

AMERICAN PHYSICAL SOCIETY





### **OUR MISSION**

To advance and diffuse the knowledge of physics for the benefit of humanity, promote physics, and serve the broader physics community, we

Provide a welcoming and supportive professional home for an active, engaged, and diverse membership;

Advance scientific discovery and research dissemination;

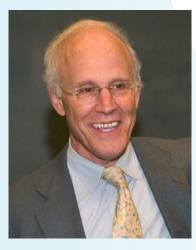
Advocate for physics and physicists, and amplify the voice for science;

Share the excitement of physics and communicate the essential role physics plays in the modern world; and

Promote effective physics education for all.

Cover image from Comprehensive magnetic phase diagrams of the polar metal  $Ca_3(Ru_{0.95}Fe_{0.09})_2O_7$ [Shiming Lei *et al.*, Phys. Rev. B **99**, 224411 (2019)]. During my time in the APS Presidential Line, starting in 2017, I have developed a deep understanding of this dynamic and complex organization, which does far more than just fulfill its objective "to advance and diffuse the knowledge of physics". I am very proud of the APS, its members and its staff and am proud to have served as its president.

In early February 2019, we announced the *APS Strategic Plan: 2019*, which laid out strategic priorities for addressing our challenges and opportunities. During this process I have tried to inspire us to look to the future and to encourage a spirit of experimentation. Some of the specific actions I promoted have gotten underway this year. Highlights include:



APS Innovation Fund: This is a strategic investment in new, emerging ideas, from both members and staff, which align with APS priorities. The first grants were awarded in August to four projects that develop new approaches to advancing the interests of the physics community.

2020 Annual Leadership Meeting: The purpose of this meeting is to showcase exciting forefront physics and discuss science policy, reaching out to science policy makers, government agency leadership, and the press. We expanded the Leadership Convocation, the yearly gathering of unit leaders in Washington, DC held at the end of January, by one day. The overall theme of the meeting was international engagement, collaboration and competition. We held a day-long session of plenary physics talks and panels and on the following day convened a roundtable of physics leaders from around the world to discuss threats to international collaboration in science.

US-China Roundtable: The APS leadership has been very concerned about the US government's threat to hinder open scientific collaboration between the United States and China. To address this problem, APS organized and hosted a small, high-level meeting in mid-December involving US and Chinese physics leaders. During the twoday roundtable, participants discussed opportunities as well as barriers to US-China scientific cooperation. A follow-up meeting in China is being planned.

Thanks to all my colleagues for their support of APS and the opportunity to serve. I want to thank my dedicated partners at APS, including my predecessor as President, Roger Falcone, my successor, Phil Bucksbaum, and especially our CEO, Kate Kirby.

Dillors

### **DAVID J. GROSS**

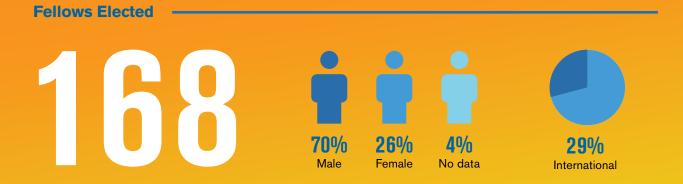
2019 APS President Kavli Institute of Theoretical Physics University of California, Santa Barbara

# **APS MEMBERSHIP IN 2019**

**Number of Members** 

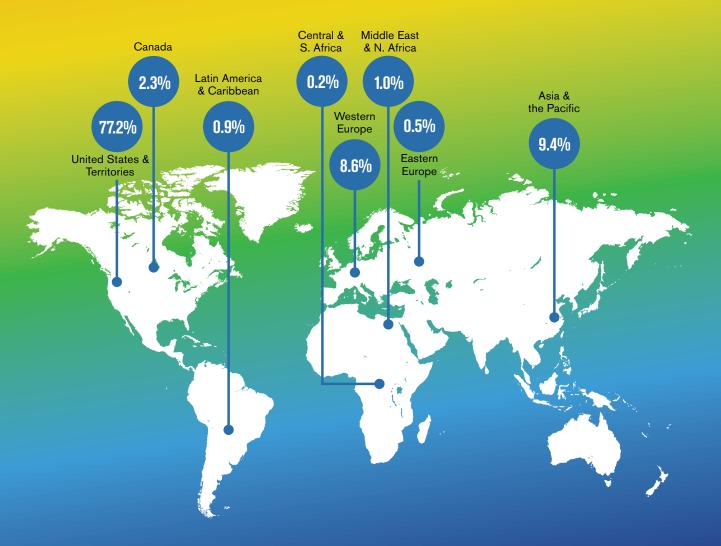
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**Member Type Unit Membership** 65% 17% 23% 8% 35% 7% 10% Under-Graduate Early Career Regular Life Senior Member of at least graduate Student one unit



