

Alberta Section

Spring Meeting: May 17 (Laser Fest)

University of Alberta

A lecture style presentation on the history, use and technology advances regarding lasers was used to celebrate the 50th anniversary of the Laser. The program was developed by the local Optical Society and AAPT Alberta section members. Students were brought in for an afternoon of lectures, demonstrations and hands-on activities. 10 Local section AAPT members and 300 students attended.

Fall Meeting: December 10

University of Alberta

A lecture style presentation on the history, use and technology advances regarding lasers was used to celebrate the 50th anniversary of the Laser. The program was developed by the local Optical Society and AAPT Alberta section members. Students were brought in for an afternoon of lectures, demonstrations and hands-on activities.

<http://polaris.phys.ualberta.ca/aapt/index.html>

—Terry Singleton, Section Representative

Appalachian Section

The 59th Appalachian Section Meeting was held October 8-9, 2010 at Marietta College, Marietta, OH. It was a joint meeting with the Southern Ohio Section and the Ohio Section of the APS. Our host, Dennis Kuhl, assembled an interesting and full schedule of sessions and activities. Highlights included a show at the Anderson Hancock Planetarium conducted by Director Ann Bragg and a workshop about the “History and Fate of the Universe” conducted by Gordon Aubrecht and Todd Brown. A dinner cruise on the Ohio River aboard the Valley Gem sternwheeler was also held Friday evening before the planetarium show.

The Appalachian Section Business Meeting was held at lunch on October 9. A new slate of officers was elected and a discussion about the lack of high school teacher participation was held. The meeting schedule was adjusted as the host for our 2011 meeting at Ohio University in Athens received sabbatical leave. West Virginia University will now host the 2011 meeting and Ohio University will fill WVU’s slot in 2012.

<http://www.wju.edu/academics/phy/aapt/aapt.htm>

—Gregory Puskar, Section Representative

Arkansas-Oklahoma-Kansas Section

October 29-30th was the date of the annual Arkansas-Oklahoma-Kansas AAPT section meeting which was held in Kansas City, MO at the Kansas City Convention Center and at Avila University, also just across the border in Kansas City MO. The AOK section organized and hosted a physics day for the Regional NSTA meeting on Friday October 29th and then had a small sectional meeting at Dr. Jim Johnson’s facility at Avila. The NSTA meeting was very well attended by high school teachers throughout the region with the days activities well attended by a number of participants at the conference. Karen Williams from East Central Oklahoma University gave the initial presentation for the day. A modified version of her “ethics in science” workshop was presented to the group. This workshop contains a number of “case study” scenarios in which participants discuss the “what would you do?” aspect of each case study. Karen and her teaching colleague Carl Rutherford have given this in many forms at various meetings across the Midwest and always provide useful and updated information on the ethical dilemmas that affront us daily as scientists. Carl Rutherford, ECU then made the second presentation for the day. Carl’s workshop was based upon using the Galileo telescope in the classroom and laboratory setting. Carl supplied a large classroom set of these simple yet quite useful telescopes to the participants to take apart, reassemble and use in a similar manner to how Carl uses them in his introductory astronomy classes at ECU. Additionally he provided a number of interesting and unique handouts for hands on and “eyes on” star viewing activities.

The third presentation of the day was given by AOK section representative Todd Leif. Leif demonstrated his use of video analysis in the community college setting. The workshop presentation included information from the livephoto physics project and the use of Vernier Softwares Logger Pro video features. The session had nearly 70 teachers attend and it brought the morning session of the physics strand to an end.

The afternoon session was started by Phillip Scott AOK Section’s HS representative for Oklahoma and McAlister High School’s award winning science/physics teacher. He gave his presentation on building your own telescope and observatory at your own high school setting. The group focused on the various requirements to build such a unique instructional space at your high school and gathered much

useful information during the session. Scott has made his presentation at previous AOK section meetings and as always it was well received.

Dr. Bruce Mason from the University of Oklahoma was the second presenter in the afternoon session. Dr. Mason is the project director for the ComPadre physics digital library. The presentation was used to show the membership of the NSTA the various components of the digital library, some of its possible uses and methods to be a part of the organization and gathering of successful physics lessons to be housed at the site. Mason has been working with the ComPadre project for a number of years and is oftentimes asked to make these presentations throughout the country as a part of his “duties for AAPT” who are co-PI’s on the digital library initiative.

The final project of the afternoon was demonstrated and discussed by Dr. Steven Meier from the University of Northwestern Oklahoma. Dr. Meier is a regional coordinator and host for the BEST Robotics Program in Oklahoma and lower Kansas. The program is designed to effectively attract students to fields of study and careers in engineering, science and technology. One of the significant features of the program is that students at participating high schools don’t have to come up with a lot of money for robotic parts, they only have to become a part of the BEST community and the kits supply everything allowed to create Robots on an even playing field. Numerous members of the NSTA were in attendance at this program which concluded a successful “Physics Day Strand” as part of the NSTA Regional Conference. AOK members went their separate ways after the afternoon session finished.

Saturday Morning approximately 20 members of the AOK gathered at Alvia University for a morning coffee and doughnut session with a number of presentations made by the Kansas State University Physics Education Research Group as well as presentations by the host Dr. Jim Johnson and additional AOK members.

The business meeting ended the day’s activities as Section Representative Todd Leif discussed the last two AAPT national meetings, as well as the upcoming winter 2011 meeting to be held at Jacksonville, Florida. The membership agreed to move the current slate of officers into additional one year terms since the section had participated in this tandem NSTA meeting this fall. Next year’s President will be C. Dianne Phillips of the University of Arkansas at Benton. She will host the meeting at a time yet to be determined sometimes in the Fall of 2011. The next person to host the AOK section meeting will be Dr. Steven Meier at Northwestern Oklahoma University. This meeting will be in the fall of 2012. The future Kansas host was yet to be determined. The AOK AAPT physics teachers would like to thank Jim Johnson our Missouri neighbor for hosting the Fall 2010 meeting.

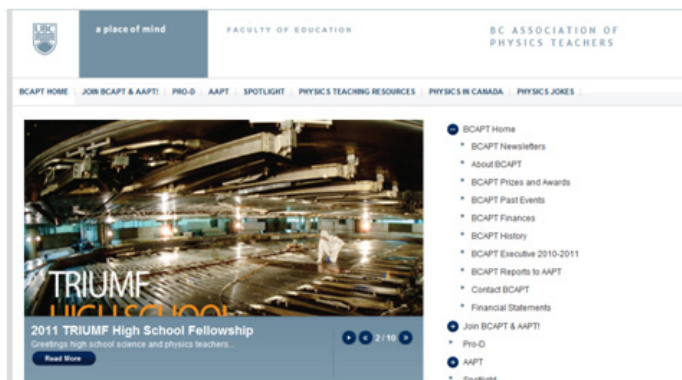
<http://web.phys.ksu.edu/AOK/>

—Todd R. Leif, Section Representative

British Columbia Section

New Web Site

BCAPT is proud to announce the rebirth of our web site: www.bcapt.ca. The new web site is hosted by the University of British Columbia and is a blend of a static web site and a blog. It is now easy to update and the members can place their comments. It also includes links for event registration, as well as National and local meetings and events. The web site has been constantly updated and has all the information about physics-related events happening in BC.



The web site is one of the ways, BCAPT is working on attracting new teachers into the organization. It also tells physics teachers about AAPT and why becoming a member is important. In addition to the web site, we have a very active list-serve that is free and open to all.

New Section Officers

During our annual meeting in May 2010 Marina Milner-Bolotin was elected to become our next Vice-President. Marina is also serving as a Section representative and a web master. Marina has been an Ontario Section Representative to the AAPT for two years prior to coming to UBC. She was also a BCAPT section representative from 2005 to 2007. She is currently serving as a Vice-Chair of the AAPT Section Representatives and a member of the AAPT Executive Board.



List of current BCAPT Executive Board Members:

President:	Philip Freeman (5th from left)
Vice-President:	Marina Milner-Bolotin (3rd from left)
Past President:	Dan Phelps (1st from left)

Treasurer: Mike Coombes (2nd from left)
Secretary: Terry Coates (not present)
AAPT Section Rep. Marina Milner-Bolotin
Webmaster: Marina Milner-Bolotin

2010 Awards

BCAPT President Mr. Philip Freeman has been awarded the Canadian Association of Physicists Medal for the Excellence in High Schools/CEGEP Physics Teaching: <http://www.cap.ca/en/activities/medals-and-awards/medals-teaching/> BCAPT is very happy for Philip's well deserved award and would like to congratulate him with such a great achievement. Our congratulations to Philip!

BCAPT Vice-President Mrs. Marina Milner-Bolotin has been awarded the Canadian Association of Physicists Medal for the Excellence in Undergraduate Physics Teaching: <http://www.cap.ca/en/activities/medals-and-awards/medals-teaching/>. BCAPT is very happy for Marina's well deserved award and would like to congratulate her with such a great achievement!

