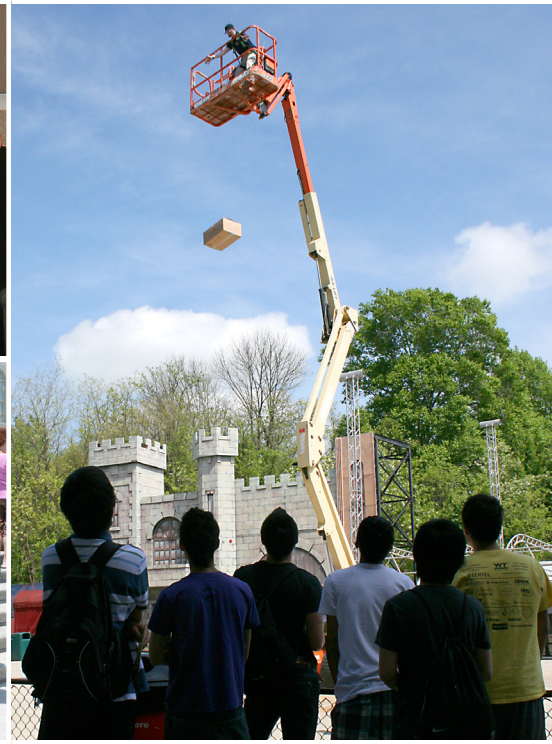
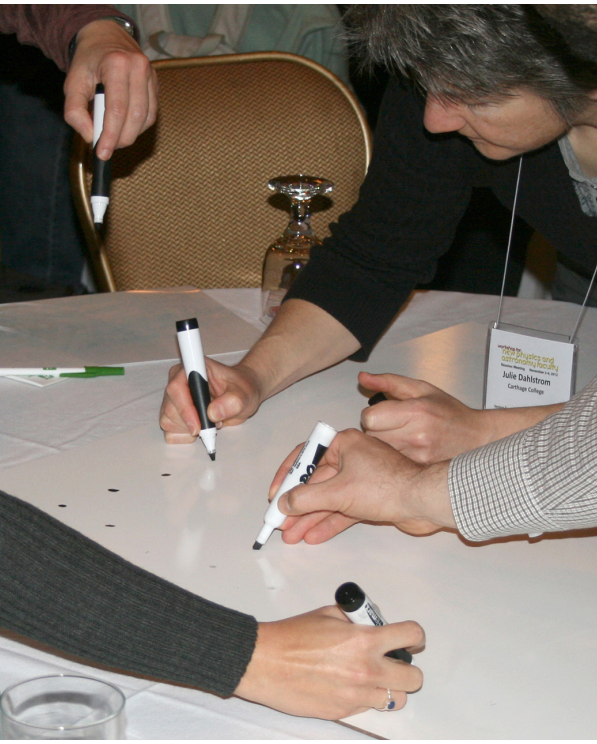


AAPT American Association of Physics Teachers



2012
annual report

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Beth A. Cunningham

2012 in Summary

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President – Jill Marshall

AAPT is a great organization to be part of—and right now we are moving in exciting directions.

2012 saw our finances continuing on the sound heading set in 2011 by my predecessor David Sokoloff, Executive Officer Beth Cunningham, and the Senior Management Team. We went into 2012 with a net surplus in the operating budget and a balanced budget for the first time in recent memory, and, even after restoring funds borrowed from long-term reserves the previous year, left the year with a slight profit in operations. We are enjoying a very different outlook from what we were facing when I came on the board only a few years ago.

2012 was also a great year for our national meetings. Both the winter meeting in Ontario and the summer meeting were highly successful in terms of attendance and in terms of staying within budget. In Philadelphia, a record number of 62 pre-college teachers were part of High School Teachers Day at SM12. Plenary talks included such luminaries as Brian Greene, Kip Thorne and the animators from Dreamworks who brought us the physics of “Puss N Boots” and “How to Train Your Dragon” - not to mention Benjamin Franklin, himself, brought to life in a one-man show.

Other notable accomplishments of 2012 included:

- Establishment of the Next Generation PTRAs initiative
- Input into the development process for the Next Generation Science Standards and other policy issues.
- Establishment of the Undergraduate Curriculum Task Force.
- Continuation of the trend to enhance Board effectiveness with short-term Ad Hoc committees on key objectives and Priorities Discussion as part of the Board agenda
- Support of ALPhA tandem conferences and immersion experiences, as well as negotiations for a new AAPT/ALPhA undergraduate research award sponsored by TeachSpin.

2012 also saw many challenges for AAPT, among them ensuring the viability of our existing awards by developing their endowments. As of the end of 2012, our only fully endowed award was the Paul W. Zitzewitz Award for Excellence in Pre-College Physics Teaching, which was generously endowed by Paul and his wife Barbara. Funding for the Melba Newell Phillips Medal was down to a dangerously low level in 2012. This is a good sign of the many women and men who merited this honor based on “creative leadership and dedicated service” to AAPT, but also a call to rebuild



the endowment. I am pleased to say that 2013 will see a major campaign to fund the Phillips Medal.

Recruiting and maintaining members continued to be a challenge in 2012, particularly outreach to high school teachers, our largest membership category, graduate students and early career educators. In 2012 we continued to evaluate and develop our relationships with other organizations, from our Sections to related organizations such as the American Physical Society, with whom we are investigating the possibility of regular joint meetings in the future.

Upon leaving the Presidency, I feel compelled to acknowledge my appreciation for the relationships I have developed and the valuable collaboration of others in the presidential chain and in the Executive Office. It has been a privilege to work with Beth Cunningham, Mike Brosnan, Tiffany Hayes, Marilyn Garnder, Erwin Campbell and others in the Executive Office, including Patch Hicks and RaShonda Rosier, who joined us in 2012. I am grateful for Alex Dickison’s statesmanship, David Cook’s patient and thoughtful diligence (and grammatical expertise!), David Sokoloff’s chudspeh and bold leadership in dealing with finances, Gay Stewart’s ability to do so many things at one time and Mary Beth Monroe’s enduring wisdom and counsel. I know that AAPT will be in capable hands as Mary Mogge joins the Board in 2013. I take a brief moment to note the fact that for the first time in our history there will be four women in the presidential chain of AAPT in 2013- and reflect on the support our organization has always given to women, from Melba Phillips on.

Although it happened after the end of 2012, I also feel compelled to acknowledge the passing of Paul Zitzewitz, who did so much for AAPT, including, most recently, two terms as Treasurer. I am grateful that Steve Iona was willing to return to the Board, after so many years of service as Chair of the Section Reps and AAPT Executive Board Secretary, to fill Paul’s unexpired term. Indeed this is a remarkable organization, made remarkable by its diversity and its incredible spectrum of dedicated, capable and generous members.

As I write this, Gay Stewart is already in full charge as AAPT President, and serving as a strong leader for our organization. I look forward to 2013 with her at the helm, and to the many opportunities and challenges it will bring.

Regards,
Jill Marshall

A handwritten signature in black ink that reads "Jill Marshall". The signature is fluid and cursive, with a large loop at the beginning.

Executive Officer – Beth A. Cunningham

2012 was another productive year for AAPT. The good news continues with AAPT's budget. We ended 2012 with a surplus in operations. This surplus will be used to support the programs AAPT currently offers ensuring their continued success and improvement. Some of the surplus will also be added to our long-term reserves. The overall economy continued to improve and was reflected in the growth of both the long- and short-term reserves. Growing the reserves is a goal in the 2010 Strategic Plan. Those funds will provide a positive future for AAPT. The staff continued to find efficiencies in the way the office is operated including our information technology services shared with the other associations at the American Center for Physics. Finally, the membership management software was upgraded in the spring. The upgrade will allow staff to make improvements to the member experience when renewing, making contributions, etc.

The year was also a time to reflect and advance some of AAPT's flagship programs. Below is a short summary of some of the changes made to two of AAPT's program.

Apparatus Competition: A review of the Apparatus Competition was completed with recommendations for increasing visibility and awareness of the competition and encouraging physics educators to consider submitting an entry. The Apparatus Competition was established to recognize, reward, and publicize worthwhile contributions to physics teaching through demonstration and experiment. I encourage you to visit the competition website to review past winning entries and learn more about the competition. We will continue to implement reviews of AAPT's programs in order to better serve our members and the physics education community.

AAPT/PTRA

Another program that experienced major changes was the Physics Teaching Resource Agent (PTRA) program. AAPT announced a new PTRA initiative in response to the proposed Next Generation Science Standards. The AAPT Executive Board has constituted a new committee, the AAPT/PTRA Oversight Committee, to provide advice and guidance to the Executive Board in the planning and using of AAPT funding to support this new initiative and projects associated with the AAPT/PTRA program. The committee will work with the Program Director and Executive Officer to develop plans for the use of AAPT funding and make recommendations for the sustainability of the



AAPT/PTRA program. Karen Jo Matsler was appointed as the new director and Pat Callahan was appointed as chair of the PTRA Oversight Committee. The initial members of the AAPT/PTRA Oversight Committee are recognized leaders in K-12 physics education. Many have served as PTRAs in the past and others have extensive experience in providing professional development to teachers of physics. AAPT celebrates the long and proud heritage of AAPT/PTRA and the roles that all current and past PTRAs have played in its success. We plan

to continue and extend this work for the next generation of teachers of physics. We also are continuing to serve the needs of the current cadre of AAPT/PTRA's to ensure that those teacher leaders are prepared to lead workshops as new standards are adopted and technology changes. We anticipate exciting developments as the program grows into new areas and state-level PTRA activities continue to receive funding.

AAPT continued to provide support to the physics education community through our extensive programs. Below is a short summary of the highlights of some of these programs.

SPIN-UP

The final SPIN-UP (Strategic Programs for Innovations in Undergraduate Physics) regional conference was held Austin, TX in May 2012 in response to the threat to close low-producing physics programs in the Texas higher education system. This conference provided time for departmental teams to learn about components of thriving physics programs and consider changes to their programs. The SPIN-UP program was funded by the National Science Foundation.

The New Faculty Workshop and the Conference on the Role of Scientific Societies in STEM Faculty Workshops

AAPT continues to partner with the American Physical Society and the American Astronomical Society to help new faculty at research and four-year institutions understand how to become more effective educators and support their quest to gain tenure. Two workshops were held: one in June for new faculty and a reunion in November for alumni of previous workshops. AAPT also continues to support new faculty in two-year colleges with a separate program specifically designed especially for them. In addition, AAPT sponsored a conference for the Council of Scientific

Society Presidents to discuss the wide variety of new faculty workshops in the STEM disciplines and why those programs are successful. The workshops and conference are funded by the National Science Foundation.

