

2010
annual report

2010 in Summary

<i>Presidential Statement</i>	1
<i>Executive Officer Statement</i>	3
<i>Strategic Plan</i>	5
<i>Publications</i>	6
<i>Electronic Communications</i>	8
<i>Membership</i>	11
<i>National Meetings</i>	12
<i>Workshops and Programs</i>	17
<i>Collaborative Projects</i>	19
<i>Competitions</i>	22
<i>Awards and Grants</i>	23
<i>Fundraising</i>	27
<i>Committee Contributions</i>	30
<i>AAPT Sections</i>	33
<i>Financials</i>	34

Executive Board

President

David M. Cook
Lawrence University
Appleton, WI

President-Elect

David R. Sokoloff
University of Oregon
Eugene, OR

Vice-President

Jill A. Marshall
University of Texas
Austin, TX

Secretary

Steven Iona
University of Denver
Denver, CO

Treasurer

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

Past President

Alexander K. Dickison
Seminole Community College
Sanford, FL

Chair of Section Representatives

Mary E. Mogge
California State
Polytechnic University
Pomona, CA

Vice Chair of Section

Representatives
Marina Milner-Bolotin
University of British Columbia
Vancouver, BC

At-Large Board Members

Steven Shropshire
Idaho State University
Pocatello, ID

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
College Park, MD

Presidential Statement



The year 2010 has been both challenging and rewarding for AAPT. I will begin by commenting on several accomplishments of the past year. Other ways in which AAPT strives to fulfill its mission are described later in this report.

First, and most significantly, we hired a new executive officer to succeed Warren Hein. The search, begun during the 2009 presidency of Alex Dickison,

concluded in April 2010 when the Board voted to extend an offer to Beth A. Cunningham, Ph.D. Her background and qualifications are described at the URL <http://www.aapt.org/aboutaapt/Beth-Cunningham-New-EO-Announcement.cfm>. Beth began as Executive Officer Designate on 1 October 2010 and officially became AAPT's Executive Officer on 1 January 2011. Many of you have had a chance to get acquainted with Beth, either through her internet visits to a few section meetings, at the 2011 Winter Meeting in Jacksonville, or in other venues. I am confident those who have already met her share the enthusiasm with which the Board looks forward to her leadership as AAPT moves forward.

Second, in July 2010, the Board adopted a strategic plan, which is available on the AAPT website from links at the URL <http://www.aapt.org/aboutaapt/organization>. This plan has been evolving for several years, starting with an Executive Board Retreat in June of 2006 and culminating with a mini-retreat of Area Chairs and Section Representatives at the Washington meeting in January 2010. Special thanks go to former AAPT President Karen Johnston, whose wisdom and guidance as a facilitator at several steps in the generation of the plan helped keep the process moving smoothly forward. This *AAPT Strategic Plan 2010–2013* will provide a focus for AAPT over the next few years. At the same time, we recognize that such plans need to be periodically reviewed and probably adjusted. In Jacksonville, the AAPT Executive Board converted the Committee on Governance Structure, which as a *temporary* committee has shepherded the creation of this strategic plan, into a *permanent* AAPT Advisory Committee. Among the responsibilities of this new Committee will be the periodic review and updating of the Strategic Plan. As in the past, this Committee will be sure to seek broad input each time it addresses that charge.

Third, also in Jacksonville, the Board adopted an updated AAPT Executive Board Handbook. This manual consolidates all information, guidelines, and policies that impact the activities of the Board and the Area and Advisory Committees. It includes:

- the AAPT Constitution and By-Laws (revised in 2000),
- an update of the previous handbook to reflect actions recorded in the minutes of Board meetings and changes in practice since that previous handbook was adopted in 1994,

- a compilation of adopted AAPT Public Policy Statements,
- several appendices containing supplementary information, and
- a section containing a number of historically significant documents and policies.

The Board has charged the AAPT Secretary with updating the handbook annually, thus guaranteeing that the formally adopted handbook will remain current. This was a project of the ad hoc Governance Review Committee, lovingly and extremely competently chaired by Melba Phillips Medal Recipient and past AAPT secretary Mary Beth Monroe. I am confident that this 150-page document (and its annual updates) will be immensely valuable in educating new Board members and in reminding all Board members of their responsibilities. I am also confident that Board members will regularly bless Mary Beth and her Committee for their tireless efforts to research past documents and all Board minutes, meticulously bringing all this information together in one place and alerting the Board to a number of inconsistencies and gaps that have now been addressed.

Fourth, during the past couple of years, current and recent AAPT Program Chairs Jill Marshall, David Sokoloff, and I have been working with Terrence Hunt, Chad Phillips, Marilyn Gardner, Tiffany Hayes, and Cerena Cantrell in the AAPT office to rethink the procedures for gathering information about events planned for national meetings by our Area Committees. Both the underlying data base and the several on-line forms used in the process have been significantly redesigned. In particular, the changes eliminate major opportunities for inconsistent and confusing items to creep into the submitted information. We are confident that, starting with the planning of the winter meeting in 2012, these new forms will make the process much less burdensome for Program Chairs, AAPT staff, and Area Chairs.

Fifth, in the last year, the AAPT Awards Committee has reviewed the descriptions of our awards and, at the recommendation of that Committee, the Board has adopted the slightly revised descriptions that now appear on the AAPT website. Further, thanks to initiatives undertaken by now-retired Executive Officer Warren Hein and to the generosity of the donors, John Wiley and Sons have endowed the David Halliday and Robert Resnick Award for Excellence in Undergraduate Physics Teaching and Paul and Barbara Zitzewitz have endowed the Paul W. Zitzewitz Award for Excellence in Pre-College Physics Teaching. Henceforth these annual awards will no longer be underwritten by funds from the AAPT operating budget.

Sixth, increasingly, AAPT is providing support for appropriate activities funded by governmental and other agencies, frequently in the form of financial management. In some cases, the Executive Officer has the authority to decide whether AAPT should be involved in a particular proposal; in other cases proposals must be reviewed by a Board Advisory Committee named the Review Board, which,

operating under a recently revised charge, recommends a final decision about AAPT involvement to the Board. At the time of the Jacksonville meeting, there were eight active grants and eight submitted and pending proposals. In addition, three proposals were in preparation for submission shortly after that meeting. In particular, AAPT generally receives allocation of indirect costs. Thus, beyond enhancing the AAPT presence in a number of valuable contexts, AAPT involvement provides some income to support the home office.

Finally, during 2010 after a decade of service, Jan Tobochnik communicated to the Board his intention to resign as editor of AJP at the end of his contract. I thank Jan both for his exemplary service as editor and for his kindness in announcing his intention in a way that gives the Board ample time to conduct a thorough and thoughtful search for his successor.

Last year, in his final report, then President Alex Dickison indicated some of the financial challenges that AAPT was facing. AAPT has run a deficit for several of the most recent past years and 2010 was no exception. These financial woes reflect those afflicting many other institutions and are not going away quickly. While the situation is brighter now than it was a year ago, it is still not in absolute terms really bright. Be assured that the Board and our dedicated home office staff are addressing the situation responsibly and effectively. The adopted 2011 budget is an austerity budget, but it does preserve the essential programs and services that define AAPT. Several details of AAPT's financial situation are revealed on the last few pages of this annual report.

I need to express thanks to a number of individuals who have served AAPT well during the past year, many of whom have served AAPT in past years as well.

- Warren Hein has provided much stability and good sense in the past couple of years especially as the challenges have occasionally seemed daunting. I wish for him a satisfying and relaxing retirement as he moves into the role of senior statesman and valued consultant to AAPT.
- The dedicated staffers in the AAPT home office regularly go the second mile and sometimes even the third mile to make sure that AAPT programs are the best that they can be. I suspect that a very large fraction of our members have no idea how much these staffers do on behalf of AAPT. I urge you to take every opportunity you have to express your thanks.
- AAPT would be much less than it is without numerous dedicated volunteers. I can't mention them all, but I do want particularly to thank:
 - Marina Milner-Bolotin for her service as Vice-chair of Section Representatives.
 - High School Member-At-Large Elizabeth Chesick
 - Mary Mogge, outgoing Chair of the Section Representatives,
 - Past President Alex Dickisonall of whom rotated off the Board at the end of the Jacksonville meeting. Each received a framed certificate

of appreciation in recognition of his or her now completed service on the Board.

- All those who have served on and those now becoming members of AAPT Area Committees, especially those who have been or will be Chair or Vice-Chair.
- All those who have served or will be serving as Section Officers and Section Representatives.

And I want to welcome a few individuals now joining the Board, specifically:

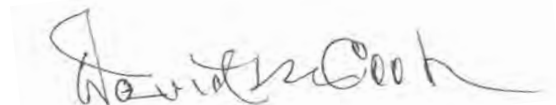
- Newly elected High School Member-At-Large Diane Riendeau, newly elected AAPT Vice-President Gay Stewart, and newly elected Vice-Chair of Section Representatives Greg Puskar.
- AAPT Secretary Steve Iona, who was elected this past fall for a third—and constitutionally mandated final—two-year term.
- New Chair of Section Representatives Marina Milner-Bolotin, who has already served two years on the Board as Vice-Chair of the Section Representatives.
- New AAPT Executive Officer Beth Cunningham. I am confident that we all stand ready to work with her as together we craft the future of AAPT.

Now I have two requests: First, please vote in our national elections. I am quite surprised that, year after year, only about 1500 of our 9000-10000 members bother to vote. I really hope that the AAPT election of 2010 will be the last election characterized by such a dismal turn out.

Second, please become involved in AAPT, especially in our Area Committees. We depend on the members of our Area Committees to advise the Board on matters related to their areas of focus and for planning events to be mounted at national meetings. In the course of conversations at the recent joint meeting of the Wisconsin and Minnesota AAPT Sections, I was surprised to learn that many of our members are not fully aware that involvement in Area Committees provides a valuable way to contribute to AAPT, that "friends" of the Committees are welcome at Committee meetings, that Area Committees provide the starting point for those who wish to mount sessions or workshops at a national meeting, *and that the planning for a given meeting begins a full year ahead of the meeting.*

I realize that I am probably making these two requests by preaching to the choir—so please help pass these two requests on to all those you know.

Thanks for allowing me to serve as your President during 2010. It has been a challenging and time-consuming but also rewarding and very pleasant experience. AAPT is blessed with a large number of very committed individuals, and it is a joy to work with them for the future of our organization.



Executive Officer Statement



The AAPT Executive Office is pleased to bring you this 2010 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, 2010. Second, it provides a permanent record of the organizational structure as of December 31, 2010, 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.

The Annual Report provides some of the information that previously was provided through the Announcer. Other information that used to appear in the Announcer is now included in the online and onsite Program Guides for each of the annual meetings. The eNNOUNCER provides a timely monthly update of information that is useful to our members and provides links to materials that are easily accessible on the AAPT web site or the web sites of other organizations. All electronic information is archived for a permanent record of the association's activities.

Financial Status

I am pleased to report that AAPT's financial picture has improved considerably, even though 2010 was still a deficit year in terms of operating budget. The 2010 deficit was significantly smaller than the 2009 deficit and less than a third of the deficits of 2007 and 2008. Much of the 2010 deficit can be traced to economic factors that reduced our institutional subscription revenue due to library cancellations and slower than expected growth in membership. The 2011 operating budget is again a deficit budget, but could easily be balanced if additional grant funds are received through proposals that have recently been submitted. This continues to be a significant concern of the Executive Board and the Executive Office and a number of painful decisions were made that affected Board

members and staffing in the office. The 2010 AAPT Audited Financial Report can be found on pages 34-37.

2010 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 Committees 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 30.

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 Student Fund, and to support activities such as the International Physics Olympiad. All of the AAPT awards were established without 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 Fund until they are fully endowed. I am very pleased to announce that AAPT received a donation from John Wiley & Sons which substantially endows the Award for Excellence in Undergraduate Physics Teaching. The award has been renamed the David Halliday and Robert Resnick Award for Excellence in Undergraduate Physics Teaching. In addition, we have received a donation from Barbara S. and Paul W. Zitzewitz that fully endows the Award for Excellence in Pre-College Physics Teaching. This award has been renamed the Paul W. Zitzewitz Award for Excellence in Pre-College Physics Teaching.

Although 2010 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 2010 can be found on pages 27-29 of this report.

Portfolio of Projects and Programs

On pages 6-26 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.

It has been my privilege to serve you, the members of AAPT, for 14 years; first as Associate Executive Officer and as Executive Officer for 28 months. As members of AAPT and as physics educators, we all 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.

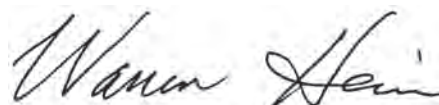
Sincerely,
Warren H. Hein

Retirement Message to AAPT Members

It has been my privilege to serve you, the members of AAPT and the physics education community, for almost 14 years; first as Associate Executive Officer and now as Executive Officer for the last 28 months. During my time at AAPT I have had the opportunity to work with many member volunteers from the 18 AAPT Area Committees, the AAPT Sections which now are 51 in number, the AAPT Executive Board, and many other committees and groups within AAPT such as the Physics Instructional Resource Association (PIRA), the Physics Teaching Resource Agents (PTRA), and more recently the Advanced Laboratory Physics Association (ALPhA). In the AAPT Executive Office I have been able to work with many dedicated staff members, several of whom have been at AAPT as long, or longer, than I have. AAPT would not be what it is without our dedicated staff.

