# Executive Board

**President**
Alexander Dickison  
Seminole Community College  
Sanford, FL  

**President-Elect**
David M. Cook  
Lawrence University  
Appleton, WI  

**Vice-President**
David R. Sokoloff  
University of Oregon  
Eugene, OR  

**Secretary**
Steven Iona  
University of Denver  
Denver, CO  

**Treasurer**
Paul W. Zitzewitz  
University of Michigan - Dearborn  
Dearborn, MI  

**Past President**
Lila M. Adair  
Piedmont College  
Monroe, GA  

**Chair of Section Representatives**
Mary Mogge  
California State Polytechnic University  
Pomona, CA  

**Vice Chair of Section Representatives**
Marina Milner-Bolotin  
Ryerson University  
Toronto, ON  

**At-Large Board Members**
Gordon Ramsey  
Loyola University Chicago  
Chicago, IL  

Marie F. Plumb  
Jamestown Community College  
Jamestown, NY  

Elizabeth B. Chesick  
Baldwin School  
Haverford, PA  

**Ex-Officio Member Editor**
*American Journal of Physics*
Jan Tobochnik  
Kalamazoo College  
Kalamazoo, MI  

**Ex-Officio Member Editor**
*The Physics Teacher*
Karl C. Mamola  
Appalachian State University  
Boone, NC  

**Ex-Officio Member Executive Officer**
Warren W. Hein  
AAPT  
College Park, MD  

2009
2009 in Summary

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presidential Statement</td>
<td>2</td>
</tr>
<tr>
<td>Executive Officer Statement</td>
<td>3</td>
</tr>
<tr>
<td>Mission, Values, Vision</td>
<td>4</td>
</tr>
<tr>
<td>Publications</td>
<td>5</td>
</tr>
<tr>
<td>Membership</td>
<td>9</td>
</tr>
<tr>
<td>National Meetings</td>
<td>10</td>
</tr>
<tr>
<td>Workshops and Programs</td>
<td>16</td>
</tr>
<tr>
<td>Collaborative Projects</td>
<td>18</td>
</tr>
<tr>
<td>High School Physics Photo Contest</td>
<td>21</td>
</tr>
<tr>
<td>Awards and Grants</td>
<td>22</td>
</tr>
<tr>
<td>Fundraising</td>
<td>24</td>
</tr>
<tr>
<td>Committee Contributions</td>
<td>26</td>
</tr>
<tr>
<td>Advisory Committees</td>
<td>28</td>
</tr>
<tr>
<td>AAPT Sections</td>
<td>29</td>
</tr>
<tr>
<td>Financials</td>
<td>30</td>
</tr>
</tbody>
</table>
Presidential Statement

It has been an honor being your AAPT President during 2009. What an enjoyable and educational experience it has been! I considered 2009 as a year of stabilization for AAPT. The programs and activities sponsored and run by AAPT were very successful. There is only one area of operation that still needs attention, and I will address that later.

AAPT is very fortunate to have Warren Hein as its Executive Officer. Warren is very dedicated to AAPT. He has been able to develop a culture of fiscal restraint throughout the organization, but, at the same time, implement new programs to better serve the members. If having Warren as EO was not enough, Bo Hammer joined AAPT during the year as Assistant Executive Officer. He has brought new ideas and energy to all the projects he worked on.

One observation that became very apparent to me as President was that AAPT is a volunteer organization. It is amazing the number of people who volunteer their time and efforts to make AAPT the leading organization in physics education. Nothing shows this better than reviewing AAPT’s activities and programs during 2009. I would first like to review the activities that can be classified as “continuing,” and then look at those that were new initiatives in 2009.

Continuing Activities

For many, AAPT is known for its publications. These are, of course, the world class American Journal of Physics and The Physics Teacher. Besides this, the online journal, Physics Education Research is sponsored by AAPT and APS. The cnNOUNCER is the monthly online newsletter that keeps us all informed on what is currently happening in physics education.

The next activities that reach a great many of our members are our meetings. There were two National meetings during 2009: the winter meeting in Chicago, in conjunction with AAAS, and the very memorable summer meeting at the University of Michigan. Also under the AAPT umbrella are the many section meetings held throughout the year.

For Pre-College teachers there were the Physics Bowl, Physics Days at NSTA, Physics Photo Contest, PTRA, Team America Rocketry Competition, F=ma Preliminary Test, and the Physics Olympiad. For College-University faculty, there were the New Faculty Workshop, Spin-up Regional Workshops, Topical Conference on Advanced Laboratory, and Co-sponsored with APS is PhysTEC. For everyone, there were the Apparatus Competition, Bauder Fund Grant, ComPADRE, Lotze Scholarships, National Awards, and Mini Grants. To me this is an impressive list of activities.

New Initiatives

During 2009, there were many new initiatives that deserve recognition. One that is appreciated every time we log onto aapt.org is the overhaul of the AAPT website. This was all done in house, and is such an improvement! Another activity that will affect the future of AAPT is the new Executive Officer Search. When Warren came to AAPT as EO, he told everyone he planned to leave at the end of 2010, and this is on track. The new Executive Officer will be selected by the Executive Board during 2010, so that there can be a smooth transition.

During 2009 the Executive Board took up the task of strategic planning. The success of this planning was enhanced when Karen Johnston agreed to facilitate our early discussions. This planning culminated at the winter meeting during the mini-retreat for the Section Representatives and Area Committee Chairs. They spent a day giving input on the plan. Hopefully during 2010 this round of strategic planning can conclude.

Government Relations has become part of the activities of AAPT. Bo Hammer has taken the lead and is working in conjunction with AIP. It is important that Capitol Hill hear the opinions and interests of AAPT.

2009 was a very successful year for AAPT in being awarded external funding. This should lead to new exciting activities. PhysTEC II was funded. APS has the lead on this project, but AAPT is scheduled to have more responsibilities in this continuation. ComPADRE Pathway II was funded. This will allow ComPADRE to continue to develop. To me it is amazing that just several years ago ComPADRE seemed to be off the radar screen for most, but it is now becoming a useful tool to the physics teacher. Related to ComPADRE, a project called Physics Education Research Users was funded. This will help make PER results available to physics instructors not in the PER community. It sure sounds promising. Last, but not least, is a funded project called New Faculty Workshops for TYC. This is exciting for the TYC community who remember the benefits of TYC21.

One Last Problem

With all the preceding good news, it is important to report that there is still one problem that has not been corrected. It was my biggest disappointment as President. The AAPT budget is still not balanced. The National Office was frugal during 2009, but still there is still one problem that has not been corrected. It was my biggest disappointment as President. The AAPT budget is still not balanced. The National Office was frugal during 2009, but still the budget was not balanced. This cannot continue. Hopefully, in 2010 with tighter budgeting, better results will occur. The Executive Board has committed to monitor this progress and take appropriate actions if necessary.

Alexander K. Dickinson
The AAPT Executive Office is pleased to bring you this 2009 Annual Report. This report fulfills several important roles for our organization. First and foremost, it provides a report of the financial status of the organization as of December 31, 2009. Second, it provides a permanent record of the organizational structure as of December 31, 2009, and recognizes the contribution of the many volunteers who give of their time to continue the many programs of AAPT and serve in governance roles in the organization. Third, it is an opportunity to recognize the many donors to AAPT whose contributions support our awards and many of our programs such as the International Physics Olympiad, Physics Days at NSTA Area Conferences, student memberships, and new teacher workshops. Finally, the annual report gives us an opportunity to highlight several of our funded projects and the portfolio of AAPT activities including our meetings and publications.

Financial Status
I am pleased to report that AAPT’s financial picture has improved considerably after two years of deficits that exceeded one million dollars, even before the declines in our long term reserves were taken into account. However, 2009 was still a deficit year in terms of the operating budget and this situation cannot continue. The 2010 operating budget is again a deficit budget with a much smaller deficit than in 2009. This was necessary in order to not severely cut programs, increase membership dues and meeting registration, or reduce staff beyond already critical levels. The goal is to have a balanced operating budget for 2011 which will be a major challenge for the new Executive Officer, the AAPT staff, and the Executive Board. The 2009 AAPT Audited Financial Report can be found on pages 30-32.

2009 Organizational Structure
AAPT would not exist as an organization without the dedicated services of our many volunteers. In addition to the members of our Executive Board and the Section Representatives who serve on the AAPT Council, AAPT’s 18 Area Committee involve over 160 members in the activities of the organization. Many other volunteers donate their time to conduct various activities such as the High School Photo Contest, the Physics Bowl, the International Physics Olympiad, and serve on committees such as the Committee on Meetings, the Nominating Committee, and the Membership and Benefits Committee. The list of committee members, section representatives and other volunteers begins on page 26.

Donors and Contributors
AAPT depends heavily on the donations of its members to a number of designated funds that support various AAPT programs such as the AAPT awards, the New Teacher Fund, the Undergraduate Student Fund, and to support activities such as the International Physics Olympiad. All of the AAPT awards were established without establishing an endowment for the awards which means that cash prizes and expenses associated with the awards had to come from operating funds or reserves. The Executive Office has begun the process of raising endowments for each of the awards but must rely on donations to the Annual Awards Fund until they are fully ended. Although 2009 was a difficult financial year for many of our members, AAPT still received many generous contributions that helped reduce the operating fund deficit beyond what it would have been without your generosity. A list of donors for 2009 can be found on pages 24-25 of this report.

Portfolio of Projects and Programs
On pages 16-21 you will find highlights of a number of our current activities and projects. In addition to our publications and meetings and projects such as the International Physics Olympiad, there is information on many of AAPT’s NSF-funded projects. Many of these are collaborative projects such as the workshop for new physics and astronomy faculty that is collaborative with AAS and APS, ComPADRE, which is collaborative with APS and AIP, and PhysTEC which is collaborative with APS. For some of these collaborations AAPT is the fiduciary agent and the recipient of the grant (ComPADRE and new faculty workshop), in other cases APS is the fiduciary agent and recipient of the grant (PhysTEC and Noyce Scholarship). In all cases AAPT works closely with the other physics and astronomy organizations to make the best use of funding received from government agencies and private donors to advance physics and astronomy education at all levels.

As members of AAPT and as physics educators, we share the belief that an understanding of physics will enrich the education and future employment prospects of all students. Member, volunteer, and donor support of the organization’s goal of “Enhancing the understanding and appreciation of physics through teaching” makes our programs and publications in support of physics education possible. Thank you again for your support.

Warren Ham
**Mission**

AAPT’s mission is to enhance the understanding and appreciation of physics through teaching.