2010 Events

BC Association of Physics Teachers was well-represented at the Catalyst 2010 Conference of the BC Science Teachers Association that took place in Kelowna in March of 2010. BCAPT members presented talks and workshops and interacted with science teachers all across the province.

In October of 2010, BCAPT collaborated with TRIUMF on creating a special Professional Development Day for science teachers. The event attracted more than 50 teachers and was focused on physics applications in medicine. It was a very successful event.

Our Next Annual Conference

Our next annual conference will take place in May of 2011 and will be hosted by the Department of Physics at the University of British Columbia at Kelowna Campus. All the details about the event will be posted on the updated BCAPT web site: www.bcapt.ca

—Marina Milner-Bolotin, Section Representative

Central Pennsylvania Section

The 58th Annual Conference of the American Association of Physics Teachers, Central Pennsylvania Section (AAPT-CPS) was held March 12-13 at LaSalle University, Philadelphia, PA. This meeting was a joint event sponsored by the Southeastern PA Section, Central PA Section, New Jersey Section, the Physics Club of New York, and La Salle University. Ling Liang from La Salle University hosted the conference. There were about 70-80 registered attendees. The theme was "HOW we teach may be more important than WHAT we teach..."

There was an all day workshop on Friday run by the Physics Teachers Resource Agents (PRTA) for physics teachers. Dave McCachren of Indian Valley High School

in Lewistown, PA and Pat Callahan of Delaware Valley Regional High School in Frenchtown, NJ conducted the workshop. The workshop was titled "Physics with Video Analysis", and participants explored the use of Logger Pro as a tool to analyze data from video clips.

The poster session began a half hour before the banquet dinner and continued through the dinner on Friday in the Union Building Ballroom. There were only a half dozen posters presented, and the poster session was a success largely because of contributions by the Central PA section.

After dinner, the meeting attendees were treated to an invited talk by Derrick H. Pitts, Chief Astronomer and Planetarium Director at the Franklin Institute Science Museum. The talk was titled "The (Universal) Matrix Reloaded" and took place in the Dan Rodden Theater. In his presentation, Dr. Pitts presented an overview of the universe using some outstanding astronomical photos, and he discussed our new understanding of the universe's accelerating expansion culminating in a brief description of dark matter and dark energy. The talk's goal was to alter how we think about the cosmos, its origins and ourselves.

On Saturday morning, the membership enjoyed a continental breakfast in the Roland Holroyd Science Center Atrium, and there was an official welcome and introduction given by Jay Eldred Bagley, President of the SEPA section. After this, Warren Hein, AAPT Executive Officer, gave an update on the PhysTEC Project and talked about the physics department's role in the preparation of pre-college physics teachers. This was followed by an invited lecture by Matt Greenwolfe, the President-Elect of the American Modeling Teachers Association. Greenwolfe's talk was entitled, "Don't Hide the Model! High School Students and Computational Modeling with Vpython".

Lunch was served at noon, and for a short period of time after lunch members could meet with vendors and publishers. Parallel General Business Meetings were held by section beginning at 1:30 pm in various locations on campus. During the Central PA section's business meeting, award certificates were made to student presenters who were in attendance. The president of CPS, Dr. Michael Doncheski, presided over the business meeting and gave a Service Recognition Award to our Past President, Dr. John Reid. An additional recognition was made to Greg Dolise for going above and beyond the call of duty in helping to improve the membership list.

The General Meeting ended with the election of executive officers of AAPT-CPS. Two current members of the Executive Board were elected to new positions: Mr. Kip Trout from Penn State York was elected President, and Dr. Mike Gallis from Penn State Schuylkill was elected Vice President. (Subsequently Kip Trout resigned his office and Dr. Mike Doncheski assumed the responsibility of Acting President.) The position of Secretary was not filled at the meeting, but the membership voted to empower

the Executive Committee to fill the position as soon as possible with a qualified candidate. Four members of the current Executive Committee were reelected: Dr. Lynn Aldrich of Misericordia University was reelected Section Representative, Dr. Sardari Khanna of York College was reelected as Treasurer, David McCachren of Indian Valley High School was reelected High School Representative and Gregory Dolise of Harrisburg Area Community College was reelected Two-year College Representative. An additional Executive Committee position was voted on and added: Dr. John Reid was elected as Web-Master for the CPS-AAPT.

The joint conference concluded with a great demo show conducted by Bill Berner from University of Pennsylvania and a drawing for door prizes.

www.aaptcps.org

—Lynn Aldrich, Section Representative

Chesapeake Section

The Chesapeake Section Fall Meeting was held on October 29 30, 2010 at Randolph Macon College, in Ashland, Virginia. It began on Friday afternoon with a workshop on *Mathematica 7* with Dr. Bruce Torrence as the workshop leader. A banquet followed with Dr. Adrian Rice, a Professor of Mathematics at Randolph Macon College as the speaker. His topic was *A History of Some Great Physicists: From Archimedes to Zimmerman*. On Saturday morning, the following contributed papers were presented: *Virtual Physics Laboratory Experiments, Will they pave the way to Virtual Physics Education*, Harold Geller, George Mason University.

An Inclined Manometer for Static Fluid Demonstrations, John Ochab, J. Sargent Reynolds Community College
The Bicycle Wheel as Physics Lab Apparatus, Harold Houghton, Maggie Walker High School
Statistics from the Gut, Brian Sutton, Randolph Macon College

Two Cultures: Teaching Science in an Interdisciplinary Setting, George Spagna, Randolph Macon College
Teaching Good science using Bad science, Matthew Francis, Randolph Macon College

The contributed papers were followed by a business meeting. The next section meeting will be in the spring of 2011 at Northern Virginia Community College, Annandale, VA.

The Chesapeake Section organized and sponsored Physics Day at the NSTA regional Meeting in Baltimore, MD. The event took place on Friday, November 12, 2010. The sessions were well attended. The following activities and papers were presented:

“Time, Einstein and the Coolest Stuff in the Universe”, William D. Phillips, National Institute of Standards and Technology
“Fun with Physics Demos”, David Wright, Tidewater Community College

“Is God a Mathematician”, Mario Livio, Space Telescope Science Institute

“Making Sport of Physics”, John Eric Goff, Lynchburg College

Workshop “Physics Explorations using inquiry in a box”, Deborah Roudebush, Oakton HS

Workshop “From Thales to Volta Twenty Six Centuries of a Fundamental Force”, Robert Morse, St Albans School.

—David Wright, Section Representative

Chicago Section

Chicago section meetings occurred April 24, 2010 Chicago State University and November 20, 2010 at Illinois Institute of Technology (joint with Prairie Section of the APS). approximately 70 attended at Chicago State and 120 attended at the Prairie Section of APS (and some overlap registration with the Saturday Chicago Section meeting). The registration for the fall meeting is much harder to pinpoint because of the joint meeting.

Dr. Eric Mazur from Harvard was one of our keynote speakers at our spring meeting, as well as Dr. Nadya Mason from the University of Illinois. We also had contributed sessions in the morning and workshops presented by both keynote speakers in the afternoon.

Stephen J. Lind from Trane Acoustics Lab was one of our keynote speakers at the fall meeting, as well as Dr. Steve Kanim from New Mexico State University. Dr. Curt Heiggelke and Dr. Kanim presented a workshop on nTIPERS in the afternoon. More information can be found on the website listed below.

Websites with relevant information:

<http://www.csu.edu/chemistryandphysics/msabella/csaapt/>
(Fall meeting info and program.)

Upcoming Meetings:

Spring Meeting: April 9, 2011 at Niles West High School, Skokie, IL

Two keynote speakers are planned: Dr. Chandralekha Singh from University of Pittsburgh and Professor Sivalingam Sivananthan from the University of Illinois at Chicago.

Dr. Singh will also present a workshop in the afternoon.

Programs from Previous meetings:

<http://ia64.phys.iit.edu/OCS/index.php/PSAPS-CSAAPT/2010/schedConf/program> (Program for fall meeting.)

<http://www.neiu.edu/~csaapt/>

—Martha Lietz, Section Representative

Florida Section

The Florida Section of AAPT held section meetings April 16-17 at Florida State University and October 15-16 at Florida State College at Jacksonville (South Campus).

FLAAPT Board

Section Representative: Sherry L. Savrda; Seminole State College: Sanford FL: savrdas@seminolestate.edu

President: Kenneth B. Shacter, Duval County Public Schools, Jacksonville, FL

Past President: Jane Bray Nelson

Treasurer: Jim Nelson, Santa Fe College, Gainesville, FL; nelsonjh@ix.netcom.com

Secretary and web master: Karim Diff, Santa Fe College, Gainesville, FL; karim.diff@sfcollge.edu

<http://www.flappt.org/>

—Sherry L. Savrda, Section Representative

Illinois Section

The Illinois section of AAPT held section meetings March 26-27 at Blackburn College and October 8-9 at Sherrard High School.