In particular I should mention and thank Bernie Khoury who served as my mentor for 9 years while I was Associate Executive Officer.

So I am pleased at this time to welcome Beth Cunningham to the AAPT Executive Office as the Executive Officer Designate who will officially be taking office starting January 1, 2011. Beth has been in the Executive Office since October 1 and she will be more than ready to take over in time for the Winter Meeting in Jacksonville. I am confident that you will provide Beth with the same level of support as she becomes Executive Officer as you have provided me over the past 14 years.



Strategic Plan

The Association completed and approved a new 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-strategie.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. In broad terms, we seek to increase the net number of full dues paying regular members by 2.5% per year for the next five years, from 7,500 regular members in 2009 to 8,485 regular members in 2015.

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.

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 6,110 subscriptions served the following education sectors:

Pre-College 22.1%	College/University 53.1%
Student/Unemployed 11.6%	Non-Teaching 12.2%
Other 1.0%	

The rate of submission to *AJP* is stable at approximately 800 submissions per year. The acceptance rate is about 25%. The upgrade of the online *AJP* website (<http://ajp.aapt.org/>) hosted by AIP's Scitation® has been completed.

Editors

Jan Tobochnik, *Editor, Kalamazoo College*

Harvey Gould, *Associate Editor, Clark 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. Five were published in 2010. Resource Letters Editorial Board: Kimball A. Milton, Rosemary Wyse, Amy Joanne Kolan, Harvey S. Leff, Richard W. Peterson, Jean-Francois S. Van Huele

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 2010 there were eight papers published.

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 2010, *AJP* published six such reports.

Book Reviews

In addition, *AJP* publishes book reviews regularly on physics topics including the history of physics. Twenty-three book reviews appeared in 2010.

Editorial Advisory Board

Ernest R. Behringer, *Eastern Michigan University*

Christian Brosseau, *Université de Bretagne Occidentale*

Anne Cox, *Eckerd College*

David Garfinkle, *Oakland University*

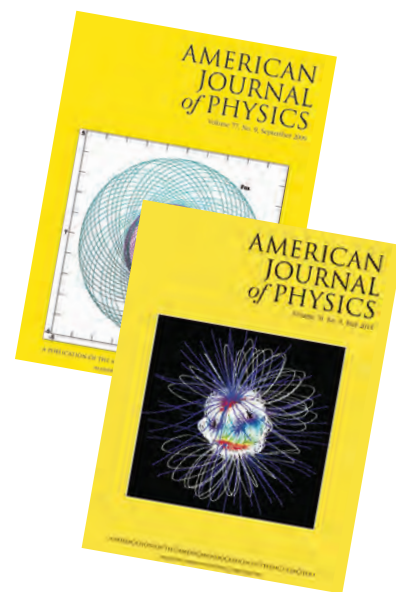
L. Mahadevan, *Harvard University*

Carl Mungen, *United States Naval Academy*

Gerardo Muñoz, *California State University, Fresno*

Beate Schmittmann, *Virginia Polytechnic Institute & State University*

Harold Zepolsky, *Rutgers 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

Hans C. von Baeyer

College of William and Mary

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 eleventh year under the editorship of Karl Mamola, *The Physics Teacher* (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. Several papers, this year, were supplemented by computer models from the Open Source Physics Collection at ComPADRE's National Science Digital Library. These articles included a link to the accompanying Java simulation, along with a brief explanation about and screenshot of the model. Work has begun with potential authors to create interactive articles that utilize the next-generation capabilities of the new platform and tools offered with the online version of TPT at <http://tpt.aapt.org/>

Editor

Karl C. Mamola, *Appalachian State University, Boone, NC*

Editorial Board

Janelle Bailey
*University of Nevada
Las Vegas, NV*

Dewey Dykstra
*Boise State University
Boise, ID*

Kenneth Ford
Philadelphia, PA

James L. Hicks
*4701 Edgewood Rd.
Crystal Lake, IL*

Elisha Huggins
Etna, NH

David Kagan
*California State University-Chico
Chico, CA*

Michael LoPresto
*Henry Ford Community College
Dearborn, MI*

A. John Mallinckrodt
*California State Polytechnic
University
Pomona, CA*

Mary Beth Monroe
*Southwest Texas Junior College
Uvalde, TX*

Carl Mungan
*U.S. Naval Academy
Annapolis, MD*

Stefano Oss
*University of Trento
Trento, Italy*

Gregory Puskar
*West Virginia University
Morgantown, WV*

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
Watauga High School*

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*

Editorial Staff

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 2010 (Volume 48)
- ◇ 625 pages, 221 reviewers, 116 papers, and 104 contributions to monthly columns (31 international authors/co-authors)—38% acceptance rate
- ◇ 9, 276 subscriptions
- ◇ Approximately 43% of subscribers teach at the college and university level and 44% teach at the high school level. The remaining 13% are scientists at research facilities, students, and other interested members of the physics community.
- ◇ 221 referees

Physical Review Special Topics - Physics Education Research

AAPT is pleased to cosponsor Physical Review Special Topics - Physics Education Research (PRST-PER), a peer-reviewed online open-access journal sponsored by the American Physical Society (APS), the American Association of Physics Teachers (AAPT) and the APS Forum on Education (APS FEd). The articles are published by the American Physical Society under the terms of the Creative Commons Attribution 3.0 License.

The journal covers the full range of experimental and theoretical research on the teaching and/or learning of physics. PRST-PER is distributed without charge and financed by publication charges to the authors or to the authors' institutions. The criteria for acceptance of articles include the high scholarly and technical standards of our other

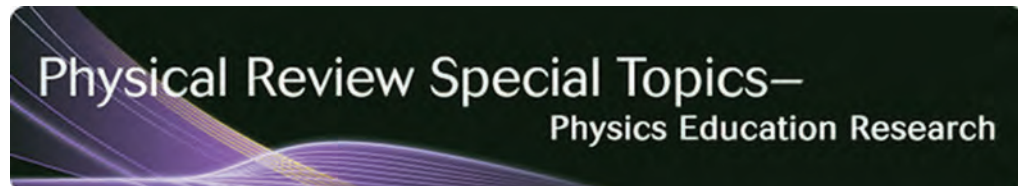
Physical Review journals.

Authors may submit review articles, replication studies, and descriptions of the development and use of new

assessment tools. Presentations

of research techniques and methodology comparisons/critiques will be considered.

You can find *PRST online* at <http://prst-per.aps.org/>.



Physical Review Special Topics - Physics Education Research Staff

Editor

Robert Beichner, North Carolina State University

Associate Editor

Sanjay Rebello, Kansas State University

Senior Assistant Editor

Debbie Brodbar

Editorial Board

Term ending 31 December 2011

- Ruth Chabay
- Manjula Sharma
- Michael Wittmann

Term ending 31 August 2013

- Chandralekha Singh (Chair)

Term ending 31 December 2013

- Paula Heron
- Stamatis Vokos

Physical Review Special Topics 2010 Statistics

ISI's Impact and Immediacy

Impact Factor: 2.302

Immediacy Index: 0.368

Publication Numbers

Number articles: 36

Number of pages: 411

AAPT.org

Having strong online publications offers AAPT members convenient access to physics education resources, news, and member benefits. AAPT.org, redesigned in 2009, 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 “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.

Features

AAPT.org organizes the association’s many assets into appropriate categories allowing the user (both members and non-members) to easily access information regarding topical news, governance, member benefits and profiles, conferences and workshops, awards, publications, local sections, teaching and student resources, partners, giving, and marketing opportunities. Added features include a redesign of The Physics Store, and the birth of 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 in the works for the 2011 Summer Meeting.



For 2010 aapt.org had:

- 304,412 visits
- 1,244,877 pageviews
- 4.09 pages per visit
- 180,000 new visitors

All from 195 countries/territories

1. U.S.
2. Canada
3. India
4. Pakistan
5. China

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:

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

Google Search

A new google search feature at the top right of every page allows for easy searches yielding more robust results.

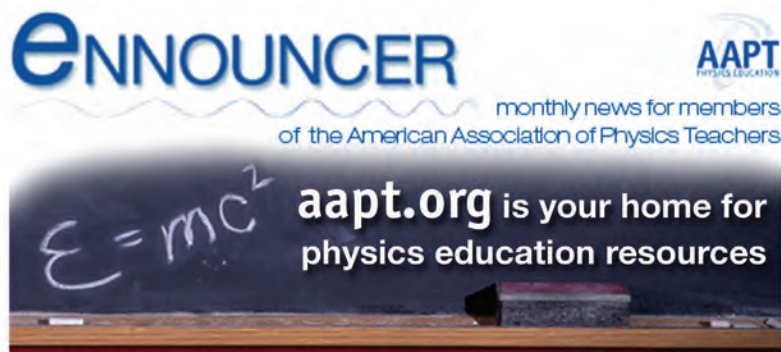


Executive Dashboard

A web-based executive dashboard system is being developed to provide AAPT with a method to compare performance goals to actual results. This will allow users to monitor and analyze data originating from the efforts of various departments. Data will be displayed on the user’s desktop using a variety of graphical plots and lists. Data from membership, marketing, finance, programs & conferences, and communications will be available to inform strategic decisions.

eNNOUNCER

The online news publication and email newsletter *eNNOUNCER* began regular monthly distribution in 2009. The newsletter is published monthly on our website, and distributed to members by e-mail. Issues are 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.



2010 Top AAPT News Stories

Listed below are highlighted news stories for 2010 from the *eNNOUNCER*.

To read the full story go to <http://www.aapt.org/aboutaapt/ennouncer/index.cfm>.

January

AAPT Executive Office Search
“Why Take Physics” Poster Available

February

Joint AAPT/APS Winter Meeting
Betty Preece SEES Memorial Fund Established

March

President Alex Dickison’s Farewell Address Recorded on UStream
A Call to Action for Teacher Education at 2010 Education Symposium

April

AAPT eMentor Program Announced
Call for Authors for Next Generation Manuscripts

May

New Faculty Training Experience for Two-Year College Faculty Announced

June

2010 U.S. Physics Team Chosen
Summer Meeting Preview

July

Summer 2010 Meeting in Portland, OR
Physics Education Research Conference 2010

August

2010 U.S. Physics Team Wins One Gold, Two Silver, and Three Bronze Medals
2010 High School Photo Contest Winners Announced
Department Chairs Conference

September

AAPT eMentoring Program Launch
AAPT Board Motion on Conceptual Frameworks for New Science Education Standards
Winter Meeting Preview

October

AAPT National Election
Winter Meeting Awards Announced

November

UStream, Meet and Greet the Executive Officers
2010 Nobel Prize
Grant and Scholarship Deadlines

December

AAPT National Election Results
Barbara Lotze Scholarships

eNNOUNCER Topics

eNNOUNCER publishes monthly news for members including:

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

Membership

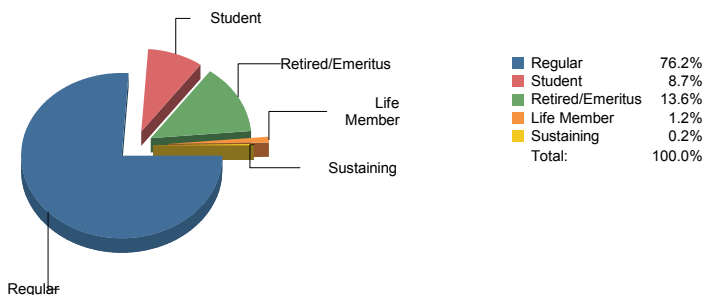
Spanning academia, research, and industry; comprised of educators, Nobel Prize winners, and students alike; our members bring a wealth of experience, diversity, and individual recognition. Most importantly, all share the same dedication to physics and the physics education community.

Membership Statistics

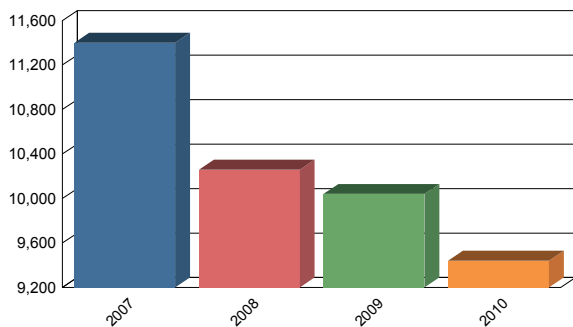
for December 31, 2010

Membership by Member Type

Regular	7,130
Life Member	117
Student	821
Sustaining	22
Associate	63
Retired/Emeritus	1,288
Current Membership:	9,441

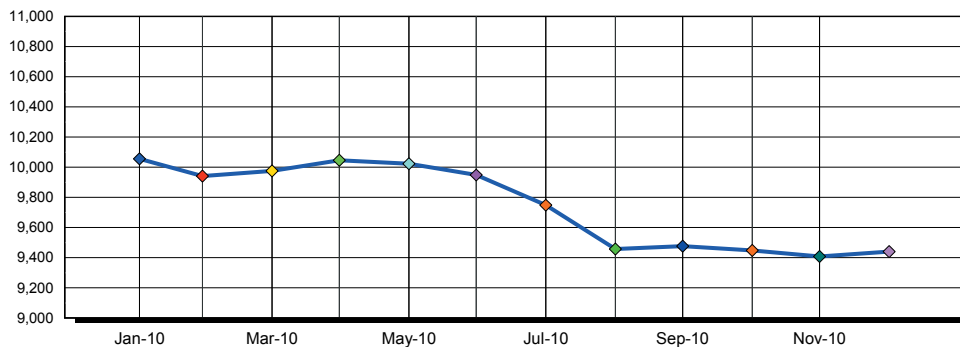


Membership Comparison by Month and Year



Dec - 2007	Dec - 2008	Dec - 2009	Dec - 2010
11,400	10,259	10,041	9,441

Year to Date Membership Trends



Winter Meeting—Joint AAPT/APS Winter Meeting 2010

February 13–17, 2010, Washington, DC

David R. Sokoloff, Program Committee Chair

Paper Sorters: Jeff Marx, Lili Cui, Diane Riendeau, and Gerald Feldman

Local organizers: Beverly Karplus Hartline, Hakeem Fahm, Pat Chisley, Gebretensae Tzadu, Bill Touhy, Mykhaloy Panarin, Abdi Darai, Hailemichael Seyoum, Daryao Khatri, Angelyn Flowers, and the UDC campus security team.