### **Locations**

APS members resided in **107** countries



# Provide a Welcoming and Supportive Professional Home for an Active, Engaged, and Diverse Membership

### FORMATION OF ETHICS COMMITTEE

APS formed a new standing Ethics Committee to oversee the Society's ethics policies and to develop educational materials. Over the course of 2019, the Committee began communicating with members through *APS News* and a new webpage dedicated to ethics. The Committee is considering the development of policies and procedures for handling reports of ethics violations, using resources developed and curated by the Societies Consortium on Sexual Harassment in STEMM.



APS members founded two new units, approved by the APS Council of Representatives in 2019, the Topical Group on Data Science (GDS) and the Forum on Diversity and Inclusion (FDI). GDS will support scientists whose work intersects with data science, a fast-growing and highly interdisciplinary field that spans topics in physics, statistics, computer science, and mathematics. Dedicated to creating a welcoming community of physicists, FDI will promote diversity, equity, and inclusion across the Society.

# SOCIETIES CONSORTIUM ON SEXUAL HARASSMENT IN STEMM

APS was a founding member of the Societies Consortium on Sexual Harassment in STEMM, an initiative of over 120 professional societies to work together to advance excellence in STEMM disciplines and address sexual harassment in all of its forms. APS is one of nine societies on the Executive Committee, which is responsible for steering the work of the Societies Consortium. The Societies Consortium will produce resources, such as model policies and other tools, and build a network of society leaders to promote exchange of information and ideas.

*Left:* Attendees of the Future of Physics Days events at the 2019 APS March Meeting.



### FUTURE OF PHYSICS DAYS EVENTS

Future of Physics Days events (FPD) were held at the APS March and April Meetings, with the aim of creating a professional home within APS for undergraduate student members. Attendance at FPD events has tripled since they began in 2009, and over 300 students participated in 2019. These events focus on professional development of undergraduate physics students and include a graduate school fair, career workshops, graduate school panels, and undergraduate research sessions at which students are given written feedback from expert judges.

### **APS CAREERS 2020 GUIDE**

APS partnered with the Institute of Physics to publish the *Careers 2020* Guide for students and early career physicists. The guide includes career advice, profiles of physicists working in diverse fields, a special section on entrepreneurship, and a directory of employers who are seeking new hires.

### **CUWIP CONFERENCES**

The 2019 Conferences for Undergraduate Women in Physics (CUWiP) took place simultaneously at 12 regional sites across the United States and Canada. A total of nearly 2,000 students attended, the largest number of attendees to date; this approximately equals the number of physics bachelor's degrees earned by women each year in the United States. A keynote presentation by Fabiola Gianotti, Director-General of CERN, was simulcast to all sites. In addition, students attended workshops and panels, presented at poster sessions, and participated in lab tours and networking events.



2019 APS March Meeting attendees participated in a Wikipedia Edit-a-thon.

### WIKIPEDIA EDIT-A-THON AT APS MARCH MEETING

Wikipedia struggles with diversity, as less than 18% of biographies on the site are about women. APS took an active role in addressing this issue by organizing its first Wikipedia Edit-a-thon at the 2019 APS March Meeting. The event was headlined by Jess Wade, a UK physicist who has championed the work of adding biographies of female scientists. More than 50 participants brought their laptops and created (45) or edited (91) biographies of female and minority physicists, which received 1.7 million pageviews in 10 months.