The Spring 2011 Meeting of the Illinois Section of the AAPT “Year of the Solar System” will occur April 1-2, 2011 at Eastern Illinois University Physics Department in Charleston, IL.

<http://helios.augustana.edu/isaapt/index.html>

—Zak Knott, Section Representative

Iowa Section

The Iowa Section of AAPT held its annual fall meeting November 6, 2010 at the University of Northern Iowa in Begeman Hall with UNI professor and current IA-AAPT president Cliff Chancey officiating. Approximately 35 were in attendance. After a brief welcome we were greeted via Skype by our new AAPT Executive Officer Beth Cunningham.

Our initial morning session led off with Fred Behroozi (UNI) speaking on “Soap Bubbles: The Art and Science” which included bubble demonstrations. He was followed by Ben Bousquet and Charles Figura (Wartburg College) describing “A Novel Laboratory Exercise in Practical Ballistics” which uses rubber tubing water balloon slingshots as the working apparatus. Students design various experiments to be done and go outdoors to do the experimenting. Wade Sick (Southwestern Community College) concluded the first morning session with “Construction and Use of the ‘Homebrew’ Solid State High-Voltage Power Supply” demonstrating his inexpensive to build supply that can be used to run discharge and Crooke’s tubes.

Following a refreshment break, Dale Yoder Short (Iowa Mennonite School) demonstrated “Dynamic Computer Physics Illustrations with Geometer’s Sketchpad” which provides a quick way of producing simulations of a variety of physics phenomena as well as graphical descriptions. Thomas Greenslade (Kenyon College emeritus Professor)

completed the morning’s offerings with “Let There Be Light” which provided an overview of the history of the science of light, including the passing around of a miniature dental camera from his extensive science apparatus collection.

After lunch, our afternoon began with a business meeting. Section representative John Zwart (Dordt College) presented information from national AAPT and pointed out that next summer’s national meeting is right next door in Omaha, NE. The treasurer’s report showed we are still in the black. New officers were elected. Diane May (Beckman High School) moves from president-elect to president in 2011. Eric T. Olson (Iowa Lakes Community College) will be president-elect, Matt Harding (Iowa City West High School) was elected to Vice-president for High Schools. Wade Sick will be the new Vice-president for Two-Year Colleges and John Zwart was re-elected Section representative. Larry Escalada will continue as our representative on the Iowa Academy of Science’s Teacher’s Award Committee. Bill Cox invited us to hold next fall’s meeting at Dowling High School in Des Moines, which was approved.



Matt Karl demonstrates how to teach a robot to recognize red.

Presentations resumed with Jeff Morgan (UNI) discussing results from the “2009 Iowa High School Teacher Survey” which included information on training of physics teachers, professional development, topics covered, and teaching emphases. A copy of the report can be found at <http://www.physics.uni.edu/outreach.shtml>. The next two talks and demonstrations brought us into the world of robots with Dale Olson (UNI) presenting “Mini-Sumo Robotics” and Matt Karl (UNI Applied Physics graduate student) presenting “RoboMagellen Robotics” both of which described student design and construction of robots for competition.

Our final afternoon session began with Larry Escalada and Jeff Morgan speaking on “Iowa Physics Teacher

Instruction & Resources.” The IPTIR program is a three year professional development program at UNI designed to address the shortage of qualified physics teachers in Iowa. The final talks of the afternoon were a pair of undergraduates at UNI describing their research projects. Aaron O’Shea in “Properties of Layered Chalcogenides” reminded us of the role of serendipity in research. Erik Wolter described his work in building a high vacuum system in “Design and Construction of a High Vacuum Sample Holder” which will be used to make thin film samples. Our afternoon concluded with tours of the facilities in Begeman Hall.

Our thanks to Cliff Chancey and the physics department at UNI for hosting our meeting as well as providing many of the speakers and a portion of the funding for the meeting.

http://faraday.physics.uiowa.edu/IAAPT_index.htm

—John Zwart, Section Representative

Long Island Section

Our events for the past year:

March 19, 2010, Our Physics Olympics at Farmingdale State College drew fifteen teams from high schools all over Long Island who scrambled to compete in events like Projectile Shoot, Ballistic Bear, and Science Bowl. Northport High School triumphed over this challenging group of competitors lead by their coach and Physics teacher, Greg Guido.

April 17, 2010 the LIPTA Spring Conference at Massapequa High School featured Tecoa Washington encouraging the twenty participants to follow their muse by describing her own experience in publishing her novel “Medieval Bedazzled.” Ms. Washington lead an exercise in promoting writing in the classroom where groups were provided with “jigsaw” pieces to make stories that started creative energy flowing. Anthony Manciacapre from St. Mary’s High School in Manhasset took over the proceedings giving advice on “Using You Tubes in the Classroom.” His recommendations for making You Tube videos drew proposals for meetings at local schools to make demonstration videos. Anthony readily agreed to lead the effort. The conference came to a close after everyone broke down into groups to generate a Physics Jeopardy game to review for the end of the year. Tania Entwistle organized and edited the results, which were sent to all game creators. Thanks to Joe Zanco, our Massapequa connection and our president, Ed McDaniels for providing a setting and refreshments for our conference!

May 18, 2010 AP Exam Review at Western Suffolk BOCES in Deer Park

Fifteen AP teachers from Nassau and Suffolk had an opportunity to share their impressions with Bill Leacock

(AP B) from Mepham High School and Dr. Gillian Winters (AP C) from Smithtown East High School who provided the solutions to the 2010 AP Physics exams.



Dr. Gillian Winters hosting the awards at the Physics Olympics

August 24, 2010 The LIPTA Barbeque was held at the home of our President Ed McDaniels. Twenty hungry Physics teacher enjoyed a chance to relax and share the plans before the demands of the new school year set in. The party was so much fun that the executive board convened the following Thursday to enjoy leftovers. Thanks to chef Bill Leacock and our host, Ed McDaniels.

October 16, 2010, LIPTA Fall Conference at Massapequa High School

The morning started off with a presentation by Ed McDaniels using “Teach Like a Champion” by Doug Lemov to lead a discussion about how a teacher can create a more efficient learning environment. All present were able to validate the importance of providing an atmosphere that is supportive, yet challenging and structured for successful learning. Tony Mangiacapre was back by popular demand to share his expertise in making videos for classroom demonstrations. He offered tips for scripting and setting scene for effective filming. Part 2 of his presentation described how to create You Tube channels and to upload content. Joe Zanco and Ed McDaniels handled conference logistics again, making this meeting possible.

Our executive board meetings take place on a rotating basis monthly at delicious breakfasts where board members show off their culinary talents with such delights as waffles, croissants, outstanding coffee cakes, and frittatas.

Picture caption: Dr. Gillian Winters hosting the awards at the Physics Olympics

<http://www.lipta.org>

—Tania Entwistle, Section Representative

Louisiana Section

The Spring Meeting of the Louisiana Section of AAPT was held April 13, 2010 at Catholic High Baton Rouge.

<http://www2.selu.edu/Academics/Faculty/rallain/la-aapt/>

—Rhett Allain, Section Representative

Mexico Section

The Mexico section of AAPT held its annual meeting December 10-11, 2010 at Universidad de Guanajuato, Guanajuato, Mexico.

<http://per.mty.itesm.mx/aapt/>

—Genaro Zavala, Section Representative

Minnesota Section

Minnesota Section holds meetings April 24, at St. Johns's University, Collegeville, MN and October 29-30 at University of Wisconsin, River Falls, WI (Joint meeting with Wisconsin Association of Physics Teachers).

<http://www.maapt.org>

—Leonardo Hsu, Section Representative

Mississippi Section

Spring meeting was held March 27 at Mississippi State University and the Fall meeting was held October 8-9 at Itawamba Community College (ICC) campus Natural Science Building in Fulton, MS.

www.msphysics.org

—James A. Dunne, Section Representative

Missouri Section

Spring Meeting, 2010

The annual spring meeting of the Missouri Association of Physics Teachers (MAPT) was held at Missouri State University, Springfield, on April 17, 2010. As usual, this was a joint meeting with the Missouri Academy of Science (MAS). Section President, Patrick Gibbons, Washington University, presided, acting also as the Chair of the Senior Physics Division of the MAS. There were eleven oral presentations and two poster presentations. About 25 members were in attendance.

Oral Presentations:

Role of Surface Band Structures in the Survival of Anions Scattered from Metal Surfaces, J. Shaw, A. Schmitz, H. Chakraborty, and U. Thumm, Northwest Missouri State University and Kansas State University.

Learning How We Know What We Know in an Astronomy Course, J. F. Wieggers, A. M. McMahon, and P. C. Gibbons, Washington University.

Structural Study of Metal Oxide Thin Films Deposited at Various Temperature and Oxygen Pressures Using Pulsed Laser Deposition Technique, N. Chada and S. Mitra, Missouri State University.