**Values**

Embracing the notion that physics understanding is critical to the well-being of society, AAPT is committed to serving its members and the larger community by promoting effectiveness in physics teaching for diverse audiences and in various settings, with the strong belief that successful teaching is based on solid physics content and effective pedagogy; that students of various backgrounds have the capacity to understand physics; and that physics ultimately serves the public good. AAPT highly values collaboration and dialogue among educators of physics at all institutional levels and endeavors to facilitate such interactions.

**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.
Publications

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

American Journal of Physics

The American Journal of Physics (AJP) continued to inform physics education globally with member subscriptions, institutional subscriptions, such as libraries and physics departments, and consortia agreements. The 6,414 subscriptions served the following education sectors:

Pre-College 20.3%
College/University 52.4%
Student/Unemployed 11.5%
Non-Teaching 12.2%
Other 3.6%

The rate of submission to AJP is stable at approximately 800 submissions per year. The acceptance rate is about 25%. In the near future we will be upgrading the online AJP website hosted by AIP’s Scitation®, so that many new online tools will be available to subscribers.

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. Three were published in 2009.

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 2009 there were 16 papers published in 12 issues.

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 2009, AJP published six such reports.

Book Reviews

In addition, AJP publishes book reviews regularly on physics topics including the history of physics. Seventeen book reviews appeared in 2009.

Editorial Advisory Board

Christian Brosseau, Université de Bretagne Occidentale
Robert P. Geroch, University of Chicago
L. Mahadevan, Harvard University
Madeleine Msall, Bowdoin College
Carl Mungen, United States Naval Academy
Gerardo Muñoz, California State University, Fresno
Beate Schmittmann, Virginia Polytechnic Institute & State University
Lev Vaidman, Tel Aviv University
Harold Zapolsky, Rutgers University

Editors and Staff

Editor
Jan Tobochnik
Kalamazoo College
Associate Editor
Harvey Gould
Clark University
Consulting Editors
David Griffiths
Reed College
Barry R. Holstein
University of Massachusetts
John Mallinckrodt
California State Polytechnic University Pomona
William J. Mullin
University of Massachusetts
Apparatus and Demonstrations Notes Editor
Frank L. H. Wolfs
University of Rochester
Book Review Editor
Frank L. H. Wolfs
University of Rochester
Physics Education Research Section Editor
Charles Henderson
Western Michigan University
Resource Letters Editor
Roger H. Stuewer
University of Minnesota
The Physics Teacher

Now in its ninth year under the editorship of Karl Mamola, The Physics Teacher (TPT) received a redesign providing a new look and more content for our readers. Our total readers are increasing as we see an increase in the number of subscribers through consortia agreements. With each issue, we strive to continue supporting, inspiring, and challenging our target audience—high school and college teachers of introductory physics—as well as our many other readers. We have recently expanded our efforts to publish more articles dealing with topics in contemporary physics. Several are in various stages of preparation and should begin appearing in our pages during the coming year.

Editorial Board
Gregory A. DiLisi
John Carroll University
University Heights, OH
Kenneth Ford
Philadelphia, PA
James L. Hicks
4701 Edgewood Rd.
Crystal Lake, IL
Art Hobson
University of Arkansas
Fayetteville, AR
Elisha Huggins
Etna, NH
David Kagan
California State University-Chico
Chico, CA
David Keeports
Mills College
Oakland, CA
A. John Mallinckrodt
California State Polytechnic University
Pomona, CA
Mary Beth Monroe
Southwest Texas Junior College
Uvalde, TX
Erlend H. Graf
Stony Brook University
John L. Hubisz
North Carolina State University
Stefano Oss
University of Trento
Trento, Italy
Kenneth Ford
Philadelphia, PA
James L. Hicks
4701 Edgewood Rd.
Crystal Lake, IL
Art Hobson
University of Arkansas
Fayetteville, AR
Elisha Huggins
Etna, NH
David Kagan
California State University-Chico
Chico, CA
David Keeports
Mills College
Oakland, CA
A. John Mallinckrodt
California State Polytechnic University
Pomona, CA
Mary Beth Monroe
Southwest Texas Junior College
Uvalde, TX
Stefano Oss
University of Trento
Trento, Italy

Column Editors
Apparatus
Erlend H. Graf
Stony Brook University
Book Reviews
John L. Hubisz
North Carolina State University
Etcetera...
Albert A. Bartlett
University of Colorado, Boulder
Fermi Questions
Larry Weinstein
Old Dominion University
Figuring Physics
Paul G. Hewitt
City College of San Francisco
For the New Teacher
Patty Blanton
Appalachian State University
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 Rienteau
Deerfield High School

Editorial Staff
Editor
Karl C. Mamola
Appalachian State University
Boone, NC
Managing Editor
Pamela Brown
Appalachian State University
Boone, NC
Assistant Editors
Patricia R. Blanton
Watauga High School
Boone, NC
Jennifer Burris
Appalachian State University
Boone, NC

The Physics Teacher Statistics
❖ 9 issues – January – May, September – December 2009 (Volume 47)
❖ 625 pages – 221 reviewers – 116 papers, and 104 contributions to monthly columns (31 international authors/cot-authors) – 38% acceptance rate
❖ 9,612 subscriptions
❖ Approximately 42% of subscribers teach at the college and university level and 44% teach at the high school level. The remaining 14% are scientists at research facilities, students, and other interested members of the physics community.
❖ 221 referees
AAPT.org

Having strong online publications offers AAPT members convenient access to physics education resources, news, and member benefits.

Nearly a year in the making, the new look and feel of AAPT.org is designed to make the website more accessible and user-friendly overall. We hope that you enjoy the change and continue to give us feedback on what does and what doesn’t work.

Home, Sweet Home

The face of AAPT.org was revamped. It’s cleaner, interactive, and designed to be more inviting to new visitors. The new home page includes a “Features” area with photos and information pertaining to upcoming or ongoing programs, projects, events, and resources. In addition, there’s a “welcome” box that gives new and returning visitors quick links to information that may be pertinent to them. 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. Overall, we felt that the new home page was one of the most significant changes that came with the redesign.

Look

We worked carefully to create an updated, clean, consistent look to the website. Retaining some old color schemes and implementing new text styles and spacing, we tried to make the site look friendly and inviting. Most importantly, the text and content is easier to look at with larger font sizes and more white space. Readability was a key goal of the redesign.

Feel

One of the primary goals of the redesign was improving navigation. We kept some of the naming that we felt worked, but also dropped and moved content around to make more sense. We hope it makes more sense to you. In the process, some “link rot” may have occurred. We feel we’ve made up for this by providing a far easier navigation that allows you to return to the content you were trying to find. We’ve also provided redirects from old links that we felt were crucial (and that many people used to link to AAPT.org). Finally, much of the code was rewritten to make the website more standards-compliant, mobile-accessible, and cross-browser friendly. It is also much easier to make changes to the design and page layout.

What’s next?

We’ll be working on better functionality, improvements in usability, more content, and improvements on legacy systems to make sure they are up to speed. Nearly immediately we will also begin work on making the registration (for events and membership) process more user-friendly and have the same look and feel as the rest of the site. Please drop us a line with suggestions, issues, or concerns. We’re always open to new ideas.

Redesign Highlights

Quick Links are now available on every page and point the visitor in the direction of popular links and resources from the section of the website they are in.

A new right-hand sidebar provides visitors with quick links to join and donate, as well as an at-a-glance events calendar and other featured resources.

The home page features area incorporates rotating tabs that allow us to fit more information and promotions in the same spot.

Social Networking

AAPT has made significant strides to open the channels of communication and community using popular social networking platforms. Below is a listing of the social networks we are a part of:

www.facebook.com/physicsteachers
www.twitter.com/physicsteachers
www.flickr.com/physicsteachers
www.youtube.com/physicsteachers
www.ustream.tv/physicsteachers

12/01/2009 to 12/31/2009 (one month) aapt.org had:
• 19,390 visits
• 72,254 pageviews
• 3.73 pages per visit
The online news publication and email newsletter eNNOUNCER began regular monthly distribution in 2009. The AAPT NEWS eNNOUNCER is sponsored by PASCO, published monthly on our website and distributed to members by email. Each issue is published at the beginning of each month. This online-only publication 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. Major sections include organization specific items, action items and notable dates, News from the National Office, Member News, Section News, Recommended Reading, and Science and Education News.

2009 Top AAPT News Stories

Listed below are highlighted news stories for 2009 from the eNNOUNCER. To read the full story go to http://www.aapt.org/aboutaapt/ennouncer/index.cfm.

**January**
Executive Officer Letter to the Membership
2009 Year of Science

**February**
President Adair’s Farewell Address
TOC Alerts, New Member and Subscriber Benefit
2009 Winter Meeting in Conjunction with AAAS

**March**
AAPT Executive Board Develops and Approves Diversity Statement
New Executive Board Members Take Office

**April**
Summer 2009 Awards Announced
AAPT on Facebook
New Physics and Astronomy Faculty Reunion

**May**
Letter from the Executive Officer, Warren Hein
Philip “Bo” Hammer joins AAPT Staff
U.S. Physics Team Announced

**June**
TARC, Physics Bowl, ISEF, and Roller Coaster Design Winners Announced
AAPT on Twitter

**July**
Summer 2009 Meeting in Ann Arbor
New Faculty Workshop

**August**
Bringing Home the Gold: U.S. Physics Team Wins Four Gold Medals and One Silver Medal
2009 High School Photo Contest Winners Announced

**September**
2010 APS/AAPT Joint Meeting
PhysTEC Receives $6.5 Million Award

**October**
Request for Proposals: PhysTEC Sites
AAPT National Election

**November**
AAPT National Election Results
The New AAPT.org Goes Live

**December**
AAPT Sponsors Obama’s “Educate to Innovate”
Barbara Lotze Scholarships for Future Teachers

**eNNOUNCER Topics**

eNNOUNCER publishes monthly news of interest to 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
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, 2009

Membership by Member Type

<table>
<thead>
<tr>
<th>Membership Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>7,519</td>
</tr>
<tr>
<td>Life Member</td>
<td>112</td>
</tr>
<tr>
<td>Student</td>
<td>1,024</td>
</tr>
<tr>
<td>Sustaining</td>
<td>24</td>
</tr>
<tr>
<td>Associate</td>
<td>21</td>
</tr>
<tr>
<td>Retired/Emeritus</td>
<td>1,341</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,041</strong></td>
</tr>
</tbody>
</table>

2007 numbers rose but so did the percentage of complimentary members vs. paying members. For instance, in 2007 12% of the membership was complimentary (1,383 individuals).