# Advance Scientific Discovery and Research Dissemination

### Our Trusted and Growing Publishing Program

### A RECORD-SETTING YEAR

Open access articles published

Peer-reviewed journals



### **CELEBRATING 90 YEARS OF REVIEWS OF MODERN** PHYSICS

APS celebrated the 90th anniversary of Reviews of Modern Physics (RMP). A special issue of Physics *Today*, published in February, featured 11 articles, from RMP's current editors, former editors, authors, and others looking back on key papers published in the journal. The celebrations continued at the March and April Meetings with special anniversary sessions, featuring some of the most widely read and cited RMP authors.

### PHYSICSNEXT WORKSHOP: X-RAY LASER **SCIENCE - A NEW FRONTIER**

APS hosted a PhysicsNext Workshop on x-ray laser science, focusing on potential advances made feasible by the recent development of free-electron lasers (FELs). This invitation-only workshop allowed for open and informal discussions to help identify the most promising areas for further development of these new sources.

### CONTINUED COMMITMENT TO OPEN ACCESS

**>3,800** 

### New Open Access Journal: Physical Review Research

APS launched Physical Review Research, a fully open-access journal covering a wide range of physics, including interdisciplinary and newly emerging areas, and offering the APS peer review and author experience researchers value and trust. The journal published its first articles in August and ended the year with 340 papers published, surpassing expectations.

### New SCOAP<sup>3</sup> Agreement

APS extended its commitment to publishing high-energy physics (HEP) research open access when it signed onto Phase 3 of CERN's Sponsoring Consortium for Open Access Publishing in Particle Physics (SCOAP<sup>3</sup>) initiative, covering 2020-2022. All HEP papers published in three APS journals-Physical Review Letters, Physical Review C, and Physical Review Dwill continue to be made available open access with a CC-BY license immediately on publication without the need for payment from authors.

### AMERICAN PHYSICAL SOCIETY 2019 ANNUAL REPORT

### **APS MEETINGS**

The 2019 APS March Meeting in Boston, MA was the largest meeting in APS history with 12,234 physicists attendees (30% of whom came from outside of the United States). The Meeting featured a special Nobel session with talks from 2018 Physics Laureates Donna Strickland and Gérard Mourou. The Kavli Foundation Special Symposium highlighted research "From Unit Cell to Biological Cell."

The 2019 APS April Meeting, Quarks 2 Cosmos, was held in Denver, CO and also achieved a record-breaking attendance of 1,766. The meeting featured "Recent Advances in Neutrino Physics" as its Kavli Foundation Keynote Plenary Session and a popular public lecture, "Dark Matter in the Universe," presented by Katherine Freese.

APS hosted several large unit meetings that drew excellent attendance. The Division of Plasma Physics Meeting, held in Ft. Lauderdale, FL, attracted 1,854 attendees. The Division of Fluid Dynamics Meeting, held in Seattle, WA, had a record-breaking attendance of 3,576. The DFD Meeting included Flash Poster Presentations, which allowed poster presenters to give one-minute oral pitch presentations preceding the poster session.

# APS MEDAL FOR EXCEPTIONAL ACHIEVEMENT IN RESEARCH

The 2019 APS Medal for Exceptional Achievement in Research was presented to Bertrand Halperin in recognition of his seminal contributions to theoretical condensed matter physics, especially his pioneering work on the role of topology in both classical and quantum systems. APS bestowed an additional 60 prizes and awards to outstanding members of the physics community.

*Top:* 2019 APS March Meeting attendees used stickers to show they traveled from all over the world. *Bottom:* Donna Strickland, 2018 Nobel Laureate in Physics, gave a talk at the 2019 APS March Meeting.





