

AAPT 2024 Annual Report



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2024 in Review

EXECUTIVE OFFICER'S 2024 ANNUAL REPORT

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Executive Officer's 2024 Annual Report

BETH A. CUNNINGHAM



This short report provides a summary of the activities of the AAPT Executive Office in 2024. We continue to deliver the high-quality programs and resources for our members and the physics education community despite external stresses and modest funding.

In order to move the association strategically into the future, the decision was made to move AAPT's events management to an outside firm. AAPT decided to partner with the American Physical Society for events management. APS brings many years of event management in the physics community, including some of the programs that AAPT and APS partner in. Unfortunately, this meant that we had to say goodbye to some of our Programs & Conferences staff: Tiffany Hayes, Director of Programs & Conferences, and Jamar Jennings, Meetings Logistics and Registrar. I want to thank them both for their many years of service to AAPT. Cerena Cantrell, Associate Director of Programs & Conferences, departed earlier in 2024 to accept a position at another association.

We celebrated one year in the American Center for Physics in Washington, DC, and received the proceeds from the sale of the American Center for Physics in College Park, MD. The proceeds are now invested in AAPT's long-term reserves. We continue to rent back space in ACP-MD for the staff and back-office activities.

We have been making changes to membership to make it easier and more affordable, and to counter the decline in membership that we have been experiencing. We launched a new membership option for Early Career members! This option provides a discounted membership for either K-12 educators or higher education faculty. Members can now choose autopay when renewing their membership or making donations. This allows members to have their annual dues automatically paid on their anniversary date when renewing, and donations automatically paid every month.

We have been successful in several areas.

- AAPT's reserves are healthy, and we are carefully monitoring the operating budget, which is now experiencing a deficit.
- We continue to be successful in increasing our fundraising capacity. We are thrilled to announce that Citadel Securities is now a Platinum sponsor for the USA Physics Olympiad!
- We received a subaward for the NSF-funded Partnership for Integration of Computation into

Undergraduate Physics (PICUP) grant, helping to support a summer leadership institute and regional workshops.

- Both national meetings were successful. The Winter Meeting in New Orleans had 500 attendees, and the Summer Meeting in Boston had 1,007 attendees.
- The US Physics Team competed in the European Physics Olympiad in the Republic of Georgia and received five gold medals.
- We hosted the inaugural recipients of the Barbara Wolff-Reichert Travel Grant, Saara Naudts and Mike Florek, at the Winter Meeting.
- The PhysicsBowl Director took a team of physics educators to China during the summer to host a camp for the top PhysicsBowl performers in China.

As described in previous annual reports, our events are held under the Event Participation Code of Conduct (see https://aapt.org/aboutaapt/organization/code_of_conduct.cfm). We continue to educate attendees about the Code of Conduct and appropriate behavior at our events. The following is a summary of incidents that were reported in 2024:

- WM24 - none
- SM24 - one submitted and resolved.
- Other AAPT-supported meetings (e.g., Faculty Teaching Institute, etc.) - none

The physics education community needs the programs, services, and resources offered by AAPT now more than ever. We hope you continue to see value in membership and will renew. We also ask that you consider contributing to the annual fund or to a program that resonates with you (see the AAPT website for a complete list). Finally, spread the word about the value of an AAPT membership to your colleagues (especially those entering the profession), friends, and students. AAPT is stronger with you and a robust and diverse group of members.

A handwritten signature in black ink that reads "Beth A. Cunningham". The signature is fluid and cursive, written over a white background.

Beth A. Cunningham, Chief Executive Officer



Diversity, Equity, and Inclusion at AAPT Report

This section describes AAPT activities around diversity, equity, and inclusion (DEI) that occurred in 2024. The accomplishments in diversity, equity, and inclusion this year are exciting as we continue to consider how to broaden participation in physics education.

Below is a summary of the 2024 activities:

- The Physics & Astronomy SEA Change project seeks to support physics and astronomy departments in creating systemic, structural change in equity, diversity, and inclusion. Departments interested in participating in an awards process undergo a self-assessment to identify unnecessary structural challenges and barriers for groups historically excluded from participating in physics and astronomy. To complete the award process, departments must create a five-year plan with measurable outcomes to address areas they wish to improve. This project is a part of the broader American Association for the Advancement of Science's SEA Change project. Two Bronze Physics & Astronomy SEA Change awards were given in 2024: Smith College Physics (awarded at
- WM24) and Appalachian State University Physics (awarded at SM24). This project is funded by an NSF sub-award from AAAS and an AIP Venture Grant.
- AAPT is a partner in the AIP TEAM-UP Together project. The goal of this project is to double the number of African Americans earning bachelor's degrees in physics and astronomy by 2030. In 2024, the second cohort of student scholarships and the second cohort of the departmental programs were announced. A conference for student scholarship recipients was held in the fall. AAPT participated in supporting these activities.
- AAPT, APS, and NSBP received an AIP Venture Fund grant to initiate a broader response of coordinated federal advocacy activities, engaging their members in a concerted advocacy effort to push back on anti-DEI legislation and legislative provisions. The three associations visited Capitol Hill in the summer to discuss anti-DEI legislation. In addition, a small group of AAPT members trained and visited their Members of Congress locally.

Publications update center

Having a strong publications program enables AAPT members to obtain greater insight into physics and learn about new teaching methods.

AMERICAN JOURNAL OF PHYSICS (AJP.AAPT.ORG)

Beth Parks, Editor, Colgate University

AJP informs physics educators globally with member subscriptions, institutional subscriptions, such as libraries and physics departments, and consortia agreements. The mission of the American Journal of Physics is to publish articles on the educational and cultural aspects of physics that are useful, interesting, and accessible to a diverse audience of physics students, educators, and researchers. Our audience generally reads outside their specialties to broaden their understanding of physics and to expand and enhance their pedagogical toolkits at the undergraduate and graduate levels.

The American Journal of Physics Statistics

- 12 issues—January–December 2024 (Volume 92)
- 1032 pages, 796 reviewers, 1301 reviews, 154 papers published—21.7% acceptance rate
- 18 open access articles
- 5 video abstracts
- 5 papers featured in Scilights
- 8,730 individual and institutional subscriptions
- Approximately 56% of subscribers teach at the college and university level and 24% teach at the high school level. The remaining 20% are scientists at research facilities, students, and other interested members of the physics community.

Resource Letters - 2 letters

Resource Letters Editorial Board: Sergei Gleyzer, Geraldine Cochran, Darsa Donelan, Michelle Kuchera, Benjamin Crider, Anne Goodsell

Editorials and Guest Editorials - 12 editorials

Computational Physics - 6 articles

Instruction Laboratories and Demonstrations - 6 articles

Advanced Topics - 4 articles

Notes and Discussions - 15 articles

Back of the Envelope - 1 articles

Letters to the Editor - letters

Book Reviews - 4 reviews

Awards - 2 awards listings

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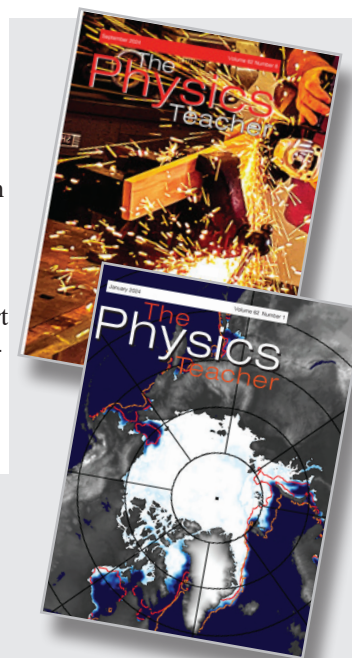
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Keith Zengel, Wentworth Institute of Technology

THE PHYSICS TEACHER (TPT.AAPT.ORG)

Gary D. White, Editor, The George Washington University
Ben Lefstein, Managing Editor, American Association of Physics Teachers

The Physics Teacher (TPT) publishes peer-reviewed papers on the teaching of introductory physics and on topics such as contemporary physics, applied physics, and the history of physics. Established in 1963, TPT is focused on the teaching of introductory physics at all levels, including secondary schools, colleges, and universities. The 2023 collection of papers in *The Physics Teacher* was the largest in its 61-year history, at 816 pages. Highlights from the year included the special collection of articles on “Climate Change and the Environment in Introductory Physics,” which included more than 30 articles on the subject, and a series of manuscripts on “Using Math in Physics” by Edward “Joe” Redish, among the most popular papers in TPT. Other popular articles from 2023 include “Pulling a Spool” by Carl Mungan, “Serious Physics on a Playground Swing...” by Ann-Marie Pendrill, “Using Cosmic Rays to See the Unseeable” by Don Lincoln, and “How Can We Design Instruction to Support Student Reasoning About Physicists’ Ethical Responsibilities in Society?” by Alice Olmstead and colleagues.



COLUMN EDITORS

AI Physics Tools

Jochen Kuhn and Stefan
Küchemann, Ludwig-Maxi-
milians-Universität, München,
Germany

And the Survey Says...

Susan C. White, AIP, College
Park, MD

AstroNotes

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versity, Philadelphia, PA
Donald A. Smith, Guilford Col-
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Fermi Questions

John Adam, Old Dominion Uni-
versity, Norfolk, VA

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iPhysicsLabs

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milians-Universität, München,
Germany

Patrik Vogt, Institute of Teacher
Training, Mainz, Germany

Just Physics

Deepak Iyer, Bucknell University,
Lewisburg, PA

Little Gems

Jennifer J. Birriel, Morehead State
University, Morehead, KY

Talkin’ Physics

James Lincoln, Physics Videos.
com, Newport Beach, CA

TYC Tidbits

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munity College, Chandler, AZ

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THE PHYSICS TEACHER STATISTICS

- 9 issues—January–May, September–December 2024 (Volume 62)
- 816 pages, 808 reviewers, 1 papers, and 88 contributions to monthly columns —44% acceptance rate
- 8,352 individual and institutional subscriptions
- Approximately 40% of subscribers teach at the college and university level and 33% teach at the high school level. The remaining 27% are scientists at research facilities, students, and other interested members of the physics community.



Electronic Communications

eNNOUNCER

The eNNOUNCER, AAPT's electronic newsletter publication, is distributed to members by e-mail. The eNNOUNCER issues are published at the beginning of each month and archived on AAPT.org. The eNNOUNCER contains dates and deadlines for upcoming conferences, meetings, symposiums and events, member news and information, and recent news from the worlds of physics and teaching. Topics covered include organization specific items, action items and notable dates, news from the AAPT Executive Office, member news, section news, recommended reading, and science and education news.

eNNOUNCER TOPICS

eNNOUNCER publishes monthly news for members including:

- Recent AAPT related events and programs
- Members in the news
- Section news
- Workshops and topical conferences
- Scholarship and fellowship announcements
- Awards announcements
- Science related festivals
- Video and photo contests
- Career and teaching opportunities

2024 TOP AAPT NEWS STORIES

Listed below are highlighted news stories from the eNNOUNCER. To read the full story go to <http://www.aapt.org/about-aapt/ennouncer/index.cfm>.

