

**Friday, October 20, 2017**

**4:10 – 5:00 PM**

**Barnard Hall/EPS 108**

**Applied Rare Earth Spectroscopy**

**Professor Randy Babbitt**  
**Department of Physics**  
**Montana State University**  
**Bozeman, Montana**

<http://www.physics.montana.edu/people/faculty/babbitt-randall.html>

<http://www.spectrum.montana.edu/>

**Abstract:**

Rare Earth doped crystals have several amazing features, including fine frequency selectivity and programmability, “broad” absorption lines, both “high” and “low” sensitivity to external perturbations, and long memory and coherence times.

Applications of Rare Earth spectroscopy range from levitated particle rotation measurement and control to ultra-sensitive vibration sensors to high performance microwave signal processing systems. The research involved in developing these applications ranges from fundamental optical physics to microwave engineering. The talk will review our research efforts, present recent results, and discuss our current research plans.

**Host:** Rufus Cone

*\* Refreshments served in the Barnard Cove opposite Barnard 264 at 3:45 \**

*\* Come early to get a seat – we are not able to be in BH 103 this year \**