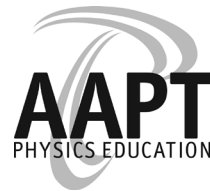


Addendum to Onsite Guide



AAPT 2012 Summer Meeting – Philadelphia, PA, July 28–Aug. 1

Abstracts added:

The following abstracts were inadvertently not printed in the meeting program:

SPS19: 8-10 p.m. Using Interdisciplinary Projects in Engineering Physics Courses

Poster – Stephen Palmquist, Winona State University, Winona, MN 55987; mojgan@phys.ksu.edu

Mojgan Matloob Haghanikar, Winona State University

To promote transfer of learning, the engineering physics students at Winona State University were encouraged to get involved in projects that were related to their major of study. We were seeking to improve students' understanding of physics concepts by enhancing their empirical understanding and facilitating the visualization of abstract concepts. Thinking across disciplines informed students about many applications of physics and improved students' beliefs about relevancy of physics. In addition, integrating several perspectives and learning approaches provided more accessibility in physics. We encouraged volunteer participation, and students who contributed to the projects were rewarded course credits based on their efforts. Among the example topics were muscle activities and action potentials, electrophoresis of DNA, Micelle formations and polarization angle of carbon fibers in electric fields. In this poster we present a few examples of the students' finding.

SPS20: 8-10 p.m. Cracks in Thin Layers of non-Brownian Suspensions

Poster – Mitchell C. Johnston, Princeton University, Princeton, NJ 08542; mcjohnst@princeton.edu

Mathieu Roche, Pilnam Kim, Eglind Myftiu, Howard Stone, Princeton University

Many concentrated particle suspensions are shear thickening; the viscosity increases with shear rate. Recently, it was suggested that shear thickening is connected with a liquid-to-solid phase transition. We provide direct evidence of this transition by studying the response of suspensions of corn starch to the impact of a free-falling object. Just after impact, we observe the propagation of a wave across the layer while a cavity expands around the impact region. When the cavity stops expanding, radial cracks grow outwards from the impact region. These cracks have rough boundaries, as is seen for solids. Once the cracks have reached their maximal extension, the suspension relaxes, the solvent fills the cracks, and the layer returns to its initial shape. We discuss the influence of the layer thickness, starch concentration, and impact energy on the dynamics of these cracks. We also discuss some properties of the solid phase of these suspensions.

CK04: 8-8:10 p.m. Scientific Writing and Knowledge Integration

Contributed – Paul J. Camp, Spelman College, Physics Department, Atlanta, GA 30314; pcamp@spelman.edu

Several years ago, I created an interactive, discussion-driven activity to learn how to write a scientific paper as an ongoing part of our introductory mechanics lab. In subsequent years, that activity was streamlined and largely moved out of class time in the interest of efficiency. This appears to have had a significant negative impact on outcomes. I will describe the activity as designed and as modified, compare results from the two implementations, and reflect on a possible cognitive explanation for the observations.

PST2A52: 6:45–7:30 p.m. Scientific Writing and Knowledge Integration

Poster – David W. Haberkorn, Loyola University Chicago; Chicago, IL 60660; dhaberkorn@luc.edu

Gordon P. Ramsey, Loyola University Chicago

Melissa M. Nemeth, Loyola University Chicago and Bogan H.S.

The growing importance of science education calls for a close analysis on the status of secondary school physics. This research aims to pinpoint key differences in high school physics teaching pedagogy as well as disparities in student populations based on several factors. Often pedagogies are presented in a blanket format for all types of students. By analyzing this project's survey data of physics student populations, more efficient and appropriate allocations of pedagogies become apparent. This research also focuses on which groups of teachers utilize various styles of presenting physics. The goals of this research are to correlate demographic information with pedagogy to develop recommendations. Identifying the characteristics of each population in this survey allows for recommendations for physics teachers to be constructed with confidence. Please see talk by Dr. Gordon P. Ramsey for overview of project and poster by Melissa M. Nemeth for results and recommendations.

APS Division of Biological Physics Plenary Session (Title Change)

“Birds, Brains, and Physics – The Fascinating Field of Biological Physics,”

Monday, July 30, 1:30–3 p.m.

Inn at Penn - Woodlands Ballroom

Abstract Change:

SPS07: 8–10 p.m. Mentoring a FIRST Robotics Team and a Middle School Robotics Camp

Poster – Richard Floyd, Coastal Carolina University, Conway, SC 29528; rdfloyd@g.coastal.edu

Laura Covington will be presenting SPS07 for Richard Floyd.

Workshop Room Changes:

Workshop W08: will move to the PC Lab in Multi Media Services, located in the basement of DRL.

Workshop W02: will move to A1 in DRL – Physics Department.

Session Changes:

- Steven J. Maier will present the invited talk **BH03** on behalf of Saeed Sarani.
- **Session AB** (Panel: The Good and the Bad of Video Lectures) will begin at 8:30 and end at 10 a.m. on Monday.
- **The PER Bridging Session** will begin at 3:30 p.m. on Wednesday, instead of 3 p.m.

Session Presider Changes:

- Session AE will be presided over by Geraldine Cochran.
- Session BC will be presided over by Valerie K. Otero.
- Session BH will be presided over by Bruce Mason.
- Session DD will be presided over by Monica Plisch.
- Session DE will be presided over by Aaron Titus.
- Session FF will be presided over by Kathleen Falconer.
- Session GC will be presided over by Trina Cannon.

Room Changes:

The Committee on High School Physics on Monday from 5:30–7:00 p.m. has been moved to HH - Class of 47.

Cancelled Abstracts:

SPS14: 8–10 p.m. Modeling Gyroscopic Motion in Terms of Linear Momentum

*Poster – Harvey B. Kaplan, *Purdue University, West Lafayette, IN 47907-2036;
hkaplan@purdue.edu*

SPS04: 8–10 p.m. Students' Beliefs Concerning Different Components of a Calculus-based Physics Course

*Poster – Adam O. Szewciw, Purdue University, West Lafayette, IN 47907-2036;
aszewci@purdue.edu*

DA01: 8:30-9 a.m. Novel Developments for Laboratory Instruction in the EU*

*Invited – Wolfgang Grill, Institute of Experimental Physics II, University of Leipzig,
Linnestr. 5 Leipzig*