JANUARY

- Rachel Ivie named as Director of Higher Education Programs and Grants
- Charles H. Holbrow 1935-2023
- Priscilla Laws 1940-2023
- 2024 Homer L. Dodge Citation for Distinguished Service to Jennifer Blue, Tatiana Erukhimova, Anthony (Tony) Mwene Musumba, and Juan Burciaga

FEBRUARY

- Kelli Warble Becomes President of AAPT
- Mary Myers Winn 1931-1924

MARCH

- Don Lincoln Named as Re-

ipient of the 2024 Klopsteg

Memorial Lecture Award

- Tatiana Erukhimova to Receive the AAPT 2024 David Halliday and Robert Resnick Award for Excellence in Undergraduate Physics Teaching

APRIL

- AAPT Named Chandralekha Singh as the 2024 John David Jackson Excellence in Graduate Physics Education Awardee
- 2024 Lillian McDermott Medal Awarded to Stephanie Chasteen
- Ziggy Bjurlin to receive the 2024 SPS-AAPT-ALPhA Undergraduate Award

MAY

- Preparing for the international Year of Quantum Science and Technology

JUNE

- Greater Chicagoland PICUP Workshop 2024

JULY

- Summer 2024 AAPT Fellows

AUGUST

- U.S. Physics Team Members Bring Home Five Gold Medals from the 2024 European Physics Olympiad
- Appalachian State University Earns Award from Physics & Astronomy SEA Change Program

SEPTEMBER

- New Partnership with APS Meeting Services
- 2024 AAPT Board of Directors Election

OCTOBER

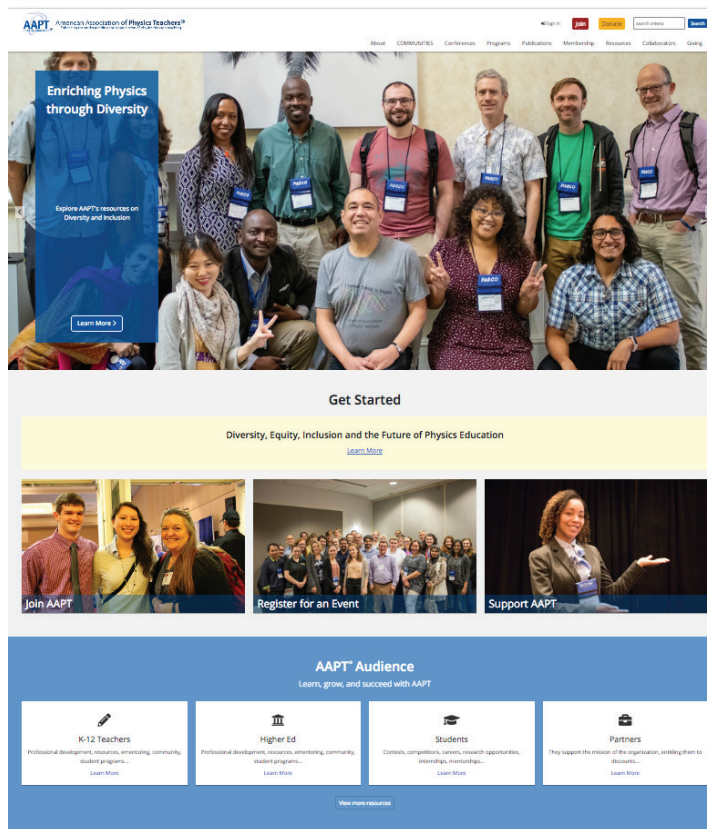
- Jonathan D. Perry Named as 2025 Recipient of the Doc Brown Futures Award
- Karen Jo Matsler Recognized with AAPT's 2025 Melba Newell Phillips Medal

NOVEMBER

-

DECEMBER

-



Electronic Communications

Having strong online publications offers AAPT members convenient access to physics education resources, news, and other member benefits. AAPT.org continues to emphasize ease-of-access and user-friendliness, and aims to be more inviting to new visitors. The landing page includes a new navigation system with many new photos and information pertaining to upcoming or ongoing programs, projects, events, and resources; and buttons to donate, join, and to sign into the e-commerce member website. The new website design implemented in 2018 stresses ease of navigation and will guide visitors based on their role in the physics education community.

Features

AAPT.org organizes the association's many assets into appropriate categories allowing the user (both members and non-members) to easily access information regarding topical news, governance, member benefits and profiles, conferences and workshops, awards, publications, local sections, teaching and student resources, partners, giving, and marketing opportunities.

Added features include:

- A new diversity emphasis that promotes women in the sciences
- Help for early career members
- The member spotlight that highlights those members that are doing or have done significant work on AAPT projects and other projects that support the greater physics education community

What's next?

Efforts to enhance AAPT.org are ongoing and numerous. Some areas of activity are the Area Committee Reports, awards nominations, online advertising, and member recruitment.

SOCIAL NETWORKING

AAPT continues to open the channels of communication and community using online social networking platforms.

Below is a list of online social networks AAPT uses:

- facebook.com/AAPTHQ
- twitter.com/AAPTHQ
- flickr.com/physicsteachers
- pinterest.com/AAPTHQ/
- aboutaapt/socialnetworks.cfm
- instagram.com/AAPTHQ

AAPT.ORG

AAPT continues to create new web pages and update others.

Meeting Presentations

AAPT continues to preserve content from national meetings. In addition to meeting abstracts, other content including posters, talks, plenaries, photos, and videos will be archived for future reference. The archiveds will be searchable. This will be a very useful source of information for members as well as area committees as they plan sessions for future meetings.



National Meetings

WINTER MEETING

January 6–9, 2024

Statistics:

Attendees: 500

Exhibitors: 7

Workshops: 7

Commercial Workshops: 4

Sessions: 69

Tutorials: 2

Topical Discussions: 2

Poster Sessions: 2

Program Committee Chair

Gabriel Spaulding

The Annual Meeting Planning

2024 (AMP24) team : Toni Sauncy, Andy Gavrin, Doug Petkie, Susan Kelly, Rhett Allain



Winter Meeting Highlights

AAPT returned to beautiful downtown New Orleans. The Big Easy, well known for its cross-cultural and multilingual heritage, provided a lively and entertaining backdrop for physicists and physics educators as they met to share information and ideas spanning a wide variety of themes,

Attendees also enjoyed a variety of social opportunities such as the Accessibility and LGBTQ+, and K-12 Teacher Meet-Ups, Early Career Professional Speed Networking event, Early Career and First Timers Gathering, Two Year College Meet-Up, First Timers' Gathering, International Meet-Up, SPS Awards, and Game Night.

Meeting of the Members

The 2024 AAPT Meeting of Members gave attendees the opportunity to learn about the governance and activities of their association. Secretary Blaine Baker reported on the results of the 2023 AAPT National Election and the Nominating Committee for 2024. The Chair of the Section Representatives, Sam Sampere shared information regarding the activities of the sections and the AAPT Treasurer, Tom O'Kuma reported on the financial position of the association. Executive Officer, Beth Cunningham and President Duane Merrell presented information on the status of AAPT programs.

Time during the meeting was devoted to honor the memory of prominent AAPT members who died during 2023: Vasant Itagi, Thomas Rossing, Paul Hickman, Priscilla Laws, Charles H. Holbrow, and Harvey Leff.

Sessions, sponsored by AAPT Committees, comprised the bulk of the educational content for the program. Sessions addressed:

- Frontiers in Space Science
- Hybrid Physics Instruction
- Physics Labs Beyond the 1st Year
- Physics of Jazz
- Practical DEI for Teaching
- Quantum in High School
- Reading 'Round Science
- 21st Century Astronomy and Physics Classroom
- Innovations in HS and Intro Labs
- Teaching and Learning
- AI in Physics
- Lab Activities and Learning-Advanced Lab
- Evidence of Climate Change
- Strategies to Support K-12 Physics Learning
- Critical Race Theory in Physics Education research
- Authentic Research Across the Spectrum
- Cosmic Ray Studies in the Classroom
- Innovations in K-12 Teacher Professional Learning
- Iron Chef Challenge: Mardi Gras Style



National Meetings continued

Plenaries

Sanlyn Buxner is a Senior Research Scientist and Senior Education and Communication Specialist at the Planetary Science Institute in Tucson, Arizona. She is also an Associate Research Professor in the Department of Teaching, Learning, and Sociocultural Studies at the University of Arizona where she serves as a director of graduate studies. She serves as the Public Engagement Lead for the SSERVI TREX node and the Director of Broader Impact for the NASA SHIELD DRIVE Science Center. She is an active science education researcher, her research areas include: investigating the impact of research experiences on K-12 teachers and students and undergraduate students; understanding and improving of undergraduate experiences and outcomes in general education and major-level STEM courses; supporting and diversifying graduate students in STEM; supporting K-12 students and teachers in out of school informal education spaces; and understanding the role of supporting community science on empowering communities. She is the co-chair of the AAS Education Committee, recent past Education Officer of the Division for Planetary Sciences, and serves on the Education Executive Committee of the American Geophysical Union. She has co-authored over 40 peer-reviewed journal publications as well as numerous conference papers and presentations, and book chapters, and co-authored and edited several books in astronomy education.

K. Renee Horton, hailing from Baton Rouge, Louisiana, possesses a lifelong passion for science and NASA. Graduating from Louisiana State University (LSU) in 2002 with a B.S. in Electrical Engineering and a minor in Math, she furthered her academic journey, earning a Ph.D. in Material Science with a concentration in Physics. Notably, she made history in 2011 as the first African American to graduate in this field from the University of Alabama.

Currently, Horton holds the position of Electrified Powertrain Flight Demonstrator Project (EPFD) Airworthiness Deputy at NASA's Michoud Assembly Facility in New Orleans. Her tenure with NASA began in 2009 as a student, later transitioning into the role of mechanical test engineer in 2012.

In 2016, she achieved another milestone by being elected President of the National Society of Black Physicists (NSBP), becoming only the second woman to hold this prestigious office. Beyond her national leadership, she contributes globally as a member of the International Union of Pure and Applied Physics (IUPAP) Women in Physics Working Group and serves on various advisory boards dedicated to fostering diversity in physics. Her outstanding contributions to the NSBP led to her elevation as a Fellow in 2017, the organization's highest honor.

Horton is a sought-after speaker, having graced platforms such as the United Nations for the first International Women and Girls Day, Essence Power Stage, March for Science – New Orleans, and LSU Engineering Spring Commencement. Her influence extends worldwide, with speaking engagements spanning South Africa, Brazil, South Korea, Canada, Mexico, and the picturesque Virgin Islands. Additionally, she shares her expertise through her authored works, including “Dr. H Explores the Universe,” “Dr. H and her Friends,” and “Dr. H Explores the ABCs.”

Awards

Member service to AAPT was recognized with the announcement of the Homer L. Dodge Citations for Distinguished Service to AAPT awarded to Jennifer Blue, Anthony Mwene Musumba, Juan Burciaga, and Tatiana Erukhimova.

Katherine (Katie) Mack was recognized as 2024 recipient of the Richtmyer Memorial Lecture Award. She is recognized with the award for outstanding contributions to physics and for effectively communicating those contributions to physics educators. Her talk, Dark Matter: The Cosmic Mystery at the Heart of Particle Physics on Monday. Mack is a theoretical astrophysicist who studies a range of questions in cosmology, the study of the universe from beginning to end. She currently holds the position of the Hawking Chair in Cosmology and Science Communication at the Perimeter Institute. Throughout her career, she has placed an emphasis on sharing science with the broader public. A scientist whose research relies on public funding, she considers it part of her job to share her knowledge and expertise with people outside the world of science and academia. As part of her role, she frequently takes part in outreach activities (public lectures, school visits, mentoring events, videos, podcasts, etc) and makes herself available for interviews.

As @AstroKatie, she has amassed a Twitter following of more than 400,000. Her popular writing ([https:// www.astrokatie.com](https://www.astrokatie.com)) has appeared in major publications including Scientific American, Slate, Sky & Telescope, Cosmos, BBC Science Focus, The New York Times, and The Wall Street Journal. In 2020, she released her first book “The End of Everything (Astrophysically Speaking)” which examines five ways the universe could end and the mind-blowing lessons each scenario reveals about the most important concepts in cosmology. It was named a New York Times Notable Book of 2020 and continues a storied tradition of science communication of which Hawking himself is perhaps the most known example.



National Meetings continued

Laura H. Greene was the 2024 recipient of the prestigious Hans Christian Oersted Medal. The Oersted Medal recognizes her outstanding, widespread, and lasting impact on the teaching of physics through his national leadership in physics education. Greene is Chief Scientist at the National High Magnetic Field Laboratory and the Marie Krafft Professor of Physics at Florida State University. She was previously the Swanlund and the Center for Advanced Study Professor of Physics at the University of Illinois at Urbana-Champaign. Her undergraduate studies were at The Ohio State University, and after receiving her PhD at Cornell University, she was a post doc at Bell Labs then a member of staff at Bellcore.

