Derrick Pitts, the Franklin’s Chief Astronomer
Title: The Physics Department’s Role in the Preparation of Pre-College Physics Teachers: An Update on the PhysTEC Project
Dr. Warren W. Hein is Executive Officer at the American Association of Physics Teachers (AAPT). Hein received his BS degree from the University of Wisconsin-Whitewater in 1966 and his Ph.D. in Nuclear Physics from Iowa State University in 1970. Prior to joining the AAPT as Associate Executive Officer in February 1997, Hein taught physics at Northern State University in Aberdeen, South Dakota, from 1970 to 1979, and South Dakota State University from 1979 to 1997. He also served as Department Head from 1985 to 1997.
Abstract: The PhysTEC (Physics Teacher Education Coalition) is a joint project of the American Association of Physics Teachers (AAPT), American Physical Society (APS), and American Institute of Physics (AIP) with funding from the National Science Foundation (NSF), the Department of Education, and the APS 21st Century Campaign. The mission of PhysTEC is to improve and promote the education of future physics and physical science teachers.

Matt Greenwolfe, Physics Teacher and the President-Elect of the American Modeling Teachers Association
Title: Don't Hide the Model! High school students and computational modeling with VPython
Matt Greenwolfe grew up in Indiana and received a bachelor’s degree in physics from Washington University in St. Louis and a PhD in physics from The University of Michigan. Over the past eleven years his high school classes have evolved to use guided inquiry, student discourse and multiple representations. He is currently president-elect of the American Modeling Teachers Association.

Abstract: Professional scientists increasingly use the computer as a modelling tool on a co-equal basis with theory and experiment, yet students typically use the computer only to interact with models created by others. VPython is an open source extension to the popular python programming language that simplifies three dimensional graphics programming, allowing students to create their own computational models of complex systems using only the fundamental laws of mechanics.
Meet the Current AAPT-CPS Executive Officers

**President**
Dr. Michael A. Doncheski is a Professor of Physics at Penn State - Mont Alto and has been teaching physics there since 1996. He received his PhD in Theoretical Elementary Particle Physics from Penn State in 1990, and prior to his current position held postdoctoral research appointments at the University of Wisconsin - Madison and Carleton University in Ottawa, Ontario. His research interests include Beyond the Standard Model Physics and Visualization Techniques in Teaching Quantum Mechanics.

**Vice-President**
Kip Trout is Senior Instructor in Physics at Penn State York and has taught there since 1990. He received his B.S in Physics in 1987, and his M.S. in Physics in 1990, both from Penn State. His graduate work focused on Residual Gas Analyzers and Vacuum Physics. Since then his research interests have been varied, including physics education, relativistic thermal physics, and most recently ultra-sensitive bubble levels.

**Secretary**
Dr. Michael R. Gallis is an Assistant Professor of Physics at Penn State Schuylkill where he has been teaching since 1990. He received his PhD in Theoretical Physics from Penn State in 1990. His original research interests were in the Dynamics of Quantum Open Systems with applications to Quantum Decoherence and Measurement Theory. His current focus is on developing visual materials for use in Astronomy and Physics Courses, and maintains a YouTube channel for his 3-D animations.

**Treasurer**
Dr. Sardari Khanna is Professor of Physics at York College, Pennsylvania since 1965. He received his Ph.D. from Saugar University, India. His thesis was in the area of Solid State Physics. He has been on the E-Board of the Academic Senate as a Treasurer for the last 32 years. The York College has set up an Academic Senate Scholarship last year in his name to honor him for his long and distinguished service.

**Past President & Webmaster**
Dr. John D. Reid is an Associate Professor of Physics at Lock Haven University and has taught physics there since 1997. He received his Ph.D. in Experimental High Energy Physics from Penn State. Before teaching at Lock Haven, he did his graduate work on Charmonium Spectroscopy at Fermilab, and postdoctoral work on Strange Matter at Brookhaven Lab.

**Section Representative**
Dr. Lynn K. Aldrich is an Associate Professor of Physics at Misericordia University and has been teaching physics there since 1988. She received her Ed.D. in Science Education from Temple University and her M.S. in Physics from the University of Alabama in Birmingham. Her research interests include topics in Physics Education such as self-efficacy in pre-service elementary teachers of science and service learning in introductory physics classes.
Meet the Current AAPT-CPS Executive Officers

High School Representative

David McCachren

Two-Year College Representative

Gregory Dolise

57th Annual Conference Report

The 57th Annual Conference of the American Association of Physics Teachers, Central Pennsylvania Section (AAPT-CPS) was held Friday the 27th and Saturday the 28th of March 2009 at Penn State Mont Alto. Dr. Mike Doncheski, from Penn State Mont Alto, was responsible for organizing the conference.