In 2009, the percent of complimentary memberships shrank to 7%. Complimentary memberships are comprised of emeritus, students, and section trial members.

2010 membership goals include further shrinkage of complimentary memberships.

Membership Comparison by Month and Year

<table>
<thead>
<tr>
<th>Month</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec - 2004</td>
<td>10,256</td>
</tr>
<tr>
<td>Dec - 2005</td>
<td>10,058</td>
</tr>
<tr>
<td>Dec - 2006</td>
<td>10,178</td>
</tr>
<tr>
<td>Dec - 2007</td>
<td>11,400</td>
</tr>
<tr>
<td>Dec - 2008</td>
<td>10,259</td>
</tr>
<tr>
<td>Dec - 2009</td>
<td>10,041</td>
</tr>
</tbody>
</table>

Year to Date Membership Trends

*Please note that, before Jan. 2009, we stopped counting a member after the membership had lapsed for more than three months. In Jan. 2009, that ‘grace period’ was reduced to one month.*

Our processing time is much more efficient due to the move to electronic renewal.
Winter Meeting—In Conjunction with AAAS Annual Meeting

David M. Cook, Program Committee Chair

February 12–16, 2009, Chicago, Illinois


Statistics: There were 737 attendees, 32 exhibitors, 289 sessions, 36 workshops, 5 tutorials, and 133 posters

Highlights

AAPT joined AAAS in Chicago this year for the Winter Meeting. David Cook, Program Chair, and Gordon Ramsey, Local Host Chair, provided an outstanding learning opportunity. The sharing of sessions, plenaries, hotels, and exhibit space provided extraordinary opportunities to attendees from both organizations. Approximately 1,000 registered AAPT participants benefited from an outstanding and diverse program that included invited and contributed paper sessions, poster presentations, workshops, and plenary sessions.

Additionally, much of the business of AAPT took place at this meeting with the Executive Board meeting several days to receive reports, consider recommendations, and provide direction to the association that will strengthen our community as we move to enhance physics education and inspire physics educators. The official AAPT Diversity Statement was just one outcome from their endeavors. Many of the attendees were also about the business of AAPT serving in roles such as Area Committee members and Section Representatives. They met to share information and plan new initiatives that will benefit the association and the larger physics community.

Early attendees were able to participate in workshops such as “Teaching Physics for the First Time,” “Seeing the Invisible (NASA),” “Reaching, Teaching, and Keeping Underrepresented Groups in Physics,” and “Open-Source Tutorials: PER-Based Instructional Materials with Resources to Facilitate Modification and Implementation.” Workshops were hosted at Walter Payton College Prep thanks to the efforts of Chicago member, Sam Dyson. Another offsite workshop took participants to the Chicago Museum of Science and Industry where they gained inspiration and strategies for teaching physics and developing outreach activities at the largest science museum in the western hemisphere.

AAPT and AAAS attendees enjoyed a tour of the Fermi National Accelerator Laboratory (Fermilab), the nation's premier particle physics laboratory. Participants received a guided tour of some parts of the laboratory and got to see firsthand the facilities in which several important discoveries in particle physics have been made.

Poster Sessions continued to be very popular and were presented at two separate times with presenters available to answer questions for a half-hour during each Session. Saturday posters addressed Curriculum and Laboratories, Energy and the Environment, and Astronomy and Astrophysics. Sunday posters focused on Assessment and Physics Education Research Issues.

The Demonstration Show, hosted by Tom Senior and Chicago area members, was a “Standing Room Only” event featuring a brass band and a pirate band. Attendees were welcomed to the event by Young-Kee Kim, Deputy Director of Fermilab and Professor of Physics at University of Chicago, then led through a series of Physics Demonstrations including Newton’s Cradle with bowling balls, Bed of Nails, Whistling Tube, and Light Diffusion.

The Symposium on Physics Education, “Early High School Physics: Building a Foundation for Understanding the Sciences”, presided over by Leon Lederman provided attendees the opportunity to learn from a panel of Physics Education experts on the importance of “Physics First” in high school science programs.

AAPT’s awards program was showcased in the presentation of two major awards, the Richtmyer Memorial Award to Vera Rubin and the Oersted Medal to George F. Smoot, III. Distinguished Service Citations were presented to Paul Hickman, Charles Holbrow, Bob Shurtz, Gary White, and Courtney Willis. The Society of Physics Students presented the Outstanding Chapter Advisor Award to Samuel Lofland of Rowan University.

Vera Rubin’s Richtmyer Award address, “Rotating Galaxies and Dark Matter,” reviewed the history of our growing body of knowledge about the universe from Galileo’s discovery that Jupiter has orbiting moons to our understanding today that the universe is populated by billions of galaxies and those galaxies are moving away from each other. We also now know that everything evolves; stars are born, evolve, and die; and the stars, galaxies, and clusters of galaxies we can see make up only 5% of the universe’s matter. The remaining dark matter is only detected by its gravitational effect on bright matter.

George F. Smoot received the 2009 Oersted Medal. “The History and Fate of the Universe” was the title of Smoot’s Oersted Medal Presentation. Using our most advanced instruments and techniques we are able to understand the evidence surrounding the birth and development of our universe and provide a direct image of the embryo universe.

AAPT members were invited by AAAS to participate in a special invited plenary by Albert Gore on global warming. Using the session as an opportunity to urge the scientific community to communicate the urgency of climate change to political leaders and the public, he noted that humanity has little time to change course before risking disastrous global consequences. He welcomed the signs of change in the United States but, he said, scientists must use their knowledge and their respected status in the community to press for broad, swift changes in energy and environmental policies.

“I believe in my heart that we do have the capacity to make this generation one of those generations that changes the course of humankind. The stakes have never been higher,” Gore told the scientists, educators, students, and journalists in the audience.

Lila Adair Passes the Gavel to Alex Dickison

The Winter Meeting concluded with the passing of the gavel from President Lila M. Adair to President Alexander K. Dickison. Members expressed appreciation to President Adair for her leadership among emerging opportunities.
Summer Meeting
Summer Meeting: July 25–29, 2009, University of Michigan Campus,
Ann Arbor, Michigan

David M. Cook, Program Committee Chair

Plenaries: K. C. Cole, Something Incredibly Wonderful Happens: Frank Oppenheimer and the World He Made Up,
Symposium on Plasma Physics: John Goree, The Electrical Charge and Motion of Objects Inserted into a Plasma, Cary
Forest, Turbulent Liquid Metal Dynamo Experiments

Statistics: There were 1139 attendees, 27 exhibitors, 68 sessions; 32 workshops, 3 tutorials, and 237 posters.

Highlights
The University of Michigan, Ann Arbor campus provided a beautiful setting for the Summer Meeting and practical venue
for participants who attended the meeting. Myron Campbell and Candy Styrk, together with many students and faculty
from the University of Michigan Physics Department, were gracious hosts and worked tirelessly to facilitate a successful
meeting.

Supporting the theme, “Discovering the Universe: From Democritus and Galileo to Fundamental Particles and
Cosmology,” attendees celebrated the International Year of Astronomy with viewings of the PBS documentary, “400
Years of the Telescope” and a display of the University of Michigan's original Galileo Manuscript, a letter Galileo drafted
explaining the usefulness of the telescope. The Manuscript was later used to analyze data and conclude that Galileo had
discovered the moons of Jupiter.

The Summer Institute of the Rural PTRA Initiative was held in the UM Physics Department prior to the Summer Meeting.
Participants included 80 Physics Teaching Resource Agents (PTRA) who attended an intensive week of workshops
presented by their fellow PTRAs and other professional educators. The PTRA program is extending into more rural areas
by establishing Rural Centers at colleges and universities throughout the United States with funding from a National
Science Foundation grant.

About 215 graduate students and faculty attended the PERC2009 Conference at the end of the AAPT meeting. The Physics
Education Research Conference (PERC) is designed to provide a format where Physics Education Researchers can share
information and discuss a variety of physics education research issues. PERC2009 was organized by Canadian science
educators, Tetyana Antimirova, Nathaniel Lasry, and Marina Milner-Bolotin. Poster sessions and breakout groups were
utilized to encourage participation and aid in exchange of ideas. The conference organizers are publishing proceedings
from the conference and additional information is available on the conference website http://www.compadre.org/per/
conferences/2009/.

A Topical Conference on Advanced Laboratories was also held prior to the Summer Meeting on July 22-25. The meeting
featured 17 sessions, including vendor workshops, advanced lab demonstrations, and poster presentations. There were 15
exhibitors and 155 registrants who participated in the Topical Conference.

Workshop and Continuing Education Opportunities
There were 671 registrants for the 35 workshops and tutorial sessions that were offered during the two days prior to the
paper presentations. Popular workshops included: Bringing the Universe into Your Classroom, Learning Physics While
Practicing Science, Teaching Physics for the First Time, Haunted Physics Laboratories, NIPSTERS: Research Based
Conceptual Reasoning Tasks for Introductory Mechanics, Energy in the 21st Century, The Physics of Supernovae, and
Piaget, Beyond “Piaget.”
Members of the Physics Instructional Research Association (PIRA) presented a two-day lecture demonstration workshop. Designed to cover the complete year of demonstrations needed for a typical physics course, the workshops included approximately 100 demonstrations. The list of demonstrations is online at www.pira-online.org.

No visit to Michigan would be complete without visits to the National Superconducting Cyclotron Laboratory at Michigan State University, the Henry Ford Museum/Greenfield Village, and Detroit with its world-renowned Motown Historical Museum. Summer Meeting attendees enjoyed visiting them all.

The National Superconducting Cyclotron Laboratory at Michigan State University is a world leader in rare isotope research and nuclear science education. NSCL scientists and researchers employ a wide range of tools for conducting advanced research in fundamental nuclear science, nuclear astrophysics, and accelerator physics.

Visitors at the Henry Ford Museum toured a variety of exhibits including Heroes of the Sky, an inspiring reflection on the people and stories from the first 40 years of American aviation and the Automobile in American Life, a look at the ways this invention has influenced and changed a century of life in America; Greenfield Village, an 80-acre step back in time that takes you back to the sights, sounds and sensations of America’s past.

Detroit, or Motor Town, is also home to Motown Music. Founded in 1985, the museum's mission is to preserve the legacy of Motown Record Corporation and to educate and motivate people, especially youth, through exhibitions and programs that promote the values of vision, creativity and entrepreneurship. Celebrating 50 years of the Motown sound, the museum exhibits trace the roots of Motown's remarkable story and chronicle its impact on 20th-century popular culture and musical styles.