# Advocate for Physics and Physicists, and Amplify the Voice for Science

### **Grassroots Advocacy by APS Members**

>2,500 Op-Eds, letters to Congress, and visits to Congressional Offices

### FIGHTING FOR INCREASED RESEARCH FUNDING

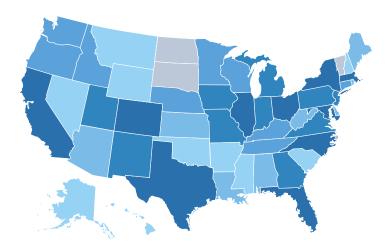
The APS Office of Government Affairs worked with APS members and coordinated with other science and technology organizations to advocate for increased federal funding for science in FY 2020. For example, APS member Dany Waller, a University of Kentucky student, wrote a piece in the *Courier-Journal* newspaper, urging US Senator Mitch McConnell to work with his colleagues to raise the budgetary caps impacting FY 2020. Deep cuts to the science budget that were proposed by the Trump Administration were reversed by Congress.

# REFORMING HIGH-SKILLED VISAS AND IMMIGRATION

APS is leading efforts to support policy changes that would enable international graduate students who apply for a visa to indicate that they would like to stay in the US after graduation and would provide a path to a green card for students who secure job offers from US employers. APS worked with US Senator Richard Durbin's office to introduce the Keep STEM Talent Act, which was also introduced in the House.

### COMBATING SEXUAL HARASSMENT IN STEM

Within seven months, the Combating Sexual Harassment in Science Act of 2019 went from being introduced in the House-timed with the APS Congressional Visits Day in January-to passing the full chamber in July. The Forum on Graduate Student Affairs and the APS Office of Government Affairs partnered with APS members across the country to write more than 550 letters in support of the Act. The letters were sent to 111 House offices and 70 Senate offices. Nearly 50% of the House co-sponsors who joined the bill after the campaign began had been contacted by APS members.



Many APS members wrote letters to Congress during 2019. The darker shades of blue indicate where more letters were written.

### AMERICAN PHYSICAL SOCIETY 2019 ANNUAL REPORT



APS members write to Congress in support of science.

### WORKING TO REVERSE CLIMATE CHANGE

Climate change continued to be a top concern for APS members. APS submitted a public comment opposing the EPA's proposed policy amendments to curtail regulation of greenhouse gas emissions. In the comment, APS urged the EPA to carry out a rigorous assessment of methane emissions–a major contributor to climate change. Recent scientific results indicate that the negative environmental impact of methane is significantly higher than previously estimated.

### FINDING SOLUTIONS TO THE HELIUM CRISIS

APS continued to advocate for solutions to the helium issues facing researchers, as addressed in the report *Responding to the U.S. Research Community's Liquid Helium Crisis*, which was jointly prepared by APS, the American Chemical Society, and the Materials Research Society. APS member Joseph DiVerdi, a chemistry professor at Colorado State University, authored a piece in *The New York Times*, underscoring two crucial recommendations in the Liquid Helium report. Additionally, Sophia Hayes, a chemistry professor at the University of Washington in St. Louis and a member of the committee that prepared the Liquid Helium report, highlighted the need to enact APS's proposed helium policy solutions in her witness testimony at a hearing sponsored by the House Science Committee.

# HUMAN RIGHTS ADVOCACY FOR INTERNATIONAL PHYSICISTS

Through its Committee on International Freedom of Scientists, APS advocated for the human rights of scientists around the world. In particular, APS leaders wrote a letter of support for the 2018 APS Sakharov Prize winner, Narges Mohammadi, an Iranian physicist and human rights activist who remains imprisoned in Iran.

In order to build a pipeline of young physicists who will continue the Society's tradition of supporting human rights for scientists, APS hosted 100 graduate students for the "Young Physicists Lunch with APS President & Human Rights Leaders" at the 2019 APS March Meeting.

# US-CHINA PHYSICS COOPERATION ROUNDTABLE DISCUSSION

To help advocate for continued international collaboration in physics research, APS hosted highlevel scientists from China for a two-day roundtable discussion on "US-China Physics Cooperation: Opportunities and Challenges." The roundtable included 20 high-level representatives, with 10 participants from each of the US and the Chinese science communities.

The discussions were conducted under the Chatham House Rule, whereby participants are free to use the information received, but neither the identity nor the affiliations of the participants may be revealed. The US and Chinese physicists openly discussed various concerns that have been expressed by their respective governmental and academic communities regarding research integrity, scientific mobility, and intellectual property.