Experimental Observation of Chaotic Motion in an Elastic Pendulum, M. McCune, and J. Shaw, Northwest Missouri State University.

Substitution of the Structural and Magnetic Transitions of the Ferromagnetic Shape Memory Alloy Ni₂MnGa, M.

P. Hill, N. Golden, M. Clark, J. Shoemaker, A. Pathak, I. Dubenko and N. Ali, Southeast Missouri State University and Southern Illinois University-Carbondale.

An Interactive Approach Using Spreadsheets to Understand the Concept of Reversible Work, K. Manivannan, Missouri State University.

Synthesis and Characterization of Zinc Oxide (ZnO) Nanoparticles for Biomedical Applications, N. Nag, R. Gupta, J. Darabi, K. Manivannan, K. Ghosh, and P. Kahol, Missouri State University.

Contributions to Average Annual Ionizing Radiation Received by a U.S. Resident, J. E. Tansil, Southeast Missouri State University.

Electrochemical Fabrication and Characterization of Conducting Polymer Films in Ionic Liquids, R. K. Lee and A. K. Wanekaya, Missouri State University.

Dielectrophoretic Fabrication of Carbon Nanotube-Based Solar Cells and their Photoelectric Properties, J. S. Malone and L. F. Dong, Missouri State University.

International Year of Astronomy and the Galileoscope, R. J. Whitaker and W. E. Thomas, Missouri State University.

Poster Presentations

Synthesis and Structural Characterizations of Carbon Nanotubes Coated with Titanium Oxide Nanoparticles for Solar Cell Applications, Q. Q. Liu and L. F. Dong, Missouri State University.

Dynamic Holography Using Photorefractive Polymers, O. Yu, S. Kang, P. Yu, and S. Guha, University of Missouri-Columbia.

Business Meeting:

At the business meeting, the next fall meeting was set at Lincoln University, Jefferson City, date to be announced later. Elections were held for a new section Vice President; the current Secretary-Treasurer and Section Representative were re-elected. Last year's Vice President and President-Elect move up in turn to President-Elect and President. New and current officers are:

President	Sunder Balasubramanian
	Lincoln University, Jefferson City
Vice-President	Kandiah Manivannan
	Missouri State University, Springfield
Vice-President	John Tansil
	Southeast Missouri State University
Secretary-Treasurer	Robert J. Whitaker
	Missouri State University, Springfield
Section Representative	Jim Borgwald
	Lincoln University, Jefferson City

Fall Meeting, 2010

The annual fall meeting of the Missouri Association of Physics Teachers (MAPT) was held at Lincoln University, Jefferson City, on Nov. 6, 2010. Section President, Sunder Balasubramanian, Lincoln University, presided. There were five oral presentations and a panel discussion. About 15

members were in attendance.

Oral Presentations

A Problem Dissection Approach to Identify Newton's Third Law Force Pairs and their Pair-wise Equality, K. Manivannan and A. Manivannan, Missouri State University.

Using Your Classroom Projector to Study the Properties of Light, M. B. Ottinger and B. Bucklein, Missouri Western State University.

Medical School Standards and Introductory Physics for the Life Sciences, J. Borgwald, Lincoln University, Jefferson City.

Defending Low-Enrollment Physics Programs in Missouri at the State Level, J. Tansil, Southeast Missouri State University, Cape Girardeau.

Possible Collaborative State-Wide Learning in Physics Major Courses: A Way to Save Low-Enrollment Physics Programs in Missouri, S. Balasubramanian, Lincoln University, Jefferson City.

Panel Discussion: MAPT Recommendations to the Discussion among State Universities on How to Share Physics Courses, a continuation of the previous two presentations.

Future Meetings

The next section meeting is a joint meeting with the Senior Physics Division of the Missouri Academy of Science. It will be held on Apr. 16, 2011, at Lincoln University in Jefferson City. The annual section elections will be held at this meeting. The annual fall meeting will be held at a date to be announced at Missouri State University, Springfield.

—James M. Borgwald, Section Representative

Nebraska Section

The Nebraska section held its Spring Meeting March 6 at Mount Michael Benedictine High School and Fall Meeting November 20 at University of Nebraska-Lincoln.

An update of the planning for the AAPT Summer meeting at Creighton University was given by Jack Gabel.

Wants input from N-AAPT

PTRA workshop at Creighton to be July 24-29

Local (N-AAPT) people will be needed to make copies, stuff envelopes etc.

Possible Star Gazing by an Omaha amateur astronomy club.

There will be field trips to the Air and Space Museum, and Zoo.

AAPT Meeting will be from July 30 to Aug 3rd to begin with a 5 k run.

John Rogers recommended Tim Berry for more visitor information about Omaha.

There will be a physics related band instead of a demo show.

There was some discussion of how Nebraska High School physics teachers could be funded to attend the summer meeting in Omaha.

Kevin Lee will host the Fall N-AAPT meeting along with the Astronomy Education Workshop. Oct. 22, was given as the best date if it work with others. Oct. 22 is still tentative.

N-AAPT will host a hospitality room at AAPT and sell t-shirts. Membership to submit possible designs.

It was agreed to locate an independently hosted web site, Chis Wentworth was given the task of being the initial web Czar.

Tom Brestel will manage the email though MSN and Hotmail. Try to get mailings to ESU science people and school administrators.

Winter meeting will be at UNK date TBA.

—Kendra J. Sibbersen, Section Representative

New Jersey Section

PTRA Workshop for New Teachers Organized by NJAAPT, 18-19 August 2010

New Jersey Section Representative Joe Spaccavento was joined by PTRAs John Roeder to present a workshop for 20 new physics teachers at Serin Hall, Rutgers University, on 18-19 August 2010. The workshop was funded by a program of the American Association of Physics Teachers (AAPT), which provides minigrants to sections for workshops for new physics teachers presented by members of its PTRAs (Physics Teaching Resource Agent) cadre.

The topic of the workshop was Modeling Physics, with an emphasis on the early units, because they are on the topics the new teachers will find themselves teaching first. On the first day of the workshop Roeder had the participants experimenting and making whiteboard presentations with constant-velocity buggies and worksheets for Modeling unit 2 to establish the model for constant-velocity motion. On the second day Spaccavento had the participants engage in activities from units 1 and 3, so that they could establish the model for motion with constant acceleration.

In addition to having the participants experience the materials from the first three units of Modeling Physics, Spaccavento was able to draw from many unique physics education resources at Rutgers: Eugenia Etkina spent the first afternoon engaging the participants in activities from her ISLE (Investigating Science Learning Environment) program, which is the basis of physics education at Rutgers, and the second afternoon concluded with a tutorial on and presentation of physics demonstrations by Rutgers's well-known Lecture Demonstrator, Dave Maiullo. Also making cameo appearances were Ray Polomski, President of the New Jersey section of AAPT (NJAAPT), who urged participants to join both NJAAPT and AAPT, and Dr. Steve

Schnitzer, who spoke about the opportunities available through QuarkNet.

The participants left with more than the experience of what they did and saw, too. Thanks to the resourcefulness of Spaccavento in organizing the workshop, each participant left with a CD containing all the Modeling Physics materials, a copy of Arnold Arons's Teaching Introductory Physics, vols. 1 and 2 (contributed by publisher John Wiley), six of the constant-velocity buggies used in Modeling unit 2, four white boards, and a variety of materials made available by Etkina. Spaccavento hopes to host follow-up sessions in the fall, to give the participants further opportunities to gather and share their experiences of the coming academic year.

New Jersey Science Convention

On October 12th and 13th the NJAAPT had major presences at the New Jersey Science Convention. There were four "Demo Dens" led by Borislav and Dave Mauillo with contributions from numerous other NJAAPT members. (See pictures below)



The NJAAPT also hosted an AAPT/NJAAPT table in the exhibit area and sponsored a physics teacher roundtable discussion led by NJAAPT President Ray Polomski and Section Representative Joe Spaccavento. And NJAAPT member Tiberiu Dagoiu-Luca and Joe Spaccavento presented a workshop utilizing the JINA and PAN Materials for teaching nuclear science with magnetic marbles.

NJAAPT members from Rutgers University presented three "Frontiers in Science" programs at the meeting.

The Standard Model of Particle Physics and Beyond!

By Dr. Uri Gershtein, Rutgers University

Physics Results From the Large Hadron Collider

Dr. Eva Halkiadakis, Rutgers University

Cosmic Ray Physics for High School Students

Dr. Steve Schnitzer, Rutgers University

A High School and College Physics Teachers Workshop

Saturday, November 13, 2010

Sponsored by Bergen Community College and the NJAAPT

2:30-3:30 p.m.—Solar telescopes open to observe the sun

3:30-4:30 p.m.—Physics Resources For The Classroom - Dr. James Gates - Dr. Gates will bring his years of teaching experience to this Workshop and will present numerous resources that can be used in the classroom to enhance the physics experience for your students. Dr. Gates has authored or co-authored over 120 research papers published in scientific journals, co-authored one book and contributed numerous articles in others. His research, in the areas of the mathematical and theoretical physics of supersymmetric particles, fields and strings, covers topics such as the physics of quarks, leptons, gravity, super and heterotic strings and unified field theories of the type first envisioned by Albert Einstein.

