

## Appalachian Section

The 61st Appalachian Section Meeting was held October 19-20, 2012 at Ohio University, Athens, OH. Our host, Kenneth Hicks, assembled an interesting and full schedule of sessions and activities. Friday events included a joint department and section colloquium about “A New Methodology for Using Clickers in Physics Lectures” by Bill Reay from Ohio State University. Melinda Caban of Turning Point Technologies was present to answer detailed questions about the clickers. Dinner was gourmet pizza provided by a National award-winning pizzeria in Athens. After dinner, Madappa Prakash, a member of the Ohio University Physics Department, gave a very interesting talk titled “Never Say Never in the World of Neutron Stars.”

David Ingram, Chair of Physics and Astronomy, opened the Saturday morning session. Two invited papers were presented, “A Hybrid SCALE-UP/Lecture Model for General Physics” by Justin Frantz and “The Dark Side of the Universe” by Doug Clowe. Both speakers are members of the Physics and Astronomy Department faculty. Eleven contributed papers rounded out the remainder of the meeting.



The Appalachian Section Business Meeting was held following lunch on Saturday. Officers elected included:  
 Kenneth Hicks, Ohio University, President  
 Maria Babiuc-Hamilton, Marshall University, President-Elect  
 John Lynch, Wheeling Jesuit University, Secretary-Treasurer  
 Pam Sharma, Northern West Virginia Community College, Vice-President, High Schools  
 John Lynch, Secretary-Treasurer, reported that section

finances are sufficiently healthy that our section might consider worthy projects to utilize a portion of this money. The Executive Committee will meet to discuss possible projects for the membership to consider.

Our Fall 2013 Meeting is scheduled for Marshall University in Huntington, WV.

—Gregory Puskar, Section Representative

## Arizona-Oklahoma-Kansas Section

The 2012 Arkansas-Oklahoma-Kansas Section Meeting of The American Association of Physics Teachers was held on Friday and Saturday November 2-3, 2012 at Northwestern Oklahoma State University in Enid, OK. The theme of the meeting was “From Isolation to Inclusion: Assembling and Utilizing Resources for Physics Education.” Our host for the event was Dr. Steven Maier of NWOSU.

Participants arrived on Friday, November 2nd where they were treated to an opportunity to view posters and participate in an Expert TA Workshop. After the workshop a Departmental Colloquium featuring Andy Rundquist, Physics Faculty Member from Hamline University was enjoyed by the numerous AOK members who traveled to Enid for the opening day’s activities.

After enjoying the Colloquium talk several members of the group attended a Planetarium program (at Northern Oklahoma College, a Two Year College which is also located at Enid). This session allowed visitors to see the recently renovated planetarium as well as the beautiful observatory located on the former Phillips University Campus.

The Annual evening banquet and distinguished guest speaker included 1948 NWOSU Graduate Jim Hood. Hood is the Founder and Curator of The St. John Science Museum in St. John, Kansas ([www.stjohnsciencemuseum.org](http://www.stjohnsciencemuseum.org)). For nearly 40 years, Jim was a high school mathematics and science teacher. Jim’s father and uncle also attended NOWSU while the institution was officially designated as a normal school. The interesting presentation of “Historical Physics Materials” was enjoyed by all who attended.

Additionally the AOK Teacher of the Year Recipients was honored and received a plaque and a check for \$100. The Oklahoma membership elected two members of the Oklahoma physics teachers group, Lane Matheson and Vince Freeman. Their biographical information is included below.

Lane Matheson is the director of Memorial High

School's robotics program. She was Tulsa Public School's teacher of the year and a runner up for Oklahoma state teacher of the year. She teaches engineering and Physics full time. She led various engineering activities throughout the week long camp GLEE (Girls Learning and Excited about Engineering) camp for middle school-9th grade girls and helped the public learn about her school's program. At the end of the camp, she provided teacher volunteers with materials to do the same activities in the classroom (prosthetic hand, solar boat...). In addition to all that, her students really respect and love her classes!

Vince Freeman received a physics teacher education degree from ECU in 2007 and has been teaching at Woodward High since. He was an enthusiastic student at ECU, and his previous military experience has served him well as a high school teacher. Vince has had great praises for his teaching among his students that has made its way back to ECU faculty and students. He has been successful working with challenging classroom dynamic s in part because of his experiences as a prison guard at a maximum security prison in McAlester, OK.

Cloudy skies interrupted the planned Observatory

at Little Rock "Progress in Revitalizing College Physics at UALR"

Dustin Burgardt [dburgard@g.emporia.edu](mailto:dburgard@g.emporia.edu) and Jorge Ballester [jballest@emporia.edu](mailto:jballest@emporia.edu), Emporia State University (KS) "Design and Construction of a Pulse Induction Metal Detector"

Todd Leif [tleif@cloud.edu](mailto:tleif@cloud.edu), Cloud County Community College (KS) "New Faculty Experience for TYC Physics Instructors"

Shane Thompson [thompsons@asmsa.org](mailto:thompsons@asmsa.org), Arkansas School for Mathematics, Sciences, and the Arts "Creating a Concept-First Flipped Classroom"

Jorge Ballester [jballest@emporia.edu](mailto:jballest@emporia.edu), Emporia State University (KS) "The Phone Book Myth Revisited and a Question"

Saturday Luncheon included a second separate talk from Keynote Speaker Andy Rundquist Physics Faculty Member Hamline University [arundquist@gw.hamline.edu](mailto:arundquist@gw.hamline.edu). Andy Rundquist is a member of the physics department at Hamline University. He is the founder and an active contributing member of the Global Physics Department (<http://globalphysicsdept.org>) and has become an authority



program which was to be held after the speaker and meal at Northern Oklahoma College.

On Saturday, November 3rd an early morning meet and greet social hour was held with coffee and breakfast snacks, during which the NWOSU ToPPS groups participated in a Follow-Up session from their previous summer workshop experiences. The following AOK section members then presented the following papers during the AM Morning paper sessions

Karen Williams [kwillims@mac.com](mailto:kwillims@mac.com), [kwillims@ecok.edu](mailto:kwillims@ecok.edu) and Carl Rutledge [crutledge@mac.com](mailto:crutledge@mac.com), East Central University (OK) "Career Paths of ECU Graduates"

Chris Pettit [cpettit@emporia.edu](mailto:cpettit@emporia.edu), Emporia State University (KS)

"DIY Modeling Software – Build Three-Dimensional Game Quality Simulations with your Students"

Al Adams [ajadams@ualr.edu](mailto:ajadams@ualr.edu), University of Arkansas

on the usage and implementation of Standards Based Grading in the physics community. He is an active user of social media for professional networking, maintains a lucrative blog and is a pioneer in facilitating access to HS/ University colleagues as resources for educators around the globe.

