

Colloquium Notice

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*Helping students learn how to think like scientists:
using physics education Research to transform
undergraduate physics teaching*

It is well documented that a significant number of American and Canadian high school and college graduates are scientifically illiterate and have very little interest in science or mathematics. Moreover, their attitudes toward science are often negatively affected by traditional physics instruction. Physics faculty have been trying to address this problem with variable success for the last few decades. However, proposed solutions (often working on a small scale at upper level courses) were difficult or impossible to implement in large introductory physics courses. The talk will describe how recent findings in Physics Education Research coupled with the effective use of modern technology (Logger *Pro* and clickers) have been used to implement physics education reform at two large research universities across Canada: The University of British Columbia (700 student-undergraduate introductory physics course for science majors) and Ryerson University (400-student introductory physics course for science majors and 150-student introductory physics course for future architects). The design, implementation and evaluation of Interactive Lecture Experiments was our attempt to reform first year physics teaching and learning.

The preliminary results of the study from Ryerson University and research findings from the University of British Columbia as well as future research directions will be discussed.

Monday

October 1, 2007

Starts at 12:15 PM

Coffee at 12:00 PM

Physics Conference Room, SB B326