

## Minutes from the 2007 A-O-K Section Meeting of the AAPT

The Arkansas-Oklahoma-Kansas American Association of Physics Teachers sectional meeting for 2007 was hosted by the Physics Department at the University of Central Arkansas. AOK Vice President Stephen R. Addison was the official host of this event. He was assisted by past president Debra L. Burris, also of the University of Central Arkansas. This meeting was held on October 19th and 20th on the UCA campus. A poster session and two paper sessions were presented by its membership. There were also workshops held for public school teachers as well. The various sessions were held at the Lewis Science Center. The Friday evening banquet held at the Brewer-Hegman Conference Center included the banquet speaker, Jim Dyer, of the BEI Precision Systems and Space Company, Maumelle, Arkansas. Dyer's talk was titled: "What students can do with a BS degree in physics."

The following is a list of workshops, papers and posters that were given at the annual meeting on Saturday.

### Workshops:

- **Lemon Cells in Series and Parallel: a Demonstration**  
Jeremy Lusk, William Slaton, University of Central Arkansas,
- **Telephone Dialer Lab**  
Karen Williams, East Central University, Oklahoma
- **Rockets**  
Kim Mason, William Slaton, University of Central Arkansas
- **LabPro**  
William Slaton, University of Central Arkansas,
- **Papers Session I**  
"Git-R-Done" Physics- Using Popular Pastimes as Examples  
Debra L. Burris, University of Central Arkansas, [dburris@uca.edu](mailto:dburris@uca.edu)
- A Comparison of Virtual and Hands-On Laboratory Activities  
John Ferguson, The Arkansas School for Mathematics, Sciences & the Arts (Class of 2008),
- Developing a Better Bulletproof Vest: A High School Student's Perspective  
Clay Simon, The Arkansas School for Mathematics, Sciences & the Arts (Class of 2008),
- The Equation of Everything: Explaining the Second Law of Thermodynamics in the Classroom  
Shane Thompson, The Arkansas School for Mathematics, Sciences & the Arts,
- Physics Education Research - What it is and what it isn't.  
N. Sanjay Rebello, Dean A. Zollman, Kansas State University, [srebello@phys.ksu.edu](mailto:srebello@phys.ksu.edu)
- Teaching Electromagnetic Motors in Context: Students' Views\*  
Jacquelyn Haynicz, N. Sanjay Rebello, Kansas State University, [haynicz@phys.ksu.edu](mailto:haynicz@phys.ksu.edu)
- Student Ideas about Wavefront Aberrometry\*  
Dyan McBride, Dean A. Zollman, Kansas State University, [dyanm@ksu.edu](mailto:dyanm@ksu.edu)
- BalloonSat : NASA and Arkansas Space Grant Consortium  
Kim Mason, University of Central Arkansas, [revic87@gmail.com](mailto:revic87@gmail.com)

- Elementary Physics of Rolling Spherical Magnets  
Al Adams, University of Arkansas at Little Rock, [ajadams@ualr.edu](mailto:ajadams@ualr.edu)
- Physics by Inquiry for Non-Science Majors  
Robin Lasey, Linda Kondrick, Arkansas Tech University [lkondrick@atu.edu](mailto:lkondrick@atu.edu)

**Keynote Address:** Research-based reform in Science and Mathematics Education

Stephen R. Addison, University of Central Arkansas, [saddison@uca.edu](mailto:saddison@uca.edu)

Research-based methodologies are transforming the ways in which mathematics and science are taught. At the same time, these methodologies are met with some resistance ñ see for instance School math books, nonsense, and the National Science Foundation, Am. J. Phys 75, 101-102 (2007). The implications of traditional and reform teaching for teacher education will be explored.