4:30-5:30 p.m.—NASA Resources for the Classroom - Ms. Laura Venner - Laura has been a member of the NASA/JPL Solar System Ambassadors Program since 2003 and began her service as a NASA/JPL Solar System Educator for New Jersey in 2010. Well versed in the many NASA resources that are available to educators, she will introduce the attendees to those tools that can be used to integrate the physics classroom with the incredible wealth of material that NASA has been accumulating since its founding. Laura is employed by the Meadowlands Environment Center and the William D. McDowell Observatory where she is the Astronomy Educator and Observatory Specialist. She is proud to be part of a team that creates astronomy programs for individuals with disabilities.

7:30 p.m.—An Evening of Astronomical Observations Emil Buehler Trust Observatory

On Thursday, November 11th, Jim Ferrara hosted a NJAAPT session at the NJEA convention in Atlantic City, and on Saturday, November 20th, Jim and Jessie Blair hosted a 4 hour workshop for middle school science teachers.

NJAAPT Physics Holiday Treats Workshop

On December 4th, 2010 the NJAAPT held its 20th annual "Physics Holiday Treats" workshop. 35 NJAAPT members received holiday treats boxes. Over 70 members were in attendance, many received door prizes. Below are some pictures of some of the items distributed which included blue lasers, laser tops, light wave communication modules, glide balls, lenses, mirrors, fluorescent objects, and a vast collection of other goodies to numerous to list.

<http://www.njaapt.org/>

—Joe Spaccavento, Section Representative

New York Section

New York State Section Spring Meeting

April 30 - May 1 at Vassar College

Physics and.....

Friday Evening - in Sanders Physics 207

8 p.m. Lecture by Noelle Ocon - *Insert Rectangle Here:*

Art and Science Coming Together to Determine the Unique Construction of a Painting by David Teniers the Younger.

Much exciting research has occurred surrounding the Armorer's Shop by David Teniers the Younger. During a routine examination as part of the systematic Dutch/Flemish Catalogue, it was discovered that the painting, to put it simply, was constructed from two paintings glued together. Since this discovery in 2000, an exciting mixture of science, conservation and art history has told more of the story of this painting. The chronology of construction was determined by developing a technique using the particle accelerator at Cornell University, confocal x-ray fluorescence.

9 p.m. A night at the Vassar College Observatory - Observing and Food - The Class of 1951 Observatory houses two large reflecting telescopes in separate domes: a 20-inch, and a 32-inch (one of the two largest telescopes in New York State). Telescope will be open for viewing, weather permitting.

Saturday in Sanders Physics 207

9:00-9:45 a.m. Physics and Running - Renee Lathrop, Dutchess Community College

9:45-10:30 a.m. Physics and Music - Jill Linz, Skidmore College

11:00-11:45 a.m. Physics and Biology - Jenny Magnes, Vassar College

1:15-2:00 p.m. Physics and Geology - Brian McAdoo, Vassar College

2:00-3:00 p.m. Contributed Papers

3:00 p.m. Hands on activities and demos - if you are interested in setting something up let us know.

New York State Section Fall Meeting

October 8-9 at Syracuse University

Friday October 8

7:00-7:30 a.m. Physics Demonstration Show

7:30-8:30 a.m. Tom Greenslade - A Physicist Looks at Early Photography (Open to public)

Saturday October 9

8:30-9:00 a.m. Joe Zawicki - Analysis of the June 2010 NYS Physics Regents Exam

9:00-10:00 a.m. Tom Greenslade - The Adventure of the Reluctant Collector

10:30-10:45 a.m. Contributed talk - Jay Johnstone

10:45-11:45 a.m. Bruce Mason Physics classes and ComPADRE, where you "borrow" from the best

1:30-2:30 p.m. Genaro Zavala - Assessing conceptions in physics education

2:30-3:30 p.m. Duncan Brown - LIGO

<http://www.nyss-aapt.org/>

—Cindy Schwarz, Section Representative

Northern California-Nevada Section

The Northern California-Nevada Section of AAPT held meetings April 16-17 at American River College,

Sacramento, CA and November 5 at DOE Joint Genome Institute, Walnut Creek, CA, followed by a social at a local brewpub, and November 6 at Carondelet High School, Concord, CA.

<http://ncnaapt.org>

—Paul Robinson, Section Representative

Ohio Section

The 2010 Fall meeting of the Ohio Section AAPT was held at the University of Mount Union in Alliance, OH on Saturday, October 9, 2010. The first keynote speaker was Roy McCullough, esteemed northeastern Ohio teacher and co-author of *The Role of Toys in Teaching Physics*, who spoke on 'TIPS: Teaching Introductory Physics Suggestions.' The second speaker was Dr. Geoffrey Landis, Hugo- and Nebula-Award-Winning hard science fiction author and NASA Glenn engineer, who talked on "A Physicist on Mars: Science and Science Fiction."

Following the Business Meeting of the Section was the popular "How I Do It" session. Fred Gram of Cuyahoga Community College presented a hodgepodge of physics items from an article in a recent issue of *The Physics Teacher* to the "Ask Marilyn" column in the *Sunday Parade* magazine. Fred is notorious for collecting physics blunders that make for great comedy! Stephen Cederbloom, the meeting host, demonstrated their version of the Mars rover, a remote controlled car from Wal-Mart. Jodi McCullough, Lisbon High School, talked about a small telescope that she bought for \$90 that she uses in her classes, illustrating that even in an urban setting, students can make astronomical observations.

After lunch, the participants selected one of three workshops to take. One was for teachers with less than five years of teaching experience, called "Teaching Physics for the First Time" offered by Bill Reitz and Gene Easter. Br. Ken Kane and Jeff Klein presented a make'n'take workshop called "Phat Cars" which uses mousetrap-powered cars in teaching physics. The third workshop was "Batteries and Bulbs" presented by Steve Majoros.

The day ended with the great-give-away with donations from Vernier, Education Innovations, Sargent Welch, PASCO, and others.

<http://www.osaapt.org>

—Myra West, Section Representative

Ontario Section

2010 Awards

Roberta Tevlin, current Vice-President and past Secretary of the OAPT, has been awarded the 2010 CAP Award for Excellence in Teaching High School/CEGEP Physics - Ontario.

Ms. Roberta Tevlin, Danforth Collegiate & Technical

Institute (Toronto, ON), for her work as a pioneer in innovative teaching methods in physics that have influenced not only the students she interacts with year after year, but also many physics teachers in the Ontario region and beyond. For students she will provide “hands-on” learning experiences in physics that include devising ways of getting an LP record to move down a corridor at maximal speed and modeling a quantum eraser. For teachers she has given numerous presentations at workshops that have encouraged them to move from a passive teacher-centered approach to an active student-centered one. She has shown outstanding leadership in organizing science fairs, mentoring teachers, running physics camps, speaking at teacher workshops, and writing journal articles about physics teaching. Her tireless energy and innovative pedagogical approach to physics teaching make her a worthy recipient of the CAP High School/CEGEP Physics Teacher Award. For official press release please visit http://www.cap.ca/medal/publicity/press.php?year=2010&medal_id=11.



http://www.cap.ca/medal/publicity/press.php?year=2010&medal_id=11.

Marina Milner-Bolotin, OAPT Section Representative until her recent move to UBC in January 2010, has been awarded Canadian

Association of Physics Award for Excellence in Teaching Undergraduate Physics.

The Canadian Association of Physicists (CAP) is pleased to announce that the 2010 CAP Medal for Excellence in Teaching Undergraduate Physics is awarded to Dr. Marina Milner-Bolotin, Ryerson University, for her unceasing enthusiasm in engaging students to discover physics with a masterful integration of an array of successful teaching methods, for her influence on shifting institutional culture toward active learning, for her dedication to physics education research and her commitment to the continual professional development of physics educators across the nation.