The Paper Sessions
The meeting offered 151 invited papers, 252 contributed papers, and 237 poster papers, organized into 105 sessions. David Saltzberg, physics consultant for “The Big Bang Theory” presented a very popular session, A Physicist Scattering on Hollywood. The committee on the Interests of Senior Physicists hosted Enabling Us All: The Broad Physics Legacy of H. Richard Crane. A number of well-attended sessions were devoted to pedagogical issues such as sessions entitled Giving More than One Test: A Closer Look at Physics Students' Understanding and Reasoning, Reforming the Introductory Physics Course for Life Science Majors, Issues in Student Problem Solving (dedicated to the memory of Cornelius Bennhold), Particle Physics in High Schools, The Art and Science of Physics Teaching, and Teachers in Residence (TIR), Adding Reality to Physics Teacher Preparation Programs.


The popular Demo Show was held in the University of Michigan’s Power Center, a perfect theater venue for the large attendee and local crowd that gathered for this highly interactive experience sponsored by the University of Michigan Physics Department. The show was interactive, offering many opportunities for children in the audience to participate in the demonstrations.

Award and Plenary Sessions
At Monday’s Ceremonial Session, Arthur Eisenkraft, University of Massachusetts-Boston, gave the Robert A. Millikan Medal Lecture, Physics for All: From Special Needs to Olympiads. Eisenkraft developed the Active Physics Curriculum Project and was one of the first supporters of the U.S. Physics Olympiads Team. The Millikan Medal recognizes teachers who have made notable and creative contributions to the teaching of physics.
The Klopsteg Memorial Award was presented on Tuesday, July 28 to Lee Smolin, Perimeter Institute for Theoretical Physics, Waterloo, Canada, who delivered the Klopsteg Memorial Lecture, *The Role of the Scientist as a Public Intellectual*. The Klopsteg Award acknowledges outstanding communication of contemporary physics to the general public.

Deborah Roudebush, Oakton High School in Herndon, VA, recipient of the Excellence in Pre-College Physics Teaching Award, presented an entertaining and educational address, *What Your Mother Never Told You About...Physics Teaching*. Among the gems shared in this lecture, Roudebush said, “The one thing that I was sure of was that physics was for everyone, not just the elite students. The rest I had to figure out along the way. The most difficult task for a new teacher is to learn to teach in a manner differently than he or she was taught. In my schooling, the emphasis was on the mathematical models of physics. In reality, the conceptual models must be in place to serve as the underpinnings for the mathematical models.

Physics must be experiential. In this day of diverse student populations, leading with an exploration gives the students a common experience on which to build vocabulary and concepts. The perfect directions do not exist! Students can rise to the challenge and learn to thrive when given a research question and access to equipment. They learn to reason their way to determine which data must be collected, what the data will tell them about the research question, and how the outcome may change their working model of the content under study.

Students must learn to deal with the frustration of figuring things out. Many students arrive at the classroom door with tremendous experience as successful passive learners. Our job as physics teachers is to shake them up—provide them with interesting problems to solve and enough support to keep the frustration from overwhelming them, causing them to shut down. The take away from this address was, “The art of physics teaching is managing the struggle. The role of physics teaching is facilitation. The role of students is active engagement.”

The Excellence in Undergraduate Physics Teaching Award was presented to Mario Belloni, Davidson College, Davidson, NC. His address, *Using Technology to Increase Student Engagement Inside and Outside of the Classroom*, opened our eyes and minds to the possibilities technology brings to the teacher’s toolbox.

In recent years, physics education research has documented that students who are in active learning environments learn more than students in more passive learning environments. With the creation of numerous PER-based and inspired interactive pedagogies and with digital libraries such as comPADRE providing high-quality material to teachers, the inclusion of these new pedagogies and resources is easier than it has ever been. Even with all these materials, it is still the personal touch and expertise of a teacher that is required to meld these materials and methods together.

Distinguished Service Citations were presented to (top to bottom) Alan Gibson, Dave Maiullo, Bruce Mason, Mary Winn, and Mel Steinberg (posthumously, inset), with Bob Morse accepting.
Exhibits and Demos

The 2009 High School Physics Photo Contest was a very popular attraction with attendees voting on the top 100 semi-finalist photos and essays. The entries were conveniently located just outside of the main exhibit hall. Vernier Software & Technology, long-time sponsor of the photo contest, provided the prizes for the winners (http://www.aapt.org/Programs/contests/pc09.cfm).

The exhibits were displayed in three separate halls where vendors displayed their products. Special events such as the Welcome Reception, Happy Hour, and an Ice Cream Social provided a good opportunity to meet colleagues and browse the exhibit halls. The poster sessions were displayed throughout the day, giving attendees more time to browse the presentations.

The AAPT Committee on Apparatus conducted the annual apparatus competition. Pictures and descriptions of the entries are available at http://www.aapt.org/programs/contests/apparatus.cfm. The apparatus competition entries were on display during the meeting in the PIRA resource room. PASCO Scientific Company provides prizes for the apparatus competition.

In Conclusion

In spite of the summer thunderstorm, attendees at the Summer Picnic enjoyed a Carillon Bell Tower Concert and the “Open Mike” talents of gifted physicist musicians and comedians before heading out for the Demonstration Show.

As the events of the 2009 Summer Meeting unfolded throughout the week, the overarching theme was that physics educators teach students, not physics, and they reach them one at a time. We send a huge thank you to all of the volunteers and sponsors who made the meeting in Ann Arbor so memorable and successful. Archival copies of the meeting program are available on the AAPT website.

Meeting Statistics

More than 1000 physics educators, researchers, and students attend the Annual Summer Meeting.

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.
Workshops and Programs

Workshop for New Physics and Astronomy Faculty

June 25–28 and Nov. 12-15, 2009 at the American Center for Physics
AAPT, in conjunction with the American Astronomical Society (AAS) and the American Physical Society (APS), held two workshops for new physics and astronomy faculty members at the American Center for Physics. These workshops helped nearly 200 new faculty understand how students learn physics and astronomy and suggested how this information can impact a new professor’s teaching methods. The workshops are intended for faculty in the first few years of their initial tenure-track appointment at a four-year college or university.

Physics Teacher Resource Agents (AAPT/PTRA) Program

In 2009 the PTRA Program provided leadership in a number of professional development projects in Arkansas, District of Columbia, Idaho, Georgia, North Carolina and Texas supported by Math Science Partnerships grants; in Maryland by an Improving Teacher Quality grant from the Maryland Higher Education commission, and in Virginia supported by a Toyota Corporation Grant.

The AAPT/PTRA Project also supported section mini-grants in Hawaii, Illinois, Kentucky, New York, and Texas.

2009 PTRA Directors:
George Amann, Jan Mader, Karen Jo Matsler, Jim Nelson
2009 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 2009 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 40th International Physics Olympiad, held July 12-19 in Merida Yucatan, Mexico. The 2009 Training Camp included visits to NASA and to the Mexican Embassy.

U.S. Team Members


Co-Academic Directors: Robert Shurtz, Paul Stanley

Coaches: David Fallest, David Jones, Andrew Lin,
Junior Coach: Elena Yudovina

Lab Coaches: Warren Turner, Safa Motesharrei

Bringing Home the Gold: U.S. Physics Team Wins Four Gold Medals and One Silver Medal

The traveling team, from left to right are, Anand Nataranjan, Bowei Liu, David Field, Marianna Mao, and Joshua Orem. The proud coaches stand behind the students and are, from left to right, Warren Turner and Paul Stanley.

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.

The following prizes are awarded:

To schools

- 1st place in each region & division: $100 gift certificate from Frey Scientific and $25 AAPT Store gift certificate
- 2nd place in each region & division $50 gift certificate from Vernier Software & Technology and $25 AAPT Store gift certificate

To students

- 1st place in each region & division, the book Chasing the Rainbow from Robert Greenler.
- TI-30 XS MultiView Scientific Calculator awarded to the students and schools placing first and second in each region and division from Texas Instruments.
- T-shirts awarded to the five top students in the top scoring school in each region from AAPT

AAPT Examinations Editorial Board for Physics Bowl

Thomas J. Senior, Michael C. Faleski, James O. Vermillion
Collaborative Projects

Team America Rocketry Challenge
AAPT is proud to be 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/scores08.cfm. AAPT sponsors the TARC Lesson Plan Contest (http://www.aapt.org/Contests/rocket.cfm).

International Science and Engineering Fair
May 15, 2009 in Reno, Nevada
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. Lila Adair chaired a team of Special Awards judges from educational institutions in Georgia.

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 other 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 Study of Chaotic Behavior Utilizing the Non-Ohmic Properties of the P-N Junction
Michael Anthony Batista, Melbourne Central Catholic High School, Melbourne, FL

Second Award of $800: Intensity and Temperature Variance in Sonoluminescence
Lyric Elizabeth Gillett, Cornerstone High Homeschool, Houston, TX

Third Award of $500: Dancing Water Droplets
Te Hsin Tsui, National Hsinchu Girls’ Senior High School, Hsinchu, Taiwan, Chinese Taipei

Certificate of Honorable Mention
A Quantum Computational Approach to the Atomic Many-Body Problem, Yale Wang Fan, The Catlin Gabel School, Portland, OR
SQIF Setup for Measurements of Extremely Low Absolute Magnetic Fields, Anne Yuri Polyakov, Ward Melville High School, East Setauket, NY
Novel Characterizations of the Static and Kinetic Behavior of Liquid Marbles: A Potential Utility in Digital Microfluidics, Nilesh Tripuraneni, 17, Clovis West High School, Fresno, CA

Physics Days at NSTA
Local AAPT Sections hosted Physics Day at nearby NSTA area meetings held in Phoenix, AZ, Minneapolis, MN, and Charlotte, NC.

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.
The AAPT is the lead institution in a collaboration supporting The ComPADRE Pathway of the NSF National STEM Digital Library. ComPADRE is a network of free online resource collections supporting faculty, students, and teachers in Physics and Astronomy Education.

Additions made to ComPADRE in 2009 include:

- Physics Careers, helping present the opportunities provided by a degree in physics,
- The Spacetime Emporium for education resources in relativity,
- A new Nucleus for undergraduates, highlighting videos, news, and opportunities, and
- A new PTEC website, in collaboration with the APS, for the teacher education coalition.

