mulhollan Albert Narath Joseph Natowitz George Neilson, Jr. David Newell David Newman Won-Keng Ng Paul Nielsen

Mark Nockleby

Kawora Nomura

Donald O'Connor

Wilfred Norris

Terry O'Dwyer John O'Fallon William Ohlsen Hidetoshi Okada Koji Okano Robert Olness Nai-Phuan Ong Yuri Orlov Chad Orzel Peter Ostermann Hans Othmer Neil Ottenstein Alfred Owyang Satoshi Ozaki Lyman Page Andrea Pagliarin Surendra Pandey Richard Pardo Eugene Parker Jerald Parker William Parker Richard Partridge James Paterson **Ritchie Patterson** Jerry Peacher L. Donald Pearlstein Stephen Pearton Mark Pederson Jen-Chieh Peng Edward Perkins Arnold Perlmutter Udo Pernisz Joseph Perry Murray Peshkin Wesley Petersen Carl Peterson Richard Peterson Ronald Peterson Robert Petry Gary Phillips Julia Phillips Piero Pianetta Jorge Piekarewicz Daniel Pierce Jose Piffaretti James Pilcher David Pipkorn David Piston Michael Plesniak Joseph Polchinski John Poucher **Richard Prepost** William Press Howard Preston Robert Prohaska Claude Pruneau Chris Quigg Brian Quinn Ari Rabl Robert Rader

Pramila Raghavan David Rahm John Raitt Frederick H. Rambow Enrique Rame Arthur Ramirez P. Sridhar Rao Richard Rauch Finn Ravndal Robert Ray John Raymond Robert Rediker Robert Redin **Richard Redington** Michael Redmond Sidney Redner Robert Redwine John Rehr Jonathan F. Reichert Margaret Reid Joerg Reinhold Lucia Reining Ruben Reininger Howard Reiss Matthew Reuter Peter Reynolds **James Rhvne** Stuart Rice Robert Richardson Edward Richley Matthew Richter Mark Riley Pat Roach Mark Robbins B. Lee Roberts Hugh Robinson John Roche Gene Rochlin John Rodriguez Peter Roemer Kenneth Rogers Thomas Rognlien Steven Rolston John Romero Philip Roos Kenneth Rose Ira Rosenbaum Martin Rosenblum Michael Rosenthal Jonathan Rosner Lawrence Rothenberg George Rowlands Morton Rubin Roy Rubinstein Clifford Rudy Nathan Rynn Hans Sachse Viraht Sahni Makoto Saito Gerhard Salinger

T. Michael Sanders **Richard Sands** Alberto F. S. Santoro W. Wade Sapp, Jr. Wayne Saslow Didier Saumon Kenneth Saunders Douglas Scalapino Stephen Schery Dietrich Schinzel Eric Schlegel Stefan Schmidt George Schmiedeshoff Beate Schmittmann Kenneth Schmitz Marilyn Schneider Lee Schroeder Peter Schroeder **Jonas Schultz** Peter Schultz Michael Schulz H. Konrad Schurmann Richard Sciambi Bruce Scott Ray E. Sears Stephen Sears Benjamin Segall Legesse Senbetu Raymond Seraydarian Lu Sham Wei Shan Paul Shand Stephen Shapiro Melvin Shaw Stephen Shenker Richard Shepherd Howard Shields Michelle Shinn Michael Shlesinger Howard Shugart Edward Siciliano Robert Silsbee Pekka Kalervo Sinervo Anne Sivers Andrew Skumanich Charles Slichter George Smith Harold Smith, Jr. Robert Smith Roger Smith Steven Smith Todd Smith J. Snelgrove Dale Snider Paul So Henry Sobel Joshua Socolar George Soli Jin Joo Song

Stephen Sanders

James Sowinski Clay Spence Paul Spencer Harold Spinka Gianluca Spizzo Donald Spong Sri Srinivasan Stephen St. John John Stack Herbert Stafast Fred Stafford Frieda Stahl Ernest Stalder Jason Stalnaker Phillip Stancil Anthony Starace Alexei Starobinsky E. Otto Steinborn Richard Steiner Frank Steldt Frank Stephens Edward Stephenson George Sterman Frank Stern Morton Sternheim Melbourne Stewart Mark Stiles Michael Stitelman Iames Stith Ian Stockdale Rogers Stolen Christian Stoller James Stone John Stott Alan Stottlemyer J. Robert Streetman Robert Stryk Robert Sugar Evan Sugarbaker Harry Suhl Christopher Summers Richard Sutherland Paul Sutton Paul Swartz Abraham Szoke Haruhiko Takase Patrick Talou Morris Tanenbaum David Tanner John Tanner Theodore Tarbell Bruce Tarter Haskell Taub Uwe Tauber Edward Taylor Paul Tedrow Stephen Teitel Kenneth Telschow Aaron Temkin Peter Tenenbaum