There was an all day workshop on Friday run by the Physics Teachers Resource Agents (PRTA) for physics teachers. The workshop dealt with bringing physics education research into the classroom; the workshop was attended by current and future physics teachers, teaching at the high school and college levels. Dave McCachren of Indian Valley High School in Lewistown, PA and Pat Callahan of Delaware Valley Regional High School in Frenchtown, NJ conducted the workshop.

The poster session was held Friday afternoon. At the same time as the poster session, vendors from PASCO Scientific and Pearson, Prentice Hall had displays set up and were available to talk with the conference attendees.

The conference reception and banquet were held Friday evening from 6:00-7:30 in the Heritage Room of the Mill Cafe at Penn State Mont Alto. After the banquet dinner, Dr. David Gnage, Chancellor of Penn State Mont Alto, gave a welcoming address. The public keynote address was held in the Auditorium at Penn State Mont Alto. The address, Ice Fishing for Neutrinos, was presented by Dr. Francis Halzen, Hilldale Professor and Gregory Breit Distinguished Professor of Physics at the University of Wisconsin - Madison. In his presentation, Dr. Halzen presented a brief overview of elementary particle physics, and discussed the construction of and recent results from the AMANDA and ICE CUBE neutrino telescopes at the South Pole.

Morning and afternoon plenary sessions were held on Saturday. There were 10 oral presentations, each of 20 minutes (with 5 minutes reserved for discussion and questions). The presentations were well attended, and covered a variety of topics pertaining to physics and physics education.

The General Business meeting, discussed below, was held between the morning and afternoon plenary session as was lunch. After the afternoon plenary session, the conference ended with the presentation of award certificates to student presenters and door prizes.

The General Business meeting of AAPT-CPS was held late Saturday morning. The president of AAPT-CPS, Dr. John Reid, conducted the meeting. Dr. Reid gave two Service Recognition Awards: one to Past President Dr. Abul Hasan from Penn State York, for his many contributions to AAPT-CPS over the years; one to Kelly Krieble who stepped down as Section Representative after many years of valuable service. The General Meeting ended with the election of executive officers of AAPT-CPS. Two current members of the Executive Board were elected to new positions: Dr. Mike Doncheski from Penn State Mont Alto was elected President; Karl Trout from Penn State York was elected Vice President. Two new members of the Executive Board were elected: Dr. Mike Gallis from Penn State Schuylkill was elected Secretary; Dr. Lynn Aldrich of Misericordia University was elected Section Representative. Finally, three members of the current Executive Board were re-elected to their positions: Dr. Sardari Khanna of York College was re-elected as Treasurer; David McCachren of Indian Valley High School was re-elected High School Representative; Gregory Dolise of Harrisburg Area Community College was re-elected Two-year College Representative.
AAPT-CPS Newsletter

PTRA Workshop March 12, 2010
Physics with Video Analysis

9:00 am – 4:00 pm Roland Holroyd Science Center, H 120
LaSalle University, Philadelphia, PA 19141

Description: Participants will explore the use of Logger Pro as a tool to analyze data from video clips. The results of Physics Education Research suggest that understanding of introductory physics requires students to have visual and tactile experiences with the physical world and to master techniques for translating these experiences into a series of abstract representations such as motion diagrams, graphs and equations. Classroom ready activities for a variety of topics (mechanics, waves and sound, electricity and magnetism and optics) will be introduced using previously recorded videos. These activities are designed to be used to support, rather than replace, hands on laboratory activities and can be used for group work, classroom assignments and homework assignments. Each participant will receive a copy of the newly published Vernier book Physics with Video Analysis, which includes all necessary video files, Logger Pro files and student activity sheets. If time and interest allow, participants will be able to create their own video segments for analysis. Desk top computers will be used for the workshop, however, participants are encouraged to bring along their own laptops (with Logger Pro 3.6 or later installed) along with video cameras and appropriate cables for computer interface if possible.

From the AAPT-CPS Constitution...

The objectives of the Central Pennsylvania Section of the American Association of Physics Teachers (AAPT-CPS) are to:
- advance the teaching of physics in the colleges and universities of Central Pennsylvania and environs,
- promote a professional spirit and acquaintanceship among the members of the Section, and
- encourage instruction in physics in the secondary schools of the region served by the Section.

AAPT-CPS

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Newsletter compiled by John Reid. Please direct all comments and submissions to jreid@lhup.edu