



# PHYSICS AND ASTRONOMY SEMINAR

## **Dr. Meredith Rawls**

University of Washington, Seattle

### **“Testing Red Giant Asteroseismology with Eclipsing Binaries”**

#### Abstract

Red giants with solar-like oscillations are astrophysical laboratories for probing the Milky Way. When these stars are in well-observed eclipsing binaries, it is possible to directly measure stellar properties and use them to test the asteroseismic scaling relations. In this talk, I will show that the scaling relations overestimate mass and radius by about 15% and 5% on average, respectively (Gaulme+ 2016). This in turn can lead to underestimated stellar ages. I will also discuss how magnetic activity and tidal effects are observed together in a few red giant binaries, along with reduced oscillatory power. Continuing to grow the sample of red giant eclipsing binaries and studying the more active systems in detail will allow us to better constrain the physical mechanisms responsible.

Tuesday, December 6, 2016

3:00 p.m.

Elliott Building

Room 160