After a nice lunch and presentation by Dr. Rundquist, AOK members were again treated to a poster session. This poster session included the following presenters and their topics:

Mishal Benson [mbenson2@uca.edu](mailto:mbenson2@uca.edu) and Andrew Mason, University of Central Arkansas "Teaching Expert-like Problem Solving Framework: College to High School"

Shelby Burns [mjhankins44@gmail.com](mailto:mjhankins44@gmail.com) and Debra Burris [dburris@uca.edu](mailto:dburris@uca.edu), University of Central Arkansas "Stream Team as Laboratory Experience for Middle School Students"

Elena Gregg [egregg@oru.edu](mailto:egregg@oru.edu), Oral Roberts University (OK) “Improving Performance Through Motivation”

Matt Hankins [mjhankins44@gmail.com](mailto:mjhankins44@gmail.com) and Debra Burris [dburris@uca.edu](mailto:dburris@uca.edu), University of Central Arkansas “Ancient Astronomy: The Point Remove Mound Complex”

Rachel Hovey [rhovey@g.emporia.edu](mailto:rhovey@g.emporia.edu), Alyssa Floro, Emporia State University (KS) “High Resolution Magnetic Field Mapping With a Compass”

Jeremy Jacobs [jjacobs0924@gmail.com](mailto:jjacobs0924@gmail.com), Steven Clark, and Debra Burris [dburris@uca.edu](mailto:dburris@uca.edu), University of Central Arkansas “Determining the FWHM of the H- $\beta$  emission line of Active Galactic Nuclei”

Tristan Odekirk [tjodekirk@gmail.com](mailto:tjodekirk@gmail.com) Debra Burris [dburris@uca.edu](mailto:dburris@uca.edu) University of Central Arkansas Jacob Teffs University of North Dakota Trends in Light n-Capture Elements

Carl Rutledge [crutledge@mac.com](mailto:crutledge@mac.com), East Central University (OK) “Using A Personal Solar Telescope for Astronomy Outreach”

Phillip Scott [phllp.sctt@gmail.com](mailto:phllp.sctt@gmail.com), McAlester High School (OK) “A Southern Sky Adventure: How does the sky compare when observed and photographed from rural Oklahoma, Kitt Peak National”

Jory Snyder [snydejo@tulsaschools.org](mailto:snydejo@tulsaschools.org), Tulsa Public Schools (OK) “SeaPerch Underwater” ROVs Website: [www.seaperch.org](http://www.seaperch.org)

Karen Williams [kwillims@ecok.edu](mailto:kwillims@ecok.edu), East Central University (OK) “CoCoRaHS: Community Collaborative Rain, Hail, and Snow Network”

The AOK Section meeting concluded with another round of talks given by the following members. It was interesting to note that each of the sessions was quite well represented with membership speakers from all three states in our section. The overall count of attending members was remarkably evenly split at Kansas 20, Oklahoma 22, and Arkansas, 18. There was a nice turnout for one of the more “centrally located” meetings that our section has had during the past decade.

Final session speakers and their talk titles included:

Steven Maier [sjmaier@nwsu.edu](mailto:sjmaier@nwsu.edu), Northwestern Oklahoma State University “ToPPS and Project Oklahoma Whiteboard” [www.nwsu.edu/whiteboard](http://www.nwsu.edu/whiteboard)

Larry Weaver [lweave11@jccc.edu](mailto:lweave11@jccc.edu), Johnson County Community College (KS) “Keeping Informed Via and Getting Answers on the Internet”

Jim Deane [jim.deane@gmail.com](mailto:jim.deane@gmail.com), Ottawa Senior High School (KS) “Standards Based Grading in the HS Physics Classroom”

Debra Burris [dburris@uca.edu](mailto:dburris@uca.edu), University of Central Arkansas “Integrating Physical Science into Middle School GT Projects”

Al Adams [ajadams@ualr.edu](mailto:ajadams@ualr.edu), University of Arkansas at Little Rock “Progress in Developing Laboratories for Our Life Science Students”

At the conclusion of the talks, door prizes and the annual AOK Business meeting took place. At the business meeting the section elected a slate of officers and reaffirmed that next year’s AOK section meeting will be hosted by Anne Gillis (2013 AOK president) and Danny Mattern (AOK Two Year College Representative) at Butler Community College in El Dorado, Kansas. The date and time will be determined in the near future. The list of the AOK section officers is updated on the AOK website hosted by the AAPT.

Additional details about the recently held AOK Section meeting can be found at the 2012 AOK Website: [www.nwsu.edu/AAPT](http://www.nwsu.edu/AAPT).

—Todd Leif, Section Representative

## British Columbia Section

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On October 13, BCAPT members took part in the Washington Section Fall meeting. Our participation in Washington Section Fall meeting came as a result of our discussions with Washington Section members on how to increase collaboration between the sections. It was a great opportunity to get to know our Southern colleagues more closely and participate in a very exciting event that took place on a beautiful campus of Western Washington University in Bellingham, WA. A number of pre-service teachers from the University of British Columbia were able to attend the event and found it very helpful and stimulating. We are planning to organize more events where both sections can meet and exchange physics teaching ideas.

On October 19th, more than 60 physics educators and practicing physicists from all over the world came to [TRIUMF](#) (Canadian premier national science lab) on Friday, October 19th to learn more about modern discoveries in physics and find out how we can excite our students about physics. This event took place during a Professional Development Day for secondary teachers in many Schools Districts in BC and was very well attended. The day was filled with lectures, workshops and tours of TRIUMF. We also had three recent winners of the Canadian Association of Physicists Excellence in High School Physics Teaching Prize winners (Mr. Philip Freeman (2010), Peter Vogel (2011) and Mike Hengeveld (2012)). It was a very exciting event and BCAPT would like to thank all the presenters, sponsors and the participants for their contributions. We especially want to thank our TRIUMF collaborators Drs. Stan Yen and Marcello Pavan for helping to organize this event and BC Science Teachers’ Association.

For the photos, [click here \(Part 1\)](#) & [here \(Part 2\)](#).

[BCAPT Booklet October 2012](#)

The Hadron Game: [Hadron Game](#)

—Marina Milner-Bolotin, Section Representative

## Chicago Section

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The Chicago Section of the AAPT held two local meetings this past year.

Our spring meeting was held on April 28, 2012 and was hosted at Thornton Township High School in Harvey, Illinois by our president, Carl Martikean. There were approximately 30 teachers in attendance. We invited Eugenia Etkina to present our keynote talk, “Helping your students learn physics and think like scientists.” Dr. Etkina also presented a workshop in the afternoon, “Physics Pedagogical Content Knowledge.” Both were very well received. There were also contributed talks on High-Speed Video Analysis (Joe Serpico – Niles West), the Next Generation Science Standards (Robert Lang – Glenbard South), Miss Leavitt’s Stars (Rich DeCoster – Niles West), On-Line Astronomy Courses (Noella D’Cruz – Joliet Junior College), Teacher Preparation (Mel Sabella – Chicago State University), Assessment in Secondary Schools (David Haberkorn – Loyola University), Optical Tweezers (Elizabeth DeWaard – Lewis University), Exploring Magnetism (Debby Lojkutz – Joliet West), and others. Program information can be found at <https://sites.google.com/site/chicagoaapt/>.

