

British Columbia Section

Annual Report from the BC AAPT Section
By BC Section Representative – Marina Milner-Bolotin
May 17, 2011

During the spring of 2011 BC APT organized and participated in a number of exciting events for BC physics teachers, students and physics faculty. On February 3-5 2011, AAPT President David Sokoloff visited Vancouver and gave two colloquia at the University of British Columbia and at Simon Fraser University respectively.



In addition, Prof. Sokoloff conducted a four hour long workshop for local physics teachers that focused on using Vernier equipment for interactive physics teaching. More information about this event can be found at: <http://bcapt.sites.olt.ubc.ca/2011/02/05/david-sokoloffs-visit-and-bcapt-pro-d-event-a-smashing-success/>

On March 25, 2011, BCAPT Executive Board member (Dr. Sarah Johnson) together with her colleagues from Simon Fraser University conducted a “Girls Exploring Physics Workshop that attracted a few dozens of grade 9-10 girls. To read more about it: <http://bcapt.sites.olt.ubc.ca/2011/02/08/girls-exploring-physics-workshop-march-25-2011/>



During April 5-9, 2011 BCAPT 2011-2012 President, Dr. Marina Milner-Bolotin took part in 2011 International Conference for Women in Physics in Cape Town, South Africa.

BC Brightest Minds Physics Competition took place on May 3rd on the grounds of the biggest British Columbia Amusement Park – PNE. The competition was organized by a team of physics teachers, faculty and professors from the University of British Columbia. BCAPT members (Dr. Dan Phelps and Dr. Marina Milner-Bolotin) took an active part in the organization of the competition. To read more: <http://bcapt.sites.olt.ubc.ca/2011/05/06/bcs-brightest-minds-2011/>

On May 7, 2011 BCAPT held an Annual BCAPT Conference at UBC Okanagan. The meeting took place on a beautiful campus of UBC-O in Kelowna (450 km drive from Vancouver). More than 15 physics teachers, instructors and faculty members attended the event (Figure 4) that featured presentation on physics and physics teaching. During the Conference we held an Annual General Meeting and voted for the new BC APT Executive Board. The list of the New Executive Board members is listed on the BCAPT and AAPT web sites. To read more about the event see: <http://bcapt.sites.olt.ubc.ca/2011/05/07/bcapt-2011-annual-meeting-was-a-success/>

—Marina Milner-Bolotin, Section Representative

Colorado/Wyoming Section

The spring meeting of the Colorado/Wyoming Section was held on Saturday, April 16, 2011 at University of Colorado-Denver Auraria Campus in Denver, CO. Approximately 40 people attended.

Listed below are some of the program highlights:

Morning Talks and Workshops

Five 15-minute talks started the morning session. The titles and authors are:

- *The Innovation Hyperlab*, Randall Tagg (University of Colorado Denver and Vista PEAK School – Aurora)
- *Education Outreach Efforts of the Acoustical Society of America*, Wendy K. Adams (Acoustical Society of America and University of Northern Colorado)
- *Physics and the Sewing Machine*, Courtney Willis (University of Northern Colorado)
- *Video Games in the Classroom*, Erik Nickerson (Montana State University)

- *Effect of Altitude on the Thiele • Small Parameters*,
Diego Alcalá (University of Northern Colorado)

The morning came to a completion with *The Little Shop of Physics* workshop by Brian Jones of Colorado State University – Fort Collins. The title of the workshop was *The Rainbow and Beyond: Radiation in the Earth System*. *The Little Shop of Physics* team showed some hands-on activities that illustrate the principles of radiant energy beyond the rainbow that participants can adapt to their own classes. This set of activities brought together a broad array of topics, including heat transfer modes, the interaction of electromagnetic waves with matter, thermal radiation, and conservation of energy.

Business Meeting

The section business meeting was held before lunch. Beth Cunningham, AAPT Executive Officer, started the business meeting via WebEx. Beth introduced the national organization and the some of the latest news and events from the national office. The meeting agenda included approval of previous minutes, constitution/bylaws issues, values that the CO/WY Section offer, and discussion of possible recruitment efforts to expand future membership and solicit participation. Officers' reports were followed by the election of new officers; President Elect, Vice President, Secretary/Treasurer, Member At Large. The election results are:

- President Elect: Nisse Lee
- Vice President: Brian Huang
- Secretary/Treasurer: Richard Krantz
- Member At Large: Chuck Stone and Richard McNamara

The new VP, Brian Huang, agreed to host our next CO/WY Section AAPT meeting, in the spring of 2012, at Centaurus High School in Lafayette, CO.