Other Collections hosted by ComPADRE include:

- The PSRC, a broad resource collection and the foundation of ComPADRE
- The Physics Front, editor-selected and organized resources for K-12 teachers
- The Physics Source, resources to help teachers of introductory undergraduate physics
- Physics to Go, an online magazine of science images and activities for all
- Advanced Labs, a collection of lab ideas and support of junior and senior labs
- Partnerships are helping ComPADRE grow. ComPADRE is hosting:
  - Open Source Physics, adaptable, model-based physics and astronomy curricula
  - The Physics Classroom, a widely used online introductory physics tutorial
  - PER-Central, a web portal for PER researchers, users, and the annual PERC
  - STP, statistical physics material organized around an online text and computer models

Physics Education Research (PER)
PERC 2009—Ann Arbor, Michigan
Theme: Physics Education Research across Paradigms
202 attendees
Invited sessions:
“Bridging Cognitive and Neural Aspects of Classroom Learning”
  Michael I. Posner, Sackler Institute for Developmental Psychobiology
“Causality in Pieces: The Construction of Causal Schemes ”
  Andrea A. diSessa, University of California at Berkeley
“Moving Between Discourses: From learning-as-acquisition to learning-as-participation”
  Anna Sfard, Michigan State University
“The Biology of Physics: What the brain reveals about our understanding of the physical world ”
  Kevin Niall Dunbar, University of Toronto

PER Leadership Organizing Council
Rachel E. Scherr, Chair
Jose P. Mestre
Noah Finkelstein
Valerie K. Otero
John R. Thompson
Paula Heron, Ex Officio
Eight years ago, the American Physical Society (APS), the American Association of Physics Teachers (AAPT), and the American Institute of Physics (AIP), with NSF support, jointly launched PhysTEC to help U.S. universities alleviate the nation’s critical physics teacher shortages. PhysTEC institutions have achieved a number of successes, including:

- Greatly increasing the number of high school physics teachers graduating from their programs, as much as tenfold in some cases;
- Providing for prospective teachers, early teaching experiences that develop their pedagogical abilities and encourage them to consider a teaching career;
- Using master teachers to provide critical mentoring support to new graduates and develop bridges between physics departments, education schools, and local K-12 school districts.
- Transforming science and teaching methods courses for future physics and physical science teachers to help them learn and teach in an interactive and engaging way;
- Securing allocation of substantial departmental and institutional resources for sustaining teacher preparation programs;
- Measuring project outcomes and disseminating results through publications, presentations, conferences, and workshops.

PhysTEC began with six universities and has expanded to a total of 14 sites, which are chosen through a peer-reviewed solicitation that considers the applicant's potential to increase the number of teachers who graduate and develop programs that will serve as national models. Evidence of collaboration between physics and education faculty is another important criterion.

**Increase**

In response to a request for proposals, the project received 45 proposals for four available slots. “The physics community is clearly showing broad interest in teacher preparation,” said Ted Hodapp, director of education and diversity for APS. “If there were funding for 10 times as many institutions to replicate PhysTEC’s efforts, major progress could be made toward putting highly qualified teachers in every one of our country’s physics classroom. With today’s highly competitive technical workplace, the need for physics teachers has never been greater.”

In 2003, the three physics societies launched a parallel effort, also called the Physics Teacher Education Coalition, but known as PTEC. Membership in PTEC is free and open to any institution that prepares physics teachers and that endorses a statement supporting the education of teachers in physics departments. As of April 2009, over 130 institutions have joined PTEC, and faculty from many of these institutions attend an annual conference designed to promote and disseminate best practices in physics teacher education.
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 approximately 900 submissions, the 100 finalist photos were selected, displayed, and judged during the 2009 Summer Meeting.

See http://www.aapt.org/Programs/contests/pc09.cfm for information on the following overall winners of 2009.

Categories

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

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.

Photos with multiple images or other computer manipulation will be placed in a separate category. They may be displayed at the national meeting and judged for Special Recognition ribbons, but not for prizes.

Sponsored by Vernier

measure. analyze. learn™
Awards and Service Citations

Floyd K. Richtmyer Memorial Award
2009 Awardee: Vera C. Rubin, senior fellow, Carnegie Institution of Washington

Rotating Galaxies and Dark Matter

The Richtmyer Memorial Award recognizes outstanding contributions to physics and their communication to physics educators.

Vera Rubin is an observational astronomer who has studied the motions of gas and stars in galaxies and motions of galaxies in the universe for 75% of her life. Her work was influential in discovering that most of the matter in the universe is dark. She is a member of the National Academy of Sciences, and the Pontifical Academy of Sciences. President Clinton awarded her the National Medal of Science in 1993.

Paul E. Klopsteg Memorial Award
2009 Awardee: Lee Smolin, Perimeter Institute for Theoretical Physics, Waterloo, Canada

The Role of the Scientist as a Public Intellectual

The Klopsteg Memorial Award acknowledges outstanding contributions in the communication of the excitement of contemporary physics to the general public.

Lee Smolin, a theoretical physicist, is a founding and senior faculty member at Perimeter Institute for Theoretical Physics in Waterloo, Canada. He is also Adjunct Professor of Physics at the University of Waterloo. He is the author of more than 140 scientific papers and has made major contributions to the quantum theory of gravity, being a co-inventor of loop quantum gravity and deformed special relativity. He has also worked in cosmology and is the inventor of a theory called cosmological natural selection, which applies a Darwinian methodology to the question of how the laws of physics are chosen.

Awards and Grants

Excellence in Undergraduate Physics Teaching Award
2009 Awardee: Mario Belloni, Davidson College, Davidson, NC

Using Technology to Increase Student Engagement Inside and Outside of the Classroom

This award recognizes outstanding achievement in teaching undergraduate physics.

At Davidson College, Mario Belloni is well known as author, public speaker, researcher, workshop leader, motivator of students, award winning professor, and an innovator in the use of technology for teaching Physics. He received the AAPT Distinguished Service Citation in 2006 and has served as a member of the Planning Committee for the Section Representative/Area Chair Governance in 2007.

Excellence in Pre-College Physics Teaching Award
2009 Awardee: Deborah Roudebush, Oakton High School, Herndon, VA

What Your Mother Never Told You About... Physics Teaching

Award recognizes outstanding achievement in teaching pre-college physics.

Deborah Roudebush has served as an AAPT PTRA since 1992, participated in the D.C. Urban initiative, served as Rural Initiative–James Madison University Lead Teacher, and D.C. MSP Lead Teacher in 2008. She has been active in QuarkNet since 2000, serving as Teaching & Learning Fellow with QuarkNet centers. She was recognized as a Presidential Awardee for Excellence in Science Teaching in 2001.

AAPT Distinguished Service Citations

Winter Meeting 2009: Paul Hickman, Charles, Hollbrow, Bob Shurtz, Gary White, Courtney Willis

Summer Meeting 2009: Alan Gibson, David Maiullo, Bruce Mason, Mary Winn, Mel Steinberg (posthumous)

The program recognizes AAPT members for their exceptional contributions (e.g., committee, section, or editorial work) to physics education.
**Grants and Scholarships**

**AAPT Venture Fund**
The Venture fund is a resource for AAPT members, created to promote the development of innovative teaching products and services for physics and other sciences. The fund provides one project up to $25,000 in total support. The Venture Fund focuses on assuring a marketable product and its timely availability to the teaching community.

http://www.aapt.org/Grants/venturefund.cfm

**Barbara Lotze Scholarship for Future Physics Teachers**
AAPT awards this scholarship to high school seniors or undergraduate students who plan to become physics teachers and who are U.S. citizens attending a U.S. school. Two successful applicants will each receive a stipend of up to $2,000.

http://www.aapt.org/Grants/lotze.cfm

**Frederick & Florence Bauder Endowment**
This endowment makes it possible for AAPT members to receive funding to support special activities in the area of physics teaching. Activities include local workshops, grant projects, distribution of innovative apparatus for physics teaching, etc.

http://www.aapt.org/Grants/bauderfund.cfm

**High School Physics Teacher Grant**
The grant(s) are given each year to teachers whose proposal meets the goal of the grant. That is, the procedure should result in better teaching practice, student understanding and interest, and/or increased enrollment. Awardees will receive anywhere from $100 to $500 per award.

http://www.aapt.org/Grants/hsgrant.cfm

**Harold Q. & Charlotte Mae Fuller Fund**
This endowment fund was created to enhance the internationalization of AAPT membership and is intended to benefit physics teachers in developing countries. The individual(s) who are selected will have their full membership dues paid and receive The Physics Teacher (or the American Journal of Physics, if they prefer) for a period of two years.

http://www.aapt.org/Grants/fullerfund.cfm

---

**Medals**

**Hans Christian Oersted Medal**

*2009 Awardee: George F. Smoot III, Lawrence Berkeley Laboratory and University of California, Berkeley*

*The History and Fate of the Universe*

The Oersted Medal recognizes those who have had an outstanding, widespread, and lasting impact on the teaching of physics. George Smoot has done forefront work in cosmology using microwave radiation detectors in airplanes, high-altitude balloons, and satellites. He is best known for his analysis of data gathered by the COBE satellite. His differential microwave radiometer enabled him to detect temperature differences as small as 0.001 K. His work provided the first evidence of structure in the early Universe and smaller ripples in the temperature of the cosmic background radiation, consistent with Big Bang theory.

---

**Robert A. Millikan Medal**

*2009 Awardee: Arthur Eisenkraft, University of Massachusetts Boston*

*Physics for All: From Special Needs to Olympiads*

The Robert A Millikan Medal recognizes those who have made outstanding scholarly contributions to physics education. Arthur Eisenkraft is Distinguished Professor of Science Education and Director of the Center of Science and Math in Context (COSMIC), at UMass Boston. He and AAPT Executive Director Jack Wilson created the process that identified and supported the first U.S. Physics Olympics Team to compete in the International Physics Olympiad, in 1986. He was one of the originators of Quantum magazine, and also developed the Active Physics curriculum project.

---

**Melba Newell Phillips Medal**
The medal is presented in recognition of creative leadership and dedicated service that have resulted in exceptional contributions to AAPT. It is presented only occasionally and was not presented in 2009.
The American Association of Physics Teachers thanks their generous corporate partners for their support of 2009 activities. Sponsorship levels for recognition with AAPT are calculated based on the value of meeting sponsorship opportunities and/or from other AAPT sponsored events. Exhibit fees do count towards sponsorship contribution!