Marina Milner-Bolotin played key roles in the introduction of numerous innovative techniques for physics teaching and learning at two Canadian institutions, Ryerson University and the University of British Columbia. She



has used peer response, computer integrated laboratories, video analysis, online tutorial systems, innovative homework approaches, and various classroom technologies including tablet PC's to support interactive lectures. Through numerous presentations at the local, national and international level she

has shared her expertise with countless physics teachers, both at the university and high school levels. Her writing in publications such as *The Physics Teacher* reach an even larger number of teachers. Her students speak in superlatives about her commitment and her effectiveness as a teacher. As one of her former students wrote in support of her nomination “I have never encountered such a thoughtful, knowledgeable, interesting and dedicated teacher.” She has given generously of her time in outreach to middle and high school students, through such programs as Scientists and Innovators in the Schools, leadership of a science demonstration, and various open house events including an architecture based demonstration exhibit, as well as university support for various teaching and learning initiatives, her physics teaching and learning initiatives have been supported by grants from various foundations, including currently a large Hewlett Packard Technology for Higher Education Grant. In addition to her work with the Division of Physics Education of the Canadian Association of Physicists, she has been active in leadership roles with the AAPT, and the Ontario and British Columbia sections of the AAPT. She is a teacher who makes a true difference in the lives of her students, and a leader in the field of physics education who has made a difference in how many of us teach physics.

The CAP's Medal for Excellence in Teaching Physics was introduced in 1996 and has been awarded annually since.

Dr. Marina Milner-Bolotin was presented with the 2010 CAP Medal for Excellence in Teaching Undergraduate Physics at the 2010 CAP Congress (hosted by the University of Toronto in Toronto, Ontario, from June 7-11). For full press release please see http://www.cap.ca/medal/publicity/press.php?year=2010&medal_id=1.

Past Events

1) Quantum Workshops for high school teachers: Roberta Tevlin is organized a series of workshops in Southern Ontario on Quantum Physics, sponsored by the Perimeter Institute.

2) Our annual Ontario Section executive meeting took place on October 31, 2010. The topics discussed included budget and membership reports, collaboration with other organizations, newsletter discussion and high school contest.

Future Events: 2011 OAPT Conference

Our next (33rd!) annual conference will take place on May 12-14, 2011 and will be hosted by the Department of Physics and Astronomy at McMaster University, Hamilton, Ontario. This year's theme will be “Physics at Work”. Building on success of previous annual conferences, our 33rd annual conference once again will feature an array of exciting presentations an hands-on, activity-based workshops. For full conference program

please visit <http://www.oapt.ca/conference/2011/program.html>.

Newsletter

Our last section's newsletter was published in November 2010. It can be accessed on-line at http://www.oapt.ca/newsletter/2010_11_nl.pdf

Section Representatives Information

For the updated list of Ontario section executives please visit <http://www.aapt.org/Sections/officers.cfm?section=Ontario>.
<http://www.oapt.ca/>

—Tetyana Antimirova, Section Representative

Oregon Section

2010 was a great year for the Oregon Section! We were so pleased to have the summer national meeting in our state and enjoyed seeing so many members in Portland. Erik Bodegom and Will Porter from Portland State University worked very hard to make special arrangements for the national meeting. A big “job well done” to them and all the students from Portland State University. The vision and planning of Stan Micklavzina and David Sokoloff from the University of Oregon also helped make the meeting a big success. It should be noted that Vernier Software and Technologies provided financial and inspirational contributions that largely helped make this summer meeting special.

The Oregon Section was able to fully take advantage of having a national meeting in our state due to the grand vision and effort of Greg Mulder and Dedra Demaree who were able to get state funding to enable 42 Oregon teachers to attend the meeting and workshops that otherwise would not have attended. These teachers will make a lasting impact on physics teaching in Oregon.

Working up to the summer meeting, Portland State University hosted our Spring meeting on Saturday March 13. Nina Thompson, Trillium Charter School, started the meeting off describing her experience with Partners in Science. This program connects high school science teachers with college and university professors conducting research. The grant funding provides stipends for summer work on research projects and meaningful connections to research and opportunities to interact with professors in their labs.

We then split the meeting into two groups. Greg Mulder led one group through a Conservation of Energy/Projectile Motion project using VPython.

Pat Canan led the other group in an activity on how to universalize lab results. The two groups switched after about an hour. This allowed the leaders to work with smaller groups so that each participant could have access to a computer and graphing tools.

After a long lunch with many large and small group discussions, Walt Hellman shared his “Reward-Based Physics Activities” – two simple activities from which students learn a lot and have fun.

Dennis Gilbert and Paul Bunsen from Lane Community College hosted our fall meeting on October 16th 2010. An informal gathering took place at McMenamins tavern the night before.

Bruce Emerson, Central Oregon Community College, and Dennis Gilbert started the meeting off with a discussion on Investigative Science Learning Environments, ISLE. Dedra Demaree, Oregon State University, followed up by describing some simple structured ways to implement ISLE goals into homework and labs.

Next Jennifer Roth, Oregon State University, presented her work on Small Group Discussions in Large Lecture: Connections between Teacher Facilitation and Student Participation.

During our business meeting Karen Hunter led our members through proposed changes in our constitution. These changes created the new office of vice president, re-distributed officer responsibilities to make them more manageable, and changed the terms of some offices.

The meeting ended with a two hour Energy Theater workshop led by Hunter Close, Seattle Pacific University. Energy Theater is a way of teaching energy that involves students in physically acting out energy transformations. The Energy Project works closely with elementary and secondary science teachers, offering many professional development opportunities both on and off the SPU campus. The Energy Project seeks to deepen energy-related, pedagogical, and curricular content knowledge while honing the diagnostic skills of all teachers.

<http://www.oraapt.org>

—Pat Keefe, Section Representative

Quebec Section

2010 Special Events and Activities:

Conference: “Pre-existing Knowledge”, Paula Heron, Dept. of Physics, U. of Washington. (See poster on following page).

In collaboration with the Université de Montréal, the QcAPT hosted a fascinating talk by Paula Heron on December 2. The talk was very well attended (approx. 85 people) and generated a rich discussion afterward.

Montreal-Area Cegep Physics Meeting and Workshop:

On June 9 the QcAPT in collaboration with Dawson College organized a day-long workshop for English-speaking, Montreal-area cegeps (2 year colleges). The purpose of the event was to bring cegep teachers together to build bridges, exchange ideas, discuss current issues and begin a conversation about the things we are dealing

with in our classrooms and departments. The event was attended by 35 teachers from all four Montreal-area cegeps (Dawson, John Abbott, Vanier and Marionopolis) and due to the overwhelming response to this event, it was agreed that such a meeting would be made an annual event.

<http://www.qcapt.ca/>

—Chris Whittaker, Section Representative

Southeastern Pennsylvania Section

Workshop for New Teachers

Oct. 9, 2010 at La Salle University, PA

Supported by a mini-grant from the AAPT to the Southeastern PA Section (SEPS), a workshop for new teachers was hosted at LaSalle University on October 9, 2010. Fourteen new teachers with 0-3 years of teaching experience and several veteran teachers participated in the workshop. At 9 am, Ling Liang from LaSalle University, welcomed all participants and introduced the event co-sponsors and workshop leaders. The day-long workshop consists of four sessions: Jay Bagley led labs and demos on mechanics, followed by Bob Schwartz's presentation on waves and optics, and Barry Feierman's demos on electricity and use of Vernier sensors. It was ended with an hour-long exploration of interesting internet sites for Physics.



The overall evaluation of the workshop was overwhelmingly positive. All pre-registered workshop participants received a copy of the AAPT publication "Teaching Physics for the First Time." The new teachers were also provided with one year free section membership and encouraged to join the American Association of Physics Teachers. Thanks again to the event host, workshop leaders, and the SEPS section officers for their hard work and great support!

2010 Fall Demo Night

Pope John Paul High School, PA

6-9 pm, October 15, 2010

The annual SEPS AAPT Demo night was hosted this year at Pope John Paul High School, Royersford by the SEPS Vice-President, Mary Sevón. The evening began with a delicious dinner where new and veteran members

of the SEPS networked. We had quite a few new members who had attended the "Teaching Physics for the First or Fifty First Time" workshop held at La Salle on Saturday, October 9, 2010 in attendance at Demo night.

A variety of demonstrations ranging from mechanics to light were shared by seven members of SEPS. The "Law of Inertia" demonstration was a simply constructed apparatus which could be used to show the relationship between period and mass. A clip from the National Geographic documentary on the humming bird was used to introduce and discuss physics' concepts of sound, loss of energy, and iridescence. An array of experiments using lasers, "lights you can't see," was shown to the group; one in particular was using an infrared laser to burst an inflated black balloon inside an inflated transparent balloon.

The evening ended at around 9:00 pm, and SEPS members had quite a few new ideas to take home to the classroom. A big thank you goes to Mary Sevón for putting this very successful evening together.

<http://www.physics.upenn.edu/~aapt>

—Ling Liang, Section Representative

Southern Atlantic Coast Section

The meeting of the Southern Atlantic Coast Section of the American Association of Physics Teachers was held at the College of Charleston on October 22-23, 2010 with Professor Ana Oprisan chairing the host organizing committee. The main meeting took place in the New Science Center Auditorium at the College of Charleston, SC.