Statistics: There were 929 attendees, 41 exhibitors, 74 sessions, 28 workshops, 4 tutorials, and 130 posters

Plenaries: Mary Beth Todd Monroe, “The Faces of AAPT”; Eugene D. Commins, “Some Personal Reflections on Physics Graduate Education”; [The Kavli Foundation Joint Plenary](#), “Re-Energizing America’s Focus on STEM Education, Linda Slakey, Shirley Malcolm, and Robert P. Moses; “Algebra Project,” Robert Moses; [Plenary Session II](#): “A Space Program Worthy of a Great Nation,” Norman R. Augustine; “Nucleon Spin Puzzle,” Naomi Makins, and “Surface Temperature Responses to Natural and Anthropogenic Influences: Past, Present and Future,” Judith Lean. LaserFest Lecture: “From Edible Lasers and the Search for Earth-like Planets: Five Decades of Laser Spectroscopy,” Theodore Hänsch. [Plenary Session III](#): “Cosmology with the Cosmic Microwave Background,” John Carlstrom; “Early Results from the Kepler Mission,” William Borucki; “The Search for the Higgs Bosons and More at the Tevatron Collider,” Rob Roser.

AAPT Education Symposium: “Educating Physics Teachers: A Call to Action for Physics Departments,” Sheila Tobias, Many Ann Rankin, and Stamatis Vokos.

Highlights

When we remember this meeting we will remember great mounds of snow. Just prior to the Joint AAPT/APS Winter Meeting in Washington, DC the mid-Atlantic area was covered with snow from two separate record-breaking storms leaving the city with more than four feet of snow to remove from airport runways, streets and sidewalks. Thousands of residences and businesses were without power and Washington, DC was, literally, closed down for a week. Thanks to the heroic efforts of an army of road and power crews the main roads were opened and power restored to most of the area just days before the meeting was scheduled to begin.

The AAPT’s Meetings team worked closely with communications to provide the latest news on area conditions while working with vendors to circumvent



problems created by the remains of the storm. David Sokoloff, Program Chair and the National Office Staff chaired an outstanding learning opportunity. The sharing of sessions, plenaries, hotel, and exhibit space provided extraordinary opportunities to attendees from both organizations.

In spite of record snowfalls, more than 2,000 physicists and physics educators gathered at the Washington Marriott Wardman Park Hotel, to share and learn from an outstanding and diverse program that included invited and contributed paper sessions, poster presentations, workshops, and plenary sessions.

Mayor Adrienne Fenty declared February 14-20 Physics Education Week in Washington, DC! AAPT and several attendees tweeted their experiences during the meeting, and three events were broadcast live on UStream.

The event started with more than 30 workshops at the University of the District of Columbia on topics selected by the AAPT Area Committees such as Behind the Scenes at the Smithsonian, Multimedia Modern Physics for High School Teachers, Tutorials in Introductory Physics, Using Easy Java Simulations for Physics Teaching, and Laboratories with Biomedical Applications.

Additionally, much of the business of AAPT took place at this meeting with 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. Area Committee members and Section Representatives met to share information and plan new initiatives that will benefit the association and the larger physics community.

Poster Sessions continued to be very popular and were presented at two separate times with presenters available to answer questions for 1/2 hour during each Session. The Monday posters addressed Labs and Apparatus, Teacher Training, and Lecture/Classroom. Tuesday posters focused on Physics Education Research, Technologies, Astronomy and Energy, and Environment Courses.

Popular Paper sessions included “Teaching with Technology,” “PER: Topical Understanding and Attitudes,” “Unconventional Laboratories,” “The Things Accomplished



Teachers Do in Their Classrooms-Who Prepares Them?,” “Exploring the Nation’s Attic,” “How To Advocate for Science Locally, Regionally, and Nationally,” and “Physics Education Research Around the World.”

The Symposium on Physics Education, Educating Physics Teachers: A Call to Action for Physics Departments, presided over by Phillip (Bo) Hammer, was dedicated to the memory of Dr. E. Leonard (Len) Jossem. The session presenters discussed Teacher Preparation through UTeach, Science Teaching as a Profession, and Transforming the Professional Preparation of Physics Teachers in the United States: Findings and Recommendations of the T-TEP Report.

AAPT’s awards program was showcased in the presentation of two awards, the Melba Newell Phillips Medal was presented to Mary Beth Todd Monroe and the J. D. Jackson Excellence in Graduate Education Award to Eugene Commins. Distinguished Service Citations were presented to Beverly T. Cannon, Karen Williams, and Patrick Whippey. The Society of Physics Students Presented the Outstanding Chapter Advisor Award to Diane Jacobs of Eastern Michigan University.

Mary Beth Monroe’s Melba Phillips Medal address, “The Faces of AAPT,” reflected on the contributions that Phillips and previous recipients of the Medal have made to AAPT. She honored all of those who have mentored her though her career noting that, “AAPT’s greatest resource is its members. Among our 10,000 members, only 1000 attend national meetings and a few hundred more only attend section meetings and/or publish in AAPT journals. Yet, all of us need to exchange ideas and know about one another’s work. Therefore, it behooves you and me to reach out to a colleague, a new faculty member, or even a student and persuade them to ‘interact with colleagues to engender collegiality.’ The AAPT will be stronger, the faculty member will be a better teacher, the student will be a more-informed student, and the physics education community will be richer.” She closed with a reminder that the Melba Newell Phillips Medal is really a tribute to the many physics educators who have consolidated their skills and talents as physicists and as teachers “to enhance the understanding

and appreciation of physics through teaching.”

“Some Personal Reflections on Physics Graduate Education” was the title of Eugene D. Commins’ talk as he received the J.D. Jackson Excellence in Graduate Education Award. He reflected on his life as a graduate student and then as an instructor in the Columbia University Physics Department, and as a mentor of Berkeley physics graduate students.

The Joint APS/AAPT Plenary on Monday, February 15, featured Norman R. Augustine, Retired Chairman and CEO of Lockheed Martin Corporation speaking on “A Space Program Worthy of a Great Nation”; Naomi Makins of the University of Illinois, Urbana-Champaign, speaking on “Nucleon Spin Puzzle”; and Judith Lean from the Naval Research laboratory who spoke on “Surface Temperature Responses to Natural and Anthropogenic Influences: Past, Present, and Future.”

The Kavli Foundation Joint Plenary included talks directed toward “Re-Energizing America’s Focus on STEM Education,” with Linda Slakey, Acting Executive officer of the Education and Human Resources Directorate, NSG, speaking on “Catalyzing Widespread Implementation of Good Teaching Practices,” Shirley Malcom for AAAS on the “Value of Diversity in STEM,” and Robert Moses of the Algebra Project on “The Algebra Project’s Strategy to Accelerate the Nation’s Bottom Quartile Students’ Math Education and Get Them Ready for College Math.”

The LaserFest Lecture, given by Nobel Prize winner, Theodore Hänsch, Director of the Max-Planck-Institute Fur Quantenoptik and Professor, Ludwig Maximilians Universität, München Germany, was “From Edible Lasers and the Search for Earth-Like Planets: Five Decades of Laser Spectroscopy.”

The final plenary session of the Winter Meeting was the presidential transfer session with outgoing President, Alexander K. Dickison, handing over the responsibilities of AAPT leadership to David M. Cook. President Dickison noted the great progress the organization has made and that he was leaving office with most of his goals reached.

Summer Meeting 2010

July 17–22, Hilton Portland and Portland State University, Portland, Oregon

David R. Sokoloff, Program Committee Chair

Paper Sorters: Paula Engelhardt, Kathleen Falconer, Jill Marshall, and David Strum

Local organizers: Eric Bodegon, Chair, Portland State University, Department of Physics; Will Porter, Portland State University Department of Physics; PSU volunteers

Statistics: There were 1171 attendees, 35 exhibitors, 80 sessions, 42 workshops, 2 tutorials, and 166 posters

Meeting Highlights

The first impression received upon arriving in Portland was how the physics of flight made it possible for us to almost shake hands with the summit of Mt. Hood. After hours of looking at the earth far below us, our view was suddenly filled by this prodigious snow covered volcanic peak and it was breathtaking!

Founded in 1843 on the banks of the Willamett River, Portland was incorporated in 1851 and was home to 800 inhabitants, a steam sawmill, a log cabin hotel, and a newspaper, the weekly *Oregonian*. The city's location made it a favored port in the Pacific Northwest for much of the 19th century. In 2010 Portland and Portland State University were perfect hosts for the AAPT physics education community. Governor Theodore R. Kulongoski declared July 18-24 Physics Education Week in recognition of the collective contributions of physics education and research to Oregon's technology-based economy.

Prior to the meeting the Physics Teacher Resource Agents (PTRA) held a National Summer Institute. Workshops were held focusing on Engineering Design, Magnetism, Perimeter Institute Explore & GPS, E-mentoring, Amusement Park Physics, Energy Choices, and Radioactivity. David Vernier of Vernier Software & Technology hosted Physics and Engineering Education – Past, Present, and Future along with a tour of Vernier and a PTRA Group Picnic. The 25th Anniversary of PTRA was celebrated as part of the Summer Meeting.

The Two-Year College community within AAPT hosted a special full day meeting on the campus of Portland State University designed to meet the needs of faculty serving physical science students in Two-year and Community Colleges. Nearly 40 educators enjoyed meeting with colleagues and being provided professional development from sessions on The Role of the TYC in Teacher Training, Adopting and Adapting PER-based Curriculum, Innovations in the Introductory Laboratory, and Creating a



Virtual TYC Physics Community.

The Summer 2010 meeting was a resounding success; so much so that a motion was entertained to have the meeting in Portland every summer! There was universal agreement that the Portland State staff and students, and the AAPT meeting staff went well beyond the call of duty to facilitate the meeting.

The meeting included more than 40 workshops including hands on learning opportunities about Lasers, Astronomy, Physics Instructional Resource Association (PIRA) demonstrations, Modeling, and many other topics. The workshops were held at Portland State University. Attendees soon came to recognize the gray t-shirts with large green PSU lettering that, together with a smile, meant guidance around campus was only a few steps away.

5k Walk/Run, Columbia Gorge Tour, Walking Tour, and Pub Crawl

AAPT initiated a number of new networking events in response to attendee requests. The first annual AAPT 5k Walk/Run was a resounding success. Thanks are due to the volunteers who donated time to the event and to the brave troop of nearly 50 runners and walkers whose \$20 race fee helped raise funds to offset the costs of the meeting. The weather was perfect and the Oregon scenery was beautiful. It was a great way to start the day and plans are underway to make the 5k Walk/Run an AAPT tradition.

No trip to Portland would be complete without a tour of the Columbia River Gorge. This waterway cuts through basalt bluffs that rise up to 4,000 feet above the river and features breathtaking views of some 75 waterfalls, including Multnomah Falls, the highest waterfall in the United States.

Portland is known for its local breweries and attendees were able to get a taste of the local brews at the popular pub crawl on Sunday night following the Opening Reception.

Picnic and Demo Show

“WOW” and “best ever” were comments heard about the demo show, which took on a unique twist this year, with the Physics of Vaudeville. We had a hint of what was to come at the urban picnic; Portland rolled out the red carpet for us, shutting down an entire city block. Picnicers were visited

by giant walking flowers, cyclists on the smallest bicycle ever seen, and aerial ballet of streamers- and did I mention chamber of commerce picture perfect weather as promised?

The evening started with a 21 balloon salute to Dr. Warren Hein, retiring AAPT EO, and announcement of the photo and apparatus contest winners. That was followed by stunning performances by kite dancers, acrobats, jugglers, unicyclists, and a human pendulum, attached to a 40 foot silk streamer by friction alone with no net. The grand finale of the evening was a spectacular laser show sponsored by APS. Thanks go to Christine and David Vernier for sponsoring this enchanted evening and to Stanley Micklavzina for making the local arrangements!

Celebrating 50 Years of the Laser

APS/DLS Symposium on Laser Physics—This session was recorded and the talks can be viewed on 2010 Summer Meeting USTREAM Channel.

Warren Warren, from Duke University, started his plenary address by thanking us for our appreciation of our plenary speakers; he had seen the “Thanks Warren!” ribbons and added his appreciation of the service Warren Hein has given to AAPT. His talk, *Breasts and Brains, Similarities and Differences: Using Novel Physics to Enhance Clinical Molecular Imaging* focused on the rapid growth of molecular imaging in biomedical science.

Femtosecond Optical Frequency Combs was the title of Steven T. Cundiff’s talk. Steven is from NIST and University of Colorado. He discussed the basic concepts of femtosecond combs, their current applications, and their future possibilities.