CORPORATE VISIONARY ($10,000+)
PASCO
Vernier

CORPORATE LEADER ($5,000 - $9,999)
Sargent Welch CENCO Physics

CORPORATE STEWARD ($2,500 - $4,999)
Educational Innovations
John Wiley & Sons, Inc
Physics2000.com
Pearson
WebAssign

ADDITIONAL SPONSORS (up to $2,499)
American 3B Scientific
Arbor Scientific
AU Physics Enterprises

Special Thanks to Our 2009 Donors

Adair, Lila
Adkins, Gregory
Agilent Technologies
Albright, Carl
Alexander, John
Ali, Saeed
Alperin, Harvey
Anderson, Linda
Anderson, Richard
Anderson, Steven
Anderson, Weston
Armentrout, Charles
Badar, Lawrence
Bagger, Jonathan
Baird, Dean
Bardeen, William
Barnes, James
Bartlett, David
Beasley, Edward
Becchetti Jr., Frederick
Becker III, Dean
Berry, Gordon
Betor, Robert
Bird, Bruce
Blanchard Jr., Lawrence
Boas, Mary
Bordner, Charles
Bradford, Nathan
Bradley, Richard
Brandon, Ann
Breasure, LeAnn
Bravo, Jorge
Bray, Mary
Brecke, Stewart
Brosnan, Michael
Brown, Bert
Brown, Ronald
Brunschwig, Fernand
Trib. to Robert Karplus
Bryant, Arthur
Buckner, Spencer
Bundick, George
Burke, Patricia
Burns, Stephen
Byrum, David
Cahn, Robert
Caplan, Louis
Caplin, Jerrold
Carabajal, Juan
Carpenter, Dwight
Carter, Thomas
Caruso, Joseph
Trib. to Yishun Dong
Cassella, Judith
Catiglione, James
Caton, Randall
Chase, Ronald
Chen, Beibei and Lu Zhou
Chesick, Elizabeth
Chodosh, Abigail
Chow, Celia
Cook, David
Correll, Francis
Coster, Joseph
Couch, Russell
Cristian, Karen
Trib. To Prof. Paul Zitzewitz
Cross, Dan
Cutler, L.
Dakshinamurthy, Sampath
Darkhosh, Teymour
Davis, Debra
Davis, William
De Bruyne, Dave
Deady, Matthew
Dellai, Cheryl
Derengowski-Stein, Mary
DeVuono, Rocco
Dibble, William
Dickison, Alexander
Dif, Karim
DiRosa, Michael
Dome, Georges
Donaldson, John
Dower, Richard
Dukes Jr., Robert
Eding, Dale
Edwards, Harry
Eicher, C.
Elitzroth, Ted
Emery, Guy
Evans II, Howard
Ezraiolson, Cathy
Face, Dean
Falconer, Kathleen
Faller, Adolph
Fan, Jinsheng
Feng, Xidong
Fernandez, Daniel
Ferstl, Andrew
Fields, Carl
Fisher, Kurt
Fisher, Wayne
FitzGibbons, John
Fizell, Richard
Flora, Allen
Ford, Kenneth
Forton, Keith
Fox, Kenneth
Fralick, Gustave
Francke, Ricardo
Frankhouser, Enoch
French, A.
Fritsch, Klaus
Fuller, Richard
Fuller-Mora, Wendy
Furia, Ronald
Gaillard, Mary
Galletto, Dionigi
Garcia-Colin, L.
Gardner, Marilyn
Geller, Harold
Geller, Zvi
George, Elizabeth
George, Ted
Gibbons, Thomas
Giordano, Marco
Godwin, Robert
Goebels Jr., F.
Goldberg, Howard
Goldberger, Marvin
Goldwasser, Edwin
Gordon, Leonard
Gordon, Paul
Goss, David
Gould, Christopher
Gould, Harvey
Gould, Laurence
Greenler, Robert
Greer, Michael
Griek, Leo
Gruenebaum, J.
Guzmaz, Julio
Gurjar, Rajan

Invest in Physics Education
http://www.aapt.org/donations
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.

### 2009 Area Committees

#### Committee on Apparatus
Dale Stille, Chair
Annie Atiyeh, Ex Officio
Warren W. Hein, Ex Officio
Jon C. Levin
Stephen A. Lindaas

#### Committee on History & Philosophy of Physics
Cheryl P. Wrinkle, Chair
Mikhail M. Agrest
Philip W. Hammer, Ex Officio
Hugh Henderson
Alan W. Hirshfeld
Robert A. Morse

#### Committee on Minorities in Physics
Kathleen Ann Falconer, Chair
Lawrence Blanchard, Jr
Beverly T. Cannon
Krishna M. Chowdary
Philip W. Hammer, Ex Officio
Jane Bray Nelson

#### Committee on Educational Technologies
Mike J. Belloni, Chair
Michael A. Dubson
Tim Erickson
Cathy Mariotti Ezrailson
Warren W. Hein, Ex Officio
Rubin H. Landau
Todd R. Leif
Vern W. Lindberg
Taha Mzoughi
Scott F. Schultz

#### Committee on the Interests of Senior Physicists
John L. Hubisz, Chair
Ann M. W. Brandon
Christopher J. Chiaverina
William R. Franklin
Warren W. Hein, Ex Officio
Richard J. Jacob
Larry D. Kirkpatrick
Mary Beth Monroe
John S. Rigden
Roger H. Stuewer
Edwin F. Taylor

#### Committee on Laboratories
Marsha M. Hobbs, Chair
Eric Ayars
Warren W. Hein, Ex Officio
James L. Hicks
Stephen H. Irons
Roman Ya Kezerashvili
Mary Ann H. Klassen
Helene F. Perry
Gabriel C. Spalding
Jeff H. Terry

#### Committee on Apparatus
Duane Merrell
Sathappan Ramesh,
Thomas J. Senior
Keith Warren

#### Committee on History & Philosophy of Physics
Aaron Schuetz
Roger H. Stuewer

#### Committee on Minorities in Physics
Roberto Salgado
Kimberly A. Shaw
Tracey Ann A Wellington

#### Committee on Educational Technologies
Lei Bao, Chair
Robert H. Hoel, Vice Chair
Tetyana Antimirowa
Terry M. Austin
Kenneth W. Cecire
Andrew D. Crouse
Philip W. Hammer, Ex Officio
Arjumand Haque
Ntungwa Maasha
Perry A. Tompkins

#### Committee on Physics in High Schools
Shannon Mandel, Chair
Don B. Cameron
Daniel M. Crowe
Robert J. Froehlich
Warren W. Hein, Ex Officio
Steven L. Henning
John P. Lewis
Jan Landis Mader
Karen Jo Matsu

#### Committee on the Interests of Senior Physicists
Chandralekha Singh, Chair
Marianne Breinig
Ray A. Burnstein
Kelvin Chu
Warren W. Hein, Ex Officio
Joseph Thomas Manzo
Joseph D. Perez
N. Sanjay Rebello
MacKenzie Setzer
Amber L. Stuver
Committee on Physics in Pre-High School Education
Julia K. Olsen, Chair
Julie A. Conlon
Larry Cook
Paul Dolan
James A. Dunne
Wayne A. Fisher
Danielle B. Harlow
Warren W. Hein, Ex Officio
Vivian O’Brien
Diane M. Rendeau

Committee on Physics in Two-Year Colleges
David K. Weaver, Chair
Darwin Church
John W. Griffith
Philip W. Hammer, Ex Officio
William P. Hogan
Robert K. Keefer
Martin S. Mason
Jerry R. O’Connor
Chitra Solomonson
Larry T. Ward

Committee on Physics in Undergraduate Education
Lili Cui, Chair
Dwain M. Desbien
Lin Ding
Philip W. Hammer, Ex Officio
Renee Lathrop
Mary L. Lowe
David Pritchard
Gordon P. Ramsey, Ex Officio
Aaron P. Titus
Frank L H Wolfs

Committee on Professional Concerns
Robert Beck Clark, Chair
David Donnelly
Donald G. Franklin
Joseph F. Kozminsk
Philip W. Hammer, Ex Officio
Thomas L. O’Kuma
Karie Meyers
Neville W. Reay

Committee on Research in Physics Education
Paula Heron, Chair
Scott Bonham
Eric T. Brewe
Paula V. Engelhardt,
Kathleen A. Harper
Andrew Heckler
Warren W. Hein, Ex Officio
Michael E. Loverud
Jeffrey D. Marxé
Mel Sabella

Committee on Science Education for the Public
Richard E. Flarend, Chair
Philip W. Hammer, Ex Officio
James Erik Hendrickson
Art Hobson
Olga Livanis
Bob E. Powell
John L. Roeder
Steven Shropshire
Paul Williams

Committee on Space Science and Astronomy
Kevin M. Lee, Chair
Janelle M. Bailey
Richard Ditteon
Warren W. Hein, Ex Officio
Mary Ann M. Kadooka
Doug Lombardi
Don H. Olive
Michael Jordan Raddick
Mona Saleh

Committee on Teacher Preparation
Donna L. Messina, Chair
Nancy L. Donaldson
Lisa L. Grable
Andrew C. Isola
Philip W. Hammer, Ex Officio
Andy P. Johnson
Laura M. Nickerson
Wendell H. Potter
Carl J. Wenning

Committee on Women in Physics
Mary Kay Patton, Chair
Jacob Blickenstaff
Eleanor W. Close
Anne J. Cox
Patricia M. Heller
Philip W. Hammer, Ex Officio
Marina Milner-Bolotin
Raymond C. Nelson
Brian A. Pyper
Susan E. Ramlo

Members Representing AAPT on Boards and Committees of Affiliated Organizations

AAAS Section Committee for Physics B
Art Hobson

AIP Governing Board
Lila M. Adair
David M. Cook
Alexander K. Dickison
Warren W. Hein

American Center for Physics
Bernard V. Khoury, Chair
Warren W. Hein
2009 Advisory Committees

Audit Committee
Mary Elizabeth Mogge, Chair
Elizabeth B. Chesick
Warren W. Hein, Ex Officio
John L. Hubisz
Marina Milner-Bolotin
Gordon P. Ramsey

Awards Committee
Lila M. Adair, Chair
Alexander K. Dickison
Steven Iona
Mary Elizabeth Mogge
Gordon P. Ramsey

Bauder Endowment Committee
Paul W. Zitzewitz, Chair
Elizabeth B. Chesick
Marie F. Plumb
Raymond A. Polomski
Gordon P. Ramsey
Joseph Spaccavento

Committee on Governance Structure
Lila Adair, Chair
Alex Dickison
Warren Hein, Ex Officio
Steve Iona
Mary Mogge
Gordon Ramsey
Marina Milner-Bolotin

Committee on SI Units and Metric Education
Gordon J. Aubrecht, II, Chair
Bartley L. Cardon
Robert A. Nelson
James F. Sullivan

Finance Committee
Paul Zitzewitz, Chair
Warren W. Hein, Ex Officio
Lila M. Adair
Gordon P. Ramsey
Gerald F. Wheeler