Next Generation Science Standards (NGSS)

AAPT took an active role in providing feedback to the first draft of the K-12 science and engineering standards being produced by Achieve, Inc. The feedback was based on the discussions at a meeting of experienced high school physics teachers and representatives from the AAPT, the American Physical Society, the American Chemical Society, the American Institute of Physics, the American Society for Engineering Education, and the Department of Energy in May 2012. (A note that AAPT also provided feedback on the second draft and comments on the final version. These comments were produced in 2013.) AAPT continues to provide a voice for K-12 physics teachers across the US in the process of developing and implementing the NGSS.

Society of Physics Students (SPS) and the Students Exploring Engineering and Science (SEES) Program at Winter Meetings:

SPS continued to take an active role in organizing the SEES program at the AAPT Winter Meeting in Ontario, California. This program brings approximately 100 minority, low-socioeconomic middle school students to the Winter Meeting site to engage in active learning for half a day. This is often the first time students get to experience hands-on activities of important physical phenomena. A


long-time member of AAPT and Distinguished Service Award recipient, Betty Preece was an outstanding model of dedication and achievement within the science community and founder of the SEES program. The program provides the students with lunch, transportation, career information science materials, and the opportunity to engage with SPS and AAPT volunteers. SEES continues to be strengthened by the participation of SPS and its members.

Two new staff members joined AAPT in 2012: RaShonda Rosier, Marketing Manager, and Susannah “Patch” Hicks, Executive Assistant. I welcome both to the AAPT team and look forward to many years of working together to advance physics education.

Finally, it has been my privilege to serve you, the members of AAPT, in 2012 as Executive Officer. AAPT continues to provide leadership through the work of many AAPT members and volunteers to enrich the education and future employment prospects of all students. All of this is done in support of the organization’s mission of “Enhancing the understanding and appreciation of physics through teaching.” It is truly a joy to work with you. Thank you again for your support.

Sincerely yours,

Beth A. Cunningham



Strategic Plan

The Association Executive Board, Area Committees, Council, and staff continued to implement the 2010-2013 Strategic Plan. The plan, available in two versions, with strategies (http://www.aapt.org/aboutaapt/organization/upload/101105-Strategic-Plan-Adopted-July-2010-with-strategies_1.pdf) and without strategies (<http://www.aapt.org/aboutaapt/organization/upload/101105-Strategic-Plan-Adopted-July-2010-without-strategies.pdf>), is available for members, sections, and committees to review as they align their programs and activities with the goals of AAPT.

The document reaffirms AAPT's commitment to its:

Mission — To enhance the understanding and appreciation of physics through teaching.

Vision — Aspiring to advance the greater good through physics, AAPT strives to be the leading voice, primary resource, advocate of choice, and driving force in physics education, serving professionals who teach physics and support physics teaching at all levels.

Core Values — As a member-driven volunteer organization, the AAPT is guided by and committed to the following:

- Promoting excellence in physics education by supporting AAPT members and reaching out to all teachers of physics in their efforts to provide an effective physics learning experience for all students at all levels and in all teaching and learning environments—in the classroom, in the laboratory, and in public settings.
- Publishing exemplary journals (American Journal of Physics and The Physics Teacher) and providing other physics teaching resources that adhere to the highest standards in content, pedagogy, and technology.
- Providing and supporting quality professional development for physics teachers at all levels through meetings, topical conferences, and workshops.
- Supporting and disseminating research into how students learn physics.
- Ensuring excellence in physics instruction by promoting research-based education of future teachers of physics at all levels, elementary through graduate.
- Advocating for physics education at local, state, and national levels.
- Keeping aware of the main issues facing the physics world and of the overreaching questions to be tackled by the physics community, and providing a forum for discussion of these issues at National Meetings.

STRATEGIC GOALS

The 2010-2013 Strategic Plan includes goals that support the Mission, Vision, and Core Values in key operational areas:

AAPT MEMBERSHIP — To be a vibrant professional organization for those who teach physics at all levels.

AAPT PORTFOLIO: JOURNALS, MEETINGS, PROGRAMS AND AWARDS — To ensure that AAPT is providing the highest quality member services to support excellence in physics education and meeting the needs of its members. The AAPT will provide regular electronic communications, grants, journals, National Meetings, and awards. In addition to these primary services, the AAPT, individually and in cooperation with other physics and related professional associations, will undertake initiatives that advance the mission and vision of AAPT.

AAPT OPERATIONAL AND FINANCIAL HEALTH — To achieve and sustain a balanced operating budget by 2011; Build the Long Term Unrestricted Financial Reserve equal to one year of operating expenses; and Improve the operation and efficiency of the association.

AAPT SECTIONS AND AFFILIATE GROUPS — To be a vibrant professional organization dedicated to improving physics education at all levels by working with sections, affiliates, and other local groups.

AAPT AREA COMMITTEES — To expand the function that Area Committees serve in the Association to include advising the Executive Board on policy and on development of quality resources (e.g., Guidelines for ...) consistent with the Committees' areas of interest, while continuing the traditional Committee role of developing quality programs for the annual meetings of the Association.

Publications

A strong publications program supports and informs the physics education community and other interested learners.

American Journal of Physics (ajp.aapt.org)

AJP continued to inform physics education globally with member subscriptions, institutional subscriptions, such as libraries and physics departments, and consortia agreements. The 6,584 subscriptions served the following education sectors:

High School 22.8%	College/University 57.1%
Student/Unemployed 9.0%	Non-Teaching 11.0%
Other .02%	

The rate of submission to *AJP* has been increasing and is now over 850 per year. The acceptance rate of regular articles is about 20%.

Editors

David P. Jackson, *Editor, Dickinson College*

Daniel Schroeder, *Associate Editor, Weber State University*

Resource Letters

AJP periodically publishes Resource Letters on topics that are of interest to college and university physicists, astronomers, and other scientists who wish to improve their courses or to serve as bridges for those who are moving into new areas of teaching or research. Seven were published in 2012. Resource Letters Editorial Board: Rexford E. Adelberger, Ruth Chabay, Ryan E. Doezema, Amy Joanne Kolan, Harvey S. Leff, Kimball A. Milton, Amy S. Mulin, William I Newman, Gordon Ramsey, and Rosemary Wyse,

Research in Physics Education

AJP also includes research papers that describe findings in the area of physics education research (PER) and are accessible to a broad physics readership. A special section is further devoted to PER papers. In 2012 there were seven papers published.

Computational Physics

A new section of Computational Physics was introduced in 2012, with the first paper published in the December issue.

Apparatus and Demonstration Notes

In this section, *AJP* publishes brief communications reporting new demonstrations, laboratory equipment, techniques, or materials of interest to teachers of physics. In 2012, *AJP* published five such reports.

Book Reviews

In addition, *AJP* publishes book reviews regularly on physics topics including the history of physics. Twenty-five book reviews appeared in 2012.

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The Physics Teacher (tpt.aapt.org)

2012 saw the 50th volume of *The Physics Teacher* (TPT) and its 13th year under the editorship of Karl Mamola. TPT continues the mandate of supporting, inspiring, and challenging our target audience—high school and college teachers of introductory physics—as well as our many other readers. A new column, iPhysicsLabs, edited by Jochen Kuhn and Patrick Vogt was added to the journal. Karl announced his upcoming retirement in 2013 and a search was begun for a new editor.

TPT is published in print and online at <http://tpt.aapt.org>.

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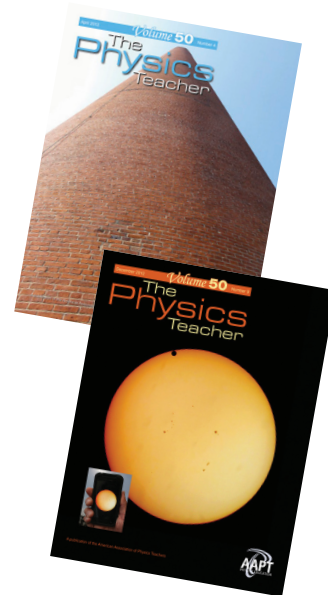
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iPhysics Labs

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Little Gems

Chris Chiaverina, New Trier High School

Physics Challenge for Teachers and Students

Boris Korsunsky, Weston High School, Weston, MA

Websights

Dan MacIsaac, SUNY-Buffalo State College, Buffalo

YouTube Physics

Diane Riendeau, Deerfield High School

The Physics Teacher Statistics

- ✧ 9 issues—January–May, September–December 2012 (Volume 50)
- ✧ 576 pages, 164 reviewers, 130 papers, and 96 contributions to monthly columns (79 international authors/co-authors)—34% acceptance rate
- ✧ 7,296 subscriptions
- ✧ Approximately 47% of subscribers teach at the college and university level and 40% teach at the high school level. The remaining 13% are scientists at research facilities, students, and other interested members of the physics community.

Editorial Staff

Managing Editor

*Pamela Brown
Appalachian State University
Boone, NC*

Assistant Editors

*Patricia R. Blanton
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Boone, NC*

Electronic Communications

AAPT.org

Having strong online publications offers AAPT members convenient access to physics education resources, news, and member benefits. AAPT.org continues to emphasize ease-of-access and user-friendliness, and aims to be more inviting to new visitors. The home page includes a “Features” area with photos and information pertaining to upcoming or ongoing programs, projects, events, and resources; and a box with buttons to donate, nominate, and send suggestions. Further down the page is a “navigation by audience” that guides visitors based on their role in the physics education community. The bottom half of the home page is split into a news section, and sections that encourage visitors to get involved with the association and provide information about what AAPT does.

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 The Physics Store and the eMentoring program. The Physics Store acquired a new look with a logo and layout incorporating a product title search and featured sales and products. The eMentoring program connects high school physics educators who desire additional guidance with experienced high school physics educators—online and FREE of charge.

What’s next?

Efforts to enhance AAPT.org are ongoing and numerous. Some areas of activity are the session/workshop process, area committee reports, awards nominations, online advertising, and member recruitment. An effort to record, share, and preserve audiovisual “Story Files” is an on-going project.



For 2012 aapt.org had:

- 435,260 visits
- 1,564,923 pageviews
- 3.6 pages per visit
- 255,454 new visitors

All from 205 countries/territories

1. U.S.
2. Canada
3. India
4. Philippines
5. Australia

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
- youtube.com/physicsteachers
- pinterest.com/AAPTHQ/
- /aboutaapt/socialnetworks.cfm

Area Committee Websites

AAPT has created google websites for all area committees. These sites were created to provide a place where the committees can organize and store their work. In addition, the committees will be able to share what they are doing with other committees and the public. To accomplish this, each committee will be assigned a gmail account which will allow each committee to have administrative control over their site.

Meeting Presentations

AAPT has begun a project to preserve more content from the national meetings. In addition to meeting abstracts, other content including posters, talks, plenaries, photos, and videos will be archived for future reference. The archive 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.