On Friday, October 22, 2010 registration for the meeting was conducted in the atrium of the New Science Center from 5 pm till 6:30 pm when the members were ushered into the auditorium for a welcome by Associate Dean William A. Lindstrom, Department of Physics & Astronomy, College of Charleston. After the welcome Dr. Luke S. Sollitt, Assistant Professor of Physics, The Citadel, Charleston gave the keynote address entitled "The LCROSS Mission: Looking for Water in All the Right Places (as it turns out)". The engaging keynote generated a very lively question and answer period that continued on into the reception that followed.

The Saturday October 23 morning session of the program from 8 am till noon (with a 30 minute coffee break at 9:30 am) was chaired by Dr. Linda Jones, College of Charleston. It consisted of a plenary presentation of 15-minute contributed talks below.

There's something for everyone when doing computational physics with EJS

Larry Engelhardt, Francis Marion University.

Teaching Physics with Sustainable Energies via Digital Technologies

David Rosengrant, Matthew Laposata, Kennesaw State University.

Mastering Physics by Pearson Education: The Next Generation of Online Assessment

Leidy Rebecca, Pearson Education Representative
How is Precession of a Heavy Top Possible?

Svilen Kostov, Georgia Southwestern State University,
Daniel Hammer, Georgia Southwestern State University
Computer modeling in introductory mechanics: what are the limits?

Marcos D Caballero, Balachandra Suri, Matthew A Kohlmyer Department of Physics, North Carolina State ; and Michael F. Schatz , School of Physics, Georgia Institute of Technology

Return of the Ruben's Tube

Matt Marone, Mercer University, Department of Physics.
Quantitative Measurements of Faraday's Law in the Introductory Laboratory

Joel C. Berlinghieri, the Citadel, Department of Physics
On teaching parallel and series connections in dc circuits
Tatiana Krivosheev, Clayton State University.

Prescriptive Task Analysis' in the Teaching and Learning of Introductory College Physics

J.B. Sharma, Gainesville State College,

Interstellar Dust in Distant Galaxies

Varsha Kulkarni, Univ. of South Carolina, Dept. of Physics and Astronomy, Columbia, SC

Human Mental Functionality: What You Can Count On In Your Physics Students

Henry Gurr, University of South Carolina Aiken Emeritus
Probing the Composition of Interstellar Dust over the Past 7 Gyr

Monique C. Aller, Varsha P. Kulkarni, University of South Carolina, Donald G. York, University of Chicago, Giovanni Vladilo (Osservatorio Astronomico di Trieste), Daniel E. Welty (University of Illinois, Urbana-Champaign), Debopam Som (University of South Carolina)

High-fidelity audio and the temporal resolution of human hearing

Milind Kunchur, Univ. of South Carolina, Dept. of Physics and Astronomy

The AAPT Membership Video contest

Frank Lock, Retired high school physics teacher

Poster presentations (New Science Center Hall Atrium)

The posters below were displayed during the entire meeting starting at 8:00 am; on Saturday, October 23, 2010 till 3:00 pm. Poster presentations took place during the coffee break between 9:30 am - 10:00 am and during a working lunch between 12:00 pm - 1:00 pm.

Poster # 1. Adaptation of a polycapillary optic XRF system for XRD analysis of crystal structures

Timothy Collart, North Georgia College & State University, Sarah P. Formica, North Georgia College & State University, Mark C. Spraker, North Georgia College & State University

Poster # 2. XRF Spectroscopy to Determine the Relative Concentrations of Iron in Blood Samples

Johanna Arnold, North Georgia College & State University, Sarah P. Formica, North Georgia College & State University, Mark C. Spraker, North Georgia College & State University

Poster # 3. Physics Education Research Group at North Georgia investigates gender-biased questions on the Force Concept Inventory

Kerry McGill, North Georgia College & State University, Sarah P. Formica, North Georgia College & State University, Mark C. Spraker, North Georgia College & State University

Poster # 4. Compilation of an XRF elemental calibration database

Cassandra Major, North Georgia College & State University, Sarah P. Formica, North Georgia College & State University, Mark C. Spraker, North Georgia College & State University

Poster # 5. Vortex instability in molybdenum-germanium superconducting films

Manlai Liang and Milind N. Kunchur, Univ. of South Carolina, Dept. of Physics and Astronomy, Columbia, SC

Poster # 6. Understanding and Counteracting Effects of Triboelectricity in Planetary Exploration Systems

Andrew Carnes, Luke Sollitt, and Joel C. Berlinghieri, the Citadel, Department of Physics

Poster # 7. Chemical evolution of high redshift sub-damped Lyman-alpha systems

Som Debopam, Kulkarni V. P., University of South Carolina, Meiring, J., Lauroesch, J., York, D., Peroux, C., Khare, P., University of Massachusetts, University of Louisville, University of Chicago, Obs. Astron. de Marseille

Poster # 8. Determinants of Choosing a Career in Science: Immigrants vs. Non-immigrants

Florin D. Lung, Department of Physics and Astronomy, Kinard Hall, Clemson University, Geoff Potvin, Zahra Hazari, Department of Engineering & Science Education, and Department of Mathematical Sciences Holtzendorff Hall Clemson University, Philip M. Sadler, Gerhard Sonnert, Science Education Department, Harvard-Smithsonian Center for Astrophysics Cambridge, MA

Poster # 9. Biopolymers for Medical Applications: Polyglycerol Sebacate (PGS) Doped Hydroxyapatite (HA)

Maria Teruel, Narayanan Kuthirummal, and Nicole Polyachenko, Department of Physics and Astronomy, College of Charleston, SC; Department of Plastic and Reconstruction Surgery, Wake Forest University, NC

Workshops (Rita Hollings Science Center)

Waves

Kael Martin (Porter-Gaud School, Charleston) and Dr. Ana Oprisan (College of Charleston)

Physics Labs with Flavor (Recurrent Studies)

Dr. M.M. Agrest, College of Charleston,
Class Response Systems can Make your Lectures Interactive
Drs. Linda R. Jones and Michael L. Larsen, College of Charleston.

PASE: Real-time Graphing and Data Analysis of Motion for K-12 Science Classrooms.

Susan Engelhardt, S. C. Governor's School for Science and Mathematics

At the brief business meeting the assembly commended the host committee for a very successful meeting. Not only was the meeting exceedingly well organized, but also it was very well attended by members from both Georgia and South Carolina that made up a representative cross-section of institutions: high, colleges and universities. Additionally, members felt that the presentations reflected this institutional diversity and were of good quality.

<http://sacs-aapt.org>

—*Ntungwa Maasha, Section Representative*

South Dakota Section

The 19th Annual SDSTA/SDCTM Joint Conference is scheduled for February 3-5, 2011 in Huron, SD.

Discussion topics: Picture contest, election of officers, recruitment partnerships with NSTA and COPUS

<http://www.sdsta.org/>

—*Joel David Rauber, Section Representative*

Tennessee Section

The Tennessee Section of AAPT met March 26-27 at the Campus of The University of Tennessee-Martin in Martin, TN.

The 2011 Annual Meeting of the TAAPT will occur March 25-26, 2011 at The University of the South in Sewanee, TN.

http://www.sewanee.edu/physics/TAAPT/T_AAPT.html

—*Spencer L. Buckner, Section Representative*

Washington Section

The highlight of the October 2010 meeting of the Washington section of AAPT was the presentation of long overdue awards to members Joel Schaaf and Tom Haff.

Recently retired from Lower Columbia Community College, Distinguished Service Award winner Joel Schaaf has been a member of Washington State AAPT for forty years, of which he dutifully served as secretary-treasurer as well as the institutional memory of the organization for twenty-five.

Issaquah High physics teacher Tom Haff received the Outstanding High School Teacher award in recognition of his 35 years of teaching and his service to AAPT, both

locally and nationally. Tom's students have presented research at national conferences and created a directory of physics teachers across the state.

Following the presentation of awards, attendees of the business meeting unanimously voted to rename the two awards after these first honorees so that the awards will become known as the Joel Schaaf Distinguished Service Award and the Tom Haff Outstanding High School Physics Teacher Award.

The Fall 2010 meeting of the Washington Section of AAPT was hosted on the beautiful campus of The Evergreen State College. WA-AAPT President Krishna Chowdary of TESC began the meeting with a workshop on the use of video analysis in physics teaching. This was followed by a workshop on guided questions as physics teaching tools, led by Andrew Boudreaux of Western Washington University. Both workshops were enthusiastically well received.

Appropriately enough, the first talk of the meeting was given by Issaquah High School's Tom Haff who had no idea that he would soon receive an award. Tom spoke on the difficulties students have in understanding real data. The theme of conceptual difficulties in physics education was continued through the next three presentations on Ratios and Rates by Brana Ponzer of WWU, followed by Microscopic and Macroscopic conceptions of Volume by Amy Robertson of the University of Washington, and Understanding of electric ground by Isaac Leinweber, also of the UW.

Following the break, Stamatis Vokos of Seattle Pacific University delivered the keynote address on "Who Prepares Physics Teachers? Findings and Recommendations of the Task Force on Teacher Education in Physics."