The Executive Board of the CO/WY Section of the AAPT now is as follows:

- President: Sage Andorka
- President Elect: Nisse Lee
- Vice President: Brian Huang
- Past President: Adam Pearlstein
- Secretary/Treasurer: Richard Krantz
- Members At Large: Barbra Maher, Chuck Stone, Richard McNamara
- Section Representative: Vince Kuo

Poster Sessions

Three posters were on display for an hour shortly after lunch. The titles and authors are:

- *The Reentry Experiment SAT•X*
Honda, M., Adamson, A., Aken, J., Kuhns, C., Shiely, R., and Woods, M. (University of Northern Colorado)
- *Investigation of Lasers and Play•Doh*
Bennet, R., Alcalá, D., Arko, J., and Kingsley, K. (University of Northern Colorado)
- *Effect of Altitude on the Thiele • Small Parameters*
Alcalá, D. (University of Northern Colorado)

Keynote Speaker

The afternoon started off with a talk by Gary Fullerton, Vice Chair of the Department of Radiology at CU School of Medicine. The title of the talk was: *Physics Contributions to Medical Research Through Advanced Imaging Devices*. Here is the abstract:

A wide variety of biophysical measurements of animal and human tissues in vivo offer unique opportunities to study complex physiological processes over spatial and temporal dimensions to provide information unobtainable by standard laboratory methods. The Colorado Translational Research Imaging Center C-TRIC uses a spectrum of devices including X-rays, CT, US, Doppler US, MRI, PET, PET/CTs and MR/PET to measure properties ranging from electron density, elasticity, molecular tumbling, molecular concentrations, chemical exchange rates and a growing list of other tissue properties impacted by normal and pathological processes. The extent of this new knowledge continues to expand and offers opportunities for physicists to contribute as members of multidisciplinary research and clinical care teams to extend new frontiers in human health care and assure the well being of humans into the foreseeable future.

Afternoon Workshops

There were two 30 minute workshops in the afternoon. *Everyday Einstein: GPS and Relativity* by Chris Nichols (Castle View H.S.)

The Global Positioning System (GPS) is a navigational tool that can pinpoint your location to within a few meters. In order to function with accuracy, it incorporates a number of effects from Einstein's theory of relativity. This new module from the Perimeter Institute explores the role of special and general relativity in the functional operation of GPS. Come learn and carry away materials that can be put to use in your classroom!

Modeling Workshop from Arizona State University by Richard J. McNamara

Video analysis is an extremely powerful tool for studying kinematics. By marking position of an object in each frame of a video and using the frame count to determine time intervals, it's relatively simple to obtain high quality position vs. time, velocity vs. time and acceleration vs. time data. In the past, video analysis required expensive software to examine the motion of objects in videos that came with the software. For the more tech savvy teacher, the purchase of a video capture card and video camera would allow you to make your own videos. With the availability of inexpensive digital cameras and Vernier Technology's Logger Pro™, video analysis of has become quicker and easier than ever. Bring your own camera and a laptop with a copy of Logger Pro and learn how to incorporate video analysis into you students lab experiences.

Acknowledgements

The Section would like to thank the Department of Physics

at the University of Colorado – Denver for hosting the meeting, and the outgoing vice president Randall Tagg for putting together the program.

—Vince Kuo, Section Representative

Florida Section

The annual spring meeting of the Florida Section of AAPT was hosted Laird Kramer, Laird.Kramer@fiu.edu, was held at Florida International University in Miami on April 1 & 2, 2011.

Friday evening

5:30 P.M. Registration, Meet and Greet

6:00 P.M. Dinner

7:00 P.M. Guest Speaker - Dr. Grenville Draper, FIU: “The Mechanics of Earthquakes and What Happened in Haiti”

Saturday morning

After welcome from Laird Kramer and Ken Shacter, members presented contributed papers.