Lasers and the Eye—Vasudevan Lakshminarayanan from the University of Waterloo talked about laser applications in ophthalmology and laser-tissue interaction, laser safety, and more recent work on photorefractive procedures

Celebrating 50 Years of Laser—This video had its screening during Laser Day. A production of SPIE, the international society for optics and photonics, the video addressed the history of the laser and its current and future applications in medicine, material processing, communications, research, and astronomy.

Sessions of Note

Nearly every seat in the house was taken for the *Gender* session. This topic continues to be of great concern within the physics community. Each of the Physics Education Research and Technology Education sessions had standing room only. The *High School Share-a-Thon* was an extremely popular session as were the other interactive sessions. Mentoring was also a hot topic and AAPT introduced a beta e-mentoring project to PTRAs for testing.

Awards

The awards sessions were recorded and the talks can be viewed on the 2010 Summer Meeting USTREAM Channel.

Millikan Medal

The 2010 Millikan Medal was presented to Patricia Heller, Associate Professor of Curriculum and Instruction at the University of Minnesota and a founding member of the Physics Education Research (PER) Group. Her talk, *Guiding the Future: Developing Research-based Physics Standards*, focused on the questions physics educators need to address in the development of K-12 physics standards for college success.

Klopsteg Award

Robert Scherrer, Chair of the Department of Physics and Astronomy at Vanderbilt University, Nashville, TN received the 2010 Klopsteg Award. As a practicing physicist who has written science fiction, he explored the similarities and differences between the process of writing science fiction



Recipients, from left to right are Millikan Medal, Patricia Heller; Klopsteg Award, Robert Scherrer; Excellence in Undergraduate Physics Teaching Award, William P. Hogan; Excellence in Pre-college Physics Teaching Award, Diane Riendeau.



Tommi Holsenbeck takes over from Mary Winn as project leader of the High School Physics Photo Contest.

and the process of producing science, specifically theoretical physics, and examined whether a background as a research scientist provides any advantage in writing science fiction.

Excellence in Undergraduate Physics Teaching Award

William P. Hogan, Professor of Physics at Joliet Junior College, was the recipient of the 2010 Excellence in Undergraduate Physics Teaching Award. In his talk, “Stumbling on a Tightrope,” he talked about the professional struggle he faced in dealing with contradictory goals in his early teaching and the mistakes he made along the way to finding what works.

Distinguished Service Citation recipients were (l-r) N. Sanjay Rebello, Chris Chiaverina, and Harvey Leff.

Excellence in Pre-college Physics Teaching Award

The recipient of the 2010 Excellence in Pre-college Physics Teaching Award was Diane Riendeau, a physics teacher at Deerfield High School, Deerfield, IL. Her talk, “Who’s In?” focused on mentoring as the key to success in all phases of her career. Being a mentor is a vital role that all physics teachers should play. Being a mentee is equally important. She challenged beliefs on the importance and benefits of mentoring relationships and encouraged the audience to respond to the question, “Who’s In?” with a resounding, “I am!”

Distinguished Service Citations

Distinguished Service Citations are presented to AAPT members who have provided extraordinary service to the organization. The Summer 2010 recipients were Chris Chiaverina, Harvey Leff, and N. Sanjay Rebello.



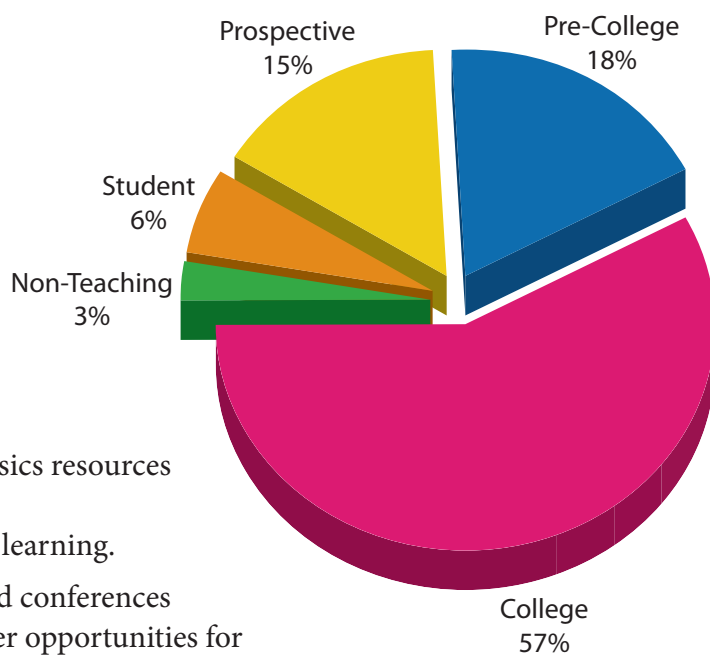
Meeting Statistics

Approximately 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.



Workshops and Programs

Workshop for New Physics and Astronomy Faculty

June 28-July 1 and Nov. 5-17, 2010 at the American Center for Physics AAPT, in conjunction with the American Astronomical Society (AAS) and the American Physical Society (APS), held one workshop for new physics and astronomy faculty members at the American Center for Physics and a Reunion meeting for past workshop participants. 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 2010 the PTRAs Program celebrated its 25th Anniversary with a special session at the Summer Meeting.

PTRA accepts applications and provides training at the AAPT/PTRA Leadership Institute, held just before the Summer Meeting.

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

2010 PTRAs Directors:

George Amann, Jan Mader, Karen Jo Matsler, Jim Nelson



www.aapt.org/ptra

2010 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 2010 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 41st International Physics Olympiad, held July 17 to 25 in Zagreb, Croatia. The 2010 Training Camp included a visit to Capitol Hill and meetings with the congressional physicists.

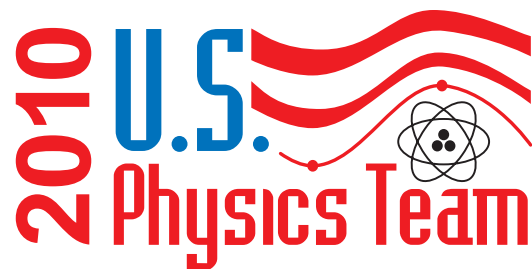
U.S. Team Members

Christina Brasco, Weston CT; Kevin Chen, Sugar Land TX; Lucy Chen, Aimes IA; Stephen Face, Wilmington DE; Yale Fan, Portland OR; David Field, Andover MA; Daniel Li, Alexandria VA; Jonathan Li, San Juan Capistrano CA; Yi Li, Arcadia CA; James Lim, Andover MA; Bowei Liu, Fremont CA; Jenny Lu, Southbury CT; Anand Oza, Silver Spring MD; Mihika Prabhu, West Lafayette IN; Ante Qu, Princeton Junction NJ; Eugene Rabinovice, Solon OH; Alok Saxena, Monmouth Junction NJ; Eric Spiegelan, Naperville IL; Brian Zhang, Palo Alto CA; Andrew Zhou, San Jose CA

Co-Academic Director: Paul Stanley

Academic Coaches: Jia Jia Dong, David Fallest, and Andrew Linn

Lab Coaches: Warren Turner, Senior Lab Coach; Qui Zi Li, Assistant Lab Coach



The traveling team, from left to right, David Field, Daniel Li, Anand Oza, Jenny Lu, and Eric Spiegelan brought home 1 gold medal, 2 silver medals, and 2 bronze medals. The proud coaches flanking the students and are, Paul Stanley (left) and Warren Turner (right).



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 Physics Store gift certificate
- 2nd place in each region & division: \$50 gift certificate from Vernier Software & Technology and \$25 AAPT Physics 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 Physics Bowl Advisory Board

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



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/scores10.cfm>. AAPT sponsors the TARC Lesson Plan Contest (<http://www.aapt.org/Contests/rocket.cfm>).



International Science and Engineering Fair

May 9-14, 2010 in San Jose, CA

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: Roger R. McNeil, Terry L. Schalk, Alexander A. Grillo, Thomas Himel

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: *Experimental Study of Viscosity Using Stokes' Law: Examining and Correcting Stokes' Law's Limitations in Viscometry*

Katrina Hui, Richland High School, Richland, WA

Second Award of \$800: *Efficiency of Thermoelectric Power Conversion in Bi2Te3*

Daniela Flaz, Lincoln Park High School, Chicago, IL

Third Award of \$500: *Measurement of the Earth-Moon Distance by a Dynamic Method*

Lucas Andres Conci and Juan Jose Velasco, Instituto Parroquial Bernardo D'Elia, Villa Carlos Paz, Cordoba, Argentina

Certificate of Honorable Mention

Clockwork in M1, Travis Nathaniel Crockett, V. Sue Cleveland High School, Rio Rancho, NM

An Improved Metric for Visual Differentiation Using Colour-Modified Clinical Eye Charts, Jonathan David Sapolski, Redeemer Baptist School, North Paramatta, New South Wales, Australia

Galaxy in a Bucket: Understanding Spiral Galaxy Formation Using a Simple Modeling System, Nikita Michael Bogdanov, Albuquerque Academy, Albuquerque, NM

Physics Days at NSTA

Local AAPT Sections hosted Physics Day at nearby NSTA area meetings held in Kansas City, MO, Baltimore, MD, and Nashville, TN.

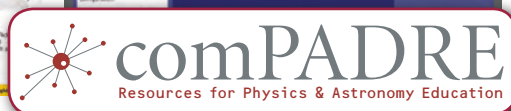
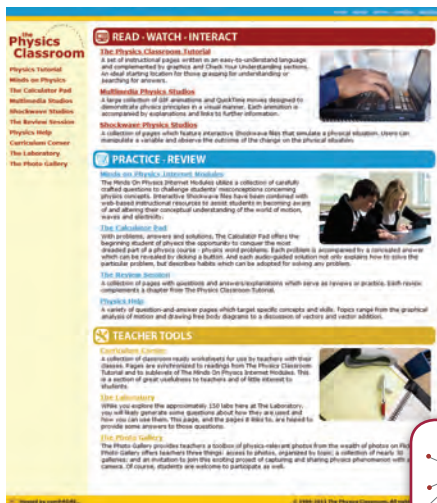
The Physics Day programs offered a full day of physics content at each NSTA area conference. Physics Day consists of presentations on physics topics of current interest, physics demonstrations for the pre-college classroom, and a make 'n take session where participants can construct a piece of physics 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

The AAPT is the lead institution in 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.

Highlights, activities, and expansions for *ComPADRE* in 2010 include:

- More than 10,000 resources are now cataloged in *ComPADRE* collections
- More than 20,000 members have created *ComPADRE* accounts
- Traffic on *ComPADRE* has grown to over 1 million visitors per month
- Special collections and member networking tools have been created and improved
- The partnership with *The Physics Classroom* has resulted in new features for students and teachers
- Partnerships with researchers and curriculum developers continue to grow
- Design of the online PER User's Guide has progressed



Improvements to to the *ComPADRE* Resource Collections include:

- Broader content delivery is now in use through the *Open Source Physics*, *Statistical Physics*, and *Introductory Physics* collections
- The *Physics To Go* resource collection for informal education is now on an automated update schedule
- The *Physics Careers*, *PTEC*, *Statistical Physics*, *Nucleus*, and *Physics Classroom* web sites have had design updates

Physics Education Research (PER)

PER Conference 2010—Portland, Oregon

Theme: *Uncovering the hidden curriculum: Research on scientific, critical, and reflective thinking in the physics classroom*

229 attendees

Invited sessions:

“Uncovering the hidden decisions that shape curriculum”

Danielle Harlow, University of California, Santa Barbara

“Rethinking our goals: What will our students remember when they forget everything?”

Eugenia Etkina, Rutgers University

“Development of functional understanding in physics: Promoting ability to reason”

Lillian C. McDermott, University of Washington

Plenary sessions:

“Toward meaning and scientific thinking in the traditional freshman laboratory: Opening the “idea space”

Saalih Allie, University of Cape Town, South Africa

“Introducing students to the culture of physics: Explicating elements of the hidden curriculum”

Edward F. Redish, University of Maryland

“What we learned by moving beyond content understanding and diversifying our research agenda”

Mel Sabella, Chicago State University

**PER Leadership
Organizing Council**

Rachel E. Scherr, Chair
Noah Finkelstein
John Thomson
Eugenia Etkina
Sanjay Rebello
Jose Mestre (Treasurer)
ex officio (Chair of AAPT
Research in Physics Education
Committee): Mel Sabella

Task Force Releases Findings on Teacher Education

The National Task Force on Teacher Education in Physics released a set of findings and recommendations at the 2010 PhysTEC Conference during the joint APS/AAPT Meeting. The document, which summarizes more than two years of research on physics teacher preparation programs at U.S. universities, is the synopsis of a report the task force plans to publish in early 2011.

The task force was jointly sponsored by the APS, AAPT, and the American Institute of Physics, and is composed of physics and education faculty, university administrators, and high school teachers who have been closely involved in national physics education efforts. Its charge was to survey the U.S. physics teacher preparation scene, identify best practices for increasing the number of qualified physics teachers, and establish research, funding, and policy priorities for improving the situation.

The task force found that, “Except for a handful of isolated pockets of excellence, the national system of preparing physics teachers is largely inefficient, mostly incoherent, and massively unprepared to deal with the current and future needs of the nation’s students.” The authors identified a number of areas in which they felt improvement was needed, including collaboration between physics and education departments, physics-specific pedagogical preparation of teachers, induction and mentoring support for new physics teachers, and professional development for physics teachers coming from other disciplines.