- **Papers Session II**  
Service Learning in Modern Physics and Optics at ECU  
Karen Williams East Central University [kwillims@mac.com](mailto:kwillims@mac.com)
- What Is a Planet... and Why Isn't Pluto?  
Carl Rutledge East Central University [crutledge@mac.com](mailto:crutledge@mac.com)
- Students' Perceptions of Research-Based Problem Solving Strategies in Physics  
Fran Mateycik, Kansas State University Zdeslav Hrepic, Fort Hays State University, David Jonassen, University of Missouri-Columbia N. Sanjay Rebello, Kansas State University [mateyf@phys.ksu.edu](mailto:mateyf@phys.ksu.edu)
- Seventh-Grade Students Ideas of Force and Work in Simple Machines  
N. Sanjay Rebello, Kansas State University, Mary J. Leonard & Sadhana Puntambekar, Wisconsin Center for Education Research, University of Wisconsin-Madison, [srebello@phys.ksu.edu](mailto:srebello@phys.ksu.edu)
- Science for Future Elementary Teachers: Views of Faculty  
Charles Mamolo, Dean A. Zollman, Kansas State University, [cbmamolo@phys.ksu.edu](mailto:cbmamolo@phys.ksu.edu)
- Investigating the application of concepts by future K-6 teachers in traditional and reform science courses\*  
Mojgan Matloob-Haghanikar, Dean A. Zollman, Kansas State University, Cheryl Mason, San Diego State University Cynthia Sunal, & Dennis Sunal, The University of Alabama, [mojgan@phys.ksu.edu](mailto:mojgan@phys.ksu.edu)
- ALT Pathway: Synthetic Tutors for High School Physics  
C.M. Nakamura, Dean A. Zollman, Kansas State University, Scott Stevens & Mike Christel, Carnegie Mellon University, [cnakamur@phys.ksu.edu](mailto:cnakamur@phys.ksu.edu)
- Using Optical Analogies and Computer Simulation While Teaching Physics of CAT-Scans\* Spartak Kalita, Dean A. Zollman, Kansas State University, [spartak@phys.ksu.edu](mailto:spartak@phys.ksu.edu)
- Gender Bias in Physical Science Tests: Detection through Item Analysis  
Wilson J. Gonzalez-Espada, Arkansas Tech University, [wgonzalezespada@atu.edu](mailto:wgonzalezespada@atu.edu)
- Implementing Reading Quizzes: Insights and Lessons Learned  
Larry Weaver, Arkansas State University, [lweaver@astate.edu](mailto:lweaver@astate.edu)
- Constant acceleration motion as a tool to teaching the geometry of spacetime in special relativity.  
Balraj Menon, University of Central Arkansas, [menonb@uca.edu](mailto:menonb@uca.edu)
- Quantitative Investigations of Potential and Electric Fields Using Conductive Paper  
Jorge Ballester, Emporia State University, [jballest@emporia.edu](mailto:jballest@emporia.edu)

- **Poster Presentations**

Future Elementary Teachers' Epistemological Beliefs and Views About Nature of Science Before and After a 'Reformed' Conceptual Physics Course

Charles Mamolo, N. Sanjay Rebello, Kansas State University, [cbmamolo@phys.ksu.edu](mailto:cbmamolo@phys.ksu.edu)

- Assessment of Major at ECU-Part II-Stakeholders

Karen Williams, East Central University, [kwillims@mac.com](mailto:kwillims@mac.com)

The business meeting was also held with new officer elections and the presentation of annual awards: Officers for next year and the host sight for the AOK Section Include:

- **Past President:** Jorge Ballester, Emporia State University, [jballest@emporia.edu](mailto:jballest@emporia.edu)
- **President:** Stephen R. Addison, University of Central Arkansas, [saddison@uca.edu](mailto:saddison@uca.edu)
- **Vice President:** Jim Gilbert Rose State University, [jgilbert@rose.edu](mailto:jgilbert@rose.edu)
- **Secretary:** Unfilled: Possible Host Kansas State University, [srebello@phys.ksu.edu](mailto:srebello@phys.ksu.edu)
- **Section Representative:** Todd R. Leif Cloud County CC, Concordia, KS [tleif@cloud.edu](mailto:tleif@cloud.edu)

Other officers elected will be listed in the directory at the AAPT national office.

Next year's meeting will be held in Midwest City, Oklahoma, with the date to be determined by Jim Gilbert Section VP.

The winner of the Arkansas High School Physics teacher of the year was Chris Lynch of the Northeast Arkansas Educational Cooperative. Lynch was selected this award from the Arkansas area physics teachers of the AOK section.

Submitted by  
Todd R. Leif  
AOK Section Representative  
Cloud County CC  
Concordia, KS