Our fall meeting was held on October 26-27, 2012 at Joliet Junior College and was held jointly with the Illinois Section. Information about this meeting can be found at <http://helios.augustana.edu/isaapt/fl2/isaapt.html>. Roughly 50 teachers and professors were in attendance. Two workshops were presented on Friday morning, one on Arduino Open Source software, and another on the new Vernier data collection systems. Two invited talks were given on Friday afternoon: one by Steve Kanim (New Mexico State), entitled “Physics Education Research: What and whom we study, and why it matters;” and one by John Gastineau (Vernier Software) “Data Collection from There to Where: A Brief Survey of Where Data Collection Has Been and Where It Is Going.” There were parallel sessions of contributed papers after the two invited speakers. These two parallel sessions were followed by two more invited speakers: David Maloney (Indiana University Purdue University – Fort Wayne) spoke on “How do we ‘Teach Problem Solving?’” and Shawn Cornally (Solon High School) gave a talk about standards-based grading entitled “Grading matters at least one order of magnitude more than you think it does.” Noella D’Cruz presented a planetarium show, and there was dinner before the evening speaker Diandra Leslie-Pelecky, the author of “The Physics of NASCAR.” Dr. Leslie-Pelecky spoke on the topic of “The Science of Speed: Why Driving Fast Isn’t as Easy as You Think.” Saturday morning there were two more parallel sessions of contributed talks, followed by two more invited talks: “The Revised MCAT: Implications for Introductory Physics for the Life Sciences” presented by Robert C.

Hilborn (AAPT) and “The American Association of Physics Teachers: Providing Information and Professional Development Opportunities to Physics Educators” presented by Beth A. Cunningham (AAPT). The meeting concluded with business meetings during lunch and a workshop entitled “Using TIPERS to Help Students Make Sense of Physics” presented by Steve Kanim and Dave Maloney. Many thanks go to Andrew Morrison and his colleagues at Bill Hogan and Noella D’Cruz for hosting a wonderful joint meeting.

At our fall meeting, Joe Kozminski transitioned from being vice-president to president as Carl Martikean transitioned to past-president. Robert Lang (Glenbard South) was elected as our new vice-president. All other officers agreed to continue in their current posts for another year.

Our group plans to meet again in March at Glenbard South School. The date and speakers are yet to be decided.



Eugenia Etkina hosts afternoon workshop on Pedagogical Content Knowledge

—Martha Lietz, Section Representative

## Iowa Section

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The Iowa Section of AAPT held its annual fall meeting November 3, 2012 at the Estherville campus of Iowa Lakes Community College, IA with section President Eric Olson of Iowa Lakes CC officiating.

After a greeting by Estherville campus Dean Scott Stokes, Kari Webb, Iowa’s NW Regional STEM Hub Programmer, gave the keynote address. Her talk, “The Forces, Motions, and Momentum of the Governor’s STEM Initiative” discussed the newly formed statewide initiative to strengthen state K-12 STEM offerings to address both low state test scores and economic needs.

Moving into contributed talks, Wade Sick of Southwestern Community College described his new emphasis on research projects for introductory classes in “Undergraduate Research Projects in Community College Physics.” Students take on an eight week project and do research both during their lab periods and outside of class. Iowa Lakes Community College Professor of Chemistry Robert Klepper presented “Digital Help Sessions to

Enhance Science Courses” in which he described how he records his help session work with a digital pen and voice recording, which he then posts for student access. He finds that this approach cuts down on the number of times he needs to answer the same question and improves student retention in his courses. Sara Karbeling of Central Academy presented “Lessons from a Summer at CERN” in which she described being part of a high school physics teachers group at CERN during the past summer. The group’s work included preparing materials for teaching particle physics, among them “Bosemon” – a Pokémon style card game that features elementary particles. She also had the exciting experience of being at CERN during the announcement of the discovery of the Higgs’ boson and meeting Peter Higgs. The morning session concluded with Cliff Chancey of University of Northern Iowa’s “A Physicist at Home.” The public perception of physics is that it is big and exotic, or small and exotic, but in any case is not part of the everyday world. To illustrate the everyday nature of physics, Cliff challenged us to describe the physics behind why a carpet runner at his home consistently shifts clockwise as people walk on it or why his TV remote failed to work for a short period of time on a specific day of the year.

Following a soup and sandwich lunch at The Max on the Estherville campus, John Zwart of Dordt College went through the basics of analyzing motion from a video clip in “Video Analysis with LoggerPro” which included such tips as having students fit data using “modeling” (in which they manually enter the constants in the equation being fit) which leads to better learning than simply having students “curve fit” for which the computer finds the best fit. Retired Charles City High School teacher Jay Cutler discussed his volunteer efforts with younger learners in “Lego Mindstorms for Middle Graders” in which he critiqued various robot building curricula to encourage STEM learning. The University of Iowa’s Dale Stille gave a demonstration of Faraday rotation of laser light with locally built apparatus which would also make a great advanced lab experiment in “Faraday Rotation as a Lecture Demonstration.” Readily available diode lasers, high strength permanent magnets, and metal doped glass samples make this experiment much more affordable than it used to be. Bill Cox, (Dowling High School – retired) concluded the afternoon session of contributed talks with “Math and Physics – From Counting to QM” in which he discussed critical math knowledge and skills such as uncertainty, estimation, probability, and exponential growth that most of the general public does not possess. He then described activities to develop these concepts in our students.

We then walked over to the Iowa Lakes’ Wind Energy facilities and toured their labs and classrooms – featuring generators and associated electronics at a scale most of us have not seen. Our tour concluded with “How to Make Terminal Velocity not Terminal” in which students

demonstrated how to escape from the top of a wind turbine.

We ended our day with the business meeting. Treasurer Jay Cutler reported that we currently have \$3723.78 in a CD and \$334.14 in our checking account. We discussed how we might use some of these funds. Cliff Chancey of UNI will draft an e-mail memo to members to solicit suggestions. We elected Sara Karbeling of Central Academy to be President-elect and Diane May of Beckman High School to serve as Vice President for High Schools. Next year’s meeting will take place on the first Saturday in November at Northeast Iowa Community College’s Regional Academy for Math and Science in Oelwein, IA. President Eric Olson was thanked for organizing and running a fine meeting.

