Physics Colloquium - Colorado State University
4:00 PM, Monday; November 18, 2013; Refreshments at 3:45 PM
120 Engineering (Hammond Auditorium)

Physics Education Research: the role and promise of disciplinary engagement in educational transformation at a critical time

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ABSTRACT:
Currently, unprecedented national attention is now being paid to the outcomes of and needs for Discipline-Based Education Research. After framing the national scale scene of physics education, and how physics education research (PER) is positioned to contribute to the national dialog, I will review the growth of our own program at CU-Boulder, and particularly my own research that examines several of the critical scales of focus in physics education. This work develops a new theoretical line of inquiry in PER through experimental work on student reasoning in physics at the individual, the course, and the departmental scales. I will present samples of these scales reviewing: course transformation at the introductory to advanced level in physics, research on how subtle TA and faculty choices that influence the impacts of these course transformations, and efforts of identifying and addressing the gender gaps in college physics.

BIO:
Noah Finkelstein is a Professor of Physics at the University of Colorado Boulder and conducts research is in physics education, specifically studying the conditions that support students' interest and ability in physics – developing models of context. He is a director of the Physics Education Research (PER) group and a Director of CU’s Center for STEM Learning. He is involved in education policy serving on many national boards, is a Fellow of the American Physical Society, and named a Presidential Teaching Scholar for the University of Colorado system.