- Maurizio Giannotti [Barry University] Simulation of an Oscilloscope to Study AC Circuits Using “Mathematica”, and Analysis of a Resonant Circuit.
- John F. Goehl, Jr. [Barry University] Obstacles, Particle Paths, and Problem Solving. Equation manipulation for projectile motion. No pictorials, no coordinate system, trial and error etc. + Motion of particle in magnetic field
- Mark Egdall [Florida International University] Power Point Animations for Modern Physics. Lifelong learning institute for older students. Demos + PowerPoint simulation on relative motion + Simultaneity. References below
marksmodernphysics.com
www.personal.psu.edu/lhtml/
TPT March 2011, 189
- David Jones [Florida International University] Demonstrations of Puzzle Circuit Board for DC Electricity and Cosmic Ray Detectors in High Schools For additional information see Quarknet <http://quarknet.fnal.gov>
- Geraldine L. Cochran [Florida International University] Investigating Student Understanding of Cosmology
- Jared Durden [Florida International University] Seeding: Understanding Discourse Management in Modeling Instruction
- Jim Nelson [Santa Fe College] Reflection of Light from Hinged Multiple Flat Mirrors. Attendees were challenged to determine the number of images seen from two hinged mirrors as the angle between the mirrors is changed.
- Jane Nelson [Santa Fe College] Phases of the Moon - An Interactive Simulation Activity Using a simulation to view the moon. The activity sheet uses the simulation at http://sunshine.chpc.utah.edu/labs/moon/lunar_phase3.swf. Activity sheet is available from Jane

at nelsonjh@ix.netcom.com

- Laird Kramer [Florida International University] Physics Reform at FIU. Learning Assistants.

Business meeting was held during lunch.

1. Why people don't attend meetings discussion /districts impact/.
2. We decided to post section meeting highlights to encourage attendance.
3. We decided to ask for names of physics teachers each members area and develop an up to date membership list.
4. Be sure to ask Victoria Fischer to distribute to district contacts
5. We should try a paper mailing.
6. Ask a well recognized physicist as speaker to attract members
7. We always have a good meeting just hard to get people to come
8. We should request sponsorship from various companies
9. Continuing education / service education credits AAPT
10. Suggest putting “Share a Ride” option on meeting registration form

REPORTS

Treasure Report Approved Bank Statement Balance = \$3,460.57

Announcements by Karim Diff:

- Jane Nelson was recognized with an AAPT Distinguish Service Award during AAPT national meeting in Jacksonville
- Jim Nelson was part of the PTRA Leadership team to be recognized the APS for Excellence in Education in April 2011.

Section Representative Report (Jim Nelson Standing in for Sherry Savrada)

- All members of the section are encouraged to join AAPT
- National meetings
- AIP survey
- Awards program
- Teacher Mentor program: can be done by email and done by university faculty
- Contests/Video/Photo/Certificates for teachers/students
- Publishing in journals/ How about article on web site?
- Jim asked AAPT Executive Board to review policy about sections affiliates/insurance/check off list on membership renewal.

ELECTIONS

- Section Representative: Must attend council meeting at the AAPT winter meeting. Result of election is Jim Nelson
- President Elect: No one was elected due to lack of candidate.
- Treasurer: Jane Nelson candidate

- Vote by acclamation

Saturday afternoon two workshops were held:

- ISLE (Investigative Science Learning Environment) lead by David Brookes
- AAPT/PTRA Workshop: Magnetics & Magnetism lead by Jane Nelson

—*Sherry L. Savrada, Section Representative*

Hawaii Section

Hawaii AAPT meeting at Leeward Community College, rooms PS 201B & 215

Saturday 16 April 2011

Meeting summary : 13 people attended

iphone / ipad apps: G. White described the following apps.

- iCircuit
- Mind mapping
- Save Toshi
- Newton's Gravity HD
- Osmosis
- Unit conversions
- S. Stender suggested
- Video Physics

B. Speed described efforts at Waipahu H.S. to add rigor and relevance to various career pathways related to physics and engineering. Three programs in particular involve teams working on design and testing.

JETS/TEAMS (www.jets.org)

JETS/NEDC (www.jets.org)

MWM (www.materialsworldmodules.org)

He also mentioned partnerships of SPAWAR with Waipahu and Pearl City.