# Share the Excitement of Physics and Communicate the Essential Role Physics Plays in the Modern World

### **INNOVATION FUND**

In 2019, APS launched the Innovation Fund to solicit and support creative ideas that align with strategic priorities in the recently approved APS Strategic Plan. Out of more than 100 proposals, four projects were selected for awards (up to \$200,000, over two years) encompassing efforts to use machine learning to help March Meeting attendees locate relevant sessions, to galvanize concerns of the physics community on issues of nuclear non-proliferation, to build a network of universities to share effective practices for building and sustaining an inclusive climate for students and faculty, and to create a set of workshops to connect scientists in Africa and North America.

### **APS PRESS SERVICES**

APS disseminates new physics research published in the Society's journals and presented at its scientific meetings to the general public via the news media. In 2019, the *Physical Review* journals were referenced in more than 3,000 news articles, including ones published by *The New York Times, The Washington Post, Newsweek, The Guardian,* and *United Press International.* APS provided press services to the March and April Meetings as well as the Division of Plasma Physics Meeting and the Division of Fluid Dynamics Meeting. These meetings collectively generated hundreds of news articles.

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2019 APS March Meeting attendees participated in LabEscape, a physics-based escape room, sponsored by the Forum on Outreach and Engaging the Public. LabEscape received seed funding from the APS Outreach Mini Grant program.

### AMERICAN PHYSICAL SOCIETY 2019 ANNUAL REPORT

### **OUTREACH MINI-GRANTS AWARDED**

Seven Outreach Mini Grants of up to \$10,000 were awarded to APS members in 2019. These awards fund new initiatives encompassing a broad spectrum of physics topics and audiences, and empower APS members in the area of public engagement. Projects include dedicated and sustained outreach programs to be brought to American Indian communities, prison populations, and international settings. Projects funded in both 2018 and 2019 are underway, assisted by APS staff, and were featured in outreach-focused sessions at the 2019 APS March Meeting.

### **SPECTRA COMICS**

APS brought the APS Spectra comics series to popular venues, including Comic-Con International in San Diego and the Denver Pop Culture Con, to spread the excitement of physics and interact with fans of all ages. Each comic convention attracted hundreds of thousands of attendees. In addition to talking to audiences about the importance of physics, APS distributed over two tons, or about 28,000 comics, to fans in attendance.

### PHYSICSQUEST KITS

A total of 20,000 PhysicsQuest kits were distributed to approximately 5,000 teachers, reaching an estimated 180,000 middle school students. PhysicsQuest kits provide hands-on experiments to demonstrate the fun and relevance of science to middle school students as they learn more about the physical world. Each free kit offers activities to build enthusiasm for science and encourage active participation. The 2019 PhysicsQuest kit highlighted a famous physicist, Dr. Chien-Shiung Wu, known as the "first lady of nuclear physics" and the first female president of APS. An evaluation of PhysicsQuest kits showed that students are more interested in learning about physics after they experienced the activities in the kit.



Katherine Freese meets the audience after her public lecture at the 2019 APS April Meeting.

### QUANTUM ECONOMIC DEVELOPMENT CONSORTIUM

The Quantum Economic Development Consortium (QED-C) was formed by NIST in September 2018 and grew substantially in 2019. The mission of QED-C is to establish a strong industrial base for Quantum Information Science. Participants include large and small companies, universities, government labs, and nonprofits. This emerging discipline could impact many fields including instrumentation, cryptography, and computing. APS leads the Workforce Technical Advisory Committee.

### AFRICAN PHYSICS NEWSLETTER

APS launched the African Physics Newsletter, an online publication for and by the African physics community. It serves as a vehicle for African physicists to communicate among themselves as well as to share with their peers outside of Africa information about the physics that is being conducted across the continent. The newsletter was created as the result of a survey of African physicists that was conducted by the Physics in Africa Project.

# Promote Effective Physics Education for All

### **EP3 GUIDE**

APS has teamed up with the American Association of Physics Teachers to create a comprehensive guide to Effective Practices in Undergraduate Physics Programs (EP3) that spans all aspects of the curriculum and is scheduled for release in 2020. More than half of the 30+ chapters were developed by a national task force in 2019. This guide will contain advice on preparing for and conducting external program reviews, with an eye to creating materials that physics departments can use to document practices required in university accreditation.



