

Physics Department Colloquium

Dr. Shane McGary,

Visiting Assistant Professor, TCNJ

When Plates Collide/Making Moons

When Plates Collide: We begin with an investigation of the region of the Cascadia subduction system near Mount Rainier. We combine the methods of seismic migration (using vibrations from earthquakes around the globe to illuminate the substructure of the subduction zone) and magnetotellurics (using variations in the electrical and magnetic fields at the Earth's surface to determine the conductivity structure of the subsurface) in order to generate a model of the subduction system that draws on the strengths of both methods. We then explore some of the outstanding questions pertaining to a suture zone between two continents and evaluate the potential of these same techniques to bring us closer to answers.

Making Moons: Finally, we will examine the thermal history and differentiation of planetesimals formed from a range of starting conditions by way of a finite difference model. While results relevant to smaller planetesimals will be presented, we will explore future directions that have the aim of creating a model that will help us better understand the history of larger bodies such as Europa.

Date: Tuesday, October 7, 2014

Time: 12:30 PM

Where: SCP 317