The authors also drew a connection between the state of U.S. physics teachers and the country’s challenges in the science and engineering labor market, stating that, “An effective precollege physics education is indispensable in preparing U.S. students for global competition.” To address these challenges, the authors stressed the importance of “every high school student having the opportunity to learn physics with a qualified teacher.”

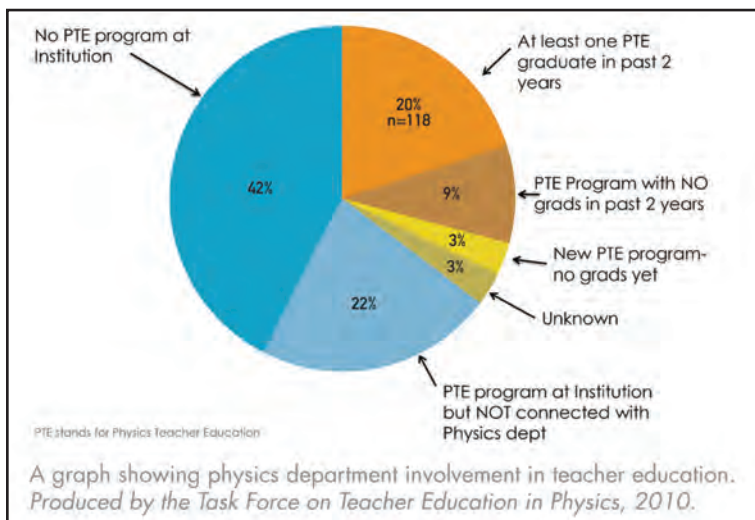
Stamatis Vokos, professor of physics at Seattle Pacific University and the task force’s chair, said that while the situation is grim, there is potential for improvement. “We hope that our report will serve as a wake-up call for universities, foundations, and government agencies around the country. The problem is very serious, and any significant progress will require a focused and coordinated effort from all corners.”



Five New Supported Sites Join PhysTEC

The PhysTEC project recently began funding five universities to develop their physics teacher education programs into national models. The new awardees are California State University, Long Beach; Chicago State University; Middle Tennessee State University; Towson University; and the University of California, Davis. Funding for the awardees began in Fall 2010 and will last for three years. The new sites will join the fourteen institutions that have already received money from the project since it began in 2001.

The winning institutions were selected during a two-stage review process that began with a pool of 52 applicants, which were evaluated based on their capacity for large increases in the number of physics teachers graduating from their programs, as well as strong departmental and institutional support for teacher preparation efforts. The review process also considered applicants’ ability to address recognized demographic and geographic shortages of qualified physics teachers. The panel that reviewed the applications included representatives of APS and AAPT as well as external reviewers.



Competitions

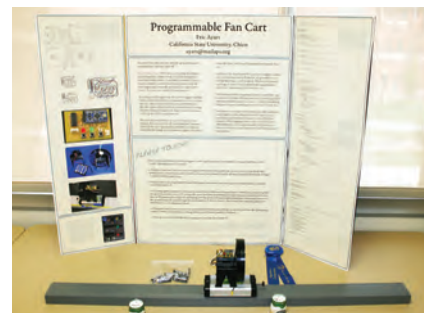
Apparatus Competition

Whether developed to pique the interest of students, used in lecture and demonstration, or simply used to help teach physics in new or fascinating ways, teachers are continually engineering apparatus to aid physics instruction.

The Apparatus Competition was established to recognize, reward, and publicize worthwhile contributions to physics teaching through demonstration and experiment. There are two categories of entrants: (1) Low Cost—an apparatus costing less than \$65 to build (excluding exempt equipment) (2) Unlimited Cost.

The Apparatus Competition is held annually during AAPT's summer meeting and is open to all members. It is sponsored by the AAPT Area Committee on Apparatus and PASCO Scientific.

See <http://www.aapt.org/Programs/contests/apparatus.cfm> for information on 2010 winners.



Sponsored by



High School Physics Photo Contest

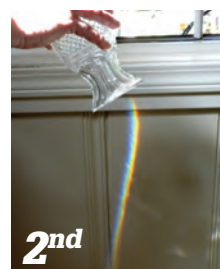
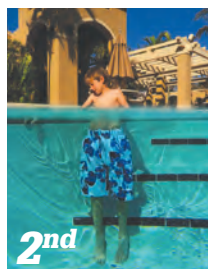
The High School Physics Photo Contest is open to high school students in grades 9-12 (or equivalent international grade level). Photos may be entered in one of the categories described below, and are judged on the quality of the photo and the accuracy of the physics in the explanation that accompanies the photograph. Out of approximately 900 submissions, the 100 finalist photos were selected, displayed, and judged during the 2010 Summer Meeting.

See <http://www.aapt.org/Programs/contests/pc10.cfm> for information on the following overall winners of 2010.

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



Awards and Citations

Paul E. Klopsteg Memorial Award

2010 Awardee: Robert Scherrer, Vanderbilt University

Science and Science Fiction

Robert Scherrer, Chair of the Department of Physics and Astronomy at Vanderbilt University, Nashville, TN, is a well-known cosmologist, and has made major contributions in the study of element production in the early universe, particle physics in the early universe, the clustering of galaxies, and dark energy. Scherrer has published widely in this field.

An accomplished teacher and an outstanding speaker, Scherrer received the 1999 Alumni Award for Distinguished Teaching at Ohio State University, Ohio State's top teaching award. He is also the author of a well respected quantum mechanics textbook, *Quantum Mechanics, an Accessible Introduction* (Pearson, 2006). He is also a science fiction author, having written several short stories, mostly published in *Analog Magazine*. His talk on Science and Science Fiction focused on the way in which new ideas are introduced in physics, and compares this to the way they are developed in the process of writing a science fiction story.

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



J. D. Jackson Excellence in Graduate Education Award

2010 Awardee: Eugene D. Commins

Some Personal Reflections on Physics Graduate Education

Commins is Professor Emeritus at the University of California–Berkeley, Dept. of Physics. His talk presented a picture of his life as a graduate student and then instructor in the Columbia University Physics Department of the 1950s, and how that influenced his subsequent experiences as a mentor of Berkeley physics graduate students during the last five decades.

The J. D. Jackson Excellence in Graduate Education Award is presented to physicists and physics educators who, like John David Jackson after whom the award is named, have made outstanding contributions to curriculum development, mentorship, or classroom teaching in graduate physics education.



Excellence in Undergraduate Physics Teaching Award

2010 Awardee: William P. Hogan, Joliet Junior College

Stumbling on a Tightrope

This award recognizes outstanding achievement in teaching undergraduate physics.

Bill Hogan is Professor of Physics at Joliet Junior College, Joliet, IL. He accepted an appointment as a post-doctoral research associate with Rutgers University stationed at Fermi National Acceleration Laboratory after finishing his graduate studies. While working at Fermilab, he began teaching physics as an adjunct faculty member at several Chicago-area two-year colleges and decided to pursue a career teaching physics. In 1997, he joined the physics faculty at Joliet Junior College.

Hogan has been active in physics teaching organizations. He is a member and officer of both the Illinois Section and the Chicago Section of the American Association of Physics Teachers (AAPT) and has presented many papers at Illinois Section meetings.

He was instrumental in the success of TYC21 (an NSF-sponsored project to build networks among two-year college physics teachers) in Illinois. He has served and is now serving another term on the American Association of Physics Teachers Committee on Physics in the TYCs and was Editor for the *AAPT Guidelines for Two-Year College Physics Programs* (2001).



Excellence in Pre-College Physics Teaching Award

2010 Awardee: Diane Riendeau, Deerfield High School

Who's In?

This award recognizes outstanding achievement in teaching pre-college physics.

Diane Riendeau teaches physics at Deerfield High School in Deerfield, IL. One of her philosophies is that high school physics curricula should be concepts driven instead of math driven and hands-on instead of lecture-based. This way students walk away with lived physics experiences. This philosophy is especially applicable to high school freshmen who are still children at heart and enjoy learning by doing and playing.

She received the Innovative High School Teaching Award, 1992, from the AAPT, and the AAAS Leadership in Science Education for High School Teachers, 2008, and was a finalist in the Presidential Award for Excellence in Math and Science Teaching, 2008, Illinois. She is a frequent author for *The Physics Teacher*, a former Editorial Board member for the journal, peer reviewer for *TPT*, and currently a *TPT* column editor for "YouTube Physics."

AAPT Distinguished Service Citations

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

Winter Meeting 2010

Karen Williams is Professor of Physics at East Central University in Ada, OK. Through her work with the Society of Physics Students, Williams has influenced thousands of future physics teachers. An AAPT member for 20 years, she has been extremely active in the Arkansas-Oklahoma-Kansas Section, having held every office, including President, and hosting a section meeting at East Central University. Williams has presented several workshops at section meetings, attended countless workshops herself, and been involved as Co-PI or lead teacher in two NSF grants training teachers in teaching physical science. She has generously donated her time and shared her expertise as a presenter at numerous AAPT national meetings.

Patrick Whippey, University of Western Ontario physics professor emeritus, is a very knowledgeable and dedicated physics teacher who is a role model to both educators and students. A willing and effective mentor to new and experienced teachers, he is well respected among all of the OAPT Section members and hundreds of physics teachers and students across the province.

Whippey's service to AAPT, the physics profession, and the physics students and teachers of the Ontario section of the AAPT has spanned over 40 years. He has made significant contributions to the Ontario section as a member of the Executive Board, OAPT section representative, and web master.

He has made contributions to numerous activities for physics teachers such as a physics contest; physics photo contest; science shows and presentations for elementary, middle school, and high school students; science olympics; and science fairs. He is an OAPT member at large, organizer of the section and national conferences (one of them was the Canadian Association of Physicists – AAPT joint conference), and contributor to the Science Teachers Association of Ontario events.

Beverly "Trina" Cannon has actively sought to spread her enthusiasm for physics as a high school teacher and as a Physics Teaching Resource Agent in Texas where she regularly gives workshops to help high school teachers.

For nearly three decades she devoted her time to serving in AAPT. Perhaps her most unique and respected contribution is her heroic efforts for the AAPT's video contest. Every year, there were new technological issues as students got more and more sophisticated and Trina dealt with these changes in a timely and professional manner. AAPT is an organization of volunteers, and Trina is one of our organization's best.



Summer Meeting 2010

Chris Chiaverina, Winnetka, IL

Chris is a frequent contributor to *The Physics Teacher* and also has served several terms on its Editorial Board. He is currently editor of the *TPT* “Little Gems” column. He has been a co-author or contributor to several physics textbooks, including *Light Science* (Springer-Verlag, 1999), as well as a reprint book on *Teaching Light and Color* (AAPT, 2001). He was a contributing author in the “Active Physics” curriculum project of AAPT.

Chris has served AAPT in a number of roles on both the local and national levels, becoming AAPT Vice President, President Elect, President, and Past President (2001–2004).



Harvey Leff, Cal Poly State University

Harvey served as an officer and Section Representative of the Southern California Section of AAPT from 1987 to 2005, Associate Editor of the *American Journal of Physics* 1992-95, Chair of AAPT’s Professional Concerns Committee 1999-2000, and Chair of the AAPT Nominating Committee 2003-04. He was elected to the AAPT Presidential Chain (2005–2008). Among Harvey’s six dozen scientific publications, primarily related to thermal physics, include articles in the *American Journal of Physics* and *The Physics Teacher*. Serving the wider physics-teaching community, Harvey was an organizer of the Gordon Research Conference on Physics Education and Research on Quantum Mechanics in 2002.



Sanjay Rebello, Kansas State University

An active member of the AOK Section, Rebello brings his graduate students to section meetings where they always present the latest physics education research that the Kansas State University PER group is conducting. He is the kind of “champion” that a local AAPT section needs to maintain its presence in the greater organization.

Rebello promotes good educational practices in the classroom and he practices what he preaches. Many of his graduate students have continued the tradition of physics education as they have moved on to their own teaching careers, giving talks at various AAPT meetings around the nation. This is probably the most significant and essential part of what Sanjay Rebello has meant to AAPT.



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

Robert A. Millikan Medal

The Robert A. Millikan Medal recognizes those who have made outstanding scholarly contributions to physics education.

2010 Awardee: Patricia M. Heller, University of Minnesota

Guiding the Future: Developing Research-based Physics Standards

Pat Heller is Associate Professor of Curriculum and Instruction at the University of Minnesota and a founding member of the Physics Education Research (PER) Group. She has been at the forefront of PER for most of her career, taking on problems and issues that later bloom into entire research areas. One example of this is her work with instructor beliefs. She recognized that no instructional change will happen unless the individual instructor believes in the value of the change. This means we need to know what instructors believe and how those beliefs can change. Her work on cooperative group problem solving has also been of great importance and has not only established a firm research base on the topic in university level physics education, but she and her research group have created (and freely disseminated) materials that are widely used and have influenced many instructors to bring more group problem solving into their classrooms.

Her research program has produced a number of students who are now leaders in the physics education and PER communities. The University of Minnesota Physics Education Research and Development website developed by her research group in physics education is a primary resource for physics teachers and contains first rate materials that have been highly influential for many physics instructors.



Melba Newell Phillips Medal

The Melba Newell Phillips Medal is presented to AAPT leaders who, like Melba Newell Phillips after whom the medal is named, have provided creative leadership and dedicated service that resulted in exceptional contributions to AAPT.