Membership

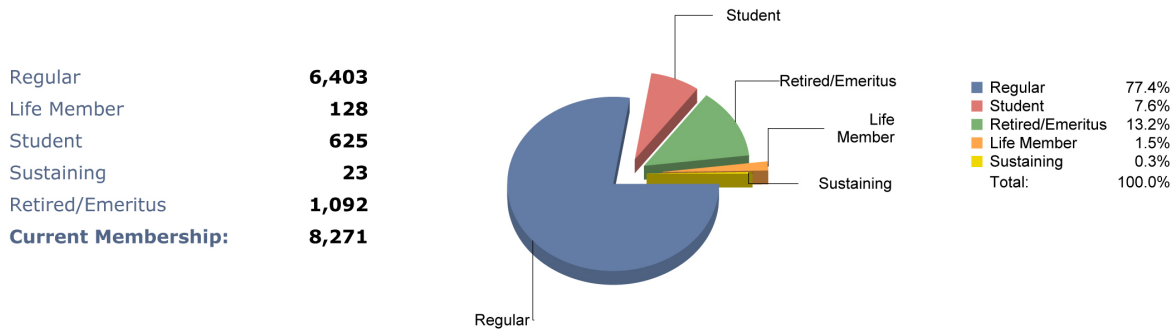
Spanning academia, research, and industry; comprised of educators, Nobel Prize winners, and students alike; our members bring a wealth of experience, diversity, and individual recognition. Most importantly, all share the same dedication to physics and the physics education community.



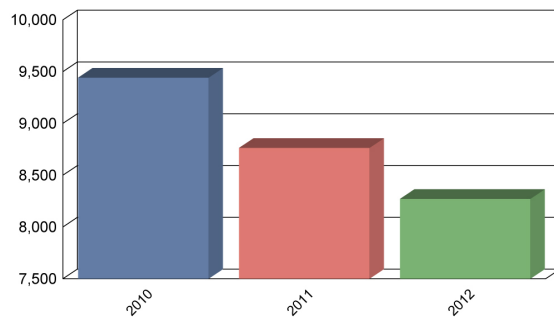
Membership Statistics

for December 31, 2012

Membership by Member Type



Membership Comparison by Month and Year

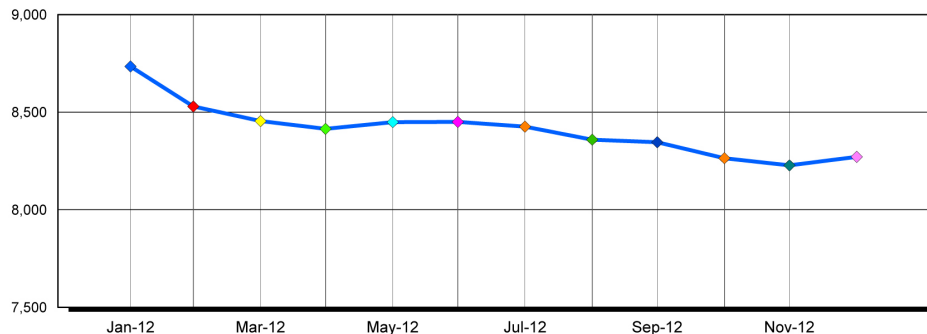


Dec - 2010
9,441

Dec - 2011
8,763

Dec - 2012
8,271

Year to Date Membership Trends



National Meetings

Winter Meeting—*The Wave Nature of Light and Matter*

February 4–8, 2012, Ontario, California

Statistics: There were 805 attendees, 30 Exhibitors, 61 Sessions, 1 tutorial, 31 workshops, 7 crackerbarrels, and 102 posters.

Gay Stewart, Program Committee Chair

Paper Sorters: Janelle Bailey, University of Nevada - Las Vegas, Paul Williams, Austin Community College, John Griffith, Mesa Community College, David Sturm, University of Maine, Gary White, AIP

Local organizer: Dr. Mary Mogge, Cal Poly Pomona University Physics Department

Plenaries

DreamWorks Studios “Waves in Animation”, Ron Henderson

Symposium on Physics Education: Physics Education Research and Public Policy, Howard J. Gobstein, Helen R. Quinn, and Pat Heller with Noah finkelstein, moderator

Physics for Future Presidents: Inspiring the non-science student by emphasizing issues of international importance, Richard A. Muller

Awards

Richtmyer Memorial Lecture Award, Brian Greene, Columbia University, New York City, NY. *Cosmology, Dark Energy, and String Theory.*

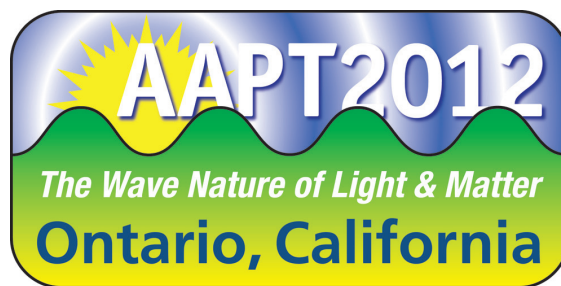
The John David Jackson Award for Excellence in Graduate Physics Education, Kip Thorne, California Institute of Technology, Pasadena, CA. *Black-Hole Research: A New Golden Age.*

Oersted Medal, Charles H. Holbrow, Massachusetts Institute of Technology, Cambridge, MA. *Making Physics Make Sense—Narratives, Content, Witz.*

AAPT Distinguished Service Citations, Elizabeth Chesick, Peter Hopkinson, Jan Tobochnik

Highlights

AAPT’s 2012 Winter Meeting was hosted by the Southern California Section. The Meeting theme was “The Wave Nature of Light & Matter.” Maxwell’s equations were formalized 150 years ago, and this is the 75th anniversary of the Davison-Germer Nobel Prize. California is known for its water waves, and fluid dynamics is an important area in the beautiful animated movies we have come to enjoy and associate with this region.



AAPT hosted the 3rd Annual Fun Walk/Run, a fundraiser that supports our meetings and conferences. The Out-Laws of Physics provided a fun evening of music. Attendees also had a chance to take a tour of NASA’s Stratospheric Observatory For Infrared Astronomy (SOFIA).

The life and legacy of Len Jossem were honored during an elegant reception and dinner. Jossem was one of the prime international leaders in physics education. The net proceeds from this event benefited the E. Leonard (Len) Jossem International Education Fund.

Dr. Ron Henderson of DreamWorks Animation presented our first plenary talk. He developed physical simulation and procedural modeling.

During the plenary session, Past President David Cook introduced a new membership scholarship/award program, the Hashim A. Yamani Fund. These awards are supported by the Hashim A. Yamani Fund, which was endowed in 2011 by generous contributions from several colleagues and mentees of Dr. Hashim A. Yamani, a prominent and well respected physics educator, researcher, and public servant in Saudi Arabia.

The annual Symposium on Physics Education featured Helen Quinn, theoretical physicist and SLAC Professor Emeritus who chaired the National Academy of Sciences committee that issued “A Framework for K-12 Science Education” about national standards.

Attendees had an opportunity to get involved in AAPT’s efforts on Real World Problem Solving, the area of a recent grant to which AAPT is a partner with Project Kaleidoscope. In part, the FIPSE grant is to find ways to incorporate 21st century, real world problems into the physics curriculum. We introduced this with a crackerbarrel and a plenary talk by “Physics for Future Presidents” author, Richard Muller, well known author and professor of physics at the University of California, Berkeley.

Other exciting plenary sessions featured our award winners. Richtmyer Memorial Lecture Award winner Brian Greene, well known author and professor of physics at Columbia University. Oersted Medal recipient Charles H. Holbrow’s talk was entitled “Making Physics Make Sense—



Narratives, Content, Witz.” Charles A. Dana Professor of Physics, Emeritus at Colgate University, he has served AAPT as President, Senior Staff Physicist, and Executive Officer.

John David Jackson Excellence in Graduate Physics Education Awardee, Kip Thorne, well known author and Caltech Feynman Professor of Theoretical Physics, Emeritus has made a tremendous impact on our understanding of gravitation and astrophysics. He and his research group have provided theoretical support for LIGO, including identifying gravitational wave sources that LIGO should target, and laying the foundations for data analysis techniques by which their waves are sought.

Distinguished Service Citations were presented to Elizabeth Chesick, Peter Hopkinson, and Jan Tobachnik. Chesick was recognized for her service as a Section Representative, PTRS, Area Committee Chair, and Executive Board Member. Hopkinson’s service as a Section Representative, member of the British Columbia Section of AAPT, and service on the AAPT Nominating Committee were cited.

Jan Tobachnik’s outstanding decade-long service as editor of *American Journal of Physics* were recognized citing his work to implement enhancements such as including color

online figures, online animations, color figures on the cover, and incorporation of the PER section. His role included service on the AAPT Executive Board and the Publications Committee as well as the AIP Committee on Publishing.

The annual Sees (Students Exploring Engineering and Science) program featured opportunities for underprivileged students from nearby schools to enjoy some hands-on physics experiments as well as career guidance and some take-home goodies. Volunteers from AAPT and the Society of Physics Students conducted the event, guiding experiments and helping with the assembly of Galileoscopes.

The closing session at the Winter Meeting is dedicated to the transfer of the AAPT Presidency to the President-Elect. President David R. Sokoloff reviewed the highlights of his term and included a very entertaining and useful presentation on the “Top Ten Reasons to be an AAPT Member.” David M. Cook and Marie F. Plumb were thanked for their outstanding service as they leave the AAPT Executive Board. Jill A. Marshall began her term as AAPT President at the conclusion of the 2012 Winter Meeting.

The meeting concluded with attendees greatly enriched by the talks on a wide variety of topics, the discussions shared, and the active participation.

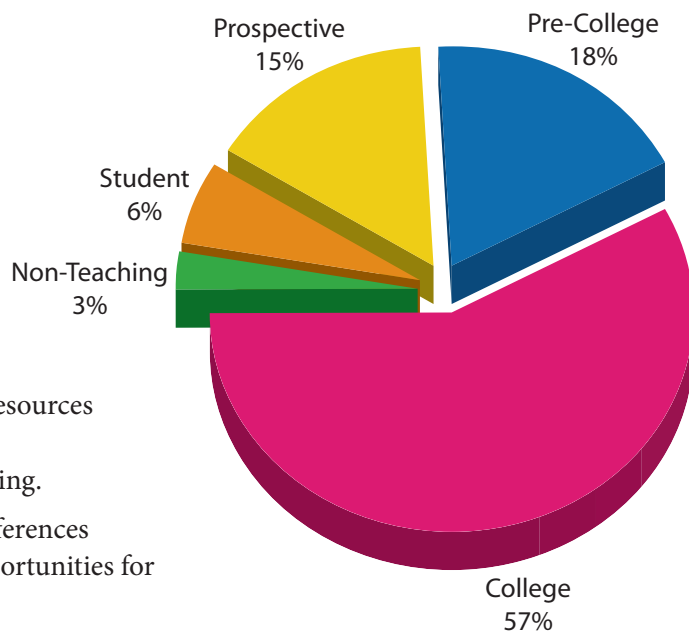
Meeting Statistics

More than 1000 physics educators, researchers, and students attend the Annual AAPT Meetings.