J. Redmond showed some online resources on work, power and efficiency of simple machines at www.leydenscience.org.

T. Nakata showed four online resources from phet.colorado.edu.

- Circuit construction
- My solar system
- John Travoltage
- Energy skate park

updates on events : HaSTA at Punahou on 22 Oct.

Lacy Veach Day at Punahou on 29 Oct.

Navy outreach: G. White mentioned that the Navy has an outreach program and that experts and funding may be available.

M. Weber show a demo on Poisson's (Arago's) spot illustrating the wave properties of light. See <http://physicsed.buffalostate.edu/pubs/StudentIndepStudy/EURP09/>

Elections: Elected for the 2011 2012 year are

Pres.—Roger Kwok

V P.—Stacy Stender

Sec.—Liz King

Treas.—Mike Weber

Sec. Rep.—Jim Redmond

Treasurer's report: M. Weber reported that there is about \$1000 currently and reminded people that the annual \$15 dues are welcome.

Science fair: The 2011 recipient of the AAPT/Hewitt is Keith Imada from Maui H.S. curriculum for early school year lessons

—*Michael Jones, Section Representative*

Idaho/Utah Section

The Idaho/Utah Section held their annual meeting March 11 12, 2011, at Weber State University in Ogden, Utah. There were 47 members in attendance. We held a demonstration show Friday evening. On Saturday, 22 oral presentations were given in three sessions. We also held a business meeting on Saturday where we elected a new vice president, Phil Matheson, from the Utah Valley University in Orem, Utah. For more details about the meeting, see <http://aapt.byu.edu>.

—*Harold Stokes, Section Representative*

Indiana Section

The Indiana Section of AAPT met on April 22 and 23 at Plainfield High School. The Friday night section of the meeting consisted of a discussion on virtual labs in the classroom by Stacy McCormack, Indiana's Teacher of the Year. Eighteen sessions were held during the morning with the section business meeting being conducted in the afternoon. A total of twenty-eight members attended the meeting and the keynote speaker, Mark L. Richard, spoke on the Interface of Radiation Physics and Medicine. During the business meeting Joel Bryan of Ball State University was elected as the 2011-2012 Secretary while we Tracy Hood ended her three year time as an officer of the section.

—*Elaine Gwinn, Section Representative*

Long Island Section

Physics Olympics at Farmingdale State College, March 25, 2011

The 28th annual Physics Olympics took place this spring with Mephram High School reclaiming first place standing by competing in the Ballistic Bear, The Bridge to Nowhere, Sensing the Fundamentals, Physics Bowl, and Fermi Questions. Five student teams from fifteen schools from all over Long Island met for the day's events, pizza, and awards. Thanks to the Physics Olympics Committee headed by Dr. Gillian Winters for a smoothly run and exciting day, and to the Physics Department at Farmingdale College for their hospitality.

Lipta Spring Conference at SUNY Stony Brook

The day started in the Nuclear Structure Lab in the Physics Building with a talk by Dr. Tom Hemmick, Professor of Experimental Nuclear Physics from the Stony Brook Physics Department to set up the day which explored medical applications of Physics. Dr Hemmick presented a provocative discussion of current research for particle accelerators in cancer treatments. This was followed by a tour of the Van De Graaff particle accelerator by Rich Lefferts who described some of the changes and upgrades that have been implemented.

A hike across campus to the Medical Center started the second part of the program where Dr. Terry Burton and Michael Benvento, Medical Physicists at the hospital, presented lectures on the Physics of Medical Imaging. Dr. Erika Newton, a pediatric emergency room doctor was present to offer a practical context to the use of these tests. X-ray machines, CAT scans, MRIs, and PET scans were all discussed. After the lectures, participants took a tour of the diagnostic facilities. Our hosts made a compelling case for encouraging our students to pursue a career in Biomedical Physics. The twenty two participants were eager to return to their classrooms to share the morning's information with their students.

AP Exam Review, Deer Park BOCES, May 18, 2011

The annual get together to discuss the AP B and C exams for this year took place with about 15 teachers in attendance. Terese Keogh of Manhasset High School collaborated with Bill Leacock of Mepham High School to present the AP B exam solutions. Dr. Gillian Winters presented the solutions to the AP C exam. There was ample opportunity for discussion and questions to be raised throughout the evening.