In September 2021 Greene was appointed by President Joseph R. Biden to serve as a member of the President's Council of Advisors for Science and Technology (PCAST), which directly advises him on matters of science and technology including STEM education.

As a leading advocate for diversity in science, a champion for women in science and engineering, science diplomacy, ethics, and human rights, she has held leadership roles in many science organizations nationally and internationally, including the 2017 president of the American Physical Society (APS), the Board of Directors for the American Association for the Advancement of Science (AAAS), and is the Vice President for Ethics and Outreach of the International Union of Pure and Applied Physics (IUPAP). She has been a member of the State Department-supported COACH team, and continues to promote the success and impact of women and minority scientists, particularly in developing countries, through their workshops which include negotiation, leadership, networking, publishing, and communication skills.

Greene's own research is on quantum materials, focusing on the fundamental studies of novel materials and their synthesis, and the mechanisms of unconventional superconductivity. She has co-authored over 200 publications and has presented over 700 invited talks. The scientific community has recognized Greene's scientific excellence with many awards and honors. She is a member of the National Academy of Sciences and the American Academy of Arts and Sciences and is a fellow of the Institute of Physics (U.K.), the AAAS, and the APS. She received the Tallahassee Scientific Society Gold Medal Award, and the American Physical Society Five Sigma Physicist Award for Advocacy in Science Policy has been a Guggenheim Fellow, was awarded the E.O. Lawrence Award for Materials Research from the U.S. Department of Energy, the APS Maria Goeppert- Mayer Award, and the Bellcore Award of Excellence.

Presidential Transfer

Passing the Presidential Gavel

The meeting concluded with the Presidential Transfer where Duane Merrell turned the Presidential Gavel over to incoming president, Kelli Warble..

National Meetings

SUMMER MEETING

July 6–10, 2024

Statistics:

Attendees: 1007
Exhibitors: 16
Sessions: 206
Workshops: 26
Commercial Workshops: 5
Topical Discussions: 7
Posters: 185

Program Committee Chair
Gabriel C. Spalding

Meeting Planning Committee:
Debbie Andres, Brad Conrad, Anne Cox, Dan Crowe, Jonathan Perry, Gordon Ramsey, Ex Officio, Tiffany Hayes, and Mas Tadesse

Special thanks to Susan Kelley and Sean P. Robinson for the outstanding support in organizing this meeting.



One of the most historic cities in the United States, Boston, MA boasts an impressive array of landmarks, parks, amenities and other points of interest. The meeting was held at the Westin Boston Waterfront Seaport District ideally located along the Waterfront. A vibrant neighborhood in an iconic city, the Seaport District offers rich history, world-famous attractions, and hidden gems for those who want to take the path less traveled. It was close to family-friendly fun at Boston Children’s Museum, stunning exhibits at the Institute of Contemporary Art, and much more.

The city welcomed physics educators as AAPT gathered to collaborate and share research. The Museum Of Science and the AAPT-New England Section welcomed a national gathering of the American Association of Physics Teachers on Friday July 5th, 5 PM to 8 PM. The Museum of Science generously opened their exhibit area so that meeting attendees could enjoy an evening of exploration and discovery.

The New England Section of AAPT and the Harvard Center for Astrophysics welcomed meeting attendees to an enriching evening, the Center generously opened its doors so that meeting attendees could unlock the wonders of the cosmos through rooftop stargazing, guided tours of the iconic Great Refractor and gain insight into innovative learning resources. They delved into the captivating history preserved within the Harvard Plate Stacks and archival materials, with a dedicated spotlight on the influential women astronomers of Harvard since the mid-1800s. Attendees met educators and researchers from the Science Education Department, and explored new innovative physics teaching and learning resources being developed by the Center.

Much anticipated features of the Summer Meeting, The AAPT Fun Run/Walk, The High School Physics Photo Contest, Demo Show, Game Night, Speed Networking, Safe Solar Observing Share-A-Thon, First Timers Gathering, and the Two-Year College Meetup, are always highlights and this year they were exceptional.

Awards

Jocelyn Bell Brunell received the **2024 Richtmyer Memorial Lecture Award**. Her talk was, *Bursts, bangs and things that go bump in the night*. With larger and better telescopes and detectors operating at many wavelengths astronomers have been able to shorten integration/exposure times leading to the discovery of a wealth of short-duration events which she described.

Bell Burnell inadvertently discovered pulsars as a graduate student in radio astronomy in Cambridge, opening up a new branch of astrophysics—work recognized by the award of a Nobel Prize to her supervisor. She has subsequently worked in many roles in many branches of astronomy, working part-time while raising a family. She is now a Visiting Academic in Oxford. She has been President of the UK’s Royal Astronomical Society, in 2008 became the first female President of the Institute of Physics for the UK and Ireland, and in 2014 the first female President of the Royal Society of Edinburgh. She was one of the small group of women scientists that set up the Athena SWAN scheme. She has co-edited an anthology of poetry with an astronomical theme – ‘Dark Matter; Poems of Space’.

The **2024 Lillian McDermott Medal** was awarded to **Stephanie Chasteen**. In her talk, *“My life pursuing excellence in physics education,”* Chasteen shared some ideas that have guided her throughout her life – enabling her impacts on physics education. From her experiences in journalism, radio, museum work, course design, physics education research, and finally program assessment, she has amassed several life lessons. Ultimately, she argued that we should pursue excellence in our work because it matters to others, and to you.

National Meetings continued

Chasteen has made extraordinary contributions to physics education, having served as a consultant on over 50 STEM education projects, helping departments and faculty take up new practices that embrace educational innovations. Although many of her contributions have been as an external evaluator, she has also contributed significantly to educational workshop design and translating research to teaching practice in numerous settings. Chasteen is passionate about the power of external evaluation to have meaningful impacts on the world. As an external evaluator, Chasteen worked behind the scenes to help project leaders enhance the impact of national-scale efforts such as the Physics and Astronomy New Faculty Workshop (NFW), Physics Teacher Education Coalition (PhysTEC), Get the Facts Out (GFO), and Effective Practices for Physics Programs (EP3) – as well as dozens of smaller projects. Her broad background and keen eye led her to make significant intellectual contributions to these projects along with concrete suggestions of how they can improve. Through external evaluation, she has brought a steady and powerful passion that has steered projects to higher impact and increased accountability within the projects themselves and to their sponsors.

Don Lincoln received the **2024 Klopsteg Memorial Lecture Award**. For millennia, philosophers and theologians have pondered the ultimate nature of reality. While these early efforts paved the way, real progress in this area began with the development of the scientific method. Over the past century, physicists interested in the fundamental nature of matter, energy, space, and time have learned a great deal about the laws that govern the physical world. In his talk, *What Keeps Me Up At Night: Unanswered questions in fundamental physics*, Lincoln noted that the vast clusters of galaxies and tiny quarks and leptons have begun to yield some of their secrets. However, the job is not done and not all questions have been answered. He introduced some of the big unanswered questions of particle physics and cosmology and describe some of the ways in which researchers are trying to answer them.

Don Lincoln, a staff scientist at Fermi National Accelerator Laboratory, is prolific as a science writer, producer of video content for the general public, productive public speaker, and a strong supporter of educational content for teachers.

A passionate popularizer of physics and astronomy Lincoln has penned several books for the public and students alike including *Einstein's Unfinished Dream: Practical Progress Towards a Theory of Everything* (2023), *Understanding the Universe: From Quarks to the Cosmos* (2004), *The Quantum Frontier: The Large Hadron Collider* (2009), and *Alien Universe* (2013). Having a far reach in his communications to the general public, he has written for *The Physics Teacher*, *Scientific American*, *NOVA*, *LiveScience*, *BigThink*, and *CNN*. While his magazine articles are a potent influence and vehicle for communicating contemporary physics, perhaps Lincoln's most visible efforts are seen through his remarkable video presence. He is the presenter in over 150 YouTube videos for Fermilab's YouTube channel, with over 770,000 subscribers and 74,000,000 views. One of his most viewed episodes is "What is a Higgs Boson?" which is perhaps not so surprising since he was part of the team that is credited with the discovery of this fundamental particle. He has also produced several video physics courses for The Great Courses/Wondrium company, each 12 hours of content on modern physics topics.

Also notable are his extensive public lecture appearances, which include several TED talks, and more recently, high profile presentations for *New Scientist* ("Fermilab: solving the mysteries of matter and energy, space and time") and the Chicago Comic and Entertainment Expo (C2E2, "The Science of Star Trek"). His popularity can be seen with his frequent collaborations with local science clubs Society of Physics Students (SPS) regional student meetings, and his video content. His videos have been watched millions of times and are shown in undergraduate classrooms around the world.

The **John David Jackson Excellence in Graduate Physics Education Award** for 2024 will be awarded to **Chandralekha Singh**, Distinguished Professor of Physics, University of Pittsburgh, Pittsburgh, PA. Singh earned her B.S. and M.S. in Physics at the Indian Institute of Technology, Kharagpur and her M.A. and Ph.D. in Physics at the University of California, Santa Barbara.

Physics graduate education for the 21st Century Physics graduate education is a critical phase in the development of students who pursue it. Unfortunately, it is often a missed opportunity to help students develop holistically. In her talk, "Physics graduate education for the 21st Century," Singh focused on how physics educators can embrace their role in preparing physics graduate students for the challenges and opportunities in the 21st century.

A Life Member of AAPT, Singh has served as a member of the various AAPT Committees, e.g., Committee on International Physics Education, Committee on Graduate Education in Physics, Committee on Women in Physics, Committee on Science Education for the Public and the Programs Committee. Her work in physics education research has produced high quality papers that have been published in journals such as the *American Journal of Physics*, *Physics Today*, and *Physical Review*. Singh co-edited three Physics Education Research Conference (PERC) proceedings and the May 2010 theme issue of *American Journal of Physics* focusing on the Gordon Conference on Experimental Research and Labs in Physics Education.



National Meetings continued

Elected to the Presidential chain of AAPT in 2018, she served as Vice-President, President-elect, President, and Past-President through 2022.

Singh's pioneering research in the teaching and learning of quantum mechanics has played a significant role in advancing physics education research in advanced courses. In addition to educational research in advanced courses, she has conducted research on cognitive issues in learning physics, improving student problem solving and reasoning skills as well as improving equity and inclusion in physics learning environments.

The 2024 **David Halliday and Robert Resnick Award for Excellence in Undergraduate Physics Teaching** winner is **Tatiana Erukhimova**, Instructional Professor and inaugural holder of Marsha L. '69 and Ralph F. Schilling '68 Endowed Chair in the Department of Physics & Astronomy, Texas A&M University. She received her PhD from the Russian Academy of Sciences in 1999 and joined Texas A&M University in 2001. Her approach to teaching can best be summarized by her 2018 keynote presentation at Texas A&M's Transformational Teaching and Learning Conference titled: "It's not business, it's personal. Teaching large classes, one student at a time." These words describe Erukhimova's sincere interest in the individual student and her investment fostering a strong sense of community with her students.

In her talk, "*It's not business, it's personal. Teaching large classes, one student at a time*," she discussed her efforts to make introductory physics a meaningful and enjoyable journey rather than a survival experience in weed-out classes. There is no single recipe to achieve that, but she shared some ideas and resources that we have created. Additionally, she discussed several new outreach programs that they introduced with the help of their students. Outreach is not just a service that we provide for the benefit of the public; it is an integral part of the learning experience for the students.

The culture of Erukhimova's classrooms is one of engaged, communal learning supported by innovative and research-backed pedagogy. She forms a community of mutual support where all students are expected to help each other learn. Her passion for student learning, combined with excellent classroom instruction, has earned her many awards throughout the years, including the Presidential Professor for Teaching Excellence in 2017, University Professor for Undergraduate Teaching Excellence (2021), American Physical Society Fellow (2019), The Nicholson Medal from the American Physical Society (2023), and multiple Association of Former Students awards (a high honor for faculty at Texas A&M).

