Oregon Chapter of the American Association of Physics Teachers

Fall Conference 2018

Saturday, October 20th, 2018

University of Oregon

Willamette Hall
Eugene Oregon 97401

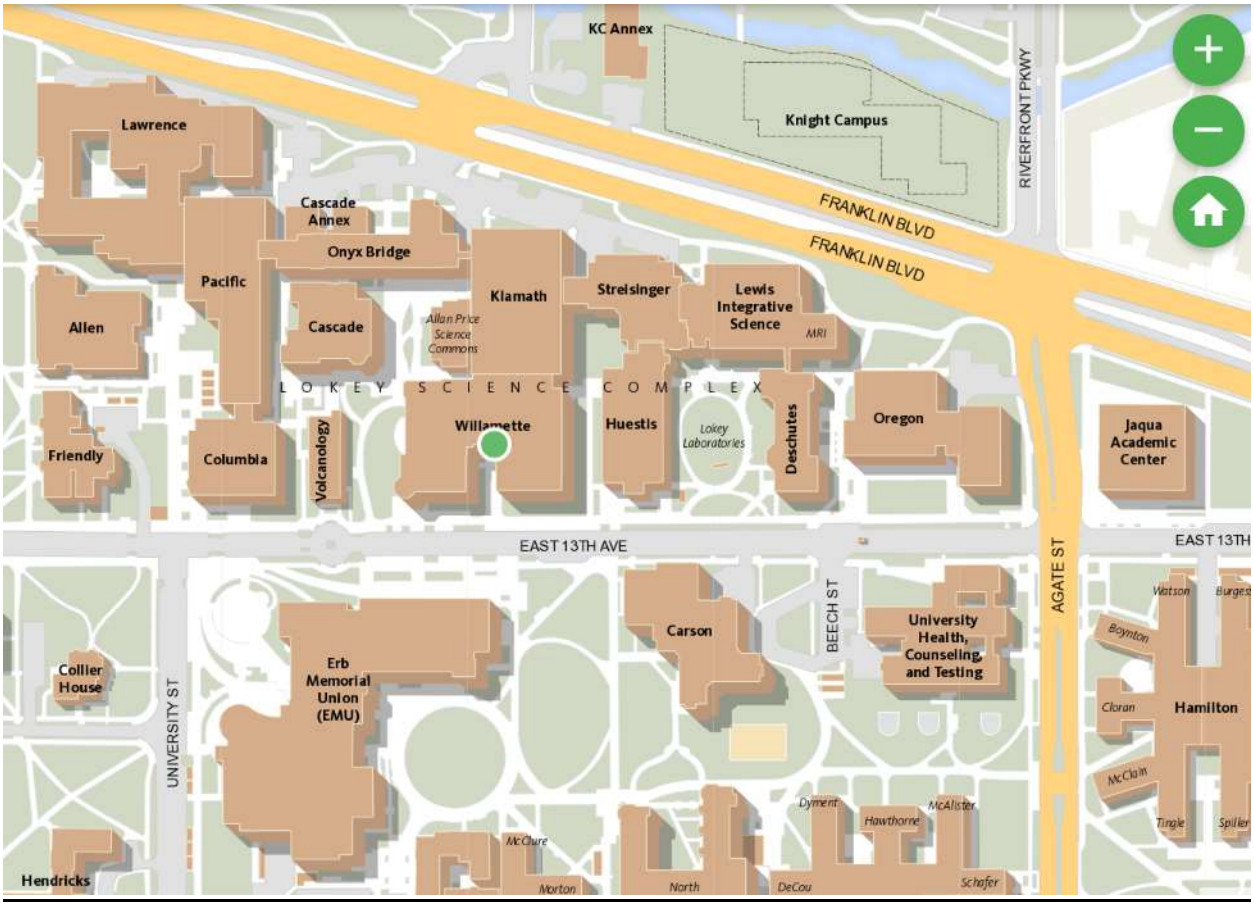
Meeting Agenda

Time	Talk/Topic	Presenter/Host	Location
8:30 - 9:00	Breakfast & registration	Vernier	Willamette Hall atrium
9:00 - 9:15	Welcome from the hosts	Billy Scannell & Stan Micklavzina	Room 110
9:15 - 9:45	Scientific Teaching using Backwards Design	Billy Scannell & Trevor Brunnenmeyer	Room 110
9:50 - 10:20	Searching for Supersymmetry at the Large Hadron Collider	Laura Jeanty	Room 110
10:25 - 10:55	Implementing 'transformed' upper-division Electricity and Magnetism at the University of Oregon	Stephanie Majewski	Room 110
11:00 - 11:25	Boxsands Student Tracking update	KC Walsh	Room 110
11:30 - 11:55	ORAAPT Business Meeting	Ralph Tadday	Room 110
12:00-1:00	Lunch (on your own)		Carson Dining Hall
1:00 - 1:25	new ORAAPT website	Leif Eccles	Room 110
1:30 - 2:15	Teaching Representations of Electric Potential	Jonathan William Alfson & Mike Vignal	Room 110
2:30 - 3:30	Eratosthenes II	Daniel Grey	Room 112

Info:

Cost of attendance (bi-annual membership) is $10/member and free for students. Breakfast is generously provided by Vernier Technologies. Lunch is not hosted but you can purchase lunch in Carson Dining Hall for around $10.

Campus Map



Parking:

Any parking space in the faculty or student lots that say Permit required Monday - Friday. Metered parking requires payment even on weekends.

Nearby Hotels:

Phoenix Inn, Greentree, New Oregon, Sleep Inn

Abstracts for Talks:

Scientific Teaching using Backwards Design

by Billy Scannell, Instructor at University of Oregon
& Trevor Brunnenmeyer, graduate student at University of Oregon

[abstract pending]

Searching for Supersymmetry at the Large Hadron Collider

By Laura Jeanty, Assistant Professor at University of Oregon

"In 2012, the ATLAS and CMS experiments discovered the Higgs Boson. What might be next? Supersymmetry is one of the most exciting theories which predicts new particles that we might discover at the LHC. This talk will motivate what supersymmetry is and why it is compelling, and describe some of the ways we are looking for it on the ATLAS experiment, including some recent results."

Implementing 'transformed' upper-division Electricity and Magnetism at the University of Oregon

by Stephanie Majewski, Associate Professor at University of Oregon

