

## SPRING 2005 TSAAPT WORKSHOPS

Stephen F. Austin State University – March 4 - 5, 2005

### FRIDAY AFTERNOON

- W1 “Incorporating Inquiry in Kinematics”** presented by Mark Kinsey, Clements High School  
Participants will use inquiry and curve fitting concepts to derive kinematics equations of motion for constant acceleration using computer interfacing technology. PASCO equipment will be used, but it can be easily adapted to fit any other data acquisition equipment such as Vernier  
**Limited to 24 participants – 2 hours – Cost \$2.00**
- W2 “Ranking Tasks: An alternative way of approaching concepts in physics”** presented by Tom O’Kuma, Lee College.  
Ranking Tasks are an innovative type of conceptual exercise that asks students to make comparative judgments about a set of variations on a particular physical situation. They frequently elicit students’ natural ideas, rather than a memorized response, about the behavior of a given physical system. This workshop will provide classroom tested examples and ideas on how to construct and use them. **Limited to TAMU RPTRA only.**  
**Limited to 24 participants – 2 hours - Cost of \$2.00**
- W3 “Inexpensive Light Activities”** presented by Regina Barrera, Lee College  
Prove Snell’s Law using a Petri dish, Jell-O, a CD, and a Laser Pointer. Determine Planck’s constant using LEDs, battery, volt meter, and spectroscope. This and others will be presented in this workshop. Most materials are make and take.  
**Limited to 18 participants – 2 hours - Cost \$10.00**

### SATURDAY MORNING

- W4 “Introduction to Modeling Tools/Discourse”** presented by Dwain Desbien, Estrella Mountain Community College  
This workshop will introduce participants to tools used in the modeling curriculum and classroom management techniques used with them. Participants will practice with the tools using traditional and non-traditional problems, while experiencing first hand the classroom management styles used in modeling.  
**Limited to 30 participants – 2 hours – Cost \$2.00**
- W5 “Bring Physics to Life”** presented by April Varnado, PASCO Scientific  
Find out how probeware can increase student understanding of complex physics concepts including Newton’s Third Law, the Law of Conservation of Energy, Kinematics and Voltage/Current relationships. Using sensors, software and dataloggers, you’ll see for yourself how students’ grasp of physics concepts can be improved in a way not easily accomplished using more traditional methods. And, come see PASCO’s new Xplorer GLX!  
**Limited to 24 participants – 2 hours – Cost \$2.00**
- W6 “Polarization using the LabPro”** presented by Regina Barrera and Tom O’Kuma, Lee College  
Now you can show how Intensity depends on the angle of a polarizer using light sources (flash light, LED light source, and a laser pointer) and how other materials shift the intensity (scotch tape, plastic, wax paper, and calcite). The LabPro interface with a light sensor and a rotary motion probe will be used to show how this is possible.  
**Limited to 18 participants – 2 hours - \$4.00**

## **SATURDAY AFTERNOON**

- W7** “Introduction to the Modeling Methodology of Instruction in Physics Part II: Deployment Applications and Relationship to TEKS & TAKS for Texas High School Physics” presented by Stan Hutto, Alamo Heights High School

This workshop will be a continuation of the ideas presented in the Introduction to Modeling tools/discourse Workshop. Participants will practice and view various exploratory/paradigm labs, deployment exercises and activities and will discuss advantages and disadvantages associated with the modeling methodology in relationship to the TEKS and TAKS for Texas high school physics classes.

**Limited to 30 participants – 2 hours – Cost of \$4.00**

- W8** “As the ‘Coil Turns’ using the LabPro” presented by Regina Barrera and Tom O’Kuma, Lee College

Need to become more familiar with the LabPro interface and other activities on the topic of magnetism? In this workshop, we will show how you can determine the number of coils in a solenoid by measurement of length, diameter, material, and temperature. You can then compare this by using the LabPro interface, the magnetic field sensor, and the rotary motion probe.

**Limited to 18 participants – 2 hours – Cost \$2.00**

- W9** “Animating Physics Principles” presented by W. L. Trikosko, SFASU Physics Dept.

Learn how to demonstrate physical principles like traveling waves, superposition of waves, standing waves, phase and group velocity, phasors, reflections from fixed and open boundaries, Doppler effect, Fourier series, etc. using easy to construct Excel spreadsheet animations.

**Limited to 18 participants – 2 hours – Cost \$2.00**