2010 Awardee: Mary Beth Todd Monroe, Southwest Texas Junior College, Uvalde, TX

The Faces of AAPT

As a long-time AAPT member, Monroe has quietly and tenaciously served the organization at the state and national level for more than three decades. She served as AAPT Secretary and Chair of the Publications Committee from 2001-2007, as a member of the Committee on the Interests of Senior Physicists, and as Chair of the Governance Review Committee. She has played a leading role in developing networks among physicists teaching in two-year colleges that have led both to their increasing involvement in AAPT and better teaching for the quarter of all introductory physics students who are students in the Two-Year Colleges.

She is a dedicated proponent of quality physics education in two-year and community colleges. She served on the AAPT Executive Board as Member at-Large Representing Two-Year colleges, and as a member of the Committee on Physics in the Two-Year College. Additionally, she served as Principal Investigator and Project Director for TYC21 and as Co Principal Investigator for Strategic Programs for Innovations in Undergraduate Physics at Two Year Colleges from 2002-2005.



Hans Christian Oersted Medal

The Hans Christian Oersted Medal recognizes those who have had an outstanding, widespread, and lasting impact on the teaching of physics. This award was not presented in 2010.

Award and medal nominations can be submitted online at:
http://www.aapt.org/Programs/awards/upload/Awards_Nomination_Form2011-4.pdf

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

The American Association of Physics Teachers thanks these generous corporate partners for their support of 2010 activities.

SUSTAINING MEMBERS

ALTAY Scientific Spa	Klinger Educational Prod Corp	Sargent Welch CENCO Physics
Annenberg Media	Lambda Scientific Systems, Inc	School Specialty Science (CPO
Arbor Scientific	Macmillan New Ventures	Science)
AU Physics Enterprises	Oceanside Photo & Telescope	Sci-Supply
Design Simulation Tech, Inc	PASCO Scientific	Spectrum Techniques LLC
Educational Innovations	Pearson	SVS Labs
Indonesia University of Education	Physics Academic Software	TeachSpin Inc
John Wiley & Sons Inc	Physics Curriculum & Instruction	Tel-Atomic Inc
Johns Hopkins University Press	Physics2000.Com	The Science Source
Kinetic Books	Sapling Learning	Transparent Devices LLC
		Vernier Software
		W H Freeman & Company
		WebAssign

Special Thanks to Our 2010 Donors

American Physical Society	Lawrence Blanchard Jr.	Ronald Chase	John Dell
Ireneo Abadejos	Julio Blanco	Lai Chen	Cheryl Dellai
Todd Adams	Robert Bonner	Robert Cherdack	Mary Derengowski-Stein
Gregory Adkins	Charles Bordner	Elizabeth Chesick	Dwain Desbien
Carl Albright	Nancy Bow	Celia Chow	Rocco DeVuono
John Alexander	L. Bradford	Stanley Christensen	George Dewey
Ralph Alexander Jr.	LeAnn Brasure	Terry Christensen	- Honoring Leon F. Zirkle
Saeed Ali	Jorge Bravo	Howard Chun	Leonard Diana
Philip Allen	Mary Bray	David Cinabro	William Dibble
- Honoring Clifford Swartz	Stewart Brekke	Jane Clarke	Alexander Dickison
Harvey Alperin	Donald Brill	- Honoring Rikkio Konno	Karim Diff
Ethan Aleya Jr.	Burton Brody	Phillip Collins	Michael DiRosa
Richard Anderson	Julianna Brooks	David Cone	Georges Dome
Weston Anderson	Leslie Brown	James Conklin Jr.	John Donaldson
Charles Armentrout	Randy Brown Jr.	Richard Conklin	Richard Dower
John Armstrong	Robert Brown	David Cook	Antoine DuBourg
Gordon Aubrecht II	Ronald Brown	Natalie Cooper	Kenneth Dugan
Lawrence Badar	Fernand Brunshwig	Donald Cope	Robert Dukes Jr.
Leo Baggerly	Spencer Buckner	Francis Correll	Adrian Duvel
Steven Bailey	George Bundick	Kevin Corrigan	Dewey Dykstra Jr.
Dean Baird	Patricia Burchat	Joseph Coster	Dale Eding
Kandiah Balachandran	Patricia Burke	Russell Couch	Harry Edwards
Nicolaas Ballintyn	Stephen Burns	Robert Cousins	Roger & Jean Edwards
William Bardeen	Sam Bush	- Honoring J. D. Jackson	- Honoring Graisen Edwards
Robert Barker Jr.	David Byrum	Excellence in Graduate	C. Eicher
James Barnes	Don Cameron	Education Award	Fred Einstein
Albert Bartlett	Thomas Campbell	Lucien Cremaldi	Norma Eisen
David Bartlett	Louis Caplan	Dan Cross	Stephen Ellis
Larry Batterton	Jerrold Caplin	John Cumalat	Steven Ellis
John Beacom	Bartley Cardon	Susan Cundiff	Ted Eltzroth
John Beam	Joshua Carin	Beth Cunningham & David Wolfe	Guy Emery
Edward Beasley	Dwight Carpenter	L. Cutler	Charles Emmert
Frederick Becchetti Jr.	Lindsay Cary	Daniel Daly	Paula Engelhardt
Daniel Beck	Judtih Cassella	John Daneau	Sarah Eno
Kelly Beck	James Castiglione	Robert Daniell Jr.	Eugenia Etkina
Dean Becker III	Randall Caton	Teymour Darkhosh	Joyce Evans
Mike Berger	Jane Chambers - Honoring	William Davis	Lester Evans
Gordon Berry	Betty Preece SEES Memorial	Donald De Graaf	Cathy Ezrailson
Richard Berry	Fund	Matthew Deady	Kathleen Falconer
Philip Best	Antony Chang	William Degan	Adolph Faller



Abbas Faridi
 Daniel Fernandez
 Andrew Ferstl
 Gary Fey
 Carl Fields
 Aurino Filho
 Kurt Fisher
 Wayne Fisher
 Richard Fizell
 Allen Flora
 Kenneth Flowers
 Kenneth Ford
 Kenneth Fox
 Ricardo Francke
 Enoch Frankhouser
 A. French
 Klaus Fritsch
 David Fry
 James Fry
 – Honoring J. D. Jackson
 Excellence in Graduate
 Education Award
 Eiichi Fukushima
 Robert Fulbright Jr.
 Richard Fuller
 Robert Fuller
 Wendy Fuller-Mora
 Stephen Fulling
 Ronald Furia
 Joseph Gallagher Jr.
 Dionigi Galletto
 L. Garcia-Colin
 Marilyn Gardner
 C. Garretson
 John Garrett
 Harold Geller
 Zvi Geller
 Donald Gelman
 Elizabeth George
 Ted George
 Thomas Gibbons
 Alan Gibson
 David Giltinan
 – Honoring Rikio Konno
 Robert Godwin
 F. Goebels Jr.
 Keith Goering
 Howard Goldberg
 Marvin Goldberger
 Robert Good Jr.
 Paul Gordon
 David Goss
 Stephen Gottesman

Richard Gottfried
 Christopher Gould
 Harvey Gould
 Laurence Gould
 Mark Graebner
 Daniel Greenberger
 Leo Grike
 Edward Grissing Jr.
 J. Gruenebaum
 Julio Gumez
 Ishwar Gupta
 Elaine Gwinn
 Joseph Hadley Jr.
 Catherine Hafner
 Gerhard Hahne
 Thomas Hall
 W. Hamilton
 Philip Hammer
 John Hank
 Paul Harper
 Beverly Hartline
 L. Haughney
 Charles Hawkins
 Jack Hehn
 – Honoring Howard Voss
 Warren Hein
 James Hendrickson
 Ernest Henley
 Carlos Herran Martinez
 John Hicks
 Larry Hills
 Gerald Hite
 Theodore Hodapp
 Richard Hodson
 Fred Hoffman
 Charles Hollenbeck
 Herbert Hoover
 Pam Horton
 John Hrubec
 Chungchi Hu
 John Hubisz
 Charles Hunt
 John Huschilt
 Douglas Huston
 Steven Iona
 James Jackson
 Anooshirvan Jafari
 Prashanth Jaikumar
 Christian Jensen
 Kenneth Jesse
 John Jewett Jr.
 George John
 Robert Johns

Douglas Johnson
 Kenneth Johnson
 Lynne Johnson
 Stuart Johnson
 Russell Johnston Jr.
 Thomas Junk
 – Honoring J. D. Jackson
 Excellence in Graduate
 Education Award
 Mary Ann Kadooka
 Janice Kaliski
 Robert Kammerer
 Gordon Kane
 John Kaplan
 Debora Katz
 Lois Kieffaber
 G Kiers
 John King
 Paul Kingsbury Jr.
 Larry Kirkpatrick
 Bruce Kittams
 Lynda Klein
 T. C. W. Kleinsteuber
 Randall Knight
 Robert Knox
 Franklin Kone
 Rikio Konno
 Raymond Kosiewicz
 Spyridon Koumpis
 Andreas Kronfeld
 Helmut Kuehl
 Jose Lacalle
 Vasudevan Lakshminarayanan
 Rubin Landau
 Neal Lane
 Paul Lane
 Shane Larson
 Donald Lauffer
 Tyson Lawrence
 John Layman
 Franceline Leary
 Edward Lee
 Gyounggho Lee
 Keum Lee
 Harvey Leff
 Judah Levine
 Clinton Lewis
 Edwin Lewis
 Daniel Li
 James Lindblad
 Richard Lindgren
 Olga Livanis
 Swire Lo

Warner Lo
 Charles Lombardo
 Chris Lowry
 Matthew Lowry
 Stephen Luzader
 Timothy Lynch
 Ntungwa Maasha
 Robert Macartney
 Joseph Macek
 John Mallinckrodt
 A. Mallmann
 Karl Mamola
 Philip Manley
 Steven Manly
 Myron Mann
 Eugene Margerum
 Diane Markoff
 Jill Marshall
 David Martin
 Richard Martin
 Timothy Marvin
 John Mathers
 Wesley Mathews
 Lillian McDermott
 Ronald McKnight
 Dean Meggison
 Kenneth Meinecke
 Kenneth Mellendorf
 Janet Mertz
 Joe Meyer
 Richard Milburn
 Allen Miller
 Paula Miller
 William Miller
 Roger Mills
 Marina Milner-Bolotin
 Dominic Misciascio
 Raj Misra
 Mary Mogge
 David Moir
 Frederick Montana
 Virginia Moore
 John Moreschi
 Dornis Morin Jr.
 Richard Morris
 Clement Moses
 Steven Moss
 Mark Moverman
 Jimmie Myers
 Brian Nagy
 Carl Napolitano
 Marvin Nelson
 John Newell Jr.



Jeff Newmeyer
 Reginald Ney
 Paul Nielsen
 John Noe
 Frank Norton
 Eanna O'Corbain
 Daniel Ohlms
 William Ohlsen
 Martin Okafor
 Thomas Olsen
 Alan Oppenheim
 Philip Ousley
 Pan Papacosta
 Anthony Papirio
 William Papke
 George Parker
 Paul Parker
 Robert Parys
 Laurie Patel
 Richard Patty
 Norman Pearlman
 R. Pedigo
 Amy Perlman
 Herbert Perlman
 Richard Peterson
 Horia Petrache
 Marie Plumb
 Chaiphath Plybour
 Raymond Polomski
 Frank Pomilla
 Frederick Priebe
 Chris Quigg
 Ronald Rank
 Neville Reay
 Edward Redish
 Don Reeder
 Donald Regula
 Pascal Renault
 Abraham Rennert
 Alexander Reznik
 Shahzad Riaz
 Roger Richardson
 Peter Riley
 William Riley
 John Risley
 Charles Robertson
 Roderick Robertson
 Paul Robinson
 John Roeder
 John Rogers
 Peter Roll
 Ronald Roll
 Martin Romeo

Jonathan Rosner
 David Roush
 Pamela Rousseau
 Stanley Rubel
 Shinho Ryu
 Mel Sabella
 Gerhard Salinger
 David Samberg
 Eric Sandin
 Raquel Santana
 John Sarzoza
 Richard Saucier
 Jeff Saul
 Walter Saunders
 David Savickas
 Franklin Sazama
 Philipp Schmelzle
 Charles Schmid
 Carol Schulz
 Michael Schulz
 Brian Schwartz
 – Honoring Betty Preece SEES
 Memorial Fund
 Hugh Scott Jr.
 Stephen Sears
 Rosaline Secrest
 Christopher Sedlack
 Seege Family – Honoring James
 D. Guido
 Matthew Semak
 Thomas Senior
 Antonio Serrano
 Raymond Serway
 Peter Shaffer
 Wesley Shanholtzer
 Richard Shapiro
 Yitzhak Sharon
 Robert Shelby
 Giles Shepherd III
 Bruce Sherwood
 Kenji Shimizu
 Steven Shropshire
 Geoffrey Shute
 Melvin Sick
 Dzintars Sidors
 Miriam Sidran
 Maria Simani
 Kurt Sinclair
 David Smith
 Mary Smith
 Richard Smith
 Benjamin Snavely
 David Sokoloff