The 2024 Fellows:

Jennifer Blue, Miami University, Oxford, Ohio

Juan Burciaga, The Colorado College, Colorado Springs, Colorado

Stephanie Chasteen, Independent Consultant, Boulder, Colorado

Brad Conrad, National Institute of Standards and Technology (NIST), Gaithersburg, Maryland

Tatiana Erukhimova, Texas A&M University, College Station, Texas

Plenaries

Finding Joy in Teaching Physics: Teacher of the Year, Joe Cossette

In a time when we are faced with a significant shortage of physics teachers, it is worth reflecting on the reasons that someone might find joy in pursuing a career in physics education.

Building Educational Communities: STEP UP and PhysTEC Collaboration Abstract: How do we unite educators in communities committed to advancing physics? In 2022, PhysTEC institutions from New York City, Chicago, and Los Angeles partnered with the STEP UP program to increase the number of women and other underrepresented groups pursuing physics degrees. Through a Moore Foundation Grant, these institutions worked to bridge the gap between secondary and post-secondary physics educators. We will discuss efforts made toward community-building, recruiting strategies, and future goals of this collaboration

David A. Weitz is Mallinckrodt Professor of Physics and of Applied Physics at Harvard. In his talk, "*Have your physics and eat it too: How to teach physics with cooking*" Weitz described a course that was developed to teach physics to non-scientists and other reluctant physics learners. It is based on cooking, a popular and necessary pastime for everyone. By sharing the class with world-renowned chefs, students are motivated both to learn physics and to enjoy what they learn.

Weitz's group studies the physics of soft condensed matter, materials which are easily deformed by external stresses, electric, magnetic or gravitational fields, or even by thermal fluctuations. These materials typically possess structures which are much larger than atomic or molecular scales; the structure and dynamics at the mesoscopic scales determine macroscopic physical properties. The goal of this research is to probe and understand the relationship between mesoscopic structure and bulk properties. We study both synthetic and biological materials; our interests extend from fundamental physics to

National Meetings continued

technological applications, from basic materials questions to specific biological problems. The techniques we use include video image analysis, light scattering, optical microscopy, rheology, and laser tweezing.

We thank PASCO for sponsoring the Special Event and badge holders, Vernier for their support of the 5K Fun Run Walk and Physics Photo Contest, and Sacramento for a warm welcome.

PHYSICS EDUCATION RESEARCH (PER)

PER LEADERSHIP ORGANIZING COUNCIL

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Tianlong Zu, Department of
Physics and Astronomy, North-
western University, Evanston,
IL

PER Conference 2024

July 10-11,
Boston, MA

“Bridging the Institutional Gap: Undergraduate Four Year Institution, Two-Year College, and K-12 Levels”

One often-overlooked issue within physics education research is that the bulk of research products – publications, presentations, hardware, software, resources available online, etc. – are produced at large or very large research universities, yet the vast majority of institutions are not this institution type. A traditional expectation is that other institution types – primarily-undergraduate institutions (PUIs), two-year colleges (TYCs), and K-12 physics courses – are simply meant to adopt the products and use them as intended. Yet this is frequently insufficient; in-house PER at the other institution types needs to occur in order to a) identify a given physics course section’s needs and b) attend to those needs within the expectations and mission statement of the respective institutions. However, ironically due to the primarily-teaching focus of these institutions – directly via a full teaching load or indirectly by focusing on teacher preparation – there is less support for proper in-house PER at non-research institutions’ physics departments. This presents an institution gap regarding the potential benefits of PER overall. This conference proposal seeks to address this institutional gap and feature ways to bridge it. Efforts from non-research institutions, as well as collaborations between research institutions and non-research institutions, will be highlighted in the featured sessions.

The peer-reviewed 2024 PERC Proceedings are available as a written record of the conference.

Organizers

Rebecca Lindell, Tiliadal STEM Education: Solutions for Higher Education

Liam McDermott, Department of Physics, Rutgers University

Jason Morphew, School of Engineering Education, Purdue University

Mary Urquhart, Department of Science and Mathematics Education and Department of
Physics, University of Texas Dallas

Lyle Barbato, American Association of Physics Teachers (Volunteer)

The Conference Proceedings are available online at: <https://www.per-central.org/items/PERC.cfm?Y=2024>

Workshops and Programs



2024 FACULTY TEACHING INSTITUTE

Physics and Astronomy Faculty Teaching Institute is our flagship workshop program and is dedicated to developing faculty members' teaching practice.

November 7-10 Washington, DC

This 4-day immersive workshop dug deep into the how and why of helping students learn physics and astronomy, so you can build the type of teaching practice that you want. The workshop covered:

- Managing your role as a new faculty member
- Principles of effective teaching and learning
- Equity, diversity, and inclusion in the classroom
- How to help students learn through presentation, small group work, whole class discussion, reading, simulations, demonstrations, think-pair-share, and more.
- How to assess students compassionately, to support their learning
- Managing challenging teaching situations
- Creating a teaching action plan

Sponsored by APS, AAPT, AAS, and NSF, a member of the compADRE Digital Library.

This material is based upon work supported by the National Science Foundation under grants DUE-2141678, 2141745, 2141769, 2141795,

PHYSICS TEACHER RESOURCE AGENTS (AAPT/PTRA) PROGRAM

PTRAs had their 2024 Leadership Institute July 10 - 12 in Worcester MA

FREE Professional Development for precollege teachers was provided by the AAPT/ PTRA Cadre of Master teachers. A 3-day Physics and Physical Science-Workshop will be sponsored by the PTRA Continuation Fund. It began the afternoon of July 10 and ended July 12 at approximately at 5pm.

Location: Worcester Polytechnic Institute, Worcester, MA

Topics include: Video Analysis, Classroom Practicums, Electricity using CASTLE,

TIPERS, Make and Takes and MORE.

Cost: FREE, stipends available and equipment for all K-12 teachers in the classroom.

The PTRAs have been providing high quality professional development for over 35 years. This is the continuation of PTRA.



2024 PTRA COMMITTEE

Karen Jo Matsler, Program Director

OVERSIGHT COMMITTEE

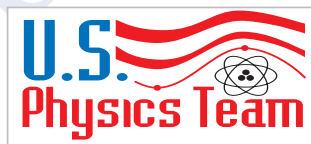
Elizabeth Holsenbeck Chair

Toby Dittrich, Alice M. Flarend, Janie Head, Lowell McCann, David E. Sturm

Rachel Ivie, Ex Officio, Jan Landis Mader, Ex Officio

2024 Contests

2024 UNITED STATES PHYSICS TEAM



U.S. Physics Team Members Won Four Gold Medals and One Silver Medal in the 2024 International Physics Olympiad

The U.S. Physics Team was represented by five traveling members at the European Physics Olympiad (EuPhO), held July 15–19 at Kutaisi International University, Kutaisi, Georgia. Each of these team members earned a Gold Medal. Allen Li and Luke Huang scored the second and third best totals.

The five gold medal winners of the 2024 U.S. Physics Team are:

- Shuoyan Chen, Troy High School, Fullerton, CA
- Luke Huang, New Canaan High School, New Canaan, CT
- Allen Li, Monta Vista High School, Cupertino, CA
- Zian Shi, Clovis North High School, Fresno, CA
- Richard Yang, Iowa City West High School, Iowa City, IA

AAPT proudly congratulates these young physicists and their coaches for this outstanding representation of the United States on the global stage of 256 participants from 55 countries, the largest 2024 physics olympiad.



Zian Shi, Shuoyan Chen, Allen Li, Luke Huang, and Richard Yang

DIRECTOR

Tengiz Bibilashvili, Academic Director;

ACADEMIC COACH

Kevin Zhou

PHYSICS BOWL SPONSORS

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Read more at: www.aapt.org/Programs/contests/physicsbowl.cfm

PHYSICSBOWL ADVISORY BOARD

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- Mike Bush
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- Scott Dudley
- Diane Jammula
- David Jones
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- Kassidy Liggins
- Alex McKale
- Marc Moody
- Myra West

This year there were nearly 11,600 students participating from 484 schools from Australia, Brazil, Canada, Egypt, Germany, Hungary, India, Indonesia, Japan, Kazakhstan, Malaysia, Malta, New Zealand, Pakistan, Saudi Arabia, Serbia, Singapore, South Korea, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, United Kingdom, United States, and Vietnam, as well as 675 schools participating from China.

2024 TOP 10 GLOBAL WINNERS

#	SCORE	STUDENT, SCHOOL, CITY, STATE
1	40	Xiyun Hu, Canada Star Secondary School, Richmond BC
2	40	Rohan Pavuluri, Westlake High School, Austin TX
3	40	Thomas Yang Zhou, Young Scholars, San Marino CA
4	39	Jimmy Liu, Holy Trinity Catholic Secondary School, Oakville ON
5	39	Youya Wang, Washington Preparatory School, Bothell WA
6	39	Neo Gan, Springlight, Cupertino CA
7	39	Sohil Rathi, Lynbrook High School, San Jose CA
8	39	Sophia Ren, Populus Academy, Vienna VA
9	39	Arin Kharkar, Redmond High School, Redmond WA
10	38	David Lu, Seven Lakes High School, Katy TX

2024 High School Physics Photo Contest

high school physics
photo contest

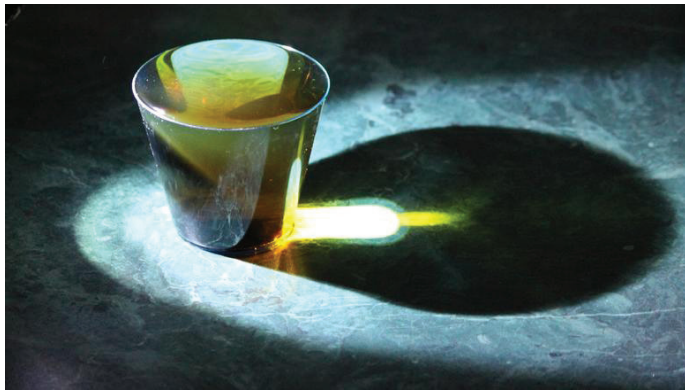
First Place Contrived



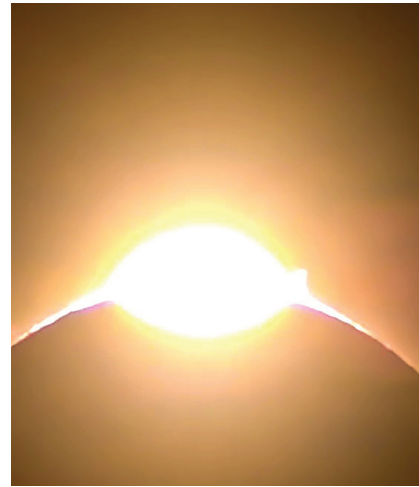
First Place Natural



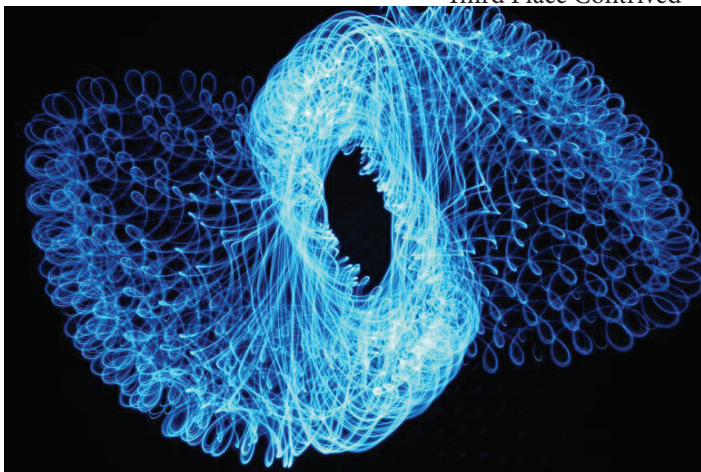
Second Place Contrived



Second Place Natural



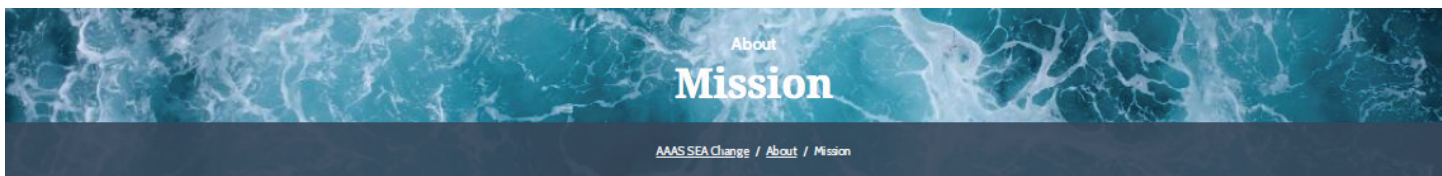
Third Place Contrived



Third Place Natural



Collaborative Projects



Our Mission

SEA Change seeks to inspire, guide, and support voluntary transformation of colleges and universities so that the environment for research and education in science, technology, engineering, mathematics, and medicine (STEMM) is excellent, equitable, diverse, and inclusive.

