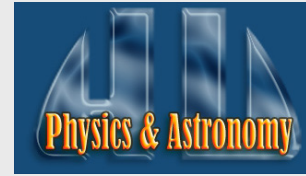


Department of Physics and Astronomy Colloquium



Dr. Vedran Lekic

Department of Geology, University of Maryland, College Park

Date: January 25, 2017

Time: 3:30 p.m. (**Refreshments** in **Rm. 103 @ 3:15 p.m.**)

Place: Rm. 103, Thirkield Hall, Howard University

Host: Dr. Pratibha Dev

Imaging the Earth's deep interior using seismic waves

Abstract: Deep beneath our feet, in the inaccessible depths of the Earth's interior, lie structures and processes responsible for the break-up of continents, the creation of oceanic islands, and the pattern of circulation driving plate tectonics. Earthquakes emit elastic waves that illuminate the interior and can be recorded by arrays of seismometers capable of recording miniscule ground motions across different frequencies. The wealth of information contained in seismic waveforms can transform our understanding of the Earth. Yet, the transformative potential of these datasets is stymied by routine analysis and modeling techniques that discard much of the information contained in complete seismic waveforms, and inadequately quantify uncertainty of our inferences. I will present techniques that help address these limitations and illustrate their promise with concrete examples of imaging deep Earth structures.