—John Zwart, Section Representative

## Missouri Section

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### Spring Meeting 2012

The annual spring meeting of the Missouri Association of Physics Teachers (MAPT) was held at The University of Missouri-Columbia on April 14, 2012. As usual, this was a joint meeting with the Missouri Academy of Science (MAS). Section President, Mani Mannivannan, Missouri State University, and Daniel Marsh, Missouri Southern State University, presided. There were six oral presentations and one poster presentation. About 25 members were in attendance.

#### Oral Presentations:

*Calibration of a Condensation Particle Counter Using an Electrometer*, M.B. Trueblood, Missouri University of Science and Technology.

*Effectiveness of a Thermal Denuder in Removing the Volatile Component of Aerosols*, M. Jones and M.B. Trueblood, Missouri University of Science and Technology.

*Measurements of the Growth Factor of Pure Inorganic Salts in a Tandem Differential Mobility Analyzer*, J.J. Shila and M.B. Trueblood, Missouri University of Science and Technology.

*Magnetic Properties of the New Ferrimagnetic Intermetallic Compound  $Gd_3Co_{29}Ge_4B_{10}$* , P. Hill<sup>1</sup>, I. Dubenko<sup>2</sup>, T. Samanta<sup>2</sup>, A. Quetz<sup>2</sup>, and N. Ali<sup>2</sup>, <sup>1</sup>Southeast Missouri State University and <sup>2</sup>Southern Illinois University-Carbondale.

*Discerning Onsets and Offsets in Music Using an Auditory Model*, D. Heise<sup>1</sup>, and M.J. Devaney<sup>2</sup>, <sup>1</sup>Lincoln University and <sup>2</sup>University of Missouri.

*Measuring the Temperature of a Star from its Continuous Spectrum*, J.E. Shaw and D. Richardson, Northwest Missouri State University.

#### Poster Presentation

*Plasticity Index of Soils: Influence on Ground Penetrating Radar Alerts in Land Mine Detection*, T.R. Higgins and R. Sarkar, Lincoln University.

## Business Meeting:

At the business meeting, the next fall meeting was set at Southeast Missouri State University, Cape Girardeau, MO, on Oct. 27, 2012. 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—John Tansil, Southeast Missouri State University  
President-Elect—James M. Borgwald, Lincoln University  
Vice-President—Richard P. McCall, St. Louis College of Pharmacy  
Secretary-Treasurer—Robert J. Whitaker, Missouri State University, Springfield  
Section Representative—Jim Borgwald, Lincoln University, Jefferson City

## Fall Meeting, 2012

The annual fall meeting of the Missouri Association of Physics Teachers (MAPT) was held at Southeast Missouri State University, Cape Girardeau, on Oct. 27, 2012. Section President, John Tansil, presided. There were six oral presentations and five poster presentations. About 20 members were in attendance.

## Oral Presentations:

*A Variable Baseline Radio Solar Interferometer*, M. Cobb, Southeast Missouri State University.

*CogEar: Sound Localization Developed for Image Recognition*, L. Westbrook, Southeast Missouri State University.

*A Survey of Student Concepts in Astronomy*, R.J. Whitaker, Missouri State University.

*SPX Copper Prototype Cavity Testing*, S. Bauman, Southeast Missouri State University.

*In Search of a Better Optical Bench for Student Labs*, M. Cobb, Southeast Missouri State University.

*Innovating Electromagnetic Research Tools for the Classroom*, D. Kelly and J. Meyer, Southeast Missouri State University.

## Poster Presentations:

*A Systematic Error in a Boyle's Law Experiment*, R.P. McCall, St. Louis College of Pharmacy.

*Pressure beneath the Surface of a Fluid: Measuring the Correct Depth*, R.P. McCall, St. Louis College of Pharmacy.

*Building Tornado Proof and Earthquake Proof Housing*, M. Cobb, Southeast Missouri State University.

*Staining of PC12 Cell Nuclei by Tunable Hydrogel Encapsulated Quantum-Dot Nano-Spheres*, S.G. Mitra<sup>1</sup>, J. Dahiva<sup>2</sup>, N.C. Mills<sup>1</sup>, D.L. Hynds<sup>1</sup>, S. Ghosh<sup>2</sup>, <sup>1</sup>Texas Woman's University and <sup>2</sup>Southeast Missouri State University.

*Designing the Personal Telescope Cube Satellite (PTC-SAT)*, B.A. Watson<sup>1,4</sup>, M.T. Rhodes<sup>2,4</sup>, E.M. Brooks<sup>3,4</sup>, and P.A. Huang<sup>4</sup>, <sup>1</sup>Florida Institute of Technology, <sup>2</sup>Southeast

Missouri State University, <sup>3</sup>Johns Hopkins University, and <sup>4</sup>University of Arkansas.

## 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. 20, 2013, at the College of the Ozarks, Point Lookout, MO. The annual section elections will be held at this meeting. The annual fall meeting will be held at a date to be announced at Lincoln University, The City of Jefferson.

—Jim Borgwald, Section Representative

## Northern California/Nevada Section

Forty physics educators attended the Northern California/Nevada section's spring conference at Lake Tahoe Community College. While hoping for some late April snow to enjoy on Sunday, the early spring melted the snow and made us glad that the presentations were valuable (although no one was really surprised by that). Our keynote speaker was David Bennum, of University of Nevada, Reno, who spoke on Recruiting Physics Majors from Grades 2-8.

As usual, our "Show and Tell" quickly covered great topics, including a video showing a circular saw improvement that uses the electrical conductivity of a finger to engage a break that instantly stops the saw (no fingers are harmed in the video, hot dogs are used as a suitable substitute).

Before the afternoon session, we held a quick business meeting with the following election results:

- David Marasco will continue as President, and will also absorb Program Chair
- Dennis Buckley will continue as Treasurer and Membership Coordinator
- Frank Cascarano will continue as VP Colleges/Universities
- Leanna Felardo will continue as VP of High Schools
- Bree Barnett Dreyfuss will continue as Secretary
- Lee Trampleasure will continue as Webmaster and will also be the Section Rep
- Paul Robinson will continue as a Historian
- Tom Woosnam will continue to provide insight as a Past President

Our Fall conference is planned for November 2nd and 3rd, 2012, at Sierra College in Rocklin, CA. For more details on our past or upcoming conferences, visit our website at <http://ncnaapt.org>

If you would like to make a presentation at our upcoming conference, please visit <http://ncnaapt.org/submit>. A section conference is a good place to practice your presentation skills before signing up for National!

Here is a link to a group photo: <http://ncnaapt.org/wp-content/uploads/2012/08/Group-photo.jpg>.

