

# Putting Research to Use in Our Classrooms



David Pritchard  
Cecil and Ida Green Professor of Physics, Physics

## CURRENT RESEARCH

Free online activities for teachers to use to help students learn better in STEM disciplines

It seems logical that scientists would try to apply the fruits of scientific research when they leave their laboratories for their classroom. However, most professors teach like their best teachers. In spite of recent reports from the National Research Council urging the use of research-based teaching activities, they use traditional lecture-based instruction with the traditional objective of teaching their students facts and simple procedures. Dr. Dave Pritchard, of MIT, uses the scientific method to improve the teaching of expertise to undergraduates. His research and development group for education, situated in the Physics Department, called the Research in Learning Assessing and Tutoring Effectively (<http://RELATE.MIT.edu>) conducts experiments grounded in various perspectives about education to understand and measure learning and to find what helps students learn best.

In addition to his successful educational program, Dr. Pritchard's mentorship is also amazing. Dr. Pritchard and his Ph.D. advisor, Dr. Daniel Kleppner, have built the #1 group in Atomic Physics according to the US News & World Report. He has won four major prizes and was elected to the NAS and fellow of several other scientific organizations. Dr. Pritchard has found that discovering, working with, and developing people is at least as rewarding as science itself. His passion for mentoring students has culminated in having mentored four students who have won national thesis research prizes and three others who won Nobel prizes (one of which who even gave Dr. Pritchard his medal). In the past year alone, over 300,000 students have worked about 10,000,000 of the online...

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## AFFILIATION



Massachusetts Institute of Technology

## EDUCATION

- Ph.D., in Physics, 1968 , Harvard University
- B.S., in Physics, 1962 , California Institute of Technology

## AWARDS

- IUPAP Senior Scientist Medal in Fundamental Metrology, 2008
- Max Born Award by the Optical Society of America, 2004
- American Physical Society, Herbert P. Broida Prize, 1991
- Earl