Our Vision

We envision an excellent, diverse, equitable, and inclusive STEMM ecosystem.

Our Approach

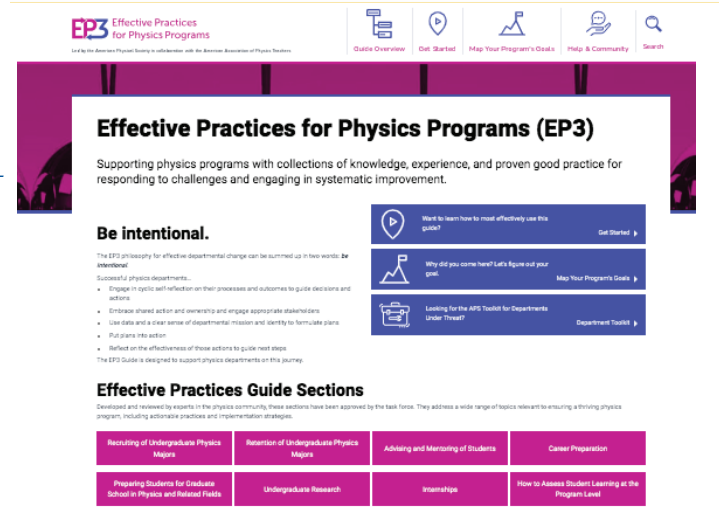
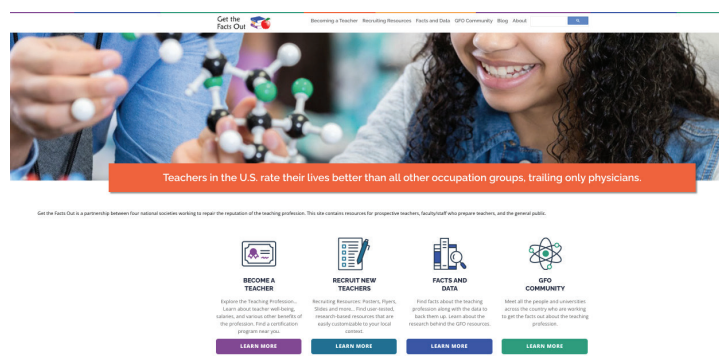
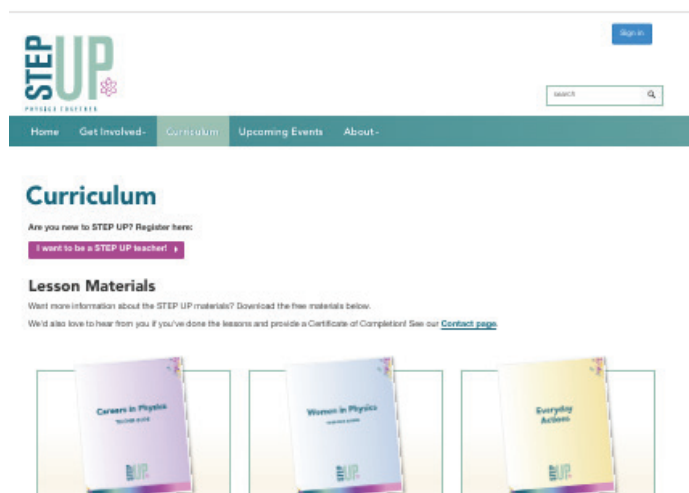
Colleges and universities and the departments within them use research-informed strategies and supportive community of peers to build capacity for, and implement, transformation. Our program strives for a culture change that makes DEI in STEMM normative and inextricably linked to excellence.

Our members:

- Access knowledge and tools to guide self-assessment
- Identify their own context-specific barriers and opportunities
- Develop and implement action plans

Interested in learning more? Contact us and set up an informational meeting today!

[Contact Us](#)



STEP UP

Project Goals:

- Mobilize thousands of high school physics teachers to help engage young women in physics
- Change deep-seated cultural views about physicists
- Inspire young women to pursue physics in college

We will achieve this if each of the high school physics teachers in our community inspires at least one young woman into physics each year. <https://www.aps.org/programs/education/su4w/index.cfm>

2024 Awards and Grants

HANS CHRISTIAN OERSTED MEDAL LAURA H. GREENE

“Physics Education Beyond the Classroom”

ESTABLISHED IN 1936, THE OERSTED MEDAL HONORS THE DANISH PHYSICIST HANS CHRISTIAN OERSTED (1777-1851). THIS PRESTIGIOUS AWARD IS PRESENTED ANNUALLY TO A PERSON WHO HAS HAD OUTSTANDING, WIDESPREAD, AND LASTING IMPACT ON THE TEACHING OF PHYSICS.

Laura H. Greene was the 2024 recipient of the prestigious Hans Christian Oersted Medal, presented by the American Association of Physics Teachers (AAPT). The Medal was awarded at a Ceremonial Session of the AAPT Winter Meeting where she also delivered a plenary lecture. The Oersted Medal recognizes her outstanding, widespread, and lasting impact on the teaching of physics.

Greene is Chief Scientist at the National High Magnetic Field Laboratory and the Marie Krafft Professor of Physics at Florida State University. She was previously the Swanlund and the Center for Advanced Study Professor of Physics at the University of Illinois at Urbana-Champaign. Her undergraduate studies were at The Ohio State University, and after receiving her PhD at Cornell University, she was a post doc at Bell Labs then a member of staff at Bellcore

The full press release is available at <https://aapt.org/aboutaapt/Laura-Greene-to-Receive-AAPT-2024-Oersted-Meda.cfm>



2024 LILLIAN McDERMOTT MEDAL AWARDED TO STEPHANIE CHASTEEN

My life pursuing excellence in physics education

Stephanie Chasteen was the 2024 recipient of the Lillian McDermott Medal, awarded at the 2024 Summer Meeting. This award recognizes those who are passionate and tenacious about improving the teaching and learning of physics and have made intellectually creative contributions in this area.

Chasteen was specifically recognized “For essential contributions in program development and evaluation and sharing the results of physics education research with the physics community that have proven to be an integral part of meeting the greater needs of the broad physics community, providing research-based and community-based knowledge responsible for equipping physics educators to build thriving programs at all levels aimed at best serving the needs of students.”

Chasteen received her Ph.D. in condensed matter physics from the University of California, Santa Cruz, followed by a postdoctoral fellowship at the Exploratorium science museum in San Francisco. She has been an activist in educational reform, sparked by her time at the Exploratorium and further informed by her time in the Science Education Initiative at the University of Colorado Boulder. Her communication skills were enhanced through an early career in science journalism, including an American Association for the Advancement of Science (AAAS) Mass Media Fellowship at National Public Radio.

In her role as a communicator, she has authored and made significant contributions to many enduring and influential works, including a podcast on teaching and learning physics, popular articles hosted by PhysPort, the assessment section in the EP3 Guide, the Science Education Initiative Handbook, and the influential white paper “How to work with external evaluators,” hosted on the AAPT website. Her impressive h-index of 20 and more than 1800 citations on Google Scholar underscore her standing as a thought leader in her field.

Read the full press release at: <https://aapt.org/aboutaapt/2024-Lillian-McDermott-Medal-Awarded-to-Stephanie-Chasteen.cfm>



“LILLIAN McDERMOTT MEDAL RECOGNIZES THOSE WHO ARE PASSIONATE AND TENACIOUS ABOUT IMPROVING THE TEACHING AND LEARNING OF PHYSICS AND HAVE MADE INTELLECTUALLY CREATIVE CONTRIBUTIONS IN THIS AREA”

2024 Awards and Grants (cont.)

DON LINCOLN NAMED AS RECIPIENT OF THE 2024 KLOPSTEG MEMORIAL LECTURE AWARD



THE KLOPSTEG MEMORIAL LECTURE AWARD IS NAMED FOR PAUL E. KLOPSTEG, A PRINCIPAL FOUNDER, A FORMER AAPT PRESIDENT, AND A LONG-TIME MEMBER OF AAPT, AND RECOGNIZES OUTSTANDING COMMUNICATION OF THE EXCITEMENT OF CONTEMPRARY PHYSICS TO THE GENERAL PUBLIC. THE RECIPIENT DELIVERS THE KLOPSTEG LECTURE AT AN AAPT SUMMER MEETING ON A TOPIC OF CURRENT SIGNIFICANCE AND AT A LEVEL SUITABLE FOR A NON-SPECIALIST AUDIENCE AND RECEIVES A MONETARY AWARD, AN AWARD CERTIFICATE, AND TRAVEL EXPENSES TO THE MEETING.

What Keeps Me Up At Night: Unanswered questions in fundamental physics

Don Lincoln, physicist, teacher, and writer, was the 2024 recipient of the Klopsteg Memorial Lecture Award. The lecture and award were presented during the AAPT Summer Meeting.

This award recognizes educators who have made notable and creative contributions to the teaching of physics. Lincoln is recognized specifically “For passionate and profound career-long impact in sharing the excitement of contemporary physics topics in ways that interest and inform the general public about the relevance and importance of fundamental physics from cosmology to high energy particle physics through prolific and impactful communication and world-class public outreach programs.”

As a staff scientist at Fermi National Accelerator Laboratory, Lincoln is prolific as a science writer, producer of video content for the general public, productive public speaker, and a strong supporter of educational content for teachers.

Read the full press release at: <https://aapt.org/aboutaapt/Don-Lincoln-Named-as-Recipient-of-the-2024-Klopsteg-Memorial-Lecture-Award.cfm>

THE DAVID HALLIDAY AND ROBERT RESNICK AWARD FOR EXCELLENCE IN UNDERGRADUATE PHYSICS TEACHING



ESTABLISHED IN 1993 AND NOW NAMED FOR THE AUTHORS OF A VERY SUCCESSFUL COLLEGE-LEVEL TEXTBOOK ON INTRODUCTORY PHYSICS AND FUNDED SINCE 2010 PRIMARILY BY A GENEROUS ENDOWMENT FROM JOHN WILEY AND SONS, THE PUBLISHER OF THAT TEXTBOOK, THE DAVID HALLIDAY AND ROBERT RESNICK AWARD FOR EXCELLENCE IN UNDERGRADUATE PHYSICS TEACHING RECOGNIZES OUTSTANDING ACHIEVEMENT IN TEACHING UNDERGRADUATE PHYSICS, WHICH MAY INCLUDE THE USE OF INNOVATIVE TEACHING METHODS.

Tatiana Erukhimova, Texas A & M University, College Station, TX
It's not business, it's personal. Teaching large classes, one student at a time

This award is given in recognition of contributions to undergraduate physics teaching and awardees are chosen for their extraordinary accomplishments in communicating the excitement of physics to their students. Tatiana Erukhimova, Instructional Professor and inaugural holder of the Marsha L. '69 and Ralph F. Schilling '68 Endowed Chair in the Department of Physics & Astronomy, Texas A&M University. She received her PhD from the Russian Academy of Sciences in 1999 and joined Texas A&M University in 2001. Her approach to teaching can best be summarized by her 2018 keynote presentation at Texas A&M's Transformational Teaching and Learning Conference titled: “It's not business, it's personal. Teaching large classes, one student at a time.” These words describe Erukhimova's sincere interest in the individual student and her investment fostering a strong sense of community with her students.