—Lee Trampleasure, Section Representative

## Ohio Section

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The spring 2012 meeting of the Ohio Section AAPT occurred on Saturday, March 3rd at Stark State College in North Canton, OH. The plenary was given by Theodore Ohrn, Sr. Systems Engineering Specialist of the Rolls Royce Fuel Cell Prototyping Center at Stark State College. After the plenary, there were two sessions which included a tour of the fuel cell facility and a hands-on professional development practice in fuel cells for the classroom. Following lunch were three concurrent workshop sessions – 1) Video Cameras in the Classroom (Gary Wood), 2) Charges and Simple Circuits (Steve Hubbard & Steve Majoros) and 3) The Fourth Phase of Matter: An Introduction to Electro-optics of Liquid Crystals (Ebru Buyuktainir). The meeting ended in the traditional give-a-way raffle.



Brian Carpenter (pictured), physics teacher at Laurel School in Shaker Heights, OH, hosted the Fall 2012 meeting of the Ohio Section AAPT on Saturday, October 13th. Dr. Lisa Damour, director of the Center for research on Girls at Laurel School, presented results of her ongoing research in her talk, “Gender in the Science Classroom.” Sam Sampere, Demonstration and Laboratory Manager at Syracuse University, presented a WOW-filled demonstration show.

Br. Kenneth Kane was presented the Ohio Section AAPT Service Award for his many years of service to the Section. A tribute to Larry Badar, who had served the Section as Section Representative, was given by Bill Reitz, Section president. Larry had passed away in September. As a result of an anonymous donation, the Section awarded a cash prize for the first time to the person who was voted as presenting the best or unique “How I Do It” presentation. The prize went to Tom Ramsey from Mentor High School for his talk on “Friction and iPads.”

The workshops for this meeting consisted of two rooms of various “make and take” demonstrations produced from simple materials. The meeting ended with the traditional “give-a-way” of donated prizes.



Dr. Lisa Damour speaking at the Ohio Section meeting.

—Myra West, Section Representative

## Ontario Section

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The Ontario Section of AAPT (Ontario Association of Physics Teachers) enjoyed another year of very successful activities during 2012.

**1. OAPT Annual Conference** OAPT Thirty Fourth Annual Conference “Physics: Opening Doors – Opening Minds” took place April 26- 28, 2012. It was hosted by the world-renowned Perimeter Institute of Theoretical Physics in Waterloo, Ontario, and was a hugely successful. There was so much interest that the organizing committee had to close off registrations - something that has never happened before! As always, the conference opened with traditional barbeque. This year the barbeque was followed by the new feature: “Meet a researcher” “speed-dating” event. Conference attendees were divided into small groups, and each group was given an opportunity to meet several Perimeter Institute researchers working in difference fields and ask questions about their research. Tours of the Perimeter Institute and [the Institute of Quantum Computing](http://www.oapt.ca/institute) were offered to the conference delegates. The conference keynote address was given by the Perimeter Institute director Dr. Neil Turok. The conference featured a wide range of workshops (a total of twenty eight) organized into five workshop sessions. Each session contained five or six concurrent workshops. Full list of workshops offered can be found at <http://www.oapt.ca/conference/2012/workshops.html>. The full program for OAPT 2012 conference can be found at <http://www.oapt.ca/conference/2012/program.html>.

Next OAPT conference will take place May 2-4, 2013 at the University of Ontario Institute of Technology in Oshawa, Ontario. It will once again include a wide range of workshops. This conference will also have a very strong focus on Physics Education Research. A full conference program is posted at <http://www.oapt.ca/conference/2013/program.html>

### 2. OAPT Website and Newsletter

The expanded and revitalized OAPT web site <http://www.oapt.ca>

[www.oapt.ca](http://www.oapt.ca) now features OAPT Newsletters <http://www.oapt.ca/newsletter/index.html> dating back to 1979. Last February the newsletter went completely electronic. The latest newsletter can be found at [http://www.oapt.ca/newsletter/2012\\_12\\_nl.pdf](http://www.oapt.ca/newsletter/2012_12_nl.pdf). This December 2012 Newsletter contains the address from the Ontario Section President Roberta Tevlin. The fragments of this letter are used in the present section report. Events featuring OAPT members are listed at <http://www.oapt.ca/events/index.html>. Various teaching resources are posted at <http://www.oapt.ca/resources/index.html>. For example, past OAPT Contests questions collected by topic and ready to use in the classrooms can be found at <http://www.oapt.ca/resources/contestQB.html>. Also, all of the Demonstration Corner contributions collected over 25 year by the column editor Ernie McFarland are gathered at <http://www.oapt.ca/resources/democorner.html>, while the page about Concept Questions for Peer Instructions can be found at <http://www.oapt.ca/resources/conceptquestions.html>.

### 3. Summer Physics Camp

August 2012 featured the fourth and largest ever Summer Physics Camp lead by the members of OAPT executive Dave Doucette, Roberta Tevlin and Glenn Wagner. The camp generously funded by the Ontario Teachers Federation. Initially the camp was supposed to be limited to 35 teachers but because of the incredible demand, the camp was expanded to admit a total of 48 participants.

We are looking forward to refining and further expanding our activities by building upon our successes and strengths in 2013.

—Tetyana Antimirova, Section Representative

## Saint Louis Section

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### Workshops

*September 22, 2012 - Newton's 2nd Law Experiential Trio and National Board Certification Portfolio*

Bob Brazzle led attendees through a sequence of experiential activities for students to develop a better understanding of motion and Newton's Second Law. Using simple, inexpensive items such as bowling balls, bathroom scales and a metronome, students are able to develop models for motion leading to the Second Law. One of the activities was pushing a car with bathroom scales. He also provided a better understanding of the National Board Certification process which he is in the process of completing. Bob Brazzle

*August 25, 2012 - PTRA Workshop using Newtonian TIPERS to Teach Physics*

Val Michael led a workshop focusing on the use of Ranking Tasks and TIPERS in helping to assess student understanding. Ranking tasks create environments for interactive engagement where kids do a fine job of teaching each other and they serve as excellent assessments of

conceptual understanding. Held at John Burroughs, attendees received a TIPERS book. Point of contact: Val Michael  
*October 6, 2012 - Six Flags for Teachers*

Date: October 6, 2012

Time: 9:00 - 12:00 a.m.

Location: Six Flags

Hosts: Rex Rice and Six Flags Personnel

To learn more about how to include amusement park physics into your classroom, join us (and bring a guest) for a free workshop at Six Flags on October 6 at 9am. We'll begin with a behind-the-scenes tour of the engineering that makes the rides work. Next, we'll provide an overview of the resources available to use with students in preparation for Physics Day and to use at Physics Day. Finally, we'll strap on our wireless data collection devices and ride, ride, ride! Breakfast and Lunch will be provided. RSVP to Leanne Creek, LCreek@sftp.com with "Physics Workshop" in the subject line and you and your guest's name in the body of the note. Additional Six Flags Physics day curriculum materials and information can be obtained at: <http://www.slapt.org/resources/sixflags/index.html>

*October 19, 2012 - PTRA workshop – The Role of Toys in the Teaching of Physics*

Date: October 19, 2012

Time: 4:00 - 7:00 p.m.

