

Spring 2016 TSAAPT WORKSHOPS

Lamar University – Beaumont, TX

April 1 - 2, 2016

FRIDAY AM

- W1 “Hollywood Physics”**, presented by Kenric Davies, PTRA, Sherman High School, Sherman, TX
Workshop participants will break down scenes from movies like Back to the Future, The A-Team, Gone in 60 Seconds, Abraham Lincoln Vampire Hunter, and more! Participants will use physics concepts like Kinematics, Projectile Motion, Force, and Momentum while trying to answer the age old movie question “is that really possible?”
Limited to 24 participants – 1.5 hours – Cost \$2.00
- W2 “Using VPython in the Introductory Physics Laboratory”**, presented by Tom O’Kuma and Zakary Noel, Lee College, Baytown, TX
Over the last few years, we have implemented a number of different computational modeling activities in our introductory physics courses. These activities use VPython (<http://vpython.org>). Several of these activities have been developed in conjunction with a series of workshops done as part of the ATE Physics Workshop Project. Participants will work activities used in a typical two-semester calculus-based introductory physics course. In this workshop, participants will work with some of these activities and develop their own. Participants are asked to bring their own laptops with VPython already downloaded on their computers.
Limited to 18 participants – 2.0 hours – Cost \$2.00

FRIDAY PM

- W3 “The DIY Fan Cart: A STEAM Project”**, presented by Brian Lamore, PTRA, The Village School, Houston, TX
This workshop will detail the engineering processes used in designing and creating a Do-It-Yourself (DIY) Fan Cart, which can be used with common dynamics carts (PASCO, Vernier). We will also discuss how these processes may be used in the classroom.
Limited to 20 participants – 2.0 hours – Cost \$20.00
- W4 “Put those cell phones to work in the classroom with Video Analysis”**, presented by Stephanie Ingle, Kingwood High School, Kingwood, TX
Have students use cell phones for something educational. Participants can experiment with either Tracker or Vernier Software to analyze motion from a video. Everyone will be able to work through the process of taking a video, uploading it, collecting the data, and analyzing it, from beginning to end. Analyze projectile motion, simple harmonic motion, free fall, and more. Video Analysis can have implications for online courses, homebound students, make up labs, and more.
Limited to 20 participants – 2.0 hours – Cost \$2.00
- W5 “Measuring Planck’s Constant”**, presented by Trina Cannon, PTRA, Eastfield College, Dallas, TX
Planck’s Constant seems to be so elusive. This is a lab with simple equipment that uses all of the elements of current curriculum design. Data collection is easy and the analysis is quick. This is for all physics classes including AP classes.
Limited to 20 participants – 3.0 hours – Cost \$2.00

SATURDAY AM

- W6** “**Cartoon Physics**”, presented by Kenric Davies, PTRA, Sherman High School, Sherman, TX
In this session, we will break down scenes from classic cartoons like Coyote and Roadrunner and cartoon movies, like the Incredibles using physics concepts taught in high school. Teachers will go through a few hands on experiments and mathematical analyses that students can do to find whether the cartoon scenes showed good or bad physics. Participants will receive information on where to find each clip and hands on materials for easy use in the classroom.
Limited to 24 participants – 1.5 hours – Cost \$2.00
- W7** “**Resonating the Bridge**” presented by Regina Barrera, Lee College, Baytown, TX
A guitar can be used to demonstrate acoustic principles of frequency and tensional forces. In fact, due to all the apps that one can place on a smart device, one can download an item that assists them when adjusting a string to a standard frequency. But, do you ever wonder how well it does its job? Also, how about the amount the force that is acting on the ends, between the bridge to the nut, and why the neck, a stick of wood, doesn't bend under all that pressure? In this workshop, each participant will build a guitar from materials such as cigar box, planar wood, tuners, bolts, nuts and different gauges of wire. Then the slide guitar will be used for the activities to demonstrate frequency and (if we have time) tensional forces.
Please, I have limited quantities so only apply if you are a teacher with limited resources (ie a small budget) and demonstrates sound in your classes.
Limited to 15 participants – 2.0 hours – Cost \$12.00