### STEP UP

Now in its third year, the STEP UP project has developed and demonstrated a set of high school physics classroom materials that enables high school teachers to encourage young women to pursue physics as undergraduates. In 2019, APS and its partners recruited teacher "ambassadors" to the project, resulting in nearly 1,000 teachers joining this effort. STEP UP researchers recently discovered that, along with seeing substantial gains in recruiting women to physics, these classroom strategies also encourage students from additional underrepresented backgrounds to pursue physics–a result that could have a far-reaching impact on the physics and engineering communities in the coming years.

### **APS BRIDGE PROGRAM**

The APS Bridge Program aims to increase the number of underrepresented ethnic and racial minorities who complete a PhD in physics. Since the first cohort in 2013, the APS Bridge Program has placed nearly 250 students in graduate programs, with a retention rate of 85%. These supportive programs, including those at over 40 Partnership Institutions, provide comprehensive instruction, high-quality mentoring, and dedicated faculty support. In 2019, the APS Bridge Program reached an important milestone, graduating its first two PhD students.

Left: Master teacher and STEP UP Ambassador Catherine Garland teaches the STEP UP lessons at her school in Brooklyn, NY. Credit: JJ Ignotz Photography.

### **IGEN**

The Inclusive Graduate Education Network (IGEN) is expanding the successful work of the APS Bridge Program throughout the physical sciences. APS leads a coalition of national professional societies including the American Chemical Society, the American Astronomical Society, the American Geophysical Union, and the Materials Research Society in efforts to substantially increase the number of underrepresented minority students that earn doctoral degrees. IGEN's first national meeting brought together 160 students, faculty, and other STEM professionals committed to building supportive graduate cultures that allow students of all backgrounds to succeed.

### **APS PIPELINE PROGRAM**

The APS PIPELINE, which supports innovation and entrepreneurship education within physics, wrapped up its three-year program with a workshop at the 2019 AAPT Summer Meeting. Attendees learned a variety of approaches to teach physics innovation and entrepreneurship.

Participants in the PIPELINE workshop at the 2019 AAPT Summer Meeting, learned new ways to connect physics teaching with innovation and entrepreneurship.



### **PHYSTEC COMPREHENSIVE SITES**

The Physics Teacher Education Coalition (PhysTEC), a project of APS and AAPT, made four Comprehensive Site awards to recognize "thriving programs" that prepare five or more physics teachers per year. Appalachian State University, the University of Kansas, Texas A&M University-Commerce, and Worcester Polytechnic Institute were selected from a highly competitive pool. Each institution demonstrated strong institutional commitment and capable leadership teams, positioning them to become national leaders in physics teacher education.

### PHYSTEC TEACHER RECEIVED PAEMST AWARD

Tiffany Taylor, a high school physics teacher who graduated from the PhysTEC program at the University of Arkansas, was awarded a Presidential Award for Excellence in Mathematics and Science Teaching (PAEMST), the highest award for K-12 science and mathematics teaching given by the US government. In just five years, her recruitment efforts tripled the number of students at her school in Advanced Placement (AP) Physics 1 and 2. Over 40% of her students are from groups typically underrepresented in physics.

### CANADIAN-AMERICAN-MEXICAN PHYSICS GRADUATE STUDENT CONFERENCE

APS partnered with physical societies across North America and Cuba for the 2019 Canadian-American-Mexican Physics Graduate Student Conference (CAM), held in Sudbury, Canada. CAM is a biennial conference planned by and for physics graduate students. The CAM meeting gave students a unique opportunity to engage with international peers, present their research, build an international network, and develop professional skills.

APS gratefully acknowledges the National Science Foundation for its support of these projects.

# Finances december 31, 2019

The total net assets of the American Physical Society increased from \$214.3M to \$248.0M. Net Assets without Donor Restrictions are composed of \$146.8M of undesignated assets and \$47.4M of board designated assets. The APS Board of Directors increased designated funds to support future post-retirement costs and specific mission-related operating activities. Net Assets without Donor Restrictions increased \$32.0M over the prior year; this increase is primarily due to very positive non-operating investment returns. Net Assets with Donor Restrictions increased from \$17.1M at the end of 2018 to \$17.9M at the end of 2019.