These National Meetings, held each winter and summer, are opportunities for members, colleagues, and future physicists from around the world to:

- participate in physics workshops
- meet and greet other physics educators
- form networks nationally and locally
- engage exhibitors and learn about the latest physics resources
- discuss innovations in teaching methods
- share the results of research about teaching and learning.

AAPT also hosts or supports smaller workshops and conferences and symposia throughout the year to provide further opportunities for professional development and knowledge sharing.



Summer Meeting—Physics: The Experimental Core

July 28–August 3, University of Pennsylvania

Statistics: There were 1,169 attendees, 26 exhibitors, 73 sessions, 39 workshops, and 211 posters.

Gay Stewart, Program Committee Chair

Paper Sorters: Kathleen Falconer, Brittney Johnson, Dyan Jones, and Mary Bridget Kusstusch

Local organizers: Larry Gladney, University of Pennsylvania Physics Department Chair, Asante Barr, Bill Bernr, Bill boulden, Erin Fallon, lauren Gala, Vivian Hasiuk, Stephanie Heminger, Jane Horowitz, Chris Leary, millicent minnick, Jim Nixon, and Harriet Slogoff. Darnell Belford from the Philadelphia convention and Visitors bureau

Plenaries

Sizing Up the Universe, J. Richard Gott, Princeton University

APS Division of Biophysics Session: *Birds, Brains, and Physics - The Fascinating Field of Biological Physics*, William Bialek, Princeton University and Dezhe Jim, Penn State University

Space-Time, Quantum Mechanics and the Large Hadron Collider, Nima Arkani-Hamed, Institute for Advanced Studies, Princeton, NJ,

Awards

Robert A. Millikan Medal, Philip M. Sadler, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA. *Separating Facts From Fads? How our choices impact students' performance and persistence in physics.*

The David Halliday and Robert Resnick Award for Excellence in Undergraduate Physics Teaching, Kevin M. Lee, University of Nebraska-Lincoln, Center for Science, Mathematics, and Computer Education and the Department of Physics and Astronomy, Lincoln, NE. *Letting Technology do What Technology is Good At*

The Paul W. Zitzewitz Award for Excellence in Pre-College Physics Teaching, Stacy McCormack, Penn High School, Mishawaka, IN. Mark D. Greenman, Marblehead High School, Swampscot, MA. *Interactive Laboratory Experiences (ILE)—A Professional Development Recipe for Success.*

AAPT Distinguished Service Citations, Eugenia Ektina, Jose D. Garcia, and Chandralekha Singh.

Highlights

Philadelphia, Pennsylvania, home of the first great American experimental physicist, Ben Franklin, was the perfect setting for the 2012 Summer Meeting, Physics: The Experimental



Core. Our meeting venue was one of America's oldest college campuses, University of Pennsylvania.

The 5K AAPT Walk/Run, a fundraiser that supported our meetings and conferences, toured this beautiful campus! Attendees had a chance to experience the sights and hear the tales of a city that forged a nation, cheered for Rocky, invented the first soft pretzel, and is home to the Liberty Bell and Independence Hall

Like Philadelphia, the 2012 AAPT Summer Meeting had much to offer. Our celebration featured an opportunity to watch a live performance and learn more about the life and times of Benjamin Franklin, one of the leading figures of early American History. Physics is an experimental science. Encouraging and empowering the next generation to embrace the art of experimentation that lies at the core of physics, will ensure that our field remains vibrant and alive. Our plenary sessions explored our field across the scales of size, from the very small to the very large, with a stop at the human scale.

Participants try to lower the Helium Stick during our 18 area committees span interests from Apparatus, to Women in Physics planned a program full of sessions, crackerbarrels, workshops, and posters. The meeting was exciting with every minute full! We heard talks that crossed time, from "Experience, Experiment, Entertainment: Electrostatic Apparatus in the Age of Franklin" to looking to the future of our field with the "Space-Time, Quantum Mechanics, and the Large Hadron Collider." Speakers answered questions such as "Can computational modeling be accessible to introductory students?" and how to provide quality laboratory experiences in these days of tight budgets. We looked outward to "Frontiers in Astronomy and Space Science" and inward to "Faculty Peer Mentoring." We explored ways to innovate our laboratory instruction, and gain "International Perspectives on Laboratory Instruction." We learned more about "Leadership Models in Science" and "Mentoring Minority Students." We learned from the results of the "Two-Year College New Faculty Experience." We also relaxed and were amazed by demonstrations from Third Eye.

Attendees visited with exhibitors in historic University



of Pennsylvania Houston Hall. This was a great opportunity to learn about new products and opportunities from the leading publishers and providers of physics education tools. Houston Hall was also the host to AAPT's favorite summer contests, the High School Physics Photo Contest and the Apparatus Competition.

We recognized significant contributions to our field, to the classroom, and to AAPT through the Association's thriving awards program. The Robert A. Millikan Medal was presented to Philip M. Sadler for his notable and creative contributions to the teaching of physics. He directs one of the largest research groups in science education in the United States, based at the Harvard-Smithsonian Center for Astrophysics, Cambridge, MA. Sadler's invention, the Starlab Portable Planetarium, has enabled many schools to provide active learning experiences for thousands of students

The Paul W. Zitzewitz Excellence in Pre-College Teaching Award was presented to Mark D. Greenman in recognition of his career-long concern for and attention to quality education at the pre-college level. During his 30-year career at Marblehead High School he served as a physics teacher, teacher mentor, computer director, mathematics director, and science director.

Kevin M. Lee was recognized with the 2012 David Halliday and Robert Resnick Award for Excellence in Undergraduate Physics Teaching. Lee has dedicated his career to elevating the teaching and learning of astronomy and physics at the college, state, national, and international level. His remarkable and innovative work includes the development of numerous simulations and peer instruction questions, resulting in numerous workshops.

AAPT Distinguished Service Citations were presented to Eugenia Etkina, Jose D. Garcia, and Chandralekha Singh.

Etkina, professor at the Rutgers University Graduate School of Learning and Teaching, runs one of the largest programs in physics teacher preparation in the United States. An AAPT member since 1997, she has served on the Focus Group on the Draft Framework, as a member of the National Task Force on Teacher Education in Physics, and is currently chair of the Physics Education Research Leadership organizing Council (PERLOC).

JD (Jose) Garcia is Professor of Physics Emeritus at the University of Arizona Tucson has served on the National Task Force on Undergraduate Physics (SPIN-UP), the Joint

AAPT-APS Task Force on Graduate Education and on the Task Force on Teacher Education in Physics (TTEP).

Chandralekha Singh, a Life Member of AAPT, has served as a member of the committee on International Physics Education, Committee on Graduate Education in Physics, and the Programs committee. Her pioneering research in the teaching and learning of quantum mechanics has played a significant role in advancing physics education research in advanced courses. She has conducted workshops on teaching quantum mechanics during New Faculty Workshops and is the co-organizer of the first conference on Graduate Education in Physics.

The APS Division of Biological Physics held a plenary session, Birds, Brains, and Physics – The Fascinating Field of Biological Physics, with speakers William Bialek from Princeton and Dezhe A. Jin from Pennsylvania State University.

Nima Arkani-Hamed delivered a plenary talk, Nima Arkani-Hamed, Professor, School of Natural Sciences, Institute for Advanced Studies, Princeton, NJ, was already scheduled to talk on "Space-Time, Quantum Mechanics, and the Large Hadron Collider" when he received word that he was one of 9 recipients to share the \$27 million Fundamental Physics Prize, established by Yuri Milner. Attendees at the AAPT Summer Meeting were spreading the news as they gathered to meet the \$3,000,000 prize winner. They were rewarded with a very informative and entertaining explanation of the physics behind the Higgs boson, just 28 days after its existence was experimentally determined.

"Sizing Up the Universe" was the title of J. Richard Gott's plenary talk. A professor of astrophysical sciences at Princeton University, Gott caught the imaginations of the audience with his perspectives of the universe from the smallest to the largest sizes and distances.

Preceding the 2012 Summer Meeting, July 25-27, ALPhA hosted the 2012 Topical Conference, "Laboratory Instruction Beyond the First Year of College." The New Faculty Commencement Conference, part of AAPT's New Faculty Experience for Two-Year College Faculty took place July 27-30. The Physics Education Research Conference (PERC), Cultural Perspectives on Learners' Performance and Identity in Physics, was held August 1-2, 2012.

Workshops and Programs

Workshop for New Physics and Astronomy Faculty

June 25-28, 2012

AAPT, in conjunction with the American Astronomical Society (AAS) and the American Physical Society (APS), held a summer workshop for new physics and astronomy faculty members at the American Center for Physics. This workshop helped nearly 100 new faculty understand how students learn physics and astronomy, and suggested how this information can impact a new professor's teaching methods. The workshop is intended for faculty in the first few years of their initial tenure-track appointment at a four-year college or university.

Department chairs at research and four-year institutions are asked to nominate tenure-track faculty. The ideal candidate would have a year or two of teaching experience and be aware of the challenges of the first year of teaching.

workshop for
new physics and
astronomy faculty



New Physics and Astronomy Faculty Reunion



Nov. 2-4, 2012

AAPT and APS hosted a Nov. 2-4, 2012 Reunion Workshop for "alumni" of the Physics and Astronomy New Faculty Workshops for the years 1996-2009. The goals of the reunion meeting were (1) to help participants recharge their teaching with the latest ideas from the fields of physics and astronomy education research and curriculum development, (2) to share your teaching experiences with your peers and the workshop leaders, and (3) to give feedback to the workshop

leadership team to help improve the Physics and Astronomy New Faculty Workshops.

The New Physics and Astronomy Workshop program was funded by grants # DUE-0813481, DUE-0121384, and DUE-9554738 from the National Science Foundation. Read more online at: www.aapt.org/Conferences/newfaculty/

Physics Teacher Resource Agents (AAPT/PTRA) Program

At the 2012 Summer Meeting, AAPT announced a new PTRAs initiative in response to the proposed Next Generation Science Standards. The AAPT Executive Board asked Karen Jo Matsler to serve as Director for the first three years of the program. The association celebrated the long and proud heritage of AAPT/PTRA and ushered in the new program that will continue to support physics teaching. Seven workshops were held during the AAPT 2012 Summer Meeting.

AAPT maintains a nationwide cadre of more than 150 accomplished high school teacher-leaders who are trained and continually involved in professional development. These teacher-leaders are certified as PTRAs by AAPT to lead workshops throughout the country.