Location: John Burroughs School Science Building Lab 8

Presenter: Val Michael

Come play with me. Toys can be used to set the stage for a learning cycle. They can be used to probe student's understanding of everyday events. They can also be used as a way to assess a student's procedural learning. Whenever toys are used to stimulate the conversation, kids engage quickly. In this workshop we will test drive a few scenarios using toys; we will investigate using toys for assessment and then work on a sequence of questions that address "what" toys, where can you get them, how do you get kids to work and not just play. You will receive the PTRA manual on toys and a few good toys to add to your collection. I am hitting garage sales all this summer looking for some good buys.

*November 10, 2012 - Energy II - Make N Take - moved from November 3*

Date: November 10, 2012 – with attendance limitations

Time: 8:00 - 12:00 a.m.

Location: Clayton High School

Last year we had two workshops on how to teach/develop the ideas associated with energy. We made our way through the beginning introductions and some concept development. The goal of this workshop will be to take the next step and see how the quantitative parts of the model are added. The focus will be both experimental and problem oriented. Time will be set aside to make the springs that you can add to tracks such as Pasco to perform the labs.

—Gary Taylor, Section Representative



## Southern Atlantic Section

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The Southern Atlantic Coast Section of the American Association of Physics Teachers held its fall meeting at the University of South Carolina in Columbia, South Carolina on October 12-13, 2012. Dr. Varsha Kulkarni hosted the meeting and arranged the program. Thirty five people attended the meeting.

The Friday evening session began with a keynote address on “The Pleasure of Finding Things Out for Yourself, and Why it Matters; Some Examples from Graphene-based Clean Energy Technologies” by Prof. M. V. S. Chandrashekar of the Department of Electrical Engineering at the University of South Carolina. This presentation was followed by a banquet and open house at the Melton Memorial Observatory.

Contributed oral presentations, posters, and workshops were the activities on Saturday. Thirteen papers were given on research topics and educational topics. After a section business meeting, three workshops were held. Five posters were displayed during the meeting.

The full program with abstracts may be seen at the section’s webpage at <http://www.sacs-aapt.org/>

The spring meeting will be held at the University of North Georgia-Gainesville.

—Bob Powell, Section Representative

## Southern California Section

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The Fall Meeting of the Southern California Section (SCAAPT) was held Saturday, November 3rd at California State University, Northridge. Attendees were welcomed to the meeting by SCAAPT president James Lincoln. Special thanks are due to local hosts Norman Herr and Say-Peng Lin for arranging the meeting site. About 60 people attended.



Dr. Damian Christian (California State University, Northridge) [damian.christian@csun.edu](mailto:damian.christian@csun.edu) gave the first morning invited talk “Our Star, the Sun, and the Discovery of Earths Outside our Solar System”

His abstract: We live in an exciting time in which Astronomers are discovering over 100 new planets orbiting nearby stars (exoplanets) each year. NASA’s Kepler mission is finding Earth-sized planets. I will review several of the search methods for exoplanets and present

recent results. There are education materials available from several exoplanet surveys and the Kepler mission (<http://kepler.nasa.gov/education/>). The understanding and characterization of new planets also requires us to have better measurements of many of their host star’s properties. Understanding the activity of nearby stars leads us back to our own star, the Sun. CSUN has studied solar activity for almost 40 year and I will review these results and new results from NASA’s Solar Dynamics Observatory (<http://sdo.gsfc.nasa.gov/>).

Dr. John Louis Callas [http://www.nasa.gov/mission\\_pages/mer/070628/callas.html](http://www.nasa.gov/mission_pages/mer/070628/callas.html) (Jet Propulsion Laboratory) gave an invited talk titled “Curiosity and The Robotic Exploration of Mars”

His abstract: For many years now, robotic explorers have been conducting field geology day after day on Mars at different locations on the surface. These rovers have traversed great plains, climbed mountains, descended into deep craters and survived rover-killing dust storms and frigid winters. As the rovers move, each day becomes a brand new mission with new sights and new geology to explore, making significant discoveries in understanding the Red Planet and finding evidence of past habitable environments that could possibly have supported life. The surface robotic enterprise has just been joined by another, larger, more capable rover, the Mars Science Laboratory, Curiosity. In addition to extending the geologic exploration at a third location on Mars, Gale Crater, Curiosity begins the next phase of exploration with the ability to search for the chemical building blocks of life, organic molecules, moving closer to answering the questions, was there life on Mars, is there life on Mars?

Robert Cousins (University of California, Los Angeles) [cousins@physics.ucla.edu](mailto:cousins@physics.ucla.edu) gave the afternoon invited talk “Observation of a New Particle at CERN -- The Long-sought Higgs Boson?”

His abstract: The Higgs Boson was postulated nearly five decades ago as a crucial element of the modern theory of the forces of nature, and has been the subject of worldwide searches ever since. On July 4, two huge collaborations, working at the Large Hadron Collider outside Geneva, announced independent observations of a Higgs-like boson. I will describe the motivation, the experiments, the data, and the interpretation.

A brief business meeting was held before lunch. Items discussed were:

A report on SCAAPT’s application for 501 c. 3 non-profit status was presented. SCAAPT already has an EIN and is waiting for the final letter of acknowledgement from the government. A vote to amend the section constitution to add “SCAAPT is a Non-Profit” passed unanimously.

This year’s student video contest was announced and details were presented.

The next New Physics Teacher Workshop will be held

December 1 at CSU Long Beach. It will focus on E&M. Attendees were asked to invite any new high school teachers to attend.

Participants were encouraged to attend the AAPT Winter Meeting in New Orleans and Summer Meeting in Portland.

There was a discussion about continuing the postcard notification. Most received the card and some decided to come because of it. SCAAPT will be continuing the discussion at a future meeting.

It was suggested that SCAAPT start a Facebook page. SCAAPT plans to act on the suggestion.

At the end of the business meeting, a group photo was taken.

The ever-popular Show 'n' Tell featured demonstrations by: Claudio Egalon, James Lincoln, and Bernard Cleyet.

In the afternoon participants were treated to a Planetarium show presented by Jan Dobias (CSUN)

The following contributed talks were presented:

“Water-Powered Rockets with collaborative, computer-supported approach” Matthew D’Alessio, Loraine Lundquist (CSU Northridge)

“The use of collaborative web-based documents to create scientific research communities in physics classrooms” Norm Herr & Brian Foley (CSU Northridge).