"Inspired by materials provided by the University of Colorado, Boulder and Oregon State University, evidence-based teaching practices have been implemented in the upper-division Electricity and Magnetism course at the University of Oregon. In particular, I will discuss and model the use of assessments such as pre-lecture conceptual quizzes and in-class group problem-solving, visualization, and discussion (aided by whiteboards and iClickers) in my upper-division course."

Boxsands Student Tracking update

By KC Walsh, Instructor at Oregon State University

"Project BoxSand started with the simple question, "Will my students watch pre-lecture videos to prepare for a flipped classroom". To answer this question and others, boxsand.org was created to replace the traditional textbook in favor of open digital resources including open text, videos, simulations, and more. Students use of the site is tracked on a per-click basis and educational data mining is performed on their interactions with the site's resources. I will talk about the over 4 million data points collected over the past two years from students in OSU's introductory physics courses. What behaviors correlate with performance in the class? Is there good or bad cramming behavior? Come see what we've learned by studying the learning analytics of online study and homework."

Teaching Representations of Electric Potential

by Jonathan William Alfson, Graduate Student at Oregon State University

"An important part of becoming an expert physicist is understanding and using the many representational tools of the profession. We will lead a small-group activity (condensed for time) developed for junior-level physics majors that incorporates multiple representations. The physics content of the activity is the electric potential due to a collection of point charges. The goals of this activity include reasoning about electric potential and understanding the representations. We encourage feedback and reflection about the activity."

Eratosthenes II Workshop

by Daniel Gray, AP Physics Instructor at Forest Grove High School

"As Carl Sagan demonstrated and dramatized in Cosmos, Eratosthenes deduced the shape and size of the Earth over 2200 years ago by comparing shadows in different locations. In this activity, students will continue in the spirit of Eratosthenes, assisted by modern communication, to measure shadows and time and deduce the speed of a point on the surface of the Earth due to the planet's rotation. This activity can be scaled up or down in complexity and detail to suit any level of a Physics or Physical Science class from elementary through college level. My presentation will include a google slideshow and Q and A. Let me know if this is something you think would work as a presentation at the meeting or if you have any questions. I can share the google slides presentation with you if you'd like."