Glenn Sowell
 David Spitzer
 Ernest Stahl
 Frieda Stahl
 Virgil Stegner
 Lynn Stephens
 Morton Sternheim
 Cheryl Sternlieb
 Elena Stevenson
 Robert Stewart Jr.
 Thomas Stinchcomb
 James Stith
 – Honoring Len Jossem
 Paul Stokstad
 Charles Strecker
 Harry Stuckey
 Folden Stumpf
 Kathy Suarez
 Evan Sugarbaker
 Jerry Sullivan
 Peter Sullivan
 Gary Sundin
 Priya Swaminathan
 Gretchen Swanson
 Robert Swanson
 Robert Swendsen
 Martin Swetnick
 Keith Symon
 Francis Tam
 Wayne Tanaka
 Jack Taylor
 James Taylor
 R. Taylor III
 David Thiessen
 Jan Tobochnik
 Javier Torner
 Eric Towers
 Lee Trampleasure
 George Trilling
 Michael Trinkala
 Carol Ann Tripp
 Alvin Trivelpiece
 Warren & Amy Turner
 Vera Udovina
 Bret Underwood
 Jack Uretsky
 Noriyuki Ushida
 Robert Utter
 Stephen Van Hook
 Jean-Francois Van Huele
 Vina Velingker
 Robert Vermillion
 David and Christine Vernier

Veronica Villegas
 Mark Vondracek
 David Wallach
 William Walton
 Robert Warasila
 Jessica Warren
 Brian Watson
 Shawn Weatherford
 Robert Webb Sr.
 Carl Wenning
 Peter Wessels
 Margaret Wessling
 John West
 Mary West
 William Wester
 Denise Wetli
 Gary White- Honoring Betty
 Preece
 John White
 Karen Williams
 – Honoring Betty Preece
 Paul Williams
 Robert Williams
 Jack Willis
 Maxine Willis
 Linda Winkler
 Louvan Wood Jr.
 Harry Woodcock
 Ralph Wuerker
 Gail Wyatt
 Patrick Wyant Sr.
 Rachel Wyatt
 Douglas Wylie
 Curtis Wyman
 F. Yeatts
 Anne Young
 Hugh Young
 Allen Yuan
 Elena Yudovina
 Chet Zach
 Shirley Zanton
 Jeffrey Zaugg
 Vincent Zemaitis
 Joseph Zettlemoyer
 John Zhu
 William Zimmermann
 Richard Zitto
 Paul Zitzewitz
 Alma Zook
 John Zwart
 Earl Zwicker
 Anonymous (13)
 Anonymous
 – Honoring Kip Perkins

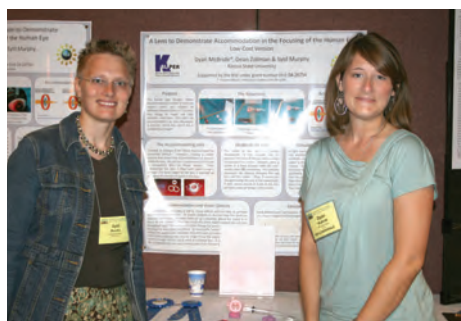
Committee Contributions

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.

2010 Area Committees

Committee on Apparatus

Stephen A. Lindaas, Committee Chair
Thomas J. Senior, Vice Chair
Duane Merrell
David E. Sturm
William W. McNairy
Dale Stille
Keith Warren
Wayne E. Easterling
Jon C. Levin
Warren W. Hein, Ex Officio
Shirley Hyde, Staff Liaison



Committee on Educational Technologies

Taha Mzoughi, Committee Chair
Cathy Mariotti Ezrailson, Vice Chair
Harold Taylor Stokes
Scott F. Schultz
Cindy Schwarz
Vern W. Lindberg
Rubin H. Landau
Todd R. Leif
Robert V. Steiner
Warren W. Hein, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Graduate Education in Physics

Chandralekha Singh, Committee Chair
Marianne Breinig, Vice Chair
Joseph D. Perez
Ray A. Burnstein
N. Sanjay Rebello
Kelvin Chu
Amber L. Stuver
Sytil K. Murphy
Renee Michelle Goertzen
Steven Shropshire, Ex Officio
Warren W. Hein, Ex Officio
Shirley Hyde, Staff Liaison

Committee on History & Philosophy of Physics

Hugh Henderson, Committee Chair
T. B. Greenslade Jr.
Robert A. Morse
Roger H. Stuewer
Gregory Puskar
Aaron Schuetz
Zoltan Berkes
Mikhail M. Agrest
Philip W. Hammer, Ex Officio
Shirley Hyde, Staff Liaison

Committee on International Physics Education

Lei Bao, Committee Chair
Andrew D. Crouse, Vice Chair
Arjumand Haque
Robert H. Poel
Dan MacIsaac
Terry M. Austin
Tetyana Antimirova
Nathaniel Lasry
Philip W. Hammer, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Laboratories

Mary Ann H. Klassen, Chair
Gabriel C. Spalding, Vice Chair
Dean Hudek
James L. Hicks
Roman Ya Kezerashvili
Jeff H. Terry
Timothy Todd Grove
Stephen H. Irons
Mark F. Masters
Warren W. Hein, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Minorities in Physics

Beverly T. Cannon, Committee Chair
Lawrence Blanchard Jr.
Daniel M. Smith Jr.
Roberto Salgado
Ntungwa Maasha
Krishna M. Chowdary
Kimberly A. Shaw
Katya Denisova
Philip W. Hammer, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Physics in High Schools

Jan Landis Mader, Committee Chair
Lawrence Todd Escalada
Daniel M. Crowe
Karen Nyhus Hibbs
John P. Lewis
Don B. Cameron
Robert J. Froehlich
Warren W. Hein, Ex Officio
Elizabeth B. Chesick, Ex Officio
Shirley Hyde, Staff Liaison

Committee on the Interests of Senior Physicists

John L. Hubisz, Committee Chair
Ann M. W. Brandon
Richard J. Jacob
Peter Lindenfeld
William R. Franklin
John W. Layman
John S. Rigden
Edwin F. Taylor
Dean A. Zollman
Warren W. Hein, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Physics in High School Education

Diane M Riendeau, Committee Chair
Paul Dolan
Vivian O'Brien
Danielle B. Harlow
James A. Dunne
Dale Freeland
Kathleen Ann Falconer
Michael E. Jabot
Wayne A. Fisher
Elizabeth B. Chesick, Ex Officio
Warren W. Hein, Ex Officio
Shirley Hyde, Staff Liaison



Committee on Physics in Two-Year Colleges

William P. Hogan, Committee Chair
John W. Griffith
Paul D'Alessandris
Sherry L. Savrda
Robert K. Keefer
Chitra Solomonson
Darwin Church
Larry T. Ward
Adrienne R. Battle
Philip W. Hammer, Ex Officio
Marie F. Plumb, Ex Officio
Shirley Hyde, Staff Liaison



Committee on Physics in Undergraduate Education

Mary L. Lowe, Committee Chair
Aaron P. Titus, Vice Chair
David Pritchard
Edgar G. Corpuz
Dwain M. Desbien
Gerald Feldman
Lili Cui
Lin Ding
Mario J. Belloni
Steven Shropshire, Ex Officio
Philip W. Hammer, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Professional Concerns

Neville W. Reay, Committee Chair
Dyan McBride, Vice Chair
Thomas Carter
Donald G. Franklin
Thomas L. O'Kuma
Jose D. Garcia
Elaine Gwinn
Karie Meyers
Joseph F. Kozminski
Philip W. Hammer, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Research in Physics Education

Mel Sabella, Committee Chair
Andrew Heckler, Vice Chair
Paula V. Engelhardt
Scott Bonham
Jeffrey D. Marx
Eric T. Brewé
MacKenzie Stetzer
Sarah McKagan
William Christenson
Warren W. Hein, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Science Education for the Public

John L. Roeder, Committee Chair
Art Hobson
Adam Beehler
William E. Reitz
Bob E. Powell
Steven Shropshire
Brian Jones
Olga Livanis
Paul Williams
James Erik Hendrickson
Philip W. Hammer, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Space Science and Astronomy

Doug Lombardi, Committee Chair
Janelle M. Bailey, Vice Chair
Richard Dittéon
Mona Saleh
Thomas Foster
Stacey Palen
Michael Jordan Raddick
Kevin M. Lee
Eric G. Hintz
Don H. Olive
Warren W. Hein, Ex Officio
Shirley Hyde, Staff Liaison

Committee on Teacher Preparation

Nancy L. Donaldson, Committee Chair
Lisa L. Grable
Duane Merrell
Andy P. Johnson
Stamatis Vokos
Wendell H. Potter
Andrew C. Isola
Monica Plisch
Laura M. Nickerson
Philip W. Hammer, Ex Officio
Shirley Hyde, Staff Liaison



Committee on Women in Physics

Eleanor W. Close, Committee Chair
Anne J. Cox, Vice Chair
Susan E. Ramlo
Patricia E. Palko
Melissa Dancy
Stephanie Allred Magleby
Jacob Blickenstaff
Raymond C. Nelson
Marina Milner-Bolotin
Philip W. Hammer, Ex Officio
Shirley Hyde, Staff Liaison



2010 Advisory Committees

Audit Committee

Mary Elizabeth Mogge, Chair
Marina Milner-Bolotin
Marie F. Plumb
John L. Hubisz
Elizabeth B. Chesick
Warren W. Hein, Ex Officio

Awards Committee

Alexander K. Dickison, Chair
David M. Cook
Steven Iona
Mary Elizabeth Mogge
Elizabeth B. Chesick

Bauder Endowment Committee

Paul W. Zitzewitz, Chair
Samuel M. Sampere
Joseph Spaccavento
Marie F. Plumb
Elizabeth B. Chesick
Raymond A. Polomski

Governance Structure Committee

Mary Beth Monroe, Chair
Bernie Khoury,
Emie Behringer,
Lila Adair
Steve Iona,
Dwain Desbien

Committee on SI Units and Metric Education

Gordon J. Aubrecht, II, Chair
Bartley L. Cardon

Finance Committee

Paul W. Zitzewitz, Chair
Alexander K. Dickison
Charles H. Holbrow

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
Warren W. Hein, Chair

IUPAP

Dean Zollman
Gordon Ramsey,
David Sokoloff

USLC

Beth Cunningham
Gordon Ramsey

Gerald F. Wheeler
Elizabeth B. Chesick
Warren Hein, Ex Officio
Michael Brosnan, Ex Officio

Governance Review Committee

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

Historian Committee

John W. Layman
Richard W. Peterson

Investment Advisory Committee

Paul W. Zitzewitz, Chair
Charles E. Robertson
Mary Elizabeth Mogge
Alan M. Gibson
Bernard V. Khoury, Ex Officio
Warren W. Hein, Ex Officio

Lotze Scholarship Committee

Patricia E. Allen, Chair
Paul Hickman
Paul W. Zitzewitz
Elizabeth B. Chesick
Barbara Lotze, Ex Officio
Warren W. Hein, Ex Officio

Meetings Committee

Thomas L. O'Kuma, Chair
Sherry L. Savrda
David R. Sokoloff
Patrick S. Keefe
Jill A. Marshall
Jose D. Garcia
Karen L. Johnston
Lila M. Adair
Kendra J. Sibbersen
Tiffany Hayes, Ex Officio
Warren W. Hein, Ex Officio

Membership and Benefits Committee

Mary Elizabeth Mogge, Chair
Marina Milner-Bolotin, Vice Chair
John D. FitzGibbons
Harold Taylor Stokes
William T. Waggoner
Steven Iona
Todd R. Leif
Paul W. Zitzewitz
Richard Gelderman
Rhett J. Allain
Laura M. Nickerson
Warren W. Hein, Ex Officio
Marilyn Gardner, Ex Officio

Nominating Committee

Christopher J. Chiaverina, Chair
Stanley Jones
Vincent H. Kuo

Ntungwa Maasha
Eugenia Etkina
Patrick T. Callahan
Myra R. West
Gregory Puskar
Scott F. Schultz

Physics Bowl Advisory Committee

Mike Faleski, Chair
Mike Bush
Beverly Trina Cannon
Andrzej Sokolowski
Courtney Willis

Programs Committee

David R. Sokoloff, Chair
Jill A. Marshall, Vice Chair
Elizabeth Chesick
Gay B. Stewart
Tiffany Hayes, Ex Officio
Gary Dane White, Ex Officio
Warren W. Hein, Ex Officio

Publications Committee

Steven Iona, Chair
Marina Milner-Bolotin, Recording Secretary
Alexander K. Dickison
Robert J. Beichner
Juan R. Burciaga
Roger H. Stuewer
Jan Tobochnik
Marie F. Plumb
Karl C. Mamola
Paul W. Zitzewitz
Bruce A. Mason
Warren W. Hein, Ex Officio
Marilyn Gardner, Ex Officio

Review Board

Alexander K. Dickison, Chair
David M. Cook
Marie F. Plumb
David R. Sokoloff
Warren W. Hein, Ex Officio

Physics Education Research Leadership Advisory Group

Rachel E. Scherr, Chair
N. Sanjay Rebello
Eugenia Etkina
Noah Finkelstein
Mel Sabella
John R. Thompson
Jose P. Mestre

Venture Review Committee

Paul W. Zitzewitz, Chair
Steven Shropshire
Steven Iona
Marie F. Plumb
Elizabeth B. Chesick
Warren W. Hein, Ex Officio

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.

Alabama Section

Duane H. Pontius, Jr., President
Stanley Jones, Section Rep.

Alaska Section

James Pantaleone, Section Rep.

Alberta Section

Laura Pankratz, President
Terry Singleton, Section Rep.

Appalachian Section

Dennis E. Kuhl, President
Gregory Puskar, Section Rep.