Read more online at: www.aapt.org/PTRA



2012 PTRAs Committee
Program Director: Karen Jo Matsler
Oversight Committee:
Pat Callahan
John Roeder
Deb Roudebush
Elaine Gwinn
Lillian McDermott
Keith Clay
Steve Shropshire

2012 United States Physics Team

Twenty students from across the U.S. emerged through a rigorous exam process that began in January with approximately 4,000 students who participated in the Fnet=ma exam to become the 2012 U.S. Physics Team (<http://www.aapt.org/physicsteam/team.cfm>). These students continued to train at a 10-day Training Camp for the mentally grueling exams and lab tests they faced at the 43rd International Physics Olympiad, held July 15 to 24 in Estonia. Read more at: www.aapt.org/physicsteam/2012

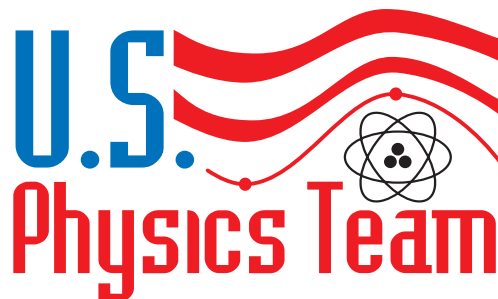
U.S. Team Members

Arka Adhikari, Princeton Junction, NJ; Jeffrey Cai, Basking Ridge, NJ; Shi Fan Chen, Exeter, NH; Fengning Ding, Andover, MA; Suhail Farooqui, Sacramento, CA; Felipe Hernandez, Natchitoches, LA; Peter Lu, Aurora, IL; Preetum Nakkiran, Redmond, WA; Samuel Nicoll, Alexandria, VA; Jason Qu, La Jolla, CA; Allan Sadun, Austin, TX; Eric Schneider, Lincroft, NJ; Sadik Shahidain, Princeton, NJ; Lawrence Sun, Portland, OR; Brian Wai, Saratoga, CA; Michael Wells, Weston, MA; Jeffrey Yan, Palo Alto, CA; Vickie Ye, Irvine, CA; Xue Zhang, Edina, MN; Kevin Zhou, Lincroft, NJ

Academic Director: Paul Stanley

Academic Coaches: Jia Jia Dong, Jason Larue, Quize Li, and Andrew Linn

Assistant Coach: Mariana Mao



The traveling team, from left to right, Eric Schneider, Allan Sadun, Jeffrey Yan, Jeffrey Cai, and Kevin Zhou brought home three gold medals, two silver medals, and a special prize for the Best Solution of the Theoretical.

AAPT Physics Bowl

This year there were almost 4500 students participating from approximately 225 schools across the United States and Canada as well as a school in China. Michael C. Faleski served as the PhysicsBowl Academic Coordinator.

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

PHYSICSBOWL

2012 Top 10 Overall Winners

#	Score	Student, School, City, State
1	38	Lisa F. Kong, Homeschool, Lititz, PA
2	37	William Yu, Olympia Institute, San Francisco, CA
3	35	Jeffrey P.Lai, Millburn HS, Millburn, NJ
4	35	Henry Wu, Univ. of Toronto Schools, Toronto, ON
5	34	Prem Q.Nair, Monta Vista HS, Cupertino, CA
6	34	Mai Hua, Gao Xin No. 1 HS, Xi'an, China
7	34	Zihang Fu, Gao Xin No. 1 HS, Xi'an, China
8	34	Sunny Nahar, Bensalem HS, Bensalem, PA
9	33	David H. Kim, Great Neck South HS, Great Neck, NY
10	33	Bhaskaran V. Balaji, Unionville High School, Kennett Square, PA

PhysicsBowl Advisory Board

Michael Bush, Beverly Trina Cannon, Michael C. Faleski, Andrzej Sokolowski, and Courtney Willis

Physics Bowl Sponsors

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Frey Scientific
Vernier Software & Technology
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Princeton University Press
John Wiley & Sons
Educational Innovations, Inc

2012 High School Physics Photo Contest

The High School Physics Photo Contest is open to high school students in grades 9-12 (or equivalent international grade level). Photos may be entered in one of the categories described below, and are judged on the quality of the photo and the accuracy of the physics in the explanation that accompanies the photograph. Out of 1263 submissions, the 100 finalist photos were selected, displayed, and judged during the 2012 Summer Meeting. For information on the following overall winners of 2012, see www.aapt.org/Programs/contests/winners.cfm?theyear=2012.



2012 Winners

Contrived photos are those that are set up to show a particular physics concept or related set of concepts. Contrived photos represent non-spontaneous events.

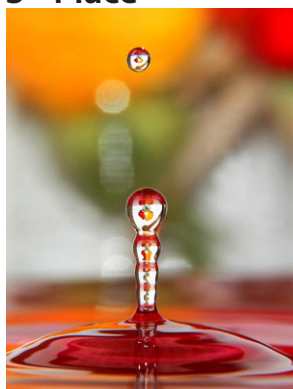
1st Place



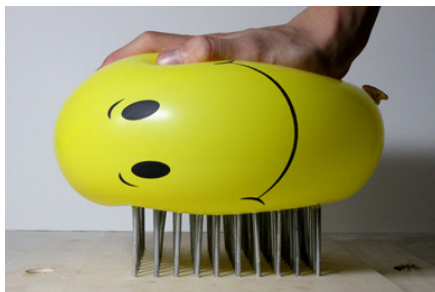
2nd Place



3rd Place

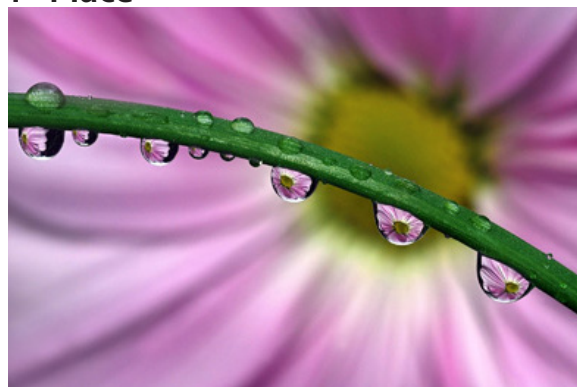


Honorable Mention

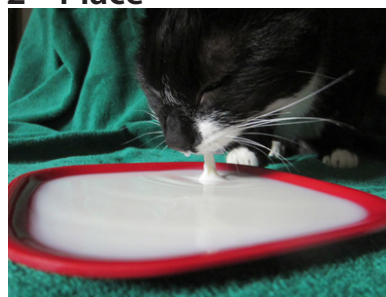


Natural photos are those that involve everyday situations that may demonstrate a variety of physics concepts. Any spontaneous event is considered natural.

1st Place



2nd Place



3rd Place



Honorable Mention

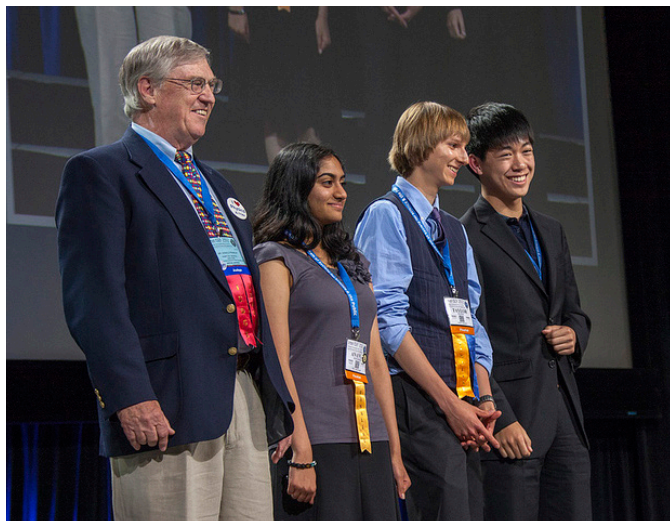


Collaborative Projects

Team America Rocketry Challenge

AAPT continued its support as the sole educational partner for the world's largest rocket contest, the Team America Rocketry Challenge (TARC). TARC is also sponsored by the Aerospace Industries Association (AIA), the National Association of Rocketry (NAR), NASA, the Defense Department, and AIA member companies. TARC is an opportunity for science enthusiasts to work together as teams to build and launch rockets, with a chance to win more than \$60,000 in scholarships and prizes. **Winners:** <http://www.rocketcontest.org/scores11.cfm>.

International Science and Engineering Fair



May 13-18, 2012 in Pittsburgh, PA

AAPT/APS Special Awards in Physics and Astronomy at the International Science and Engineering Fair (ISEF) were announced during the awards ceremony at the conclusion of the fair. The competition, held in a different city each May, is the only international science project competition for students in grades 9 through 12. Students qualify to compete by participating in school, local, regional, and/or state science fairs.

Judges: Donald Franklin, Shelley Hynes, Greg Puskar

Top award winners receive a one-year AAPT and APS student membership, a certificate from both AAPT and APS, as well as subscriptions to AAPT's *The Physics Teacher* and select APS journals. Each sponsoring teacher of a student who receives an AAPT and APS award also receives a certificate.

First Award of \$1,200: *A Generalized Holographic Model of Cosmic Accelerated Expansion*

Henry Wanjune Lin, 16, Caddo Parish Magnet High School, Shreveport, Louisiana

Second Award of \$800: *A Novel Process for the Production of Medically Relevant Radioisotopes*

Taylor Ramon Wilson, 17, Davidson Academy of Nevada, Reno, Nevada

Third Award of \$500: *Nano-Tesla Magnetic Field Sensors for an Early Warning System for Earthquakes*

Ananya Mukundan, 17, International Academy East, Troy, Michigan

Certificate of Honorable Mention

New Ideas in Physics: The Mass Ratio of Elementary Particles from Torus Geometry, Viola Mocz, 16, Mililani High School, Mililani, Hawaii

N-Body Computational Simulations of Planetesimal Agglomeration in Early System Gas Giant Formation, Ian A Sohl, 17, DaVinci Academy of Science and the Arts, Ogden, Utah

Multiplied Water Transport by Water-Jet, Koichi Shiga, 16, Kazushige Ueda, 16, and Hiraku Doi, 16, Hiroshima Prefectural Hiroshima Kokutaiji Senior High School, Hiroshima, Japan

Physics Days at NSTA

Local AAPT Sections hosted Physics Day at nearby NSTA area meetings held in Louisville, KY, Phoenix AZ, and Atlanta, GA. The Physics Day programs offered a full day of physics content at each NSTA area conference. Physics Day consists of presentations on physics topics of current interest, physics demonstrations for the pre-college classroom, and a make 'n take session where participants can construct a piece of physics apparatus for use as a demonstration or laboratory experiment. AAPT sent a representative to each event, shared appropriate materials, and recruited science teachers as members of the association.

ComPADRE

In the summer and fall of 2003, the first ComPADRE resource collections for physics and astronomy education were launched. ComPADRE started with a database-driven update to the Physical Sciences Resource Center (PSRC), a community site for undergraduate students and SPS chapters, and a collection of quantum mechanics teaching resources. We now support a dozen resource collections and community web sites, provide the web presence for conferences and workshops, host online mentoring for students, and deliver the infrastructure for projects developing and sharing curricular materials. Up to 2.5 million visitors per month use the ComPADRE collections and content. All of this is possible through the hard work of our editors, collaborators, and staff, and the support of the National Science Foundation, the professional societies, associations, and communities involved with the ComPADRE project, and a generous donation from Physics Academic Software.



