

University of Vermont
Theoretical and Applied Physics

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Physics Education Research and SCALE-UP

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and
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Research into teaching and learning in physics is becoming a mature field that includes solid theoretical work, based on areas such as cognitive science, as well as well-designed experiments and carefully-analyzed data. After a review of the status of Physics Education Research (PER), our current work will be discussed on the innovative use of the SCALE-UP environment for promoting active learning and the effective and efficient education of physics undergraduates. A current CCLI-supported project will be described on the combination of our own problem-solving protocol with SCALE-UP pedagogical methods. An important aspect of this project is the careful assessment of learning outcomes, including extensive use of rubrics, tests such as FCI and Lawson CTSR, private student-professor blogs for rapid dual feedback, feedback on communication skills, tests on analyses of scientific articles, and monitoring of individual wikis for managing information used in writing articles. A proposed new project Students as Scholars, which is based on a new curriculum for promoting undergraduate research, will also be described.

Wednesday, October 21, 2009

4:00 p.m.

Lafayette L207

Refreshments will be available at 3:30 p.m.