Governance Review Committee
Mary Beth Monroe, Chair
Lila Adair
Steve Iona
Dwain Desbien
Ernest Behringer
Bernard Khoury

Investment Advisory Committee
Paul W. Zitzewitz, Chair
Warren W. Hein, Ex Officio
Bernard V. Khouy
Mary Elizabeth Mogge
Deborah J. Rice
Charles E. Robertson

Meetings Committee
Richard Peterson, Chair
Jose D. Garcia
Alan M. Gibson
Tiffany Hayes, Ex Officio
Warren Hein, Ex Officio
Karen L. Johnston
Patricia S. Keefe
James H. Nelson
Sherry L. Savrda
David R. Sokoloff

Membership and Benefits Committee
Mary Elizabeth Mogge, Chair
John D. FitzGibbons
Marilyn Gardner, Ex Officio
Richard Gelderman
Warren W. Hein, Ex Officio
Steve Iona
Todd R. Leif
David W. McDonald
Harold Taylor Stokes
William T. Waggoner
Jeffrey J. Williams
Paul W. Zitzewitz

Nominating Committee
Sandra Harpole, Chair
Larry Kirkpatrick, Vice Chair
Jan Madar
Steve Turley
Joseph Spaccavento
Ntungwa Maasha

Physics Bowl Advisory Committee
Mike Faleski, Chair
Thomas J. Senior
James O. Vermillion

Programs Committee
David R. Sokoloff, Chair
Lei Bao
Mario J. Belloni
Elizabeth B. Chesick
Robert Beck Clark
Lili Cui
Kathleen Ann Falconer
Richard E. Flarend
Tiffany Hayes, Ex Officio
Warren W. Hein, Ex Officio
Paula Heron
Marsha M. Hobbs
John L. Hubisz
Kevin M. Lee
Donna L. Messina
Julia K. Olsen
Mary Kay Patton
Chandralokha Singh
Dale Stille
David K. Weaver
Gary Dane White, Ex Officio
Cheryl P. Wrinkle

Publications Committee
Steven Iona, Chair
Lila M. Adair
Juan R. Burciaga
Marilyn B. Gardner, Ex Officio
Warren W. Hein, Ex Officio
Carl C. Mamola
Bruce A. Mason
Marina Milner-Bolotin
Marie F. Plumb
Roger H. Stuewer
Jan Tobochnik
Paul W. Zitzewitz

Review Board
Lila Adair, Chair
David M. Cook
Alex Dickison
Warren Hein, Ex Officio
Gordon Ramsey
### AAPT Sections

**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.

<table>
<thead>
<tr>
<th>Section</th>
<th>President</th>
<th>Section Rep.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama Section</td>
<td>Marllin L. Simon</td>
<td>Todd R. Leif</td>
</tr>
<tr>
<td>Alberta Section</td>
<td>Laura Pankratz</td>
<td>Terry Singleton</td>
</tr>
<tr>
<td>Appalachian Section</td>
<td>Gregory Puskar</td>
<td></td>
</tr>
<tr>
<td>Alaska Section</td>
<td>James Pantaleone</td>
<td></td>
</tr>
<tr>
<td>Arizona Section</td>
<td>David K. Weaver</td>
<td></td>
</tr>
<tr>
<td>Arkansas-Oklahoma-Kansas Section</td>
<td>Syttil K. Murphy</td>
<td></td>
</tr>
<tr>
<td>British Columbia Section</td>
<td>Daniel H. Phelps</td>
<td></td>
</tr>
<tr>
<td>Central Pennsylvania Section</td>
<td>Michael Doncheski</td>
<td></td>
</tr>
<tr>
<td>Chesapeake Section</td>
<td>David Shaw Wright</td>
<td></td>
</tr>
<tr>
<td>Chicago Section</td>
<td>Mel Sabella</td>
<td></td>
</tr>
<tr>
<td>Colorado-Wyoming Section</td>
<td>Chuck Stone</td>
<td></td>
</tr>
<tr>
<td>Florida Section</td>
<td>Jane Bray Nelson</td>
<td></td>
</tr>
<tr>
<td>Hawaii Section</td>
<td>Michael F. Weber</td>
<td></td>
</tr>
<tr>
<td>Idaho-Utah Section</td>
<td>Duane Merrell</td>
<td></td>
</tr>
<tr>
<td>Illinois Section</td>
<td>Carl J. Wenning</td>
<td></td>
</tr>
<tr>
<td>Indiana Section</td>
<td>Timothy A. Duman</td>
<td></td>
</tr>
<tr>
<td>Iowa Section</td>
<td>Wade Sick</td>
<td></td>
</tr>
<tr>
<td>Kentucky Section</td>
<td>Akhtar Mahmood</td>
<td></td>
</tr>
<tr>
<td>Long Island Section</td>
<td>William A. Leacock</td>
<td></td>
</tr>
<tr>
<td>Louisiana Section</td>
<td>John Thacker</td>
<td></td>
</tr>
<tr>
<td>Mexico Section</td>
<td>Genaro Zavala</td>
<td></td>
</tr>
<tr>
<td>Michigan Section</td>
<td>Andrew Isola</td>
<td></td>
</tr>
<tr>
<td>Minnesota Section</td>
<td>Andy Rundquist</td>
<td></td>
</tr>
<tr>
<td>Mississippi Section</td>
<td>Jim Sabatiert</td>
<td></td>
</tr>
<tr>
<td>Missouri Section</td>
<td>Pat Gibbons</td>
<td></td>
</tr>
<tr>
<td>Montana Section</td>
<td>David W. McDonald</td>
<td></td>
</tr>
<tr>
<td>Nebraska Section</td>
<td>John Rogers</td>
<td></td>
</tr>
<tr>
<td>New England Section</td>
<td>Martina B. Arndt</td>
<td></td>
</tr>
<tr>
<td>New Jersey Section</td>
<td>Raymond A. Polomski</td>
<td></td>
</tr>
<tr>
<td>New York Section</td>
<td>Mohammed Z. Tahar</td>
<td></td>
</tr>
<tr>
<td>North Carolina Section</td>
<td>Anthony W. Crider</td>
<td></td>
</tr>
<tr>
<td>North Dakota Section</td>
<td>Donald L. Hoff</td>
<td></td>
</tr>
<tr>
<td>Northern California-Nevada Section</td>
<td>Claudia Winkler</td>
<td></td>
</tr>
<tr>
<td>Ohio Section</td>
<td>Greg Dilisi</td>
<td></td>
</tr>
<tr>
<td>Ontario Section</td>
<td>David W. Doucette</td>
<td></td>
</tr>
<tr>
<td>Oregon Section</td>
<td>Dedra N. Demarce</td>
<td></td>
</tr>
<tr>
<td>Puerto Rico Section</td>
<td>Mary Elizabeth Mogge</td>
<td></td>
</tr>
<tr>
<td>Quebec Section</td>
<td>Nathaniel Lasry</td>
<td></td>
</tr>
<tr>
<td>Saint Louis Section</td>
<td>J. Mark Schober</td>
<td></td>
</tr>
<tr>
<td>South Dakota Section</td>
<td>Molly TenBroek</td>
<td></td>
</tr>
<tr>
<td>Southeastern Pennsylvania Section</td>
<td>Eldred Bagley</td>
<td></td>
</tr>
<tr>
<td>Southern Atlantic Coast Section</td>
<td>Tatiana A. Krivosheev</td>
<td></td>
</tr>
<tr>
<td>Southern California Section</td>
<td>William J. Layton</td>
<td></td>
</tr>
<tr>
<td>Southern Nevada Section</td>
<td>Janelle M. Bailey</td>
<td></td>
</tr>
<tr>
<td>Southern Ohio Section</td>
<td>Jennifer Blue</td>
<td></td>
</tr>
<tr>
<td>Southwestern Section</td>
<td>Alex F. Burr</td>
<td></td>
</tr>
<tr>
<td>St. Louis Section</td>
<td>Jim Cibulka</td>
<td></td>
</tr>
<tr>
<td>Tennessee Section</td>
<td>James Parks</td>
<td></td>
</tr>
<tr>
<td>Texas Section</td>
<td>Toni Saucy</td>
<td></td>
</tr>
<tr>
<td>Washington Section</td>
<td>Krishna M. Chowdary</td>
<td></td>
</tr>
<tr>
<td>Western Pennsylvania Section</td>
<td>David Groh</td>
<td></td>
</tr>
<tr>
<td>Wisconsin Section</td>
<td>Paul Nevins</td>
<td></td>
</tr>
</tbody>
</table>

---

**AAPT 2009 Annual Report**  
29
### The American Association of Physics Teachers, Inc.

**Audited Balance Sheet**

**Year Ended December 31, 2009**

(With comparative totals for 2008)

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>December 2009</th>
<th>December 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and Cash Equivalents</td>
<td>$700,024</td>
<td>$423,124</td>
</tr>
<tr>
<td>Investments</td>
<td>3,236,556</td>
<td>3,294,138</td>
</tr>
<tr>
<td>Receivables, Net</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grants</td>
<td>158,366</td>
<td>188,151</td>
</tr>
<tr>
<td>Due from affiliate</td>
<td>35,000</td>
<td>41,044</td>
</tr>
<tr>
<td>Membership</td>
<td>6,026</td>
<td>25,309</td>
</tr>
<tr>
<td>Other</td>
<td>9,655</td>
<td>9,655</td>
</tr>
<tr>
<td>Inventory</td>
<td>129,033</td>
<td>146,094</td>
</tr>
<tr>
<td>Prepaid Expenses</td>
<td>89,272</td>
<td>43,969</td>
</tr>
<tr>
<td>Investment in ACP</td>
<td>47,487</td>
<td>7,622</td>
</tr>
<tr>
<td>Property and Equipment, Net</td>
<td>53,793</td>
<td>120,808</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>$4,465,212</td>
<td>$4,299,914</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIABILITIES &amp; NET ASSETS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LIABILITIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts Payable and Accrued Expenses</td>
<td>372,283</td>
<td>554,670</td>
</tr>
<tr>
<td>Accrued Payroll and Related Liabilities</td>
<td>394,534</td>
<td>460,233</td>
</tr>
<tr>
<td>Unearned Revenue</td>
<td>2,089,931</td>
<td>1,558,914</td>
</tr>
<tr>
<td>Capital Lease Obligation</td>
<td>6,610</td>
<td>14,610</td>
</tr>
<tr>
<td>Deferred Compensation Obligation</td>
<td>38,896</td>
<td>74,986</td>
</tr>
<tr>
<td>Accrued Postretirement Benefit Obligation</td>
<td>347,832</td>
<td>359,197</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td>$3,250,086</td>
<td>$3,022,610</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NET ASSETS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestricted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undesignated</td>
<td>424,496</td>
<td>719,647</td>
</tr>
<tr>
<td>Board designated</td>
<td>184,415</td>
<td>125,972</td>
</tr>
<tr>
<td><strong>Unrestricted</strong></td>
<td>608,911</td>
<td>845,619</td>
</tr>
<tr>
<td>Temporarily Restricted</td>
<td>174,530</td>
<td>-</td>
</tr>
<tr>
<td>Permanently Restricted</td>
<td>431,685</td>
<td>431,685</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES &amp; NET ASSETS</strong></td>
<td><strong>$4,465,212</strong></td>
<td><strong>$4,299,914</strong></td>
</tr>
</tbody>
</table>
## The American Association of Physics Teachers, Inc.
### Audited Statement of Activities
#### Year Ended December 31, 2009
(With Comparative Totals for 2008)