What's New and What's Happening

Over the past year, ComPADRE has been involved in several new efforts. Working with Mario Belloni and Wolfgang Christian, ComPADRE is now hosting the second edition of the Physlet Physics book. This collection of simulation-enhanced illustrations, tutorials, and problems covers all the topics in introductory physics. It is now web-based and freely available. We have also worked with the PER community to expand our role in the annual Physics Education Research Conference, updating the web site and improving access to all of the conference proceedings and presentations. ComPADRE has partnered with a number of our partner online libraries to improve access to K-12, classroom-ready resources. This is closely tied to our work with the AAPT and other organizations to review and respond to the recently published Next Generation Science Standards. ComPADRE editors and staff are working hard on tools that will help teachers address these new learning goals.

In addition to new projects, existing ComPADRE efforts continue and expand. The PER Users Guide is growing to include assessment resources and provide instructors with more help with effective use of research-validated curricula in their classes. The Physics Classroom has added sections on critical thinking and test preparation. The SPS and ComPADRE hosted two Adopt-a-Physicist mentoring events during the 2012-2013 school year and collaborate on supporting the annual research opportunities database for undergraduate students. ComPADRE is working with a multi-disciplinary effort, led by Project Kaleidoscope, to encourage sustainability-related teaching. Of course, the ComPADRE resource library continues to grow.

Physics Education Research (PER)

PER Conference 2012—Pittsburgh, Pennsylvania

Theme: *Cultural perspectives on learners' performance & identity in physics*

345 attendees

Organizing Committee: Ayush Gupta, University of Maryland, College Park, Eleanor Sayre, Kansas State University, Chandra Turpen, University of Maryland, College Park, Jessica Watkins, Tufts University

Plenary sessions:

How does "sense of self" relate to teaching and learning?, Indigo Esmonde, University of Toronto, Toronto, Ontario

Cultural variations in epistemological orientations: Impacts on knowledge, meanings, and reasoning about the natural world, Megan Bang, University of Washington

When Everyday and Scientific Concepts Grow Into One Another: Syncretic and Connected Learning, Kris D. Gutiérrez, University of Colorado at Boulder

PER Leadership Organizing Council

Eugenia Etkina, Chair
Andrew Elby, Vice Chair
Laura McCullough, Treasurer
Dewey Dykstra
Danielle Harlow
MacKenzie Stetzer
Warren Christensen, ex officio
(chair of AAPT Research in Physics Education Committee)

Seven New Funded Sites Join PhysTEC Program

The Physics Teacher Education Coalition (PhysTEC) project announced in 2012 that it would provide funding for seven universities to assist in the development of their physics teacher education programs. The PhysTEC project is a joint program of the American Association of Physics Teachers and the American Physical Society.

The newly selected sites are Arizona State University; California Polytechnic University-Pomona; Central Washington University; James Madison University; University of Alabama-Tuscaloosa; University of Missouri-

Columbia; and University of Wisconsin-LaCrosse. The latest round of awards brings the number of funded PhysTEC sites across the US to 29.

Bob Hilborn, Associate Executive Officer of AAPT, notes that the joint AAPT/APS project has already made significant progress towards increasing the number of physics majors interested in high school teaching. “This year’s solicitation for PhysTEC funding resulted in a set of strong proposals from a broad spectrum of colleges and universities,” he added.



Workshop Confronts the Health of Physics Education

In June 2012, AAPT and APS held a two-day workshop at the American Center for Physics to tackle the issue of building physics programs with sustainable, healthy physics enrollments. Recruiting more physics majors creates the potential for more physics teachers. Representatives from fifty-five institutions, including twenty minority-serving institutions, attended the sold-out workshop on Building a Thriving Undergraduate Physics Program, which was sponsored by PhysTEC, AAPT, APS, and the National Science Foundation. The workshop followed the biennial Physics Department Chairs Conference.

2012 PhysTEC Conference fosters CSU, UC, ACS connections

The eighth annual PhysTEC conference, held February 3-4, 2012 in Ontario, California, hosted 120 science and math education leaders at the nation’s largest event focusing on physics teacher preparation. This year’s PhysTEC conference was preceded by a day-long regional conference involving 80 representatives of two math and science teacher preparation efforts in California.

Members of the Math and Science Teacher Initiative (MSTI) of the California State University system and CalTech at the University of California came together for the first time to discuss physics and chemistry teacher preparation efforts. Collaboration between the two distinct groups with similar aims generated healthy discussion as leaders from both programs offered their insights on issues such as student recruitment and retention, course transformation, student-centered teaching, and how to consolidate the degree-granting process. Stephen and Phoebe Roeder from the physics department at San Diego State University found discussions on increasing enrollment and finding new sources for funding to be highly relevant to their university.

PhysTEC Noyce Program Advances

The PhysTEC Noyce project, now in its fourth year of funding, has developed a unique model for supporting future physics teachers at each of the university sites. The project hires expert local high school physics teachers as Visiting Master Teachers (VMTs) to work two to six hours per week mentoring PhysTEC Noyce scholars. The majority of the VMTs have served as PhysTEC Teachers in Residence in the past, but now have a narrower focus in their position as VMT.

VMTs provide mentoring support for Noyce scholars during their time as Learning Assistants, through the teaching internship, and during their initial years in the classroom. Common activities include visiting the scholar’s classroom during student teaching, giving feedback on lesson plans, and providing job search assistance in the form of counseling and letters of recommendation.

Awards and Grants

Awards and Citations

Hans Christian Oersted Medal

2012 Awardee: Charles H. Holbrow, Massachusetts Institute of Technology, Cambridge, MA

Talk: *Making Physics Make Sense - Narratives, Content, Witz*

Holbrow has been Visiting Professor of Physics at Massachusetts Institute of Technology, Cornell University, and the University of Wisconsin-Madison, Visiting Physicist at Brookhaven National Laboratory, Visiting Scientist at SRI International, Molecular Physics Laboratory, Guest Scientist at SUNY Stony Brook, Department of Physics, Visiting Associate in Physics at California Institute of Technology, Guest Scientist at Gesellschaft für Schwerionen Forschung in Darmstadt, Germany, and Gast Professor at the University of Vienna, Austria. He has been an active participant in physics education, serving as a member of the Steering Committee of “The Research Physicist in Undergraduate Curriculum Development: A Joint Program of the American Association of Physics Teachers and the American Physical Society. He has also been a member of the APS Forum on the History of Physics program committee, of the APS Committee on Education, of the Board of Directors of the American Institute of Physics, of AIP’s Liaison and Advisory Committee on Public Policy, and of the *Physics Today* advisory committee. He was also Co-chair of the 2012 Gordon Research Conference.

In 2009 AAPT presented Holbrow with the Distinguished Service Citation in recognition of his many contributions to the Association.



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.

Robert A. Millikan Award

2012 Awardee: Phil Sadler, Harvard-Smithsonian Center for Astrophysics

Talk: *Separating Facts From Fad: How Our Choices Impact Students’ Performance and Persistence in Physics*

Sadler has made substantial contributions to the teaching of physics over several decades. His work on student conceptions led to the production of the award winning documentary series, “A Private Universe” and “Minds Of Our Own,” with colleague Matthew Schneps, videos that continue to influence classroom practice. This work has also furthered scholarly knowledge on students’ understanding of physical science and astronomy. As F.W. Wright Senior Lecturer in Astronomy, he teaches Harvard’s oldest undergraduate course in science, Celestial Navigation.

He directs one of the largest research groups in science education in the U.S., based at the Harvard-Smithsonian Center for Astrophysics. In 1999, Dr. Sadler won the Journal of Research in Science Teaching Award for work on assessing student understanding in science. His research interests include assessment of students’ scientific misconceptions and how they change as a result of instruction, the development of computer technologies that allow youngsters to engage in research, and models for enhancement of the skills of experienced teachers.

His invention, the Starlab Portable Planetarium, has enabled many schools to provide active learning experiences for students who are studying astronomy. Before this device was available only those school or colleges that were located near an existing planetarium could offer such experiences, and then they were limited by the expense of travel to the facility. Materials and curricula developed by Sadler are used by an estimated twelve million students every year.



The Robert A. Millikan Medal, established in 1962, recognizes teachers who have made notable and creative contributions to the teaching of physics. The honoree is asked to make a presentation at the Ceremonial Session of an AAPT Summer Meeting and receives a monetary award, the Millikan Medal, an award certificate, and travel expenses to the meeting.

Richtmyer Memorial Award

2012 Awardee: Brian Greene, Columbia University, New York, NY

Talk: *Cosmology, Dark Energy, and String Theory*

Widely recognized for his groundbreaking discoveries in the field of superstring theory, Greene is co-founder and director of Columbia University's Institute for Strings, Cosmology, and Astroparticle Physics. A popular lecturer and author, Greene's first book, *The Elegant Universe*, was a finalist for the Pulitzer Prize in General Nonfiction, and sold more than a million copies worldwide. His subsequent books, *The Fabric of the Cosmos* and *The Hidden Reality*, were also New York Times bestsellers.

Greene has made many media appearances from David Letterman to Charlie Rose and the NOVA special based on *The Elegant Universe*, hosted by Greene, was nominated for three Emmy Awards and won the Peabody Award and the French prix Jules Verne Award. The four-part NOVA special based on *The Fabric of the Cosmos*, aired on PBS. His children's story, *Icarus at the Edge of Time*, has been adapted for live symphonic presentation, with orchestral score by Philip Glass, and premiered at Lincoln Center.

Greene is the co-founder of The World Science Festival, the nation's premier science celebration for the general public, which draws live audiences in the hundreds of thousands and has been hailed by the New York Times as a "new cultural institution."



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.

The John David Jackson Award for Excellence in Graduate Physics Education

2012 Awardee: Kip Thorne, California Institute of Technology, Pasadena, CA

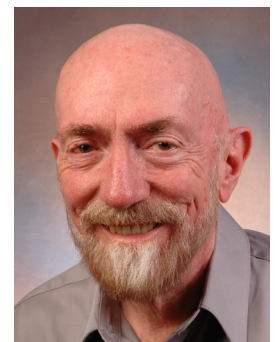
Talk: *Black Hole Research: A New Golden Age*

In the late 1960's and early 70's Thorne laid the foundations for the theory of pulsations of relativistic stars and the gravitational waves they emit. During the 70's and 80's he developed mathematical formalisms by which astrophysicists analyze the generation of gravitational waves and worked closely with Vladimir Braginsky, Ronald Drever and Rainer Weiss on developing new technical ideas and plans for gravitational wave detection. He is widely recognized as one of several people who have had the greatest influence on the field of General Relativity over the past four decades.

