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# Physics Colloquium

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## "Quantum Entanglement, Rainbow Spectrometry, and Improvisation: My Sabbatical in Three Acts"

**Dr. Wm. Randall Babbitt**  
**Physics Department**  
**Montana State University**

**Friday, January 11, 2013**  
**4:10 – 5:00 pm, EPS108**

**Abstract:** My sabbatical plan was to totally avoid spectral holeburning (my research area of the last 30 years) and to accomplish two spring vacations in less than year, first at the Australian National University in Canberra and then at the Laboratoire Aime' Cotton near Paris. Unfortunately, the groups I visited inspired me to play with new schemes for applying spectral holeburning in fun ways. These included schemes to create heralded quantum entangled photons and to build a sugar cube sized spectrometer whose resolution would conventionally require a grating the length of a football field (we just won a grant to build the rainbow spectrometer at MSU). To make up for my failed vacation plans, I took a week off to play at the Applied Improvisation Network Conference in San Francisco, only to return to spend late nights and weekends creating a proposal with the Department of Education to help advance STEM education for 6-8 graders across rural Montana through novel collaborative on-line environments. Come learn about my three act adventure and what it taught me: Sabbaticals aren't vacations, they're much better!!!!

**Host:** Rufus Cone

**Refreshments 3:45 p.m.**  
**EPS 2nd Floor Atrium**

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