

University of Washington • Department of Physics

PHYSICS COLLOQUIUM

LuAnne Thompson (UW School of Oceanography)

“Climate Change and Ocean Physics”

Monday, May 11th, 2009

4:00 PM, Ronald Geballe Auditorium, Rm. A-102

Abstract: Understanding the physics of the ocean is essential for understanding and grappling with global warming. Besides acting as a sink for carbon dioxide, the ocean stores and transports heat, and plays a key role in the hydrological cycle. In this talk, I will discuss how climate models are being used or misused to quantify the role that the ocean plays both in short term and long term climate change. Climate system models include a dynamical atmosphere, ocean, cryosphere, sometimes biosphere, and the coupling among these subsystems. However, climate models have deficiencies, both because of the because of lack of computational power in the current generation of computers and lack of understanding of the fundamental physics of the each component of the climate system. Important physical processes in the ocean span from dissipation of turbulent motions at the molecular scale to adjustments to changes over centuries in the deepest parts of the ocean. Thus, in order to model long term climate variability and change, we must parameterize sub grid scale motions. Despite advances in understanding ocean physics, these parameterizations are still lacking, and ocean models are still challenged to accurately represent how the ocean advects and stores heat. Two examples will be briefly discussed in this context: the role of ocean circulation changes in abrupt climate change, and decadal predictability from coupled ocean-atmosphere modes of variability.

Tuesday, May 12th, 2009

Particle Theory Seminar

2:30 PM, Rm. C-421, PAT

David Kaplan, INT

“Conformality lost”

CMA Seminar

4:00 PM, Rm. C-421, PAT

Fernando Vila, UW Physics

Wednesday, May 13th, 2009

Final Exam

10:30 AM, Rm. C-520, PAT

Joshua Kas, UW Physics

“Toward Quantitative and Analysis of X-Ray Absorption Near Edge Spectra.”

Thursday, May 14th, 2009

Astronomy Colloquium

4:00 PM, Rm. A-102, PAA

Amy Mainzer, JPL

“WISE”

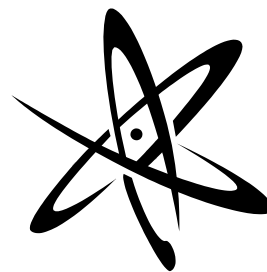
Friday, May 15th, 2009

Particle Astrophysics Seminar

4:00 PM, Rm. A-114, PAA

Frank Garcia, UW Physics

Seminars



May 11-15