<table>
<thead>
<tr>
<th>Revenue &amp; Support:</th>
<th>2009</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Journal of Physics</td>
<td>$1,419,540</td>
<td>$1,251,994</td>
</tr>
<tr>
<td>The Physics Teacher</td>
<td>881,933</td>
<td>811,584</td>
</tr>
<tr>
<td>Investment Income (Loss)</td>
<td>513,705</td>
<td>(1,428,295)</td>
</tr>
<tr>
<td>Other Publications</td>
<td>18,343</td>
<td>719,397</td>
</tr>
<tr>
<td>Meetings, workshops and projects</td>
<td>827,845</td>
<td>549,215</td>
</tr>
<tr>
<td>Membership</td>
<td>594,735</td>
<td>719,397</td>
</tr>
<tr>
<td>Federal Grants</td>
<td>951,713</td>
<td>1,177,761</td>
</tr>
<tr>
<td>Contributions</td>
<td>62,882</td>
<td>154,380</td>
</tr>
<tr>
<td>International Physics Olympiad</td>
<td>30,722</td>
<td>139,061</td>
</tr>
<tr>
<td>Share in earnings of investment in ACP</td>
<td>39,865</td>
<td>154,380</td>
</tr>
<tr>
<td>Miscellaneous Income</td>
<td>21,542</td>
<td>1,388</td>
</tr>
<tr>
<td><strong>Total revenue and support</strong></td>
<td>$5,551,999</td>
<td>$3,770,511</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expenses:</th>
<th>2009</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Journal of Physics</td>
<td>796,888</td>
<td>696,444</td>
</tr>
<tr>
<td>The Physics Teacher</td>
<td>716,549</td>
<td>748,840</td>
</tr>
<tr>
<td>Other Publications</td>
<td>658,402</td>
<td>899,667</td>
</tr>
<tr>
<td>Meetings, workshops and projects</td>
<td>1,175,040</td>
<td>1,206,475</td>
</tr>
<tr>
<td>Memberships</td>
<td>849,516</td>
<td>517,680</td>
</tr>
<tr>
<td>Federal Grants</td>
<td>1,048,712</td>
<td>1,456,316</td>
</tr>
<tr>
<td>General and administrative</td>
<td>274,309</td>
<td>517,680</td>
</tr>
<tr>
<td>Fundraising</td>
<td>94,759</td>
<td>84,581</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>$5,614,175</td>
<td>$6,456,190</td>
</tr>
</tbody>
</table>

| Change in net assets before effect of adoption of SFAS No. 158 | - | (2,685,679) |
| Effect of adoption of recognition provision of SFAS No. 158 | - | (124,424) |
| **Change in net assets** | (241,898) | (2,810,103) |

<table>
<thead>
<tr>
<th>Net Assets:</th>
<th>2009</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning</td>
<td>719,647</td>
<td>4,087,407</td>
</tr>
<tr>
<td>Transfers</td>
<td>(53,253)</td>
<td>4,087,407</td>
</tr>
<tr>
<td><strong>Ending</strong></td>
<td>$424,496</td>
<td>$1,277,304</td>
</tr>
</tbody>
</table>
### The American Association of Physics Teachers, Inc.

**Audited Schedule of Functional Expenses**

**Year Ended December 31, 2009**

(With Comparative Totals for 2008)

<table>
<thead>
<tr>
<th>Category</th>
<th>Program Services</th>
<th>General &amp; Administrative</th>
<th>Fundraising</th>
<th>2009 Total</th>
<th>2008 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation expense</td>
<td>$1,273,623</td>
<td>$803,188</td>
<td>$58,878</td>
<td>$2,135,689</td>
<td>$2,516,074</td>
</tr>
<tr>
<td>Editorial office expense</td>
<td>367,510</td>
<td>-</td>
<td>-</td>
<td>367,510</td>
<td>500,253</td>
</tr>
<tr>
<td>Publication costs</td>
<td>274,720</td>
<td>-</td>
<td>-</td>
<td>274,720</td>
<td>305,421</td>
</tr>
<tr>
<td>Travel</td>
<td>170,914</td>
<td>100,633</td>
<td>453</td>
<td>271,000</td>
<td>484,847</td>
</tr>
<tr>
<td>Debt Service</td>
<td>-</td>
<td>251,355</td>
<td>-</td>
<td>251,355</td>
<td>252,855</td>
</tr>
<tr>
<td>Participant travel and stipends</td>
<td>288,797</td>
<td>-</td>
<td>-</td>
<td>288,797</td>
<td>323,966</td>
</tr>
<tr>
<td>Consultants, contracts and temporary</td>
<td>188,036</td>
<td>5,827</td>
<td>-</td>
<td>193,863</td>
<td>269,365</td>
</tr>
<tr>
<td>Postage, packaging and shipping</td>
<td>189,330</td>
<td>2,256</td>
<td>-</td>
<td>191,586</td>
<td>195,912</td>
</tr>
<tr>
<td>Computer supplies and maintenance</td>
<td>7,519</td>
<td>180,599</td>
<td>-</td>
<td>188,118</td>
<td>157,947</td>
</tr>
<tr>
<td>Rental operating expenses</td>
<td>-</td>
<td>174,594</td>
<td>-</td>
<td>174,594</td>
<td>189,637</td>
</tr>
<tr>
<td>Audio/visual</td>
<td>159,599</td>
<td>2,709</td>
<td>-</td>
<td>162,308</td>
<td>52,948</td>
</tr>
<tr>
<td>Online journal services</td>
<td>146,580</td>
<td>-</td>
<td>-</td>
<td>146,580</td>
<td>97,977</td>
</tr>
<tr>
<td>Professional Fees</td>
<td>33,912</td>
<td>68,967</td>
<td>-</td>
<td>102,879</td>
<td>179,517</td>
</tr>
<tr>
<td>Conferences, meetings, and workshops</td>
<td>91,097</td>
<td>3,508</td>
<td>-</td>
<td>94,605</td>
<td>60,807</td>
</tr>
<tr>
<td>Depreciation</td>
<td>-</td>
<td>84,351</td>
<td>-</td>
<td>84,351</td>
<td>83,766</td>
</tr>
<tr>
<td>Exhibit and meeting expenses</td>
<td>80,385</td>
<td>-</td>
<td>-</td>
<td>80,385</td>
<td>21,810</td>
</tr>
<tr>
<td>Honoraria</td>
<td>74,936</td>
<td>-</td>
<td>-</td>
<td>74,936</td>
<td>135,173</td>
</tr>
<tr>
<td>Photocopying and printing</td>
<td>67,840</td>
<td>7,745</td>
<td>737</td>
<td>76,322</td>
<td>74,492</td>
</tr>
<tr>
<td>Publishing services</td>
<td>54,318</td>
<td>1</td>
<td>-</td>
<td>54,319</td>
<td>55,120</td>
</tr>
<tr>
<td>Bank fees</td>
<td>287</td>
<td>53,746</td>
<td>-</td>
<td>54,033</td>
<td>49,035</td>
</tr>
<tr>
<td>Dues and memberships</td>
<td>52,164</td>
<td>1,171</td>
<td>72</td>
<td>53,407</td>
<td>63,495</td>
</tr>
<tr>
<td>Advertising</td>
<td>52,217</td>
<td>-</td>
<td>186</td>
<td>52,403</td>
<td>78,520</td>
</tr>
<tr>
<td>Office services</td>
<td>-</td>
<td>45,822</td>
<td>-</td>
<td>45,822</td>
<td>45,557</td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>36,506</td>
<td>2,969</td>
<td>80</td>
<td>39,555</td>
<td>52,843</td>
</tr>
<tr>
<td>Awards</td>
<td>39,901</td>
<td>553</td>
<td>-</td>
<td>40,454</td>
<td>56,038</td>
</tr>
<tr>
<td>Other facility costs</td>
<td>27,752</td>
<td>2,780</td>
<td>-</td>
<td>30,532</td>
<td>14,596</td>
</tr>
<tr>
<td>Insurance</td>
<td>310</td>
<td>19,602</td>
<td>-</td>
<td>19,912</td>
<td>25,557</td>
</tr>
<tr>
<td>Investment expenses</td>
<td>-</td>
<td>15,394</td>
<td>-</td>
<td>15,394</td>
<td>19,241</td>
</tr>
<tr>
<td>Telephone</td>
<td>3,381</td>
<td>10,393</td>
<td>-</td>
<td>13,774</td>
<td>20,433</td>
</tr>
<tr>
<td>Storage</td>
<td>8,794</td>
<td>-</td>
<td>-</td>
<td>8,794</td>
<td>20,667</td>
</tr>
<tr>
<td>Equipment and maintenance</td>
<td>6,712</td>
<td>145</td>
<td>-</td>
<td>6,857</td>
<td>162</td>
</tr>
<tr>
<td>Security</td>
<td>-</td>
<td>4,050</td>
<td>-</td>
<td>4,050</td>
<td>4,972</td>
</tr>
<tr>
<td>Royalty expense</td>
<td>-</td>
<td>813</td>
<td>-</td>
<td>813</td>
<td>2,467</td>
</tr>
<tr>
<td>Other</td>
<td>2,527</td>
<td>8,113</td>
<td>7</td>
<td>10,647</td>
<td>44,720</td>
</tr>
<tr>
<td>Allocation of indirect costs</td>
<td>1,545,440</td>
<td>(1,576,975)</td>
<td>31,535</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Total expenses**

|                     | $5,245,107       | $274,309                 | $94,759    | $5,614,175 | $6,456,190 |