APS recognized \$62.7M of operating income and incurred operating expenses of \$60.6M resulting in net income from operations of \$2.1M. APS personnel and benefits contribute to over 52% of total operating expenses. Non-operating income increased \$29.9M as a result of investment income and changes in the value of APS's investment in the American Center for Physics and its post-retirement health liability. The total change in net assets during 2019 was \$32.8M.

### DECEMBER 31, 2019 AND 2018 (in millions) Statement of Financial Position

	2019	2018
ASSETS		
Cash and cash equivalents	\$ 25.3	\$ 24.4
Investments, at fair value	197.0	164.5
Accounts receivable, net	1.9	1.8
Pledges receivable, net	0.1	0.4
Prepaid expenses and other assets	1.4	1.0
Equity interest in American Center for Physics	4.4	4.6
Land, building and equipment, net	17.0	17.1
Beneficial interest in perpetual trust	0.6	0.5
otal assets	\$ 247.7	\$ 214.3
Accounts payable and accrued expenses	\$ 5.4	\$ 5.8
Deferred revenues	15.9	17.3
Liability for post-retirement medical benefits	14.2	11.9
Total liabilities	35.5	35.0
Net assets		
Without donor restrictions		
Undesignated	146.9	155.7
Designated by Board	47.4	6.5
With donor restrictions	17.9	17.1
Total net assets	212.2	179.3
otal liabilities and net assets	\$ 247.7	\$ 214.3

### **Statement of Activities**

	2019	2018
ET ASSETS		
Net Assets Without Donor Restrictions		
Operating Activities		
Operating Revenues	\$ 62.7	\$ 59.4
Operating Expenses	60.6	56.5
Income from Operations	2.1	2.9
Non-operating activities		
Income from investments	32.1	-9.4
Other non-operating income	-2.2	4.6
Income from Non-Operating Activities	29.9	-4.8
Total change in net assets without donor restrictions	32.0	-1.9
Total change in net assets with donor restrictions	0.8	0.6
otal change in net assets	\$ 32.8	\$ -1.3

# Philanthropic Partners

APS is grateful for each of the gifts and pledges received in support of its mission to advance and diffuse the knowledge of physics for the benefit of the scientific community and society at large. APS depends on our generous donors to help us provide vital programs in the areas of Education, Diversity and Inclusion; Public Engagement; Careers; Science Advocacy; International Affairs; Honors; and the Matching Membership Program. Charitable support to APS is truly an investment in the future of physics.

### **APS LEGACY CIRCLE**

The APS Legacy Circle recognizes donors who support the Society's mission and vision through planned gifts. By including APS in their estate plans, these forward-thinking individuals are creating an enduring legacy that will benefit researchers, industrial physicists, educators, students, and the general public far into the future.

APS sincerely thanks the following members and friends for helping to perpetuate and sustain a bright future for the scientific community and the future of science. Those in **bold** represent bequests that have already been realized.

Anonymous (1) Charlotte Anderson Jean Dickey Apker Robert Bachrach Esther Hoffman Beller M. Hildred Blewett Bert Brown Mary and Rudolph Chope C. Stewart Gillmor Theodore W. Hodapp Jay Jones Ken and Paula Krane **Beatrice Lilienfeld** Suha Oguz and Leslie J. Lord Erol and Julianne S. Oktay John J. Rehr Robert Stanek Aleksandar Svager David Sward **George O. Zimmerman** and Isa Kaftal Zimmerman

## LEADERSHIP CIRCLE

# The APS Leadership Circle recognizes donors whose lifetime\* giving has exceeded \$100,000.

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\*Based on APS's most complete records.

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## **2019 DONORS**

Names in Green: Names in Blue:

Current year donor whose gifts over the last ten years total \$10,000 or more Current year donor whose gifts over the last ten years total \$2,500 or more

#### \$100,000 and above

**Robert Brown** 

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### \$10,000 to \$99,999

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