

Department of Physics and
Astronomy

Open House

Sunday, November 5, 2017

Watanabe Hall

Lectures:

1:30pm, 2pm, 2:30pm, 3pm, 3:30pm

Neutrino Lecture – Watanabe 323

S. Li and R. Dorrill

It's been about sixty years since the first experimental observation of neutrinos. We will discuss the main features of these elusive particles, and how to detect them.

Quantum Mechanics in Everyday Life – Watanabe 415

C. Gerrity

Ever wonder how we know what the stars are made of when we can't collect a sample? Or how the Curiosity rover searches for evidence of liquid water on Mars? Then come learn how atoms use light to introduce themselves to us!!

Ask Me Anything (discussion) – Watanabe 113

X. Tata

Have you been curious or puzzled about something in physics and astronomy? Drop by the AMA table to chat with Professor Tata.

Open Lab Tours:

Dark Matter Lab Tour – Watanabe 319

T. Thorpe

Dark matter is one of the biggest mysteries in physics today. We know it exists, but what is it? How can we learn more, detect it, study it?

Neutrino Lab Visit – Watanabe 109

V. Li and R. Dorrill and N. Kaneshige

Demonstration of the world's smallest neutrino detector miniTimeCube which was deployed at NIST nuclear reactor in 2016. <https://www.phys.hawaii.edu/~mtc/>

Demonstration of the NeutronTimeCube, new fast-timing segmented neutron camera.

Antimatter Lab – Watanabe 221

B. Crow and T. Browder

What is the difference between matter and anti-matter? What happens when they come together? How could the early universe (with equal amounts of matter and anti-matter) evolve to its current matter dominated state? This is a fundamental mystery of particle physics and cosmology.

Free Electron Laser Tour – Watanabe 102

E. Szarmes

The Mark III free-electron laser (FEL) as it was originally commissioned at Stanford in 1984! This FEL is used for UH Manoa research into remote sensing and advanced FEL concepts.

Hands-on:

Ongoing

Belle II Virtual Reality – Watanabe 217

T. Browder

A virtual reality (VR) demonstration using the Oculus RIFT headset. Belle II is a particle physics detector located in Tsukuba, Japan. Electron-positron collisions are viewed inside the Belle II detector. The tracks and energy depositions as particles move, shower, and interact can be viewed in VR. This demo was developed at Virginia Tech and has been shown at events around the world.

Fun With Physics – Watanabe 421

M. Nassir and the Society of Physics Students

What do spinning ice skaters do to make themselves speed up? How does a ping pong ball stay trapped in a stream of air? See the Phantom Pig! Experience tabletop demos of mechanics, fluids and electromagnetism – brought to you by the Society of Physics Students!

Solar Telescopes – Watanabe Courtyard

A. Dvornikov & R Prechelt

Come look at the surface of the sun with a filtered telescope!! Feel free to get a picture with your phone and ask a physicist about the inner workings of our nearest star!

Demos:

1:30pm, 2pm, 2:30pm, 3pm, 3:30pm

Cosmic Rays – Watanabe 112

C. Light

Did you know that there are particles from all over the galaxy bombarding Earth at all times? These particles carry information to us, but also pose a radiation concern for astronauts and equipment in space. Learn about these particles, and stay for the Cloud Chamber

Cloud Chamber – Watanabe 112

R. Prechelt & A. Dvornikov

Have you ever seen a subatomic particle? Now is your chance! See how the first saw the subatomic world of particles using just an aquarium, dry ice, and a flashlight!!

Jacob's Ladder – Watanabe 417A

M. H. Slovak

Ever wonder what creates the spark to make your car's (gas) engine run? Come see Hawaii's largest spark plug in action!! A high-voltage Jacob's Ladder will create miniature lightning and radio waves!!

Physics of Gravitational Waves – Watanabe 417A

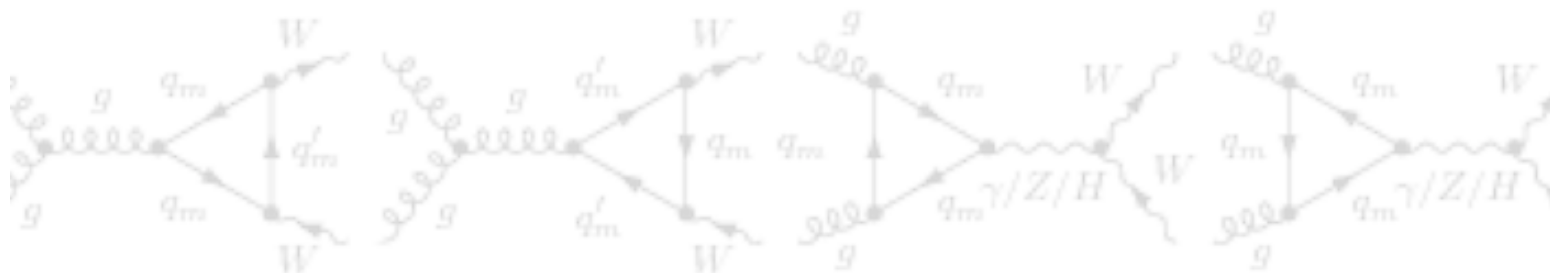
M. H. Slovak

Come see a simulation of the greatest discovery in astrophysics of the 21st century: the detection of gravity waves. Come see (and hear a simulation of Einstein's gravity waves!!

What?	Where?
Registration	WAT courtyard
Welcome	HIG 110
Solar Telescopes	WAT courtyard
Free Electron Laser Lab Tour	WAT 102
Neutrino Lab Tour	WAT 109
Ask Me Anything	WAT 113
Cosmic Rays	WAT 112
Cloud Chamber	WAT 112
Belle II Virtual Reality	WAT 217
Antimatter Lab	WAT 221
Dark Matter Lab Tour	WAT 319
Neutrino Lecture	WAT 323
Quantum Mechanics in Everyday Life	WAT 415
Jacob's Ladder	WAT 417A
Physics of Gravitational Waves	WAT 417A
Fun With Physics	WAT 421

When?

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Thanks to all the Volunteers and Presenters:

Veronica Bindi
 Brian Crow
 Cory Gerrity
 Pui Lam
 Mike Nassir
 Mark H. Slovak

Ryan Dorrell
 Michael Jones
 Viacheslav Li
 Alexis Popkow
 Xerxes Tata

Tom Browder
 Alex Dvornikov
 Nathaniel Kaneshige
 Chris Light
 Remy Prechelt
 Thomas Thorpe

Undergraduates of SPS

