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STATE UNIVERSITY

Physics

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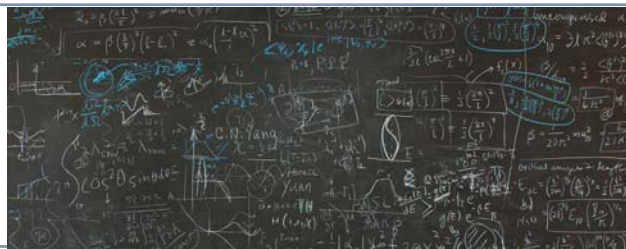
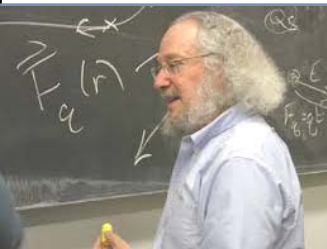
MONDAY, DECEMBER 8TH



Dr. Edward Redish
University of Maryland

4:00 PM in TH 411
Refreshments served at 3:50 PM

How Should We Think About How Our Students Think?



Abstract:

“How do our students think about and learn physics?”; “What does it mean to understand something in physics?” and, “What do we really want our students to learn from our physics classes?” To address questions like these, we need to do more than observe student difficulties and build curricula. We need a theoretical framework – a structure for talking about, making sense of, and modeling how one thinks about, learns, and understands physics. In this talk, I outline some aspects of the Resources Framework, a framework for talking about complex thinking and learning that builds on modern developments in neuroscience, psychology, and linguistics. I discuss epistemological framing — the role of students’ perceptions of the nature of the knowledge they are learning and what knowledge is appropriate to bring to bear on a given task. Understanding this changes the way we assess and interpret what our students have learned.