“Transformer basics, wall warts and vampires” Bill Layton (UCLA)

“Techniques for Developing the Undergraduates’ Identity in the Physics Community”

Sissi Li (CSU Fullerton)

“Techniques for Successful Student Films” James Lincoln (Tarbut V’ Torah HS)

“Grants Available for Robotics Programs” Nancy McIntyre (Robotics Education and Competition Foundation)

“Kepler’s second law and conservation of angular momentum” Pari Spolter (Orb Publishing)

The meeting ended with our World Famous “Order of Magnitude Contest.” This meeting’s question was: *What fraction of the local atmosphere passes through an internal combustion engine on a typical weekday?* (Contributed by Myron Mann) Jim Broderick received a \$100 gift certificate from Cenco/Sergent-Welch for having the answer closest to the median, 10-6. Alan Hanson won an autographed copy of a book by Nobel Laureate Hannes Alfvén. John Altounji, Bernard Cleyet, Harry Manos, Gary Reynolds, Al Siger, and Greg Wood won door prizes of dissectible lasers donated by UC Irvine.

We thank our corporate sponsors – Cenco/Sargent-Welch <http://www.cencophysics.com/> and UC Irvine for their support and donation of door prizes.

The Southern California Section will hold its Spring Meeting at Santa Monica College. Please bookmark the SCAAPT URL <http://www.scaapt.org/> and check for more information in late winter.

—Mary Mogge, Section Representative

## Southern Nevada Section

SNAAPT’s fall 2012 meeting was held at Valley High School on Saturday, October 20.

David Mills opened the meeting with a brief review of the history of the AAPT and the Southern Nevada Section (approved in 2008 and one of 52 in North America). He emphasized the common goal of the national organization and the local sections of *enhancing the understanding and appreciation of physics through teaching*.

Jim Barker described the physics curriculum in CCSD high schools. He identified the levels of physics taught, the textbooks authorized for use, the mathematical preparation expected of his students, and some of the challenges with which he is regularly confronted; lack of money for textbooks, the resistance of his students to include the units associated with physical quantities and to propagate them correctly through calculations, and their inability to deal correctly with the algebraic manipulations required of them. His comments generated numerous questions and a great deal of animated discussion.

Carlos Delgado (CSN) gave a talk on *The Law of the Conservation of Energy: Methodological Approaches* in which he compared and contrasted the *as-needed* traditional treatment ( $W_{\text{ext}} = \Delta K$  relationship first, the introduction of the concept of gravitational potential energy by  $\Delta K + \Delta U = 0$  for an isolated system second, and eventually generalized to include the transfer of energy due to temperature differences in the first law of thermodynamics) with the *global approach* advocated by John Jewett in a series of TPT articles and implemented by Randall Knight and his coauthors in their college-level textbooks. This approach begins with a complete statement of the law of conservation of energy (the global Conservation of Energy Equation - CEE) from which terms are dropped until such time as their necessity is recognized. That is,

$$\Delta E_{\text{system}} = \sum T$$

or

$$\Delta K + \Delta U + \Delta E_{\text{internal}} = W_{\text{by external forces}} + Q_{\text{by heat due to temperature differences}} + T_{\text{matter transfer}} + T_{\text{mechanical waves}} + T_{\text{electromagnetic radiation}} + T_{\text{electrical transmiss}}$$

where T represents energy transferred across the system boundary.

Jim shared several demonstrations (Cartesian diver, funnel-and-ball, and raw-egg toss into a suspended sheet) and Mitch Johnson shared a laboratory activity on the conversion of elastic potential energy to kinetic energy, and described teaching techniques (whiteboards and student collaboration in problem solving) that he has found productive of learning. Not unexpectedly, these demonstrations were enjoyed by all and generated considerable discussion.

David distributed samples of In Class Learning Activities (collaborative activities inspired by TIPERS ... Tasks

Inspired by Physics Education Research) that he had created to help his students in a Conceptual Physics course with concepts and problem-solving strategies associated with the topics of energy and fluids. He also distributed sample Ranking Tasks (another kind of TIPER) useful in reinforcing learning of topics related to energy, heat, and fluids.

David also shared a Milliken-like experiment (*An Experiment in Indirect Measurement*) that satisfies the Skill of Scientific Inquiry 3.1-3.9 and Models and Model and Modeling 14.1-14.3 objectives. He provided those present with a teacher's guide that includes specific teaching suggestions intended to maximize student learning from this activity. The apparatus for this laboratory activity will be given, via a drawing, to a high school physics teacher attending the winter meeting.

#### **Next Meeting – January 12, 2013**

The emphasis for the winter meeting, to be held at West Career and Technology Academy and hosted by Mitch Johnson, will be the high school physics curriculum for waves and light. *All the handouts from the fall meeting will also be available at this meeting.* We hope that you will plan to participate in this meeting. We're anxious to meet you and promise to do our best to make this meeting interesting and a worth-your-while experience!

—David Mills, Section Representative

### **Southern Ohio Section**

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The Southern Ohio Section met on Saturday, October 13, 2012 at Oak Hills High School in Cincinnati. The team of Oak Hills teachers Michelle Taylor, Sarah Lavelle, and Aaron Debbink hosted, with coordination assistance from Kathy Koenig of the University of Cincinnati. Approximately 30 teachers from a variety of institutions attended, including a mix of new and veteran attendees.

The focus of the morning was Modeling Instruction. After a brief introduction to the history and framework of Modeling by Kathy Harper (The Ohio State University), parallel workshops were held. Sarah Lavelle and Michelle Taylor ran *Introduction to Modeling*; Aaron Debbink led *Advanced Modeling*.

The afternoon consisted of contributed talks and “How I Do It” presentations. Contributed talks were *Why Statistics are Important to Introductory Physics and Why Care is Needed* (David Groh, University of Cincinnati), *Convincing Middle and High School Teachers of the Value of (Formal) Formative Assessment* (Gordon Aubrecht, The Ohio State University – Marion), *Circular Reflections and 3-D Movie Glasses* (Terry Toepker, Xavier University), *Air Resistance Beyond Terminal Velocity Without Calculus* (Lenore Horner, Seven Hills School), *A Laboratory Based Physical Science Course* (James Sullivan, University of Cincinnati). There were “How I Do It” presentations on *Modeling Using White Boards with Freshman* (Cijy Elizabeth Sunny,

Mason High School), *Real-Time Spectral Analysis* (Lenore Horner), and *Tire Pressure, Science, and Politics* (Terry Toepker).

#### **Spring 2013 SOS AAPT Meeting**

Our next meeting will be held on Saturday, March 9, 2013 at Dublin Jerome High School. Barb Hilligoss will host, and the program is being planned by Sandy Doty (Ohio University – Lancaster), Kevin McChesney (Pickerington High School – Central), and Mark Fischer (College of Mt. St. Joseph).