LIPTA Barbecue, June 18, 2011

Bill Leacock was our gracious host and cook for the last event of the school year, our annual summer barbecue. Eighteen teachers got together to relax and vent about the recent Physics Regents and their end of the year frustrations and successes. All were looking forward to the summer vacation, which begins next week.

<http://www.lipta.org>

—Tania Entwistle, Section Representative

Louisiana Section

Minutes of the Louisiana Section of the AAPT Annual Business Meeting 12 May 2011

1. Meeting was called to order at 5:30 pm.
2. Attendees: John Thacker (President, LA Section, Covington High School), Rhett Allain (Section Representative; Southeastern Louisiana University), Greg Solley (Catholic High School, Baton Rouge).
3. Reports.
 - a. Thacker presented the section's financial status. Approximately \$10K in section funds are located in a

savings account.

- b. New membership. Thacker noted that a new member, Kassie Dasher, (physical science teacher, Covington High) was added to the rolls this month.
4. New Business.
 - a. Fall 2011 Regional NSTA conference in New Orleans. We discussed general plans and ideas for organizing our LA Section Physics Day at the upcoming conference. We agreed to have completed the basic preparations by the first week of August. Allain agreed to identify what support resources AAPT or NSTA might provide. This would include brochures, magazines, advertisements as well as monetary support for the physics day. Thacker will put together an initial design for a large poster to be displayed at our NSTA sessions. Solley agreed to provide the poster printer/production resources based on an agreed digital image. Since our Section conference sessions will be conducted sequential throughout the day, we agreed that we would support one another by attending each other's sessions for the purpose of advertising the Section (and national) organizations as part of our membership drive. We also briefly discussed how we would advertise LA Section participation at the conference.
 - b. Allain brought up the topic of developing online meeting capability. We discussed the advantages of such meetings – possibly held even monthly – with the annual business meeting being held at a physical location such as Catholic High. We agreed that we should make move forward with this idea – at least on a trial basis. We discussed the use of commercial meeting software such as that available through “gotomeeting.com” as well as free software, such as Skype. Allain will investigate the options and frame the advantages/disadvantages of these options so that the group can make an informed, consensus decision.
 - c. Allain suggested we develop a Facebook page for our section. Allain agreed to establish such a page.

5. Meeting adjourned at 12:03.

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

—Rhett Allain, Section Representative

Michigan Section

MIAAPT would like to announce our Spring Meeting. The meeting will be at Grand Valley State University (GVSU) on Friday and Saturday, April 15th and 16th. David Sokoloff, President of AAPT will be our Key Note speaker. We plan to keep him busy with a Saturday workshop and a Friday seminar for the GVSU faculty. We invite those in nearby states to join us. Allendale is near Grand Rapids and is less than 2 hours from South Bend, IN. Information about hotels as well as abstract of workshops and talks will

be available the last week of March.

Our Fall meeting was at the University of Michigan Dearborn. Brad Ambrose of GVSU did a fantastic job of organizing the meeting even with some necessary last minute changes. The abstracts of the talks are available at <http://web.miaapt.org/meetings/fall-2010>. You may contact the presenters for additional information about the talks and workshops.

—Alan Gibson, Section Representative

Minnesota Section

The 2011 Spring Meeting of the Minnesota Area Association of Physics Teachers (MAAPT) was held on Saturday April 30, 2011 at St. Mary's University of Minnesota with roughly 35 members in attendance. Eighteen talks and posters were presented, including 2 talks and 6 posters by undergraduate students on their research.

The Eaton Award for the best physics demonstration was awarded to Zhengqiang (John) Liu of St. Cloud State University for his apparatus (incorporating a "persistence of vision" readout) demonstrating the relationship between the angular velocity and acceleration in uniform circular motion. The award for the best student poster was given to Trevor Rodriguez-Sotelo from Augsburg College for his presentation "Improving Augsburg's Magnetic Needle Viscometer: An Undergraduate Research Experience." The award for the best student oral presentation was given to Brandon Peplinki for his talk "Lithium Atomic Beam Spectroscopy and Phase Sensitive Detection Using a Diode Laser."

MAAPT president Paul Nienaber obtained door prizes (compliments of CENCO) consisting of AP physics lab equipment and these were awarded to Hamline University, the University of Minnesota-Morris, and the University of Wisconsin-River Falls.