Thorne is a co-founder (with Weiss and Drever) of the LIGO (Laser Interferometer Gravitational Wave Observatory) Project and his research group has provided theoretical support for LIGO, including identifying gravitational wave sources that LIGO should target, laying foundations for data analysis techniques by which their waves will be sought, designing the baffles to control scattered light in the LIGO beam tubes, and, in collaboration with Vladimir Braginsky's (Moscow Russia) research group, inventing quantum-nondemolition designs for advanced gravity-wave detectors.

In June 2009 Thorne resigned his Feynman Professorship (becoming the Feynman Professor of Theoretical Physics, Emeritus) in order to ramp up a new career in writing, movies, and continued scientific research. His research has focused on gravitation physics and astrophysics, with emphasis on relativistic stars, black holes and gravitational waves.

Thorne has been mentor and thesis advisor for many Ph.D. physicists who have gone on to become world leaders in their chosen fields of research and teaching. A list of current leaders in relativity, gravitational waves, relativistic astrophysics, and even quantum information theory, would be heavily populated by his former graduate students. In 2004 his work was recognized with the Caltech Graduate Student Council Mentoring Award.



Named in honor of outstanding physicist and teacher, John David Jackson, this award recognizes physicists and physics educators who, like John David Jackson, have made outstanding contributions to curriculum development, mentorship, or classroom teaching in graduate physics education.

The David Halliday and Robert Resnick Award for Excellence in Undergraduate Physics Teaching

2012 Awardee: Kevin Lee, University of Nebraska Lincoln Center for Science, Mathematics, and Computer Education and the Department of Physics and Astronomy

Talk: *Letting Technology Do What Technology Is Good At*

Kevin M. Lee was recognized for his contributions to undergraduate physics teaching and his extraordinary accomplishments in communicating the excitement of physics to students. Lee is dedicated to elevating the teaching and learning of astronomy and physics at the college, state, national, and international level. He has distinguished himself as a college instructor and developer of instructional technologies for use in space-science classrooms. The teaching and learning innovations pioneered by the astronomy education group run by Lee at the University of Nebraska – Lincoln is recognized as being of the highest pedagogical value by those in the astronomy and space science community.

As a longtime member and two-year chair of the AAPT Committee on Space Science and Astronomy (CSSA) he elevated the role of research and teaching of astronomy for the sessions/talks sponsored by CSSA. His accomplishments include the development of numerous simulations and peer instruction questions, resulting in many workshops. His two seminal works are The Nebraska Astronomy Applet Project and ClassAction, the clicker question database.

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.



The Paul W. Zitzewitz Award for Excellence in Pre-College Physics Teaching

2012 Awardee: Mark D. Greenman, Marblehead High School, Swampscot, MA

Talk: *Interactive Laboratory Experiences (ILE) – A Professional Development Recipe for Success*

Mark D. Greenman was recognized for his career-long concern for and attention to quality education at the high school level. Greenman's career included 30 years of service at Marblehead High School where he served as a physics teacher, teacher mentor, computer director, mathematics director, and science director. Greenman served for two years as an Albert Einstein Distinguished Educator Fellow at the National Science Foundation within the Division of Undergraduate Education (2009-2011). He is a recipient of the 2009 Presidential Award for Excellence in Mathematics and Science Teaching, the Massachusetts' Council for Technology Education Path Finder Award. He is an inductee into the Massachusetts Hall of Fame for Science Educators.

Greenman has served as science consultant to the Massachusetts' "Race to the Top Developing Model Curriculum & Curriculum Embedded Performance Assessments" initiative. He continues to provide, as recipient of several grants from the Massachusetts Department of Elementary and Secondary Education, content institutes, "Physics I: Mechanics and Energy," and "Physics II: E&M and Waves." He also served on the American Council of STEM Educators Advisory Board for their Mathematics Teacher Education (MTE) Partnership initiative and as president of the North Shore Science Supervisors Association. Greenman has been an AAPT Physics Teaching Resource Agent since 1985 and also shares best practices and his enthusiasm for teaching and learning through presentations and workshops at national and regional conferences.

Established in 1993 and funded since 2010 by a generous gift to AAPT from Paul W. and Barbara S. Zitzewitz and named for Paul W. Zitzewitz, the principal author of the highly acclaimed and widely adopted high school physics text *Physics: Principles and Problems* and a long-time member and supporter of AAPT, the Paul W. Zitzewitz Award for Excellence in Pre-College Physics Teaching recognizes outstanding achievement in teaching pre-college physics.

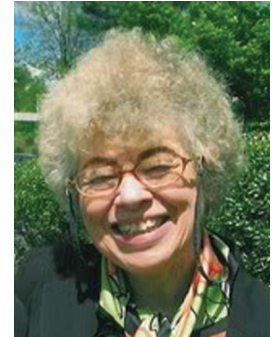


Homer L. Dodge Citations for Distinguished Service to AAPT

Homer L. Dodge Citations recognize AAPT members for their exceptional contributions to the association at the national, sectional, or local level. Awards are presented twice annually during the National Winter and Summer Meetings

Winter Meeting 2012

Elizabeth Chesick was presented with a 2012 Distinguished Service Citation in recognition of her service as Section Representative, Vice President, and President of the Southeastern Pennsylvania Section of AAPT. She served as a member over the years of ten different AAPT Area and Advisory Committees and as chair of two of those Area Committees. Chesick was a Physics Teacher Resource Agent (PTRA) at the inception of the program, an official AAPT delegate to the 1986 International Conference on Physics Education in Tokyo and to the US/ Japan/China Conferences on Physics Education in 1989, 1991, and 1993. She co-authored the AAPT publication titled “The Role, Education, Qualifications, and Professional Development of Secondary School Physics Teachers.” In 2008 she was elected as the High School Member-at-Large of the AAPT Executive Board, serving until the end of her three-year term in 2011.



Peter Hopkinson was recognized for his many years of service as a Board Member, officer, and Section Representative for the British Columbia Section. He has also served on the AAPT Nominating Committee. Since the 1980s, he has presented numerous talks and demo shows, outreach events, and crackerbarrel contributions in British Columbia and Alberta, throughout the United States, and at national AAPT meetings. He is a long-time strong supporter of and contributor to AAPT and BCAPT, an exceptional physics teacher, an ambassador for physics and science outreach, and a mentor and role model for hundreds of middle school, high school and university/college physics teachers and students across North America. He received the 2002-03 Award for Teaching Excellence from the Association of Canadian Community Colleges.



Jan Tobochnik, received the Distinguished Service Citation in recognition of his outstanding decade-long service to AAPT as editor of the *American Journal of Physics (AJP)*. Besides maintaining the high quality of *AJP*, he has worked to bring it into the electronic age with a totally electronic submission and reviewing process and has implemented a number of enhancements, including color online figures without author charges, online animations, color figures on the cover, and incorporation of the PER section. During his time as editor of *AJP*, he served *ex officio* on the AAPT Executive Board and as a member both of the AAPT Publications Committee and the AIP Committee on Publishing. Just before assuming the editorship of *AJP*, he and Harvey Gould co-organized and co-chaired the first Gordon Research Conference on “Physics Research and Education (Focus on Thermal and Statistical Physics),” which took place in June 2000.



Summer Meeting 2012

Eugenia Etkina is chair of the Department of Learning and Teaching in the GSE. She runs one of the largest programs in physics teacher preparation in the United States. She is a co-creator of the Investigative Science Learning Environment (ISLE) and Physics Union Mathematics (PUM)—physics learning systems used in college and 8-12 schools.

An AAPT member since 1997, she has served AAPT on the Focus Group on the Draft Framework, as chair of the Committee on Teacher Preparation, as a member of the Nominating Committee, and as a member of the National Task Force on Teacher Education in Physics. She is currently chair of the Physics Education Research Leadership Organizing Council (PERLOC). She has also conducted more than 15 workshops for AAPT members at the national meetings.



J. D. Garcia is Professor of Physics Emeritus at the University of Arizona, Tucson. Throughout his career, his research interests included time-dependent quantum models for collisions, quantum electrodynamics, physics education research, and improving science teacher education. He has served as a Program Officer in the Division of Undergraduate Education at the National Science Foundation, was the Charter President of the National Society of Hispanic Physicists (NSHP), and has just finished a term as President of the Society for the Advancement of Chicanas and Native Americans in Science (SACNAS).

A long-time member of AAPT, Garcia has served as a member of the Committee on Professional Concerns, Committee on Minorities in Physics, Committee on Undergraduate Physics, and the Meetings Committee. He has also served on several task force groups: as a member of the National Task Force on Undergraduate Physics (SPIN-UP), the Joint AAPT-APS Task Force on Graduate Education, and recently on the Task Force on Teacher Education in Physics (TTEP). A life member of the Arizona Section of AAPT, he has coordinated the meetings of the Tucson Area Physics Teachers (TAPT), for more than 20 years, and is still active in promoting physics outreach efforts in Tucson.



Chandralekha Singh is known for her pioneering research in the teaching and learning of quantum mechanics. Her work has played a significant role in advancing physics education research in advanced courses. She has also conducted research on cognitive issues in learning physics and improving student problem solving and reasoning skills. For a decade, she has conducted workshops at the national and regional AAPT meetings. Singh has conducted workshops on teaching quantum mechanics during New Faculty workshops. She is also the co-organizer of the first conference on Graduate Education in Physics.

A Life Member of AAPT, Singh has served as a member of the Committee on International Physics Education, Committee on Graduate Education in Physics, 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.



Established in 1953 and renamed in recognition of AAPT founder Homer L. Dodge in 2012, the Homer L. Dodge Citation for Distinguished Service to AAPT is presented to members in recognition of their exceptional contributions to the association at the national, sectional, or local level.

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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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Programs Committee

Mary Beth Monroe, Chair
Steven Shropshire
Gay B. Stewart
Tiffany Hayes, Ex Officio
Toni Sauncy, Ex Officio
Beth A. Cunningham, Ex Officio

Publications Committee

Steven Iona, Chair
Gregory Puskar, Recording Secretary
Juan R. Burciaga
Charles Henderson
David P. Jackson
Karl C. Mamola
Bruce A. Mason
Diane Riendeau
David R. Sokoloff
Roger H. Stuewer
Paul W. Zitzewitz
Beth A. Cunningham, Ex Officio
Marilyn Gardner, Ex Officio

Review Board

David R. Sokoloff, Chair
Jill A. Marshall
Diane M. Riendeau
Gay B. Stewart
Beth A. Cunningham, Ex Officio

Venture Review Committee

Paul W. Zitzewitz, Chair
Steven Iona
Diane M. Riendeau
Steven Shropshire
Paul Williams
Beth A. Cunningham, Ex Officio

Members Representing AAPT on Boards and Committees of Affiliated Organizations

AAAS Section Committee for Physics B
Art Hobson
AAAS Section Committee for Education Q
Philip Hammer

AIP Governing Board
David Sokoloff
Jill Marshall
Gay Stewart
Beth A. Cunningham
AIP Executive Council
Beth A. Cunningham
American Center for Physics
Beth A. Cunningham, Chair

AAPT Section Representatives

Fifty-one local sections increase the impact of AAPT programs and resources.

