Colloquium Thursday

April 6, 2017

Understanding Educational Reforms: Impacts of Physics Education Research

ABSTRACT:

Physics education research (PER) has resulted in new materials, approaches to teaching, and theoretical understanding of student learning in physics. PER has influenced practices in introductory physics courses, impacting tens of thousands of students, and a growing number of current and future teachers. While the field has demonstrated positive effects in many instances, remarkably little work has gone into understanding how research-based, educational reforms are replicated and sustained. This talk will discuss some of the data we have collected at CU Boulder, investigating transfer of innovations across institutions, and among our own courses, and the resulting impacts on students over time. Such data provide a base from which educators can make informed decisions about difficult choices in curriculum, methods, resource allocation, and teaching focus. I will present a variety of measures of learning, longitudinal and upper-division data on our majors, and outcomes for future high school teachers resulting from our innovative Learning Assistant program.