At the business meeting, it was announced that Winona State University is holding a (Arizona State University) Modeling workshop from August 8-12, 2011. The cost for the workshop is \$50 and the organizer is Nathan Moore. Spaces are still available. More information about this and other modeling workshop nationwide can be found at <http://modeling.asu.edu>. <http://www.maapt.org>

—Leonardo Hsu, Section Representative

North Carolina Section

North Carolina Section of the American Association of Physics Teachers 16th Annual Spring Meeting took place March 25-26, 2011 at Wake Technical Community College in Raleigh, NC.

The Friday evening banquet speaker was Neil Comins who spoke on "What if the Moon Didn't Exist and Other Alternative Worlds" which generated a lot of questions that kept the speaker busy even on to Saturday morning when he had to leave. Mark Kruse of Duke University

spoke on Saturday morning about "How the Large Hadron Collider will soon change our view of the Universe" again generating a host of questions for the speaker.

Approximately 55 to 60 members of the NCS-AAPT met at Wake Technical Community College in Raleigh, NC to hear 16 papers. A nice mix of pedagogical and physics content papers were spread throughout the day with times were set aside for asking questions of the presenters.

The usual Minutes and reports from the officers and representatives were presented at our business luncheon. Our upcoming joint meeting with SACS-AAPT was set (actually confirmed shortly after) for the University of North Carolina at Asheville (early November, 2011) hosted by Chuck Bennett.

Elections were held for Vice-President (Wolfgang Christian of Davidson College elected), Section Representative (Mario Belloni of Davidson College re-elected), and High School Representative (Jeffrey Register of Greensboro Day School was elected). Those elected will take office beginning May 1, 2011.

Prizes were awarded for the best undergraduate student (\$100) paper or poster to Jesse Jones of Catawba Valley Community College for his paper, "A VPython Model of the Solar System," for the best graduate student paper or poster (\$100) to Mary Bridget Kustusich of North Carolina State University for her paper, "Addressing the Representation and Context-Dependence of Student Use of Right-Hand Rules," and for the best pedagogical (\$150 toward travel expenses to present a similar paper at a national meeting) paper to Jeffrey R. Register of Greensboro Day School for his paper, "Hooke's Law Orbital Motion: Results and Pedagogical Application of an Experiment Flown aboard NASA's 0-g Aircraft."

Our hosts, Cheryl Keeton, Denise Wetli, Narashimhan Sujatha, Ted Maynard, Monika Collier, Jovy Regaldo, Stan Converse, and Jim Chilton saw to it that everything ran smoothly. We were also greatly assisted by Ann Halpin, Events Coordinator at Wake Tech, who helped with rooms and audio/visual preparations.

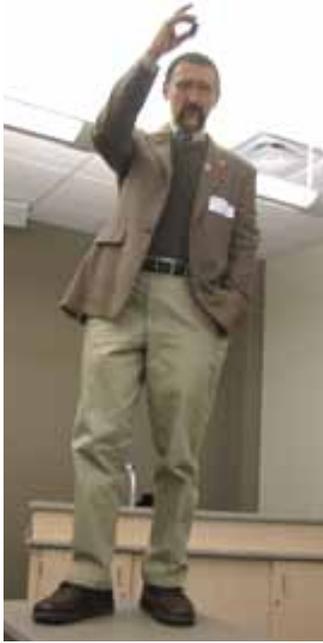
We thank our sponsors: AAPT, Cambridge University Press, Cengage Learning, Johns Hopkins University Press, North Carolina State University, Pasco, Prentice Hall, Princeton University Press, Spectrum Techniques, Vernier Software and Technology, John Wiley and Sons, which organizations provided us with door prizes and money for coffee breaks.

—John L. Hubisz, Section Representative

North Dakota Section

The North Dakota Section of the AAPT held its spring meeting in Bismarck, ND, 25 Feb 11, in conjunction with the North Dakota Science Teachers Association (NDSTA) Conference. Members and science educators (K 12) shared

demonstrations, labs, and teaching techniques followed by a business meeting, and election of officers.