AAPT Sections spread from Alaska and Canada to Puerto Rico. 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 and, together with the Executive Board, they make up the AAPT Council.

Alabama Section

Stanley Jones, Section Rep.

Alaska Section

James Pantaleone, Section Rep.

Alberta Section

Terry Singleton, Section Rep.

Appalachian Section

Gregory Puskar, Section Rep.

Arizona Section

Jane Jackson, Section Rep.

Arkansas-Oklahoma-Kansas Section

Todd R. Leif, Section Rep.

British Columbia Section

Marina Milner-Bolotin, Section Rep.

Central Pennsylvania Section

Lynn K. Aldrich, Section Rep.

Chesapeake Section

Craig M. Jensen, Section Rep.

Chicago Section

Martha Lietz, Section Rep.

Colorado-Wyoming Section

Vincent H. Kuo, Section Rep.

Florida Section

Jim Nelson, Section Rep.

Hawaii Section

James L. Redmond, Section Rep.

Idaho-Utah Section

Brian A. Pyper, Section Rep.

Illinois Section

Zak A. Knott, Section Rep.

Indiana Section

Elaine Gwinn, Section Rep.

Iowa Section

John W. Zwart, Section Rep.

Kentucky Section

Richard Gelderman, Section Rep.

Long Island Section

Tania Entwistle, Section Rep.

Louisiana Section

Rhett J. Allain, Section Rep.

Mexico Section

Genaro Zavala, Section Rep.

Michigan Section

Michael Faleski, Section Rep.

Minnesota Section

Leonardo Hsu, Section Rep.

Mississippi Section

James A. Dunne, Section Rep.

Missouri Section

James M. Borgwald, Section Rep.

Montana Section

Rich McFate, Section Rep.

Nebraska Section

Kendra Sibbernsen, Section Rep.

New England Section

David E. Sturm, Section Rep.

New Jersey Section

Joseph Spaccavento, Section Rep.

New York Section

John D. FitzGibbons, Section Rep.

North Carolina Section

Mario J. Belloni, Section Rep.

North Dakota Section

Donald L. Hoff, Section Rep.

Northern California-Nevada Section

Lee S. Trampleasure, Section Rep.

Ohio Section

Myra West, Section Rep.

Ontario Section

Tetyana Antimirova, Section Rep.

Oregon Section

Patrick S. Keefe, Section Rep.

Quebec Section

Chris Whittaker, Section Rep.

South Dakota Section

Joel D. Rauber, Section Rep.

Southeastern Pennsylvania Section

Ryan Batkie, Section Rep.

Southern Atlantic Coast Section

Bob Powell, Section Rep.

Southern California Section

Mary Elizabeth Mogge, Section Rep.

Southern Nevada Section

Janelle M. Bailey, Section Rep.

Southern Ohio Section

Kathleen A. Harper, Section Rep.

Southwestern Section

Alex F. Burr, Section Rep.

St. Louis Section

Gary E. Taylor Section Rep.

Tennessee Section

Spencer L. Buckner, Section Rep.

Texas Section

Thomas L. O'Kuma, Section Rep.

Washington Section

Robert Hobbs, Section Rep.

Western Pennsylvania Section

Dyan Jones, Section Rep.

Wisconsin Section

A. James Mallmann, Section Rep.



The biennial Physics Department Chairs Conference was held June 8-10, 2012 at the American Center for Physics in College Park, MD. These conferences, co-sponsored by the American Association of Physics Teachers and the American Physical Society, have proven to be valuable to department chairs in bringing them up-to-date on trends in physics research and education while providing an opportunity to meet and learn from other department chairs.

Financials

The American Association of Physics Teachers, Inc.
Balance Sheet
Year Ended December 31, 2012
(With comparative totals for 2011)

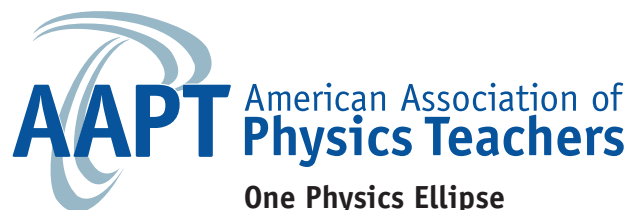
	December 2012	December 2011
ASSETS		
Cash and Cash Equivalents	\$1,337,202	\$773,378
Investments	3,924,150	2,998,953
Receivables		
Grants	98,432	213,991
Due from affiliate	118,585	62,816
Membership	43,554	88,341
Other	-	9,655
Inventory	49,118	84,075
Prepaid Expenses	60,870	49,539
Investment in ACP	288,298	221,138
Property and Equipment, Net	33,434	19,447
	<hr/>	<hr/>
TOTAL ASSETS	5,953,643	\$4,521,333
<hr/> <hr/>		
LIABILITIES & NET ASSETS		
LIABILITIES		
Accounts Payable and Accrued Expenses	\$158,653	\$244,047
Accrued Payroll and Related Liabilities	173,936	200,586
Unearned Revenue	2,167,909	1,867,716
Capital Lease Obligation	6,461	11,232
Accrued Postretirement Benefit Obligation	489,583	439,214
	<hr/>	<hr/>
TOTAL LIABILITIES	2,996,542	2,762,795
NET ASSETS		
Unrestricted		
Undesignated	1,720,074	837,589
Board designated	183,950	174,062
	<hr/>	<hr/>
	1,904,024	1,011,651
Temporarily Restricted	564,842	260,152
Permanently Restricted	488,235	486,735
	<hr/>	<hr/>
	2,957,101	1,758,538
	<hr/>	<hr/>
TOTAL LIABILITIES & NET ASSETS	\$5,953,643	\$4,521,333
	<hr/> <hr/>	<hr/> <hr/>

The American Association of Physics Teachers, Inc.
Statement of Activities
Year Ended December 31, 2012
(With Comparative Totals for 2011)

	Unrestricted		Temporary Restricted	Permanently Restricted	2012 Total	2011 Total
	Undesignated	Board Designated				
Revenue & Support:						
American Journal of Physics	\$1,634,148	-	-	-	1,634,148	\$1,510,015
The Physics Teacher	977,280	-	-	-	977,280	907,989
Investment Income (Loss)	307,184	9,043	101,137	-	417,364	19,617
Other Publications	230,007	-	-	-	230,007	172,466
Meetings, workshops and projects	823,497	-	-	-	823,497	629,790
Membership	898,201	-	-	-	898,201	795,690
Grants	546,017	-	-	-	546,017	816,344
Contributions	44,250	845	222,308	1,500	268,903	149,548
International Physics Olympiad	100,485	-	-	-	100,485	96,576
Share in earnings of investment in ACP	67,160	-	-	-	67,160	86,512
Miscellaneous Income	7,862	-	-	-	7,862	632
Net assets released from restrictions	18,755	-	(18,755)	-	-	-
Total revenue and support	5,654,846	9,888	304,690	1,500	5,970,924	5,185,179
Expenses:						
Program Services:						
American Journal of Physics	665,375	-	-	-	665,375	768,987
The Physics Teacher	642,217	-	-	-	642,217	624,621
Other Publications	664,893	-	-	-	664,893	628,389
Meetings, workshops and projects	1,206,303	-	-	-	1,206,303	1,002,213
Memberships	772,458	-	-	-	772,458	713,586
Grants	532,007	-	-	-	532,007	898,639
Support services:						
General and administrative	273,661	-	-	-	273,661	303,723
Fundraising	15,447	-	-	-	15,447	33,875
Total Expenses	4,772,361	-	-	-	4,772,361	4,974,033
Change in net Assets	882,485	9,888	304,690	1,500	1,198,563	211,146
Net Assets:						
Beginning	837,589	174,062	260,152	486,735	1,758,538	1,547,392
Ending	\$1,720,074	\$183,950	\$564,842	\$488,235	\$2,957,101	1,758,538

The American Association of Physics Teachers, Inc.
Schedule of Functional Expenses
Year Ended December 31, 2012
(With Comparative Totals for 2011)

	Program Services	General & Administrative	Fundraising	2012 Total	2011 Total
Compensation expense	\$ 1,230,769	\$ 969,403	\$ 5,827	\$2,205,999	\$2,170,923
Publication costs	261,908	-	-	261,908	243,739
Editorial office expense	208,804	-	-	208,804	316,005
Rental operating expenses	-	193,871	-	193,871	173,835
Travel	129,033	55,476	-	184,509	255,265
Computer supplies and maintenance	8,829	170,447	-	179,276	162,803
Participant travel and stipends	164,867	-	-	164,867	208,786
Online journal services	155,252	-	-	155,252	145,132
Postage, packaging and shipping	135,689	2,668	1,168	139,525	145,266
Debt service	-	134,318	-	134,318	243,879
Conferences, meetings, and workshops	114,633	10,840	-	125,473	68,710
Other	95,823	4,937	-	100,760	142,617
Audio/visual	91,703	4,410	-	96,113	27,522
Consultants, contracts and temporary	78,961	-	-	78,961	86,260
Professional fees	2,585	65,688	-	68,273	73,160
Exhibit and meeting expenses	59,583	-	-	59,583	56,313
Other facility costs	52,901	450	-	53,351	30,930
Bank fees	27	48,041	-	48,068	42,596
Photocopying and printing	30,594	5,771	2,581	38,946	30,729
Advertising	35,266	-	-	35,266	39,552
Awards	30,789	3,092	-	33,881	22,253
Honoraria	30,293	-	-	30,293	32,926
Office services	-	29,782	-	29,782	43,850
Publishing services	29,504	1	-	29,505	33,493
Dues and memberships	25,958	1,073	-	27,031	93,216
Materials and supplies	22,857	2,730	-	25,587	18,476
Investment expenses	-	18,196	-	18,196	16,444
Depreciation	-	17,220	-	17,220	8,159
Insurance	310	15,648	-	15,958	17,974
Storage	4,755	990	-	5,745	6,147
Telephone	125	4,953	-	5,078	5,593
Equipment and maintenance	110	507	-	617	9,843
Royalty expense	345	-	-	345	104
Security	-	-	-	-	1,533
Allocation of indirect costs	1,480,980	(1,486,851)	5,871	-	-
Total expenses before allocation of general and administrative expenses	4,483,253	273,661	15,447	4,772,361	4,974,033
Allocation of general and administrative expenses	207,977	(207,977)	-	-	-
Total expenses	\$ 4,691,230	\$65,684	\$15,447	\$4,772,361	\$4,974,033



American Association of
Physics Teachers

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