—Kathleen Harper, Section Representative

### **Texas Section**

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The Texas Section annually holds two meetings, a “Spring” meeting and a “Fall” meeting. For the last 25 years, these meetings have been held jointly with the Texas Section of the American Physical Society and with Zone 13 of the Society of Physics Students (and many more years than 20 with Zone 13). The Section's activities center around its meetings and thus this report consists primarily of reports of those meetings. In 2012 the Spring TSAAPT Meeting was held March 22-24 at Angelo State University in San Angelo: a meeting summary is attached. The 2012 Fall Meeting was held October 25-27 at the Texas Tech University in Lubbock: a meeting summary is attached.

The TSAAPT meetings are such that the Fall Meeting is primarily run by TSAPS with the TSAAPT in a more secondary role. For the Spring Meeting, the roles are reversed and the meeting is a “primarily AAPT” meeting. It is expected that this arrangement will continue in the future. During both of these meetings, workshops are held to encourage both pre-college and college physics teachers to attend the meetings.

The Texas Section maintains a website to post most of its important information and events: <http://www.tsaapt.org/>

It also puts out an electronic newsletter that is emailed to those members on the email mailing list. It can be found at: <http://www.tsaapt.org/newsletters/index.html>. The newsletter is gradually being replaced by our Facebook page, <http://www.facebook.com/groups/58141374338/10150691221594339/>.

The Section holds elections at its Spring Meeting with the elected individuals taking office at the close of the following Fall Meeting. A list of officers is attached. Our future meetings are:

TS AAPT Fall 2012 Meeting:

Texas Tech University

October 25-27, 2012

Host: Charley Myers, [charley.myles@ttu.edu](mailto:charley.myles@ttu.edu)

TS AAPT Spring 2013 Meeting:

Tarleton State University

April 4-6, 2013

Host: Dan Marble, [MARBLE@tarleton.edu](mailto:MARBLE@tarleton.edu)

TS AAPT Fall 2013 Meeting:

UT – Brownsville  
October 10-12, 2013

Host: Mario Diaz, [Mario@phys.utb.edu](mailto:Mario@phys.utb.edu)

The Texas Section of AAPT, the Texas Section of the American Physical Society, and Zone 13 of the Society of Physics Students held a joint meeting March 22 - 24, 2012 at Angelo State University in San Angelo. Those most responsible for the meeting arrangements were Toni Sauncy, Andy Wallace, David Bixler and Joe Satterfield at ASU, Tom O’Kuma of Lee College, and Wilhelmus Geerts of Texas State University. There was a total registration of over 200 persons, including over 75 registered as students. The meeting website is: <http://tesla.angelo.edu/~spsweb/tsaapt/>.

The program of the meeting contained 10 paper sessions, 3 plenary sessions, 1 poster session, and 9 workshops, making a total of 117 presentations. The breakdown of these papers were as follows: contributed and invited papers - 15 AAPT, 12 SPS, 28 posters, and 49 APS. The 9 workshops had a total attendance of 90 with some attendees attending more than one workshop.

On Thursday evening, the ASU SPS chapter held a welcome barbecue for students and other meeting attendees. Afterwards, there was a planetarium show and star party for those interested. Throughout the meeting, there were additional planetarium shows and the SPS room was available for students to meet and discuss physics.

During the TS AAPT Friday plenary session, Cecile DeWitt-Morette of the University of Texas at Austin discussed “The Pursuit of Quantum Gravity” and Cristina Torres of the University of Texas at Brownsville discussed “Advanced LIGO: The next generation of gravitational wave observatories.” The Saturday plenary session had Robert Hilborn, Associate Executive Officer of the American Association of Physics Teachers, presented “Growing Undergraduate Physics Programs : What SPIN-UP Tells Us Works” and Crystal Bailey of the American Physical Society addressing “Physics Careers: To the Bachelor’s Degree and Beyond.”

The Katherine Mays Award for Lifetime Outstanding Contributions to High School Physics Education in Texas was given to Evelyn Restivo of Waxahachie Early College High School in Waxahachie, Texas.

Awards for Excellence for Pre-College Teaching Excellence was presented to Jill Lewis of Foster High School in Richmond, TX and Brian Lamore of The Village School in Houston, TX.

The meeting attendees who attended the Friday evening banquet heard a stimulating after-banquet presentation by Susan Cummins Miller of the University of Arizona discussing “A Funny Thing Happened on the Way to Pair-a-Dice: One Geologist’s Curious Journey from Fieldwork into Fiction”.

Other meeting activities included a joint AAPT-APS luncheon and business meeting with over 150 persons

attending, a reception prior to the banquet, and special activities for SPS chapters.

The Texas Section of AAPT, the Texas Section of the American Physical Society, and Zone 13 of the Society of Physics Students held a joint meeting October 25-27, 2012 hosted by Texas Tech University. Those most responsible for the meeting arrangements were Charley Myers of TTU (local host), Harry Swinney of the University of Texas at Austin, and Thomas O’Kuma of Lee College. This was a large meeting with a total registration of over 250 people - more than 150 faculty, more than 50 graduate and undergraduate students, and several other individuals. The meeting website is: <http://www.phys.ttu.edu/TSF12/>.

The program of the meeting contained 15 paper sessions, 4 invited session, 3 plenary sessions, 2 poster sessions, and 10 workshops, including a total of 202 presentations. The breakdown of these papers were as follows: 9 invited papers; contributed papers - 5 AAPT, 107 APS, 10 SPS, and 61 posters. The 10 workshops had a total attendance of 100 with some attendees attending more than one workshop.

The plenaries consisted of Nural Akchurin of Texas Tech University discussing “Higgs Searches at the CMS Experiment at the Large Hadron Collider”; James Chelkowsky of the University of Texas Austin discussing “Aswering Dirac’s Challenge: Practical Quantum Mechanics for Materials”; Scott Pendleton from the University of Southern California discussing “Transient Plasma Physics: Nanosecond Pulsed Power Applied to Energy, Engines, and Other Things”; Michael Deem of Rice University discussing “Physical Theory of the Immune System”; Robert Allen from Texas A&M University discussing “Theory and experiment in biomedical science”; Karl Gebhardt of the University of Texas Austin discussing “From the Inflationary Universe to Black Holes to Dark Energy using the Hobby-Eberly Telescope Dark Energy Experiment”; and Michael Marder of the University of Texas Austin discussing “Physics of Failure”. There were also several invited presenters.

The 200 people who attended the Friday evening banquet heard a presentation by Ginger Kerrick from NASA Johnson Space Center on “Educational and Professional Success – A Lesson on Resilience and Persistence”.

Other meeting activities included a joint AAPT-APS-SPS luncheon and business meeting with 150 people attending.

—Thomas O’Kuma, Section Representative

To list your section meeting in the AAPT Calendar of Events, e-mail the information to [mgardner@aapt.org](mailto:mgardner@aapt.org).

**American Association of Physics Teachers**

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