The officers for 2011 12 are:
Larry Cook—President
Ila LaChapelle—Vice President
Donna L Knutson—Secretary

—Paul Robinson, Section Representative

Southern Atlantic Coast Section

Professor Tatiana Krivosheev and her colleagues at Clayton State University hosted an excellent spring meeting of the Southern Atlantic Coast Section on April 1 to 2, 2011. Please visit [sacs aapt.org](http://sacs-aapt.org) to view the program details.

<http://sacs-aapt.org>

—Ntungwa Maasha, Section Representative

Southern California Section

The Spring Meeting of the Southern California Section was held Saturday, May 14th at Pierce College, Woodland Hills. Attendees were welcomed to the meeting by SCAAPT president Jeff Phillips and the local host, Lee Loveridge. Special thanks are due to Lee for arranging the meeting site. About 65 people attended.

Dr. Richard Hake <http://iub.academia.edu/RichardHake> Indiana University, Emeritus gave the morning invited talk “Should the Culture of University Science Education Be Changed?”

Dr. Hake began by citing a recent Science article “Changing the Culture of Science Education at Research Universities” [Anderson et al. (2011)], in which thirteen biology research scientists, deplore the prevalent university reward systems that “heavily weight efforts of many professors toward research at the expense of teaching.”

Dr. Hake stated that university faculty need to be educated about research on learning. He reviewed his essay “The General Population’s Ignorance of Science Related Societal Issues: A Challenge for the University” [Hake (2000)]. He argued that the education of future K-12 teachers is especially important because “The road to U.S. science literacy begins with effective university science courses for pre-college teachers.” Dr. Hake concluded that the failure of universities throughout the universe to properly educate pre-college teachers is responsible for science illiteracy, poor political choices, the early demise of civilizations, and our failure to observe any signs of either terrestrial or extraterrestrial intelligence. The material of the talk and the references will be posted online at <http://bit.ly/b2UsK6>

The morning session also featured a panel discussion of “Use of Tutorials in Introductory Physics” with panelists Lee Loveridge (Pierce College), Kats Yamada (Pierce College), Homeyra Sadaghiani (Cal Poly Pomona), Margaret Wessling (Pierce College), Chija Bauer (La Salle HS), and Bill Duxler (Pierce College). The panel presented data on the learning gains observed when tutorials are used and discussed their advantages and challenges.

During the lunch hour, Don Sparks gave a tour of the new Pierce College planetarium and demonstrated some of its features.

Dr. Edward (Ned) Wright < <http://www.astro.ucla.edu/~wright/intro.html> > UCLA gave the afternoon invited talk “Exploring the Universe with WISE”

Dr. Wright described the design, construction, and launch of the Wide-field Infrared Survey Explorer (WISE). WISE was a NASA Medium Explorer (MIDEX) that surveyed the entire sky in four mid-infrared bands at 3.4, 4.6, 12 and 22 microns with vastly greater sensitivity than previous all-sky surveys. WISE had a 40 cm cryogenic telescope, 1024x1024 arrays, a scan mirror to freeze images on the arrays while the spacecraft scanned continuously, and took 47’x47’ images every 11 seconds in all four bands from an IRAS/COBE style Sun synchronous nearly polar low Earth orbit. WISE launched from Vandenberg Air Force Base on 14 Dec 2009, entered routine survey operations on 14 Jan 2010, and completed an all-sky survey on 17 Jul 2010. WISE ran out of cryogen at the end of September, but continued an asteroid search using its 3.4 and 4.6 micron channels until 31 Jan 2011. WISE observed everything that is farther from the Sun than the Earth, and this includes minor planets, comets, nearby brown dwarfs and star forming regions both in the Milky Way and in distant galaxies. The WISE long wavelength data are used to detect Ultra-Luminous Infrared Galaxies. The WISE short wavelength data are used to detect cold brown dwarfs. WISE data will also be used to measure the radiometric diameters of about 200,000 asteroids. Dr. Wright showed some of the early data and pictures obtained from the spacecraft. Data images are available at <http://wise.astro>.

ucla.edu. Data release will continue over the next year.

During the business meeting, the new AAPT dues structure was described and future national meetings were announced. Attendees were reminded that SCAAPT is funding “Local Area Networks” (LANs) and were asked to submit applications. It was announced that Eric Page had accepted a new teaching position out of state. Ertan Salik (Cal Poly Pomona) was selected to fill the vacated Vice-President for Universities position.