Jerry Tersoff Joseph Tesmer George Tessler Friedrich Thielemann J. Thomas, Jr. John Thompson David Thouless Medville Throop Thomas Throwe Roger Tobin Mitsuyoshi Tomiya Carl Tomizuka Philip Tomlinson John Tranquada Robert Tribble George Trilling Virginia Trimble Thomas Trippe Jean-Marc Triscone Alvin Trivelpiece Daniel Tsui Robert Tycko Allan Tylka Jack Ullman Sergio Ulloa Meg Urry Bjarne Ursin James Valles Josephus Van Schagen Thomas Van Vechten John Vander Velde David Vanderbilt Charles Vane Robert Varner James Vary Joshua Veazey Lynn Veeser Marco Verzocchi F. Herbert Vestner Flemming Videbaek David Vier Mark Visosky Silvia Volker Tycho Von Rosenvinge Richard Wachnik Sigurd Wagner Glen Wagoner Robert Wagoner Douglas Wake Kameshwar Wali Duane Wallace William Wallace Ronald Walton Bennie Franklin Ward Patrick Warren W. Warren Edel Wasserman Steven Watanabe Takeshi Watanabe Richard Webb

Robert Webb Alfons Weber Harold Webster Medford Webster Xiangdong Wei Matthew Weidmann Michael Weinert Jerald Weiss Martin Weisskopf Harold Weitzner Ulrich Welp David Wensky Richard Werbeck Michael Wescott Christopher Wesselborg Cecil West Ward Whaling John Wheeler Robert Wheeler Stanley Whitcomb James Whitmore Edward Whittaker Herman Wieder Carl Wieman Howard Wieman Gerald Wilemski John Wilkerson Robert Williams Martin Wilner Brenda Winnewisser Manfred Winnewisser Michael Witthoeft Karlheinz Woehler Stephen Wolbers Stuart Wolf Raymond Wolfe Joe Wong John Wood Harry Woodcock Joseph Workman Michael Wortis Gordon Wozniak Edward Wright Ying Wu Youwen Xu Robert Yamartino Xiaoyu Yang Yin Yeh Yung-Tsai Yen Sigfrid Yngvesson Kenneth C. Young Kenneth M. Young Peter Yu Bernard Yurke Philip Zecher Michael Zeller Jay Zemel George Zimmerman William Zimmermann, Jr. Michael Zingale J. Zink







Cover image inspired by 'Demonstration of open-quantum-system optimal control in dynamic nuclear polarization' [S. Sheldon and D. G. Cory, Phys. Rev. A **92**, 042102 (2015)]. Photos, clockwise from top: 1) Bridge Fellow Daniel Silva pictured at University of South Florida. 2) Exhibit showing some of the properties of Ultraviolet light at THEMUSEUM in Ontario, Canada. The exhibit was funded through the APS outreach grant program and was part of the 2015 International Year of Light. 3) APS science writing intern Tamela Maciel tests a switchable metamaterial, while journalist Mitch Jacoby of Chemical and Engineering News looks on, at a press conference at the 2015 APS March meeting in San Antonio, Texas.



2015 APS OFFICERS

PRESIDENT

Samuel Aronson Brookhaven National Laboratory

Homer Neal University of Michigan

PRESIDENT-ELECT

VICE PRESIDENT PAST PRESIDENT

Laura Greene Florida State University

Malcolm R. Beasley Stanford University

CHIEF EXECUTIVE OFFICER

INTERIM TREASURER

EDITOR IN CHIEF

INTERIM EDITOR IN CHIEF CORPORATE SECRETARY

Daniel Kulp

Kate P. Kirby APS Malcolm R. Beasley Stanford University Gene D. Sprouse Stony Brook University (on leave)

sity APS

Ken Cole APS

2016 APS OFFICERS

PRESIDENT PRESIDENT-ELECT

Homer Neal University of Michigan

Laura Greene

n Florida State University

VICE PRESIDENT PAST PRESIDENT

Roger Falcone University of California, Berkeley

James Hollenhorst

Agilent Technologies

Samuel Aronson Brookhaven National Laboratory

CHIEF EXECUTIVE OFFICER Kate P. Kirby

APS

TREASL

INTERIM EDITOR IN CHIEF

Daniel Kulp APS CORPORATE SECRETARY Ken Cole

APS

AMERICAN PHYSICAL SOCIETY ONE PHYSICS ELLIPSE COLLEGE PARK, MD 20740 WWW.APS.ORG