

**SCAAPT Fall Meeting**  
**Saturday, October 29, 2022**  
**Monrovia High School**

10:30 **Welcome**

10:35 **Should Women Have Gone to the Moon?**

Amy Shira Teitel

From the very beginning of the space age, a group of women wanted their chance to be on the forefront of this new endeavour. How they sought to get off the planet, and why they didn't, is a story as complex as the era. In this talk, I will delve into my latest book, *Fighting for Space*.

11:20 **Using the iOLab Device for Remote Physics Experiments**

Vanessa Preisler, University of La Verne

Here we present a novel moment of inertia lab using the iOLab device and a few household items. In this lab, students will be able to measure the moment of inertia of the iOLab device about an axis parallel to the longer side of the iOLab device and through its geometrical center.

11:35 **How are physics majors born?**

Chad Kishimoto, Society of Physics Students and University of San Diego

The SCAAPT membership consists of those who teach in high school, community colleges, and universities. In my time, I'd like to ask the question and lead a discussion on your experiences on how students' interests in physics at the high school and community college level translates to them majoring in physics and/or astronomy at the university level; and how can undergraduates in the Society of Physics Students help to bridge the gap. Anecdotes and ideas are welcome!

11:55 **The MHS Observatory**

Tom Traeger and the MHS Astronomy Club, Monrovia High School

We will discuss the operation of a high school observatory and introduce the lunchtime tours of the MHS Observatory with views of the Sun through our 11" Celestron telescope in the dome with white light solar filter. Also in operation is a hydrogen alpha solar scope.

12:05 **Announcements, followed by Lunch**

During Lunch, Tom Traeger and the Monrovia High School astronomy club will lead tours of the MHS Observatory, with small group of max 4-5 people at a time.

1:30 **Show & Tell**

- 2:00 **Heavy Metal Fluorescence (XRF)**  
Bernard Cleyet, retired UCSC  
I intend to demonstrate the XRF of gold, lead, U, and bismuth, using a NaI scintillator, MCA, and Cs-137 source, and display the result for silver.
- 2:15 **Learning from Pandemic Teaching: Experiments with Allowing Resubmissions**  
Ryan Carroll, Long Beach City College  
This talk looks at labs showing mastery of university physics techniques over remote instruction and steps taken to get students' labs to show that mastery, and then if we can apply what we did to in-person labs
- 2:30 **Introducing Conservation Laws Using Bar Charts**  
Jennifer Scholz, Aspire Public Schools  
Many concepts in Physics are easily adapted to visual learners, which comprise a majority of the population; however, these students often struggle with abstract concepts like conservation laws, work, and impulse. Modeling allows us to investigate phenomena in an accessible way, and is a required NGSS practice; yet many curricula fall short of integrating this SEP as a fundamental component of concept introductions. In this talk, I will provide a synthesized approach to introducing conservation laws through the visual modeling of bar charts.
- 2:45 **Lagrange points and why the James Webb Space telescope is at L2**  
Bill Layton  
The recent placement of the James Webb Space telescope at Lagrange point 2 may have caused some students to ask what this means. This talk will be a brief discussion of the physics of Lagrange points and why L2 was an excellent location to place the JWST. I will avoid attempting to reproduce the difficult mathematics and will only show how a very bright physics student or teacher might attempt to duplicate Lagrange's work.
- 3:00 **Developing Analysis Skills Using Pictures**  
Larry Stein, University of La Verne  
I present several pictures that we will analyze together using the Socratic Method.
- 3:15 **On the Myth of Red Hot and Blue Cold**  
James Lincoln, SCAAPT Past-President  
Most clichés contain some element of truth. Although the colours in our common speech are often referred to as being "warm" (reds and yellows) and "cold" (blues and whites), there is some scientific history behind these popular inaccuracies. In this talk, I address the historical origin of these myths and explain with a physical model how they have been supported by legitimate — but ultimately incorrect — scientific inferences.

3:30 **Closing, Raffles, and Order of Magnitude**