The ever-popular Show ‘n’ Tell featured demonstrations John Altounji “Hair Raising”, James Lincoln “A kinesthetic radian, angular speed lab”, Jeff Phillips “Quantum Illusions”, Bill Layton “Rising Bubble from TPT” and Frank Lee “Light We Can’t See.”

The following contributed talks were presented:

“ALPhA Immersion for the Advanced Lab” Greg Severn <severn@sandiego.edu>, University of San Diego
“Physics First: Debate to Data” Rachel Zabierek <zabierekr@bishops.com>, The Bishop’s School, La Jolla
“Build Your Own E-Field Demonstrator” James Lincoln <lincolnphysics@gmail.com>, Tarbut V’ Torah, Los Angeles
“How Do You Tune a Fish?” Fred Carrington <fredkaren@gmail.com>, Pierce College
“An inexpensive inverted digital microscope for exploring physics at small scales” Brian Rasnow <brian.rasnow@csuci.edu>, CSU Channel Islands

The meeting ended with our World Famous “Order of Magnitude Contest.” This meeting’s question was: “How many living people are famous enough that most Americans know of them?” Mary Mogge submitted the median answer of 350. Door prizes donated by Vernier, Freeman, and McGraw-Hill were won by Galen Pickett, Katie Beck, Dean Papadakis, Matt Keye, Meredith Ashbran, and Don Sparks.

We thank our corporate sponsors – W. H. Freeman <http://bfpwpub.com>, McGraw-Hill <http://www.mcgraw-hill.com/>, and Vernier Software and Technology <http://www.vernier.com>, – for their support and donation of door prizes.

The Southern California Section will hold its Fall Meeting in late October or early November. Please bookmark the SCAAPT URL <http://www.scaapt.org/> and check for more information in early Fall.

—Mary Mogge, Section Representative

Southern Ohio Section

The Southern Ohio Section held our spring meeting on April 30, 2011 at Pickerington High School - Central. About 20 members were in attendance, including several first-time attendees. Many thanks to our host, Kevin McChesney, who with the help of several of his students, produced a well-organized, fun, and educational meeting for us. We were also fed extremely well.

The day opened by conversing with AAPT Executive

Officer, Beth Cunningham, via Skype. Beth let us know of several new initiatives to be on the lookout for from the national AAPT. A second featured presentation was Jason Cervenec (Thomas Worthington High School) sharing his experiences as a Fulbright exchange teacher in India. Mary Whalen (Olentangy High School) and Doug Forrest (Pickerington High School – North) sent us all home thinking after their workshop gave us a taste of Modeling Instruction.

Contributed presentations included Lenore Horner (Seven Hills School) showing us applications of the software Geogebra, Kathy Harper (The Ohio State University) talking about new styles of problems, Jennifer Blue (Miami University) describing a recent study exploring the effects of single-sex education on self-efficacy, and Gordon Aubrecht (The Ohio State University – Marion) explaining some of the physics behind the Fukushima nuclear reactor situation.

We also held elections. The president-elect is Sandy Doty of Ohio University – Lancaster. Kathy Harper of Ohio State was elected to a second term as section representative, and Kevin McChesney of Pickerington High School – Central has been re-elected Vice President for High Schools. Leaving the board after several years of dedicated service is Jennifer Blue of Miami University. The section wishes to thank Jennifer for her contributions during her years on the board. Additionally, some substantial changes were made to our section’s constitution and by-laws. We have more clearly defined the roles of each office, and updated our election procedures.

The board has determined that it would be beneficial to our membership to make our general meeting locations more predictable. From this point forward, fall meetings will take place in the generally western (Cincinnati/Dayton) portion of the section and spring meetings will be in the eastern part (Columbus/Delaware/Newark/Lancaster).

On the morning of Saturday May 7, 30 volunteers from central and southern Ohio served as judges at Ohio’s State Science Day competition to determine the awarding of physics prizes for students in high school and middle school. As he has for many years, Gordon Aubrecht of The Ohio State University coordinated the efforts of judging over 150 projects. The prizes are awarded by the Southern Ohio Section of AAPT, with the generous financial support of the Ohio Section of APS.

Our Fall 2011 section meeting is scheduled for October 1 at Summit Country Day School. Our host will be Eric Towers.

—Spencer L. Buckner, Section Representative

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

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