Arizona Section

Thomas Scott Vining, President
James Ward & David K. Weaver,
Section Rep.

Arkansas-Oklahoma-Kansas Section

Sytil K. Murphy, President
Todd R. Leif, Section Rep.

British Columbia Section

Philip Freeman, President
Marina Milner-Bolotin, Section
Rep.

Central Pennsylvania Section

Karl P. Trout, President
Lynn K. Aldrich, Section Rep.

Chesapeake Section

Craig M. Jensen, President
David Shaw Wright, Section Rep.

Chicago Section

Mel Sabella, President
Martha Lietz, Section Rep.

Colorado-Wyoming Section

Chuck Stone, President
Vincent H. Kuo, Section Rep.

Florida Section

Jane Bray Nelson, President
Sherry L. Savrda, Section Rep.

Hawaii Section

Michael F. Weber, President
Katie Brown & James L. Redmond,
Section Rep.

Idaho-Utah Section

Duane Merrell, President
Harold Taylor Stokes, Section Rep.

Illinois Section

Carl J. Wenning, President
Zak A. Knott, Section Rep.

Indiana Section

Tracy G. Hood, President
Elaine Gwinn, Section Rep.

Iowa Section

Diane May, President
John W. Zwart, Section Rep.

Kentucky Section

Akhtar Mahmood, President
Richard Gelderman, Section Rep.

Long Island Section

Ed McDaniels, President
Tania Entwistle, Section Rep.

Louisiana Section

John Thacker, President
Rhett J. Allain, Section Rep.

Mexico Section

Hugo Alarcon, President
Genaro Zavala, Section Rep.

Michigan Section

Michael Faleski, President
Alan M. Gibson, Section Rep.

Minnesota Section

Andy Rundquist, President
Leonardo Hsu, Section Rep.

Mississippi Section

Brady Garrett, President
James A. Dunne, Section Rep.

Missouri Section

Sunder Balasubramanian,
President
James M. Borgwald, Section Rep.

Montana Section

Wayne Mangold, President
Rich McFate, Section Rep.

Nebraska Section

Kendra Sibbernsen, Section Rep.

New England Section

Laura M. Nickerson, Section Rep.

New Jersey Section

Raymond A. Polomski, President
Joseph Spaccavento, Section Rep.

New York Section

Joseph L. Zawicki, President
John D. FitzGibbons & Cindy
Schwarz, Section Rep.

North Carolina Section

Tatlock Lauten, President
Mario J. Belloni, Section Rep.

North Dakota Section

Donald L. Hoff, Section Rep.

Northern California-Nevada Section

Claudia Winkler, President
Paul Robinson, Section Rep.

Ohio Section

Charles P. Deremer, President
Myra West, Section Rep.

Ontario Section

David W. Doucette, President
Tetyana Antimirova, Section Rep.

Oregon Section

Dedra N. Demaree, President
Patrick S. Keefe, Section Rep.

Quebec Section

Nathaniel Lasry, President
Chris Whittaker, Section Rep.

South Dakota Section

Molly TenBroek, President
Joel D. Rauber, Section Rep.

Southeastern Pennsylvania Section

Mary Ann H. Klassen, President
Ling L. Liang, Section Rep.

Southern Atlantic Coast Section

Taha Mzoughi, President
Ntungwa Maasha, Section Rep.

Southern California Section

Jeffrey A. Phillips, President
Mary Elizabeth Mogge, Section Rep.

Southern Nevada Section

Doug Lombardi, President
Janelle M. Bailey, Section Rep.

Southern Ohio Section

Kathleen M. Koenig, President
Kathleen A. Harper, Section Rep.

Southwestern Section

Alex F. Burr, Section Rep.

St. Louis Section

Jennifer M. Meyer, President
Gary E. Taylor Section Rep.

Tennessee Section

Benito T. Szapiro, President
Spencer L. Buckner, Section Rep.

Texas Section

Toni Sauncy, President
Thomas L. O'Kuma, Section Rep.

Washington Section

Krishna M. Chowdary, President
Robert Hobbs, Section Rep.

Western Pennsylvania Section

David Groh, President
Dyan McBride, Section Rep.

Wisconsin Section

Steven C. Sahyun, President
A. James Mallmann, Section Rep.

2010 Annual Report Financial Statement

Details of the financial status and activities of the AAPT are on the following pages. To help you understand those reports, consider first the activities that the AAPT supports:

1. **Communications.** The AAPT publishes three journals, the eNNOUNCER, and maintains a website.
2. **Meetings.** It organizes two major meetings each year.
3. **Grants.** It provides financial and administrative services to members for grants. Among these are twenty-five years of PTRAs grants, grants that support ComPADRE, the Advanced Lab Topical Conference, PhysTEC, the SPIN-UP programs, and the National Taskforce on Undergraduate Physics.
4. **Programs.** It sponsors the US Physics Team, Physics Bowl, Team America Rocketry Challenge, International Science and Engineering Fair, High School Physics Photo Contest, Apparatus Competition, Workshops for new four-year college/university faculty members and the new workshop for new two-year college faculty members.

As shown in the preceding pages, the AAPT conducts these activities with both professionals in the Executive Office at the American Center for Physics and volunteer work by a large number of its members, including the Executive Board, Committees, Area Committees, and Sections.

The two major sources of revenue are membership dues and journal subscriptions. Membership dues pay much of the cost of publication of the journals as well as the Executive Office. Journals are also supported by subscriptions from libraries and consortia.

Income for the annual meetings comes from registration fees and fees paid by exhibitors, but the costs of these meetings have exceeded income for many years. The Association charges overhead costs for grants that pay for the time spent by office members who perform the services for the grants. Some programs receive support from other organizations and grants, but the Association pays most of the costs of the programs.

For at least ten years the Association's operating budget has been in the red. The income sources described above have not been sufficient to pay for the costs of the activities the Association provides for its members. For several years income and capital gains from its reserve funds were sufficient to over the deficits, but in recent years the decline in the market has meant that we cannot continue to withdraw funds from the reserves without endangering our future.

The Board and Executive Office have worked hard to increase income. Several programs have been tried to recruit new members, to retain present members, and to recover those who have dropped membership. Some of these have been successful, but have not produced significant increased revenue. The revenue from non-member subscriptions has increased over the last five years despite the decrease in library budgets and increase in libraries joining consortiums. We continue to be cognizant of the changing external conditions that may impact our publications. We have also worked hard to reduce expenses and increase income from the winter and summer meetings and to make programs self-supporting.

The Board has adopted a 2011 budget that is very close to balanced. It includes no raises and benefit cuts for members of the Executive Office, reduced support for Executive Board members and Section Representatives, and replacement of face-to-face spring and fall Board meetings with video conferences. Two positions in the office have been eliminated, one in development and one in member services, and the hiring of an Associate Executive Officer has been delayed until next summer. The Executive Office is working with other organizations in the American Center for Physics to reduce technology costs. The Board is considering either changing the structure of the winter meeting or cancelling it.

On the positive side, the AAPT has received funds to endow the two awards for excellence in teaching: pre-college and undergraduate, and has transferred funds from the Dodge Fund to endow the Millikan, Klopsteg, Richtmeyer, and Oersted awards at \$60,000 each. As a result, the costs of these awards will no longer be charged to the operations budget.



Paul W. Zitzewitz
AAPT Treasurer

The American Association of Physics Teachers, Inc.
Balance Sheet
Year Ended December 31, 2010
(With comparative totals for 2009)

	December 2010	December 2009
ASSETS		
Cash and Cash Equivalents	\$575,451	\$700,024
Investments	3,190,735	3,236,556
Receivables, Net		
Grants	190,809	158,366
Due from affiliate	54,972	35,000
Membership	58,892	6,026
Other	9,655	9,655
Inventory	78,454	129,033
Prepaid Expenses	59,729	89,272
Investment in ACP	134,626	47,487
Property and Equipment, Net	23,333	53,793
	\$4,376,656	\$4,465,212
LIABILITIES & NET ASSETS		
LIABILITIES		
Accounts Payable and Accrued Expenses	265,555	372,283
Accrued Payroll and Related Liabilities	287,532	394,534
Unearned Revenue	1,903,458	2,089,931
Capital Lease Obligation	16,146	6,610
Deferred Compensation Obligation	-0-	38,896
Accrued Postretirement Benefit Obligation	356,573	347,832
	\$2,829,264	\$3,250,086
NET ASSETS		
Unrestricted		
Undesignated	674,064	424,496
Board designated	173,278	184,415
	847,342	608,911
Temporarily Restricted	268,365	174,530
Permanently Restricted	431,685	431,685
	1,547,392	1,215,126
TOTAL LIABILITIES & NET ASSETS	\$4,376,656	\$4,465,212

The American Association of Physics Teachers, Inc.
Statement of Activities
Year Ended December 31, 2010
(With Comparative Totals for 2009)

	<u>Unrestricted</u>		Temporary Restricted	Permanently Restricted	2010 Total	2009 Total
	Undesignated	Board Designated				
Revenue & Support:						
American Journal of Physics	\$1,481,751	-	-	-	\$1,481,751	\$1,419,540
The Physics Teacher	869,418	-	-	-	869,418	881,933
Investment Income (Loss)	371,500	-	107,415	-	478,915	694,008
Other Publications	157,938	-	-	-	157,938	18,343
Meetings, workshops and projects	767,339	-	-	-	767,339	827,845
Membership	833,368	-	-	-	833,368	594,735
Federal Grants	740,614	-	-	-	740,614	951,713
Contributions	150,129	859	-	-	150,988	71,751
International Physics Olympiad	64,800	-	-	-	64,800	30,722
Share in earnings of investment in ACP	87,139	-	-	-	87,139	39,865
Miscellaneous Income	2,235	-	-	-	2,235	21,542
Net assets released from restrictions	25,576	(11,996)	(13,580)	-	-	-
Total revenue and support	5,551,807	(11,137)	93,835	-	5,634,505	5,551,997
Expenses:						
American Journal of Physics	807,339	-	-	-	807,339	796,888
The Physics Teacher	622,893	-	-	-	622,893	716,549
Other Publications	769,008	-	-	-	769,008	658,402
Meetings, workshops and projects	1,042,468	-	-	-	1,042,468	1,175,040
Memberships	873,960	-	-	-	873,960	849,516
Federal Grants	757,468	-	-	-	757,468	1,048,712
General and administrative	320,354	-	-	-	320,354	274,309
Fundraising	108,749	-	-	-	108,749	94,759
Total Expenses	5,302,239	-	-	-	5,302,239	5,614,175
Change in net Assets	249,568	(11,137)	93,835	-	332,266	(62,178)
Net Assets:						
Beginning	424,496	184,415	174,530	431,685	1,215,126	1,277,304
Transfers	-	-	-	-	-	-
Ending	\$674,064	\$173,278	\$268,365	\$431,685	\$1,547,392	\$1,215,126

The American Association of Physics Teachers, Inc.
Schedule of Functional Expenses
Year Ended December 31, 2010
(With Comparative Totals for 2009)

	Program Services	General & Administrative	Fundraising	2010 Total	2009 Total
Compensation expense	\$ 1,264,813	\$ 910,201	\$ 61,895	\$2,236,909	\$ 2,135,689
Travel	222,671	102,295	-	324,966	272,000
Publication costs	323,013	-	-	323,013	274,720
Editorial office expense	250,673	-	-	250,673	367,510
Debt Service	-	245,794	-	245,794	251,355
Computer supplies and maintenance	6,141	182,174	-	188,315	188,118
Participant travel and stipends	185,125	-	-	185,125	288,797
Rental operating expenses	-	174,713	-	174,713	174,594
Consultants, contracts and temporary	165,780	2,596	3,703	172,079	194,397
Online journal services	158,159	-	-	158,159	146,580
Conferences, meetings, and workshops	107,882	19,950	-	127,832	94,605
Postage, packaging and shipping	115,043	-	-	115,043	193,863
Audio/visual	76,947	6,188	-	83,135	162,308
Professional Fees	15,497	65,411	-	80,908	102,879
Exhibit and meeting expenses	65,314	-	-	65,314	80,385
Bank fees	60	61,570	-	61,630	54,033
Publishing services	60,658	-	-	60,658	54,319
Dues and memberships	57,948	206	-	58,154	53,407
Honoraria	55,130	-	-	55,130	76,322
Awards	48,065	1,635	-	49,700	39,555
Depreciation	-	44,797	-	44,797	84,351
Photocopying and printing	32,767	4,254	6,858	43,879	74,936
Office services	-	43,079	-	43,079	45,822
Advertising	38,053	-	-	38,053	52,403
Materials and supplies	24,853	1,635	233	26,721	40,454
Other	8,134	12,897	-	21,031	10,647
Investment expenses	-	15,875	-	15,875	15,394
Insurance	310	15,271	-	15,581	19,912
Other facility costs	15,492	-	-	15,492	30,532
Telephone	3,792	6,432	-	10,224	13,774
Storage	6,544	559	-	7,103	8,794
Security	2,709	-	-	2,709	4,050
Royalty expense	-	445	-	445	813
Equipment and maintenance	-	-	-	-	6,857
Allocation of indirect costs	1,561,563	(1,597,623)	36,060	(0)	0
Total expenses	\$ 4,873,136	\$320,354	\$108,749	\$5,302,239	\$ 5,614,175



AAPT American Association of
Physics Teachers

One Physics Ellipse
College Park, MD 20740
301.209.3333
www.aapt.org