The culture of Erukhimova's classrooms is one of engaged, communal learning supported by innovative and research-backed pedagogy. She forms a community of mutual support where all students are expected to help each other learn. Her passion for student learning, combined with excellent classroom instruction, has earned her many awards throughout the years, including the Presidential Professor for Teaching Excellence in 2017, University Professor for Undergraduate Teaching Excellence (2021), American Physical Society Fellow (2019), The Nicholson Medal from the American Physical Society (2023), and multiple Association of Former Students awards (a high honor for faculty at Texas A&M).

Read the full press release at: <https://aapt.org/aboutaapt/Tatiana-Erukhimova-to-Receive-the-AAPT-2024-David-Halliday-and-Robert-Resnick-Award-for-Excellence-in-Undergraduate-Physics-Teaching.cfm>



2024 Awards and Grants (cont.)

JOHN DAVID JACKSON EXCELLENCE IN GRADUATE PHYSICS EDUCATION AWARD

Chandralekha Singh, University of Pittsburgh, Pittsburgh, PA
Physics Graduate Education for the 21st Century

Chandralekha Singh, Distinguished Professor of Physics, University of Pittsburgh, Pittsburgh, PA. Singh earned her B.S. and M.S. in Physics at the Indian Institute of Technology, Kharagpur and her M.A. and Ph.D. in Physics at the University of California, Santa Barbara.

Physics graduate education for the 21st Century Physics graduate education is a critical phase in the development of students who pursue it. Unfortunately, it is often a missed opportunity to help students develop holistically. In her talk, “Physics graduate education for the 21st Century,” Singh focused on how physics educators can embrace their role in preparing physics graduate students for the challenges and opportunities in the 21st century.

Singh’s pioneering research in the teaching and learning of quantum mechanics has played a significant role in advancing physics education research in advanced courses. In addition to educational research in advanced courses, she has conducted research on cognitive issues in learning physics, improving student problem solving and reasoning skills as well as improving equity and inclusion in physics learning environments.

The full press release is available at <https://aapt.org/aboutaapt/AAPT-Named-Chandralekha-Singh-as-the-2024-John-David-Jackson-Excellence-in-Graduate-Physics-Education-Awardee.cfm>



THE JOHN DAVID JACKSON AWARD FOR EXCELLENCE IN GRADUATE PHYSICS EDUCATION IS PRESENTED TO PHYSICISTS AND PHYSICS EDUCATORS WHO, LIKE JOHN DAVID JACKSON AFTER WHOM THE AWARD IS NAMED, HAVE MADE OUTSTANDING CONTRIBUTIONS TO CURRICULUM DEVELOPMENT, MENTORSHIP, OR CLASSROOM TEACHING IN GRADUATE PHYSICS EDUCATION..

RICHTMYER MEMORIAL LECTURE AWARD

Katherine (Katie) Mack, Perimeter Institute, Waterloo, Ontario, Canada
Dark Matter: The Cosmic Mystery at the Heart of Particle Physics

Katherine (Katie) Mack was recognized for outstanding contributions to physics and for effectively communicating those contributions to physics educators. Mack is a theoretical astrophysicist who studies a range of questions in cosmology, the study of the universe from beginning to end. She holds the position of the Hawking Chair in Cosmology and Science Communication at the Perimeter Institute. Throughout her career, she has placed an emphasis on sharing science with the broader public. As part of her role, she frequently takes part in outreach activities (public lectures, school visits, mentoring events, videos, podcasts, etc) and makes herself available for interviews.

As @AstroKatie, she has amassed a Twitter following of more than 400,000. Her popular writing ([https:// www.astrokatie.com](https://www.astrokatie.com)) has appeared in major publications. In 2020, she released her first book “The End of Everything (Astrophysically Speaking)” which examines five ways the universe could end and the mind-blowing lessons each scenario reveals about the most important concepts in cosmology.

The full press release is available at <https://www.aapt.org/aboutaapt/Katie-Mack-Recognized-as-2024-Recipient-of-the-Richtmyer-Award.cfm>



NAMED FOR FLOYD K. RICHTMYER, DISTINGUISHED PHYSICIST, TEACHER, AND ADMINISTRATOR AND ONE OF THE FOUNDERS OF AAPT, THE RICHTMYER MEMORIAL LECTURE AWARD RECOGNIZES THOSE WHO HAVE MADE OUTSTANDING CONTRIBUTIONS TO PHYSICS AND THEIR COMMUNICATION TO PHYSICS EDUCATORS. ...

2024 Awards and Grants (cont.)

HOMER L. DODGE CITATION FOR DISTINGUISHED SERVICE TO AAPT



Jennifer Blue

Professor of Physics and Associate Dean of the College of Arts and Science, Miami University, Oxford, Ohio

Citation: For her pioneering investigations aimed at understanding the impact of physics teaching on minoritized populations to establish, and encourage others to establish, a sound research basis that will lead to solving the physics DEI anomaly.

Read full press release at: <https://aapt.org/aboutaapt/Jennifer-Blue-Named-as-Recipient-of-the-2024-Homer-L-Dodge-Citation-for-Distinguished-Service-to-AAPT.cfm>



Juan Burciaga

Visiting Assistant Professor of Physics, The Colorado College, Colorado Springs, Colorado

Citation: For his longstanding commitment to improving diversity, equity, and inclusion in the physics community and for his prolific contributions in the scholarship of teaching a learning physics for all, Juan Burciaga is named as an AAPT Fellow.

Read full press release at: <https://aapt.org/aboutaapt/Juan-Burciaga-to-Receive-2024-Homer-L-Dodge-Citation-for-Distinguished-Service-to-AAPT.cfm>



Stephanie Chasteen

Independent Consultant of CHASTEEN EDUCATIONAL CONSULTING, Boulder, Colorado

Citation: For contributing a litany of tools stemming from physics education research that deeply impact the teaching a learning of physics at multiple levels.

Read full press release at: <https://aapt.org/aboutaapt/2024-Lillian-McDermott-Medal-Awarded-to-Stephanie-Chasteen.cfm>



Anthony (Tony) Mwene Musumba

Assistant Professor of Physics as Riverside City College in Riverside California

Musumba is honored for exemplary service contributions to the mission of the American Association of Physics Teachers and his dedicated work to champion excellence within the two-year college physics community through sharing innovative teaching resources including impactful computational modeling tools for physics, the life sciences, and astronomy.



2024 Awards and Grants (cont.)

AAPT 2024 Fellows Award

The AAPT Fellowship is awarded to AAPT members for exceptional contribution to AAPT's mission, "To advance physics teaching and learning by serving as the trusted hub for valued resources and programs, facilitating strong professional networks, and supporting members to advocate for physics education."

The 2024 AAPT Fellows are:

Jennifer Blue
Juan Burciaga
Stephanie Chasteen
Brad Conrad
Tatiana Erukhomova

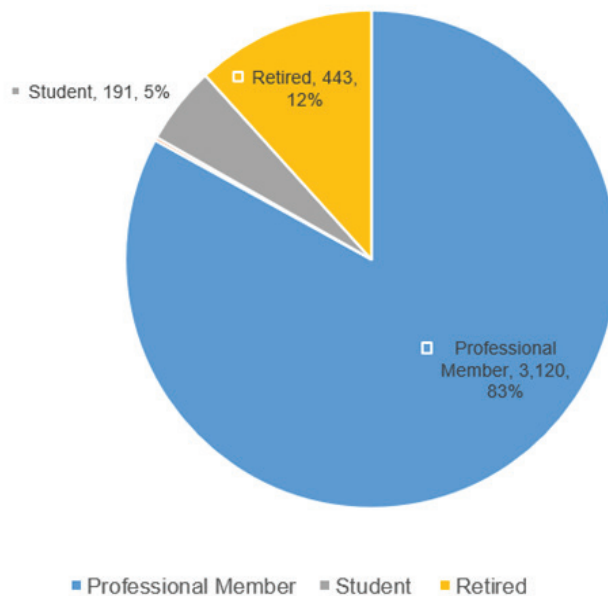
Membership

Recruitment Campaign in Conjunction with American Association of Chemistry Teachers

We are working with AACT on a collaborative recruitment offer for the first half of 2025. K-12 teachers joining AAPT can receive a free 1-year membership to AACT. From the AACT side, any teacher who purchases a membership to their organization will receive a 30% discount coupon to join AAPT.

We are hopeful that this opportunity to join both organizations at a reduced rate will especially appeal to the population of teachers who are asked to teach multiple disciplines of science as opposed to only physics. Further, since the AACT membership base has a strong early career contingent, we are hopeful that the campaign, coupled with our new Early Career rate, will help bring younger members into AAPT.

Members By Type as of December 31, 2024



The American Association of Physics Teachers thanks these generous corporate partners for their support of 2023 activities.

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Committee Contributions

Committees are essential to AAPT.

In addition to committees that advise and oversee operations, such as publications, awards, and budget, there are those that focus on advancing physics education. There are currently 18 Area Committees, each with nine members who hold staggered three-year terms: One new member is appointed each year by the Nominating Committee and two are appointed by the incoming President. Their responsibilities range from developing academic content for the meetings to acting as stewards for their particular area of interest.

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Local sections increase the impact of AAPT programs and resources.

AAPT Sections spread across the United States and Canada to Mexico. Some sections follow geopolitical boundaries, serving a province, a state, or a territory. Others may serve part of a state or areas as large as six combined states. AAPT members' activity in their local sections strengthens physics education. Sections provide an outstanding opportunity to interact and network with other local physics educators. Acting together we are much stronger and have a bigger impact on physics education. Section Representatives are AAPT members who are officers in the local section.

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THE AMERICAN ASSOCIATION OF PHYSICS TEACHERS, INC.

AMERICAN ASSOCIATION OF PHYSICS TEACHERS, INC.

December 31, 2024 and 2023

Statements of Financial Position

ASSETS	2024	2023
CURRENT ASSETS		
Cash and cash equivalents	\$ 3,285,280	\$ 530,492
Investments	-	338,826
Accounts receivable	324,476	259,568
Grants receivable	1,200,883	984,053
Inventory	2,542	2,542
Prepaid expenses	105,858	153,085
Total current assets	4,919,039	2,268,566
Property and equipment, net	91,167	149,378
Investments, net of current portion	8,470,646	7,977,694
Due from ACP	469,198	-
Investment in ACP	-	2,767,203
Total non-current assets	9,031,011	10,894,275
TOTAL ASSETS	\$ 13,950,050	\$ 13,162,841
LIABILITIES AND NET ASSETS		
CURRENT LIABILITIES		
Accounts payable and accrued liabilities	\$ 508,764	\$ 590,445
Accrued payroll and related liabilities	390,223	394,229
Current portion of unearned revenue	1,222,128	1,301,248
Current portion of finance lease obligation	-	451
Current portion of accrued postretirement benefit obligation	34,990	29,048
Total current liabilities	2,156,105	2,315,421
Unearned revenue, net of current portion	90,580	91,079
Accrued postretirement benefit obligation, net of current portion	347,291	355,710
Total long-term liabilities	437,871	446,789
Total liabilities	\$ 2,593,976	\$ 2,762,210
NET ASSETS		
Without donor restrictions:		
Undesignated	\$ 7,711,763	\$ 7,120,080
Board designated	1,719,162	1,349,453
Total without donor restrictions	9,430,925	8,469,533
With donor restrictions	1,925,149	1,931,098
Total net assets	\$ 11,356,074	\$ 10,400,631
TOTAL LIABILITIES AND NET ASSETS	\$ 13,950,050	\$ 13,162,841



Financials (continued)

AMERICAN ASSOCIATION OF PHYSICS TEACHERS, INC.
For the Year Ending December 31, 2024 and Summarized for the Year Ended December 31, 2023
Statements of Activities and Changes in Net Assets

