Astronomy Open Night, Friday, September 4, 2020

Virtual; 7:30PM

For more information: http://www.astro.sunysb.edu/openight/opennite.html

Douglas Swesty

"Neutron Star or Black Hole?"

On August 14 of 2019 the Laser Interferometric Gravitational Observatory, LIGO, observed the merger of two massive objects by detecting the gravitational waves emitted as the orbit of these objects decayed until they collided. Yet the most thrilling aspect of this event, known as GW190814, is that the observations of event determined that mass of one of these objects was 2.6 solar masses making it either the heaviest known neutron star or the lightest known black hole. Either of these possibilities is very exciting to astrophysicists and in this talk we will discuss the implications of both possibilities.

Prof. Swesty received his PhD in Physics from SUNY Stony Brook in 1993. He spent six years at the University of Illinois as a postdoctoral researcher and as a Visiting Assistant Professor. He returned to Stony Brook in 1999 where he is currently a Research Associate Professor. His work focuses on nuclear astrophysics and computational astrophysics.

Physics Open Night, Friday, September 11, 2020

ESS 001; 7:30PM

For more information: http://www.physics.sunysb.edu/Physics/WorldsOfPhysics/2020-21/

Peter J Chupas

"How Clean is Clean Energy Technology"

Clean energy technologies are expanding into all aspects of our lives. Solar Energy, Batteries, Wind Energy, and LEDs are all changing the way we live, from photoelectric panels on the roofs of our house, electric vehicles, portable electronics, to lighting. Clean energy technology is evolving and new technology is constantly emerging. But what is the real environmental impact of clean energy? Where do the materials come from that make up the technology? How are they produced? How much energy does it take to extract them? What is the energy cost of manufacturing? The entire pipeline from materials extractions (mining), manufacturing, to technology deployment must be considered when evaluating technologies. Clean energy technology needs to address the entire pipeline of technology realization, recognizing both the global and local impact that new technologies bring.

Pete Chupas is trained as a Materials Chemist and currently holds an appointment as a Research Professor in the Department of Chemistry at the Stony Brook University and is a consultant at Associated Universities Inc. (AUI). Prior to arriving at Stony Brook University in 2018, he worked at Argonne National Laboratory for 15 years in both research and management capacities. His research interests include the development of new materials that power clean energy technology, using and developing advanced tools to understand how they function and to improve their performance,

and in the application of applied science to improve the efficacy of technology. Pete obtained his Ph.D. from Stony Brook University in 2003, and has over 140 scientific publications, he edited a book, and has 6 patents.

Geology Open Night, Friday, September 25, 2020

Virtual; 7:30PM
For more information: https://www.stonybrook.edu/commcms/geosciences/about/GeologyOpenNight

Daniel Davies

"Using geophysical tools to explore the dynamic evolution of Long Island and its coasts"

Geophysical tools such as ground-penetrating radar and resistivity allow us to image the sediments that record the evolution of Long Island from the time of the Pleistocene ice ages to the present. Signs of how the glaciers shaped the landscape are everywhere around us. To this day, winds still produce extraordinary and beautiful dunes and gradual processes reshape out coastlines. Hurricanes and nor'easters continue to cause sudden changes to Long Island and, especially, to its barrier islands – and extreme weather events present an ever-greater threat for the future. This talk will explore what modern tools can tell us about how our island has been shaped by glaciers and, since their retreat, by ongoing environmental forces.

Dan Davis has been a member of the Stony Brook faculty since 1986. His primary area of research has focused on the tectonics of regions where plates converge, causing great earthquakes and the construction of mountain belts. Other areas of research include the application of geophysics to nuclear arms control and to the study of the glacial and post-glacial geology of Long Island. His public outreach includes astronomy, and he is co-author of *Turn Left at Orion*, a guide to telescopic stargazing that has sold over 160,000 copies.

Please note that all lectures for Fall 2020 will be delivered on ZOOM. Please click on the respective links below the Open Night Event for more information on how to join or register.

TEACHER IN SERVICE CREDITS

NYS teachers who wish to receive CTLE credit for any of these lectures must register here:
https://docs.google.com/forms/d/e/1FAIpQLSdAufjveLIXG_-3T1ehnXOAvnAPwVMvx53NoHjyzishIwiyYA/viewform

You must register for each lecture you attend. The Graduate School will send a CTLE certificate about six weeks after each lecture.