After lunch the meeting took a decidedly modern turn with talks on Stellar Nucleosynthesis by Robert Ruotsalainen, Visualizing the Lorentz Transformations by Michael Threapleton, and Relativistic Kinematics by Kira Burt of Eastern Washington University. The presentations concluded with talks on a low budget SCALE-UP physics class by Bruce Palmquist of Central Washington University and an Open Source hybrid physics course by Sara Julin of Whatcom CC.

<http://www.instruction.greenriver.edu/physics/aapt/default.htm>

—*Robert Hobbs, Section Representative*

Western Pennsylvania Section

The Western Pennsylvania Section of AAPT's Spring Meeting occurred March 27 at Clarion University.

The Fall Meeting occurred October 30 at Indiana University of PA.

<http://www.iup.edu/page.aspx?id=92367>

—*Dyan McBride, Section Representative*

Wisconsin Section

The Wisconsin Association of Physics teachers and the Minnesota Area Association of Physics Teachers held a joint meeting on October 29-30, 2010 at the University of Wisconsin-River Falls, in River Falls, Wisconsin. The main meeting events included presentation of seven workshops: *An easy, nontraditional method for calculating impulse.*

Gary Baier Green Bay East High School
Amusement Park Physics Old and New

Paul Nevins and Nick Gagnon, Chippewa Falls High School
PhET: Online Simulations to Enhance Learning

Brad Hinaus UW-Stevens Point
Mapping the Milky Way Galaxy

Bob Benjamin) UW-Whitewater
Nuclear Science Laboratory

Mike Lewandowski North Central Chapter of the Health Physics Society (NCCHPS).

Teaching content outside of class using Screencasting
Andy Rundquist, Hamline University.

Bringing South Pole Science to the Classroom

Jim Madsen (james.madsen@uwrf.edu) UWRF
Thirty-six papers were presented.

Teaching and Learning Science with Learning Assistants at Winona State

Andrew Ferstl Winona State University

An Attempt to Get and Keep Women Involved in Physics

Jim Crumley College of St. benedict / St. John's University
DIY Photogates Made Easy, and Cheap

Zengqiang Liu Saint Cloud State University
The Arduino, a cheap micro-controller with multiple uses in the physics curriculum

Nathan Moore Winona State University
Read a good textbook lately? A new way to get your students to come prepared for class.

Matt Evans UW-Eau Claire
Bustin' Bolts

Alan Scott University of Wisconsin-Stout
The Current Status of Women in Physics

Laura McCullough University of Wisconsin-Stout
Free Resources for Teaching Nuclear Science

Michael Lewandowski Chair, North Central Chapter of the Health Physics Society Science Teacher Workshop Committee

Why would your students want to become health physicists?

Michael Lewandowski Health Physics Society
Teaching Relativity to Tibetan Monks

Rand Harrington The Blake School

Community Suggestions for Improving Physics Teacher Education in a Small Department

Steven Sahyun UW-Whitewater

Teaching Modern Physics in High School

Karen Phillips The Blake School
Physics in the HOT Zone

Matthew Vonk UWRF

Design and development of physics simulations in the field of oscillations and waves suitable for k-12 and undergraduate instruction using video game technology

Trevor M. Tomesh University of Wisconsin - River Falls
The role of confidence-building in retaining women and students of color in physics

Rellen Hardtke UW-River Falls
Modeling bar-resonator interaction in mallet instruments

Lindsey Neby University of Wisconsin- River Falls
What do Seniors Remember from Freshman Physics?

Andrew Pawl UW-Platteville
Using High-altitude Ballooning in the Advanced Physics Lab

Paul Seifert Concordia College, Moorhead, MN
Problems for a Mars Trip

John Shepherd UWRF Physics Emeriti
Is More Better? Determining if additional information improves IceCube's detections

Kyle Jero UWRF Student with IceCube
UWRF: Gateway to International Undergraduate Research

Alessio Tamburro University of Wisconsin-River Falls
Using Digital Assisted Analysis in Teaching Motion

Yuanjia Hong UW – Stout
Practical Ideas on Disseminating Information to Students

Ken Menningen UW - Stevens Point
A Surprising Way to Determine the Density of the Sun Using Only Information Available in the Shadows of Tree Leaves

Jim Mallmann Milwaukee School of Engineering
Measuring the Period of a Trip Around the Sun with a Pontiac Grand Am

Erik Hendrickson UW - Eau Claire
Grading Discussion in the Physics Classroom

Terry Schwaller and Brad Wysocki Shiocton and Bloomer High Schools

Crop Circles and More: What's going at UWRF?
Jim Madsen UW-River Falls

High-Speed Video as a Tool for Undergraduate Fluid Mechanics Research

Brian Clark Bethel University
Mapping a Problem Solving Rubric to Faculty Perceptions

Andrew Mason and Brita Nellermeoe University of Minnesota, Twin Cities

Computer Coaches for Introductory Physics Problem Solving--A progress report

Qing Xu, Ken Heller, Leon Hsu, Andrew Mason
University of Minnesota

Integrating Sustainability Across and Within the Science Curriculum of

Gustavus Adolphus College

Chuck Niederriter Gustavus Adolphus College
Integrating novel writing assignments in intermediate physics courses

Melissa Eblen-Zayas Carleton College

Investigating the Atmospheric Effects on Cosmic Ray Showers Using CORSIKA

Amanda Steck UWRF

Using high-speed video clips within online homework

Peter Bohacek Henry Sibley High School

Frequency-locking a diode laser to a lithium atomic beam

Jack Houlton, Dan Klemme, Lauren Otto, Brandon Peplinski, Chad Hoyt Bethel University

Investigating student views of relevancy in introductory astronomy

Shawna Sallmen, UW-La Crosse

Cracker-barrel Discussion: For High School Teachers and College Professors regarding issues that have been cropping up on a national level. Moderated by Gary Baier, the WAPT High School Representative and featuring Pat Heller, a Professor in the Department of Curriculum and Instruction at the University of Minnesota. The Plenary Speaker was UW-Madison Professor Albrecht Karle. "The latest about the IceCube project"

The continuing and newly elected Wisconsin Section Officers are:

President: Matt Vonk (2010-2011), UW-River Falls

Vice-President: Brad Hinaus (2010-2011), UW-Stevens Point

Past-President: Steve Sahyun (2010-2011), UW-Whitewater

Secretary/Treasurer: Erik Hendrickson (2010-2013), UW-Eau Claire

Two-Year College Representative: Roger Hanke (2010-2011), Northcentral Technical College

High School Representative: Gary Baier (2010-2012), Green Bay East High School

Section Representative: A. James Mallmann (2009-2012), Milwaukee School of Engineering

<http://www.wapt.org/>

—A. James Mallmann, Section Representative

Executive Board – Local Section Connections

David Sokoloff's Visit and BCAPT Pro-D Event – a Smashing Success

By Marina Milner-Bolotin on February 5, 2011

A very simple and beautiful way to teach optics! Early on Saturday, February 5, 2011 a few dozen high school, college and university physics teachers gathered at the UBC newly renovated Physics Labs to be treated by David Sokoloff's Workshop on Activity-Based Physics. It was a very fun and informative event: we got to know more teachers and got to exchange ideas! We also discussed new opportunities for joining AAPT and BCAPT. Notice, there is a unique opportunity to join AAPT as an Associate Member (for only \$36 a year). This opportunity is going to end soon, so if you want to explore what AAPT can do for you, try it out. You can e-mail me (marina.milner-bolotin@ubc.ca) and ask for more details. The BCAPT membership

is only \$15 a year and this will help us to support amazing local events here in British Columbia! We need your support to make all our great ideas to come true!



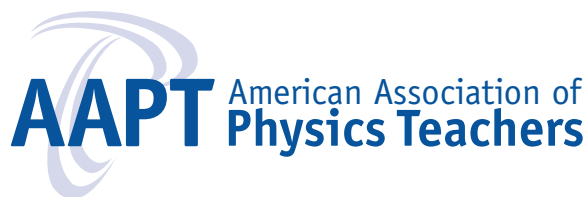
Prof. David Sokoloff (pictured in Oregon shirt) is current President of the American Association of Physics Teachers and has been a pioneer in using Micro-Computer Based Labs in high school and undergraduate physics teaching. He is well known nationally and internationally for his contribution to Physics Education and has been awarded a number of very prestigious awards. To learn more about David, please visit: <http://physics.uoregon.edu/faculty/sokoloff.html>

The photos from the event (some of them) can be found here: <http://www.facebook.com/album.php?aid=358300&id=643353361&l=eec6ed7ad8>

—Marina Milner-Bolotin, BCAPT Section Representative

See the July 2010 Section News here http://www.aapt.org/Sections/upload/Section-News_July2010.pdf.

To list your section meeting in the AAPT Calendar of Events, e-mail the information to mgardner@aapt.org.



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