	(Summarized)			
	Without Donor Restrictions	With Donor Restrictions	2024 Total	2023 Total
REVENUE AND SUPPORT				
American Journal of Physics	\$ 1,391,129	\$ -	\$ 1,391,129	\$ 1,272,803
The Physics Teacher	924,604	-	924,604	979,392
Membership	561,626	-	561,626	574,845
Meetings, Workshops, and Programs	865,287	-	865,287	691,095
Grants	1,102,110	-	1,102,110	1,675,577
Investment income, net	758,466	245,660	1,004,126	1,056,925
International Physics Olympiad	346,596	-	346,596	160,779
Earnings on investment in ACP	331,477	-	331,477	1,392,637
Contributions	82,913	930	83,843	223,244
Miscellaneous income	79,520	-	79,520	14,645
Net assets released from donor restrictions	252,539	(252,539)	-	-
Total revenue and support	6,696,267	(5,949)	6,690,318	8,041,942
EXPENSES				
Program Services:				
American Journal of Physics	306,018	-	306,018	201,256
The Physics Teacher	355,292	-	355,292	354,453
Membership	274,468	-	274,468	267,598
Meetings, Workshops, and Programs	1,242,644	-	1,242,644	1,235,201
Grants	1,091,993	-	1,091,993	1,836,683
Other Publications	281,234	-	281,234	281,449
Total program services	3,551,649	-	3,551,649	4,176,640
Supporting Services:				
General and Administrative	2,170,212	-	2,170,212	2,232,169
Fundraising	2,539	-	2,539	1,697
Total supporting services	2,172,751	-	2,172,751	2,233,866
Total expenses	5,724,400	-	5,724,400	6,410,506
Change in net assets before other items	971,867	(5,949)	965,918	1,631,436
OTHER ITEMS				
Other components of net periodic benefit cost	6,273	-	6,273	(11,658)
Benefit-related changes other than net periodic benefit cost	(16,748)	-	(16,748)	(18,644)
Change in net assets	961,392	(5,949)	955,443	1,601,134
Net assets at beginning of year	8,469,533	1,931,098	10,400,631	8,799,497
NET ASSETS AT END OF YEAR	\$ 9,430,925	\$ 1,925,149	\$ 11,356,074	\$ 10,400,631



Financials (continued)

AMERICAN ASSOCIATION OF PHYSICS TEACHERS, INC.
For the Year Ending December 31, 2024 and Summarized for the Year Ended December 31, 2023
Statements of Functional Expenses

	Program Services						Support Services			(Summarized)		
	American Journal of Physics	The Physics Teacher	Membership	Meetings, Workshops, and Programs	Grants	Other Publications	Total Program Services	General and Administrative	Fundraising	Total Support Services	2024	2023
Compensation	-	\$ 327,716	\$ 234,118	\$ 382,639	\$ 327,198	\$ 277,630	\$ 1,549,301	\$ 1,457,202	\$ -	\$ 1,457,202	\$ 3,006,503	\$ 3,316,517
Consultants, contracts and temporary	-	-	-	108,346	304,461	-	412,807	133,305	-	133,305	546,112	651,989
Participant support	-	-	-	30,500	186,335	-	216,835	-	-	-	216,835	470,886
Rent	-	-	-	-	2,887	-	2,887	89,592	-	89,592	92,479	216,443
Indirect cost allocation	-	-	-	-	110,646	-	110,646	(110,646)	-	(110,646)	-	-
Computer supplies and maintenance	-	-	-	19,785	522	-	20,307	190,912	-	190,912	211,219	255,057
Editorial office	290,363	-	-	-	-	-	290,363	-	-	-	290,363	181,432
Honoraria	4,500	8,000	-	37,595	3,100	-	53,195	-	-	-	53,195	70,193
Professional fees	40	-	-	-	-	-	40	97,145	-	97,145	97,185	24,379
Audio visual	-	-	-	234,723	264	-	234,987	4,845	-	4,845	239,832	256,203
Dues and memberships	10,653	10,653	32,568	75	-	-	53,949	6,805	-	6,805	60,754	74,808
Awards	-	-	-	33,214	-	-	33,214	965	-	965	34,179	44,314
Publications	-	-	-	5,432	-	77	5,509	943	-	943	6,452	9,356
Bank fees	-	-	-	-	-	-	-	74,109	-	74,109	74,109	54,735
Depreciation and amortization	-	-	-	-	-	-	-	68,662	-	68,662	68,662	67,081
Materials and supplies	-	-	885	35,867	8,344	-	45,096	15,481	1,891	17,372	62,468	87,937
Bad debt expense	-	-	-	-	2	-	2	-	-	-	2	33,513
Conferences, meetings and workshops	-	-	-	61,438	25,891	-	87,329	17,771	-	17,771	105,100	147,849
Insurance	-	-	-	3,022	-	-	3,022	20,248	-	20,248	23,270	19,463
Travel	-	8,102	3,057	189,968	121,086	3,527	325,740	88,548	-	88,548	414,288	322,979
Exhibit and meeting expenses	-	-	-	89,304	-	-	89,304	5,143	-	5,143	94,447	71,702
Postage, packing and shipping	37	439	2,691	10,698	308	-	14,173	749	621	1,370	15,543	17,019
Advertising	-	-	-	-	-	-	-	8,135	-	8,135	8,135	7,575
Photocopying and printing	425	382	1,149	38	949	-	2,943	298	27	325	3,268	9,076
TOTAL EXPENSES	\$ 306,018	\$ 355,292	\$ 274,468	\$ 1,242,644	\$ 1,091,993	\$ 281,234	\$ 3,551,649	\$ 2,170,212	\$ 2,539	\$ 2,172,751	\$ 5,724,400	\$ 6,410,506



Financials (continued)

AMERICAN ASSOCIATION OF PHYSICS TEACHERS, INC.
For the Years Ending December 31, 2024 and 2023
Statements of Cash Flows

	<u>2024</u>	<u>2023</u>
CASH FLOWS FROM OPERATING ACTIVITIES		
Change in net assets	\$ 955,443	\$ 1,601,134
Adjustments to change in net assets to net cash used in operating activities:		
Depreciation and amortization	68,662	67,081
Bad debt expense	2	33,513
Net realized and unrealized (gains) on investments	(846,692)	(759,491)
Interest and dividends reinvested	(187,256)	(297,434)
(Earnings) on investment in ACP	(331,477)	(1,392,637)
Amortization of right-of-use asset	-	79,444
(Increase) decrease in:		
Accounts receivable	(64,910)	202,020
Grants receivable	(216,830)	(480,464)
Inventory	-	170
Prepaid expenses	47,227	(15,726)
Increase (decrease) in:		
Accounts payable and accrued liabilities	(81,681)	(111,710)
Accrued payroll and related liabilities	(4,006)	126,761
Accrued postretirement benefit obligation	(2,477)	14,661
Unearned revenue	(79,619)	(64,716)
Net cash used in operating activities	<u>(743,614)</u>	<u>(997,394)</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchases of property and equipment	(10,451)	(79,581)
Proceeds from redemption of investment in ACP	2,629,482	-
Proceeds from sales of investments	879,822	2,587,809
Purchases of investments	-	(2,123,415)
Net cash provided by investing activities	<u>3,498,853</u>	<u>384,813</u>
CASH FLOWS FROM FINANCING ACTIVITIES		
Payments on finance lease obligation	<u>(451)</u>	<u>(2,671)</u>
Net cash used in financing activities	<u>(451)</u>	<u>(2,671)</u>
Net increase (decrease) in cash and cash equivalents	<u>2,754,788</u>	<u>(615,252)</u>
Cash and cash equivalents:		
Beginning	<u>530,492</u>	<u>1,145,744</u>
Ending	<u>\$ 3,285,280</u>	<u>\$ 530,492</u>

2024 In Memoriam

AAPT Member and Physics Community Obituaries

Remember someone special by giving a gift in their memory...
Donate to the Memorial Fund at aapt.org/Membership/memoriam.cfm.

Harvey S. Leff

JANUARY 3, 2024

Quoting from the February 2007 issue of *The Physics Teacher*:
“Harvey ‘Styx’ Leff brings a formidable combination of ability, passion, and demonstrated accomplishment—in the classroom, in research, in academic leadership, and on musical stages—to his service to AAPT.”

After receiving his Ph.D. from the University of Iowa under the direction of Max Dresden, he taught on the faculty at Case Western Reserve University, Harvey Mudd College, and Chicago State University. He spent four years as an energy policy analyst for the Oak Ridge Associated Universities before joining the faculty at Cal Poly Pomona in 1983 as department chair. He built a Physics Department that actively encouraged and rewarded excellence in physics teaching and the participation of faculty members in AAPT. In 2010, he became a visiting scholar at Reed College in Portland, Oregon.

Devoted to the improvement of education at the pre-college level, he initiated the PHUN (Physics High School-University Network) program at Cal Poly Pomona, presented numerous workshops for K-12 teachers, and taught hands-on science in many classes. For more than a decade he served as Cal Poly Pomona’s Liaison Scientist to the Hacienda-La Puente Unified School District making many trips to the district’s schools to give workshops and provide guidance for students’ activities in science.

He served as an officer and Section Representative of the Southern California Section of AAPT from 1987 to 2005, Associate Editor of the *American Journal of Physics* 1992-95, Chair of AAPT’s Professional Concerns Committee 1999-2000, and Chair of the AAPT Nominating Committee 2003-04. He was subsequently elected to the AAPT Presidential Chain, serving as Vice President in 2005, President-Elect in 2006, President in 2007, and Past President in 2008. He was on the Governing Board of the American Institute of Physics 2006-2008. Leff was a Fellow of the American Association of Physics Teacher and a Fellow of the American Physical Society.

Among Leff’s scientific publications, primarily related to thermal physics, are dozens articles, letters, and book reviews in AAPT’s *American Journal of Physics* and a half dozen in *The Physics Teacher*. He was a referee for these journals for over forty years. Serving the wider physics-teaching community, Harvey was an organizer of the Gordon Research Conference on Physics Education and Research on Quantum Mechanics in 2002 and Classical Mechanics and Non-linear Dynamics in 2004. In 2003, he co-edited the anthology, *Maxwell’s Demon 2: Entropy, Classical and Quantum Information, Computing*. Finally, using the nickname Styx, Leff became the drummer for the Out-Laws of Physics in 2003.

In 2010 upon learning he would receive an AAPT Distinguished Service Citation, Harvey commented, “AAPT has been a critical element of my growth and success as a physics teacher and I am thrilled to have been chosen for a DSC. I am reminded that when comedian Jack Benny was presented with an award, he quipped that he didn’t deserve the award, but didn’t deserve arthritis either. I feel the same way, including the arthritis! Without AAPT, my career would have been far less fruitful and my life far less rich. Thank you AAPT.”

Well known for his knowledge of physics, his empathy and wisdom, and his sense of humor and love for a good pun, Leff was an inspiration to young and old who had the honor and privilege to work and play with him.

Without him, AAPT would have been far less fruitful and less rich. Thank you Harvey Leff

Mary Myers Winn

JANUARY 26, 2024

Mary Octa Myers Winn was born on December 31, 1931 and embarked on a journey that spanned a lifetime filled with love, family, and a passion for physics. Mary’s story began on a working farm in Winchester, Tennessee, where the bonds of family and the warmth of Southern hospitality shaped her character.

Mary attended Sophie Newcomb College of Tulane University in New Orleans, where she majored in Physics. Those four years were not only a time of academic growth but also an opportunity to explore the vibrant city that embraced her. At college, Mary met and married George Winn, setting the stage for a beautiful family.

Mary enjoyed a successful and fulfilling career. After obtaining a Masters in Physics Education from the University of South Florida, she spent 30 years teaching physics and served as science department chairman of Chamberlain High School for most of that time.

Mary was actively engaged with the American Association of Physics Teachers (AAPT/PTRA) throughout her career. She served on the Committee on Minorities in Physics, The Committee on Physics in Pre-High School Education, and on the Membership & Benefits Committee. Her proudest accomplishment was co-authoring AAPT’s best-selling book, “Teaching Physics for the First Time,” a testament to her dedication to sharing knowledge and fostering a love for the sciences. She received the Homer L Dodged Citation for Distinguished Service to AAPT in 2009 and was recognized as an AAPT Fellow in 2014..

