



Presents

# Argentina Adventure: Twisted light and tall ice cream

Wednesday, November 15, 2017

4:00 PM

F.W. Olin Hall Room 105

2190 E. Iliff Avenue



**Dr. Mark Siemens**  
University of Denver

My family and I spent the spring quarter in Buenos Aires, Argentina as part of my sabbatical. We had many adventures meeting new friends, visiting local sites, and intensively investigating novel shapes and flavors of ice cream. I also started new research working with theorist Guillermo Quintero on light-matter interactions including orbital angular momentum.

In this talk, I will describe the theoretical research I did in Argentina. We went beyond the standard “vertical transition approximation” to explore the importance of angular momentum conservation in semiconductor light-matter interactions. In particular, I will show how we developed “titled” Semiconductor Bloch Equations that describe the Coulomb-mediated exciton (bound electron-hole pairs) dynamics. I will also share about the process of this research, and show lots of photos of our family’s fun, adventures, and ice cream.

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