Spring 2019 TSAAPT/SPS WORKSHOPS

Stephen F. Austin State University
March 8 - 9, 2019

FRIDAY AM

W1 **"The Checks and Balances for Physics Understanding",** presented by Beverly Trina Cannon, Eastfield College

The accountability for academic growth is not isolated to secondary education. Colleges are being compelled to include student performance objectives in the syllabus for undergraduate classes. Other than memorization or multiple-choice questions, the measurement of these SPO's can become a challenge. Often the unit test can be too late to realize that students have been left behind. In this workshop we will explore alternative strategies for examining student comprehension and achievement.
All participants will receive a book of suggested activities..
Limited to 24 participants – 1.5 hours – Cost $2.00
Friday, March 8, 1:30PM – 3:00 PM

W2 **"Alternatives and Inexpensive Ways to Show Physics Concepts",** presented by Regina Barrera, Stephanie Ingle, and Tom O'Kuma, Lee College.

Do you have ways of showing or engaging Physics Concepts that is a must see? Why don't you bring it with you and show it to us? Are you scratching your head trying to figure out how to engage your students? Join us. You may come out of this workshop with ideas that may help you in your instruction. I will bring some items that I use for outreach and recruiting. One of the items we will make is the Poliscope. What the heck is a Poliscope, you might ask? It is a modified kaleidoscope that uses polarizers and cheap tape instead of beads and mirrors. Another is a demonstration of alternating current or the fingerprint of a gas. It just uses a neon bulb, power cord, and a toy. These ideas and much more will be illustrated (and some make and take) in this workshop. Again, if you have something that demonstrates a concept in Physics, please bring it to share with us! Let us build a network for exchanging ideas to engage students.
Limited to 18 participants – 1.5 hours – Cost $2.00
Friday, March 8, 1:30 PM – 3:00 PM

FRIDAY PM

W3 **"Engagement Activities for Introductory Physics",** presented by Stephanie Ingle, Lee College

Engage your students from the very beginning. Experience activities designed to capture student interest. These activities provide a common experience to all students so that teachers can build on them throughout the unit. Most activities are quick, hands-on, and fun. Play "inertia-ball", experience action-reaction forces, and see a pig fly…to name just a few. Topics will include Motion & Forces, Energy, Momentum & Impulse, and Circuits.
Limited to 24 participants – 2.0 hours – Cost $2.00
Friday, March 8, 3:15 PM – 5:15 PM

W4 **"Energy as It Comes and Goes"** presented by Beverly Trina Cannon, Eastfield College

We study the transfer of energy throughout the curriculum in physics. The concept of energy is presented in dynamics then re-visited in the electromagnetic portion of the curriculum. In this workshop we will use a simple toy to take a simple approach to Work-Potential Energy and Kinetic Energy. Then we will add a simple circuit to measure the electrical energy that sets it into motion. Once you complete this workshop, you will be able to transfer this activity to other battery-operated machines.
Limited to 24 participants – 2.5 hours – Cost $2.00
Friday, March 8, 3:15 PM – 5:45 PM

SATURDAY AM

W5 **"Energy House"** presented by Janie Head, Fulshear High School, and Karen Jo Matsler, UT Arlington

The participants will build a house and collect data on the temperature through the structure. They will redesign their house utilizing the information gained and test their new construction. Each participant will receive a LabQuest mini and three temperature probes. The equipment required to perform this lab with your students.

Limited to 9 participants – 2.0 hours – Cost $20.00

Saturday, March 9, 10:15 AM – 12:15 PM

W6 **"MBL Type Labs",** presented by Tom O'Kuma, Regina Barrera and Stephanie Ingle, Lee College

Microcomputer Based Labs (MBL) comes in a variety of forms. Traditionally, they were equipment extensive and many still are. MBL also includes video analysis type labs. Recently, there have been a number of MBL computational modeling style labs. In this workshop, participants will experience a number of curriculum-driven MBL labs involving equipment, video, and computational modeling (using Glowscript). Participants will rotate among a variety of MBL labs in mechanics, EM and optics. Participants will get a variety of MBL lab write-ups to take with them.

Limited to 18 participants – 2.0 hours – Cost $2.00

Saturday, March 9, 10:15 AM – 12:15 PM