Paul Stokstad

JULY 8, 2024

Paul Stokstad passed away July 8, 2024. A member of AAPT since 1965, Paul joined soon after founding PASCO Scientific in 1964 and while he was working on his Bachelor’s Degree in Physics at Dartmouth College, Thayer School of Engineering where he also earned a BA and MA in Engineering.

PASCO got its start as a science fair project. Since the introduction of their first product, the Millikan Oil Drop Apparatus, the company started in his college dorm room, expanded into the family’s garage, and ultimately grew into the headquarters in Roseville, California. Today PASCO is the global leader in developing technology-based solutions for hands-on science, serving educators and students in more than 100 countries around the world.

Under the leadership of Paul and his wife, Shelley, PASCO has been a strong supporter of AAPT for decades, advertising in the journals and meeting guides, exhibiting at meetings, and sponsoring workshops and events at the winter and summer meetings, including the annual Apparatus Competition.

An active member of Roseville Church, he served as head elder, Sabbath School teacher, chair of the finance committee, Pathfinder leader, Gathering Inn coordinator, and chair of the Worthy Student Fund.

2024 In Memoriam (continued)

David Terry Kagan

JULY 29, 2024

Kagan first became a member of AAPT in 1981. Although he was best known for doing physics of baseball workshops at AAPT and CSTA conferences, he also served as a Reviewer American Journal of Physics and The Physics Teacher. He also was a member of the Editorial Board of The Physics Teacher and authored several articles regarding the physics of baseball in The Physics Teacher. Kagan also served on the committee on Graduate Education in Physics and in the Northern California/Nevada Section.

He graduated from CSU Hayward (now East Bay) with a BS in Physics in 1977. He earned a Ph.D. in Atomic Physics at UC Berkeley in 1981. He started as physics faculty at California State University (CSU) Chico in the same year.

Kagan served as CSU's Chair of the Department of Physics from 1998-2003, the founding Chair of the Department of Science Education from 2009-2012, and the Assistant Dean of the College of Natural Sciences from 2011-2012. As the Faculty Advisor of the Society of Physics Students for over twenty-five years, his students earned national recognition twenty times as an Outstanding Chapter. His service with the Society of Physics Students (SPS) was also honored on campus with the Myles Tracy Outstanding Student Organization Advisor Award twice, as well as the SPS National Outstanding Chapter Advisor Award. He also played the key role in establishing a degree program specifically designed to train high school physics teachers. It was one of the first in the country.

Kagan officially retired 2014 but remained active as a physics educator.

Edward F. (Joe) Redish

AUGUST 24, 2024

Edward "Joe" Redish, a popular professor of physics at the University of Maryland, died of cancer on August 24, 2024. Globally recognized as a pioneer in the field of physics education research, Joe was most proud of his role in helping to build the field into a thriving international community.

He taught physics at the University of Maryland in College Park for more than 50 years, including a stint as department chair when Maryland had the third largest physics department in the nation.

Joe came to Maryland after graduating Magna Cum Laude from Princeton University and earning his Ph.D. in theoretical nuclear physics from M.I.T.

He joined the American Association of Physics Teachers (AAPT) in 1991 and was actively involved in the organization serving on the American Journal of Physics (AJP) Editorial Staff as editor of the Physics Education Research Section from 1993-2003. In 1993 Redish and Lillian C. McDermott published Resource Letter: PER-1: Physics Education Research. Over 30 years he published more than 200 articles in AJP.

His work was also published in The Physics Teacher. The January 2024 issue included an installment in Redish's series on "Using Math in Physics," a series that includes some of the most popular (read, most-often downloaded) articles in recent years.

He was a leader in helping building the Physics Education Research (PER) community, serving on the PER Leadership Organizing Council, editing the first PER journal and organizing major conferences

including the first on Computers in Physics Education (1988), a major international meeting on Physics Education (1996), and the first (and so far only) Fermi International Summer School on PER (2003).

USA Liaison Committee-International Union of Pure & Applied Physics (2002), the AIP Advisory Committee on Physics Education (2002), and the USA National Liaison Committee of International Union of Pure and Applied Physics (2001).

With a strong team of collaborators led by Priscilla Laws, he pioneered a new approach to university physics instruction, The Physics Suite, a synergistic combination of research-based active learning materials and a rewrite of a popular text to blend it with other activities and to modify it to respond to what has been learned from physics education research. He has also created online problems collections for introductory (Thinking Problems in Physics) and advanced physics (Thinking Problems in Mathematical Physics). Redish was also lead developer on an HHMI project to develop a new physics course for biology majors and pre-medical students (Project NEXUS).

In 2010, Redish received funding from the Howard Hughes Medical Institute for the National Experiment in Undergraduate Science Education (NEXUS) and created Physics 131/132. This sequence was designed for students planning careers in medicine and bioscience, who will better understand chemical and biological processes with a solid foundation in physics. It is a core element of the multi-university, multi-million dollar National Science Foundation (NSF) project, The Living Physics Portal, a national web resource for organizing, evaluating, and sharing materials for physics classes for life science students.

He has been a mentor to a large number of physics education researchers and has supervised more than thirty graduate students and postdoctoral fellows in physics education research and nuclear physics.

He is a fellow of the American Physical Society, the AAAS, and the Washington Academy of Science and has received awards for his work in education from the Washington Academy of Science, the Maryland Association for Higher Education, Dickinson College, Vanderbilt University, the Robert A. Millikan Medal (2005) from the AAPT, a 2005 NSF Director's Award as a Distinguished Teaching Scholar, the Medal of the International Commission on Physics Education, the 2012 ICPE Medal at the World Conference on Physics Education, AAPT's Hans Christian Oersted Medal in 2013, and most recently, in 2014 he was recognized as an AAPT Fellow.

Stephanie Chasteen

NOVEMBER 3, 2024

Stephanie Viola Chasteen succumbed to an aggressive glioblastoma in Louisville, Colorado on November 3rd, 2024, at the age of 52. She bravely fought this cancer for one year with the support of her doctors at Kaiser and the Mayo Clinic, and her family and many friends. When the cancer ultimately prevailed, she accepted her fate with dignity and grace.

A member of AAPT since 2006, Chasteen made extraordinary contributions to physics education, having served as a consultant on over 50 STEM education projects, helping departments and faculty take up new practices that embrace educational innovations. Although many of her contributions have been as an external evaluator, she also contributed significantly to educational workshop design and translating research to teaching practice in numerous settings. Chasteen was passionate about the power of external evaluation to have meaningful impacts on the world.

As an external evaluator, Chasteen worked behind the scenes to help project leaders enhance the impact of national-scale efforts such as the

2024 In Memoriam (continued)

Physics and Astronomy New Faculty Workshop (NFW), Physics Teacher Education Coalition (PhysTEC), Get the Facts Out (GFO), and Effective Practices for Physics Programs (EP3) – as well as dozens of smaller projects. Her broad background and keen eye led her to make significant intellectual contributions to these projects along with concrete suggestions of how they can improve.

Chasteen received her Ph.D. in condensed matter physics from the University of California, Santa Cruz, followed by a postdoctoral fellowship at the Exploratorium science museum in San Francisco. She was an activist in educational reform, sparked by her time at the Exploratorium and further informed by her time in the Science Education Initiative at the University of Colorado Boulder. Her communication skills were enhanced through an early career in science journalism, including an American Association for the Advancement of Science (AAAS) Mass Media Fellowship at National Public Radio.

Prior to graduate school, Chasteen served in the Peace Corps in Guinea West Africa where she learned the local language, Pular, and helped establish a rural Health Clinic which was subsequently named in her honor. The first-born child at the clinic was named “Stephanie”. She later established the “Friends of Guinea” organization and set up their website. She was a giver and routinely made lunches for the homeless in Boulder, CO. She loved contra dancing, hiking, canyoneering and technical climbing which she shared with many good friends over the years.

Through her business, Chasteen Educational Consulting, Chasteen, aka the “Science Geek Girl”, worked with universities throughout the US in various capacities to help faculty improve the teaching of physics using evidence-based methodologies. In recognition of her lifetime of contributions improving the teaching and learning of physics, she received the 2024 Lillian McDermott Medal of the American Association of Physics Teachers (AAPT). In 2024, she was also inducted as a fellow of the AAPT and a fellow of the American Physical Society (APS). Her legacy of educational reform has impacted thousands of students and their mentors.

In her role as a communicator, she authored and made significant contributions to many enduring and influential works, including a podcast on teaching and learning physics, popular articles hosted by PhysPort, the assessment section in the EP3 Guide, the Science Education Initiative Handbook, and the influential white paper “How to work with external evaluators,” hosted on the AAPT website.

In her most recent work, she played a pivotal role in the redesign of the Faculty Teaching Institute (FTI, the successor to the New Faculty Workshop), shifting the focus of this workshop from hearing from multiple experts to organizing around developing reflective teaching practices. Because of her work on this project 100’s of new physics faculty will start their teaching careers with more pedagogical knowledge and a reflective mindset, positively impacting 1000’s of students.

Mary Elizabeth Mogge

NOVEMBER 22, 2024

Dr. Mary Elizabeth Mogge who assumed the role of AAPT President in 2015, becoming the 80th physics educator to fill the role and all of the leadership and committee member roles assigned to AAPT’s President, passed away on November 22, 2024.

Mogge earned her B.A. in Physics at Carleton College, her M.A. in Physics at State University of New York at Stony Brook, and her Ph.D. in Theoretical Particle Physics at The Florida State University. Her career has been largely at California State Polytechnic University-Pomona where she was a faculty member, professor, and Chair of the Department of Physics.

She taught in the Department of Physics at Cal Poly Pomona for more than thirty years (1979-2014) and served as the department chair for six years (2001-2007) and retired as Professor Emerita. She was the first in her family to attend college and was passionate about helping support other first-generation students who were interested in continuing their studies in the field of Physics. The Cal Poly Pomona College of Science, Department of Physics & Astronomy has a scholarship named for her.

Mogge’s service to the physics education profession is extensive. She was Academic Director of the U.S. Physics Team from 1999 – 2005; Senior Coach (1997-98; Coach 1995-96). Prior to becoming involved with the U.S. Physics Team, Mogge was a member of the Examination Editorial Board from 1990-92 and Exam Editor from 1992 – 1998. She was a regular donor to the Physics Team throughout her life.

Attendees at the 2012 AAPT Winter Meeting enjoyed the hospitality of Cal Poly, Pomona when Mogge, together with the Southern California Section of AAPT hosted the association in Ontario, California.

Familiar with AAPT’s history and governance, Mogge was elected to serve as Vice Chair of the Section Representatives in 2007 and filled the position of Chair of the Section Representatives from 2009-2011. In addition to representing the Section Representatives on the Executive Board, her extensive service to AAPT included service from the Audit Committee to the Women in Physics Committee. She was serving on the EP3 Editorial Board when she passed away.

Mogge was recognized with the Homer L. Dodge Citation for Outstanding Service to AAPT and was part of the inaugural cohort of AAPT Fellows honored in 2014.

She has served as an officer in the Southern California Section from 1993-2012. Including as a Section officer continuously since 1993 – serving as Editor (1993 – 1997), Vice President (1997 – 1999), President (1999 – 2001), Past President (2001 – 2003), Treasurer (2003 – 2005), Section Representative (2004 – 2014) and local host for Fall 2008 section meeting at Cal Poly.

Other Professional Activities were: Advanced Placement Physics C Development Committee (member 2009 – Present, Co-Chair 2011 – Present) Special consultant to the Saudi Arabian Physics Team for the International Physics Olympiad (February 2011) Member of Committee of Examiners for the GRE Subject Test in Physics (2000-2006). AP Table Leader (1991 – 1996); AP Reader (1988 – 1990, 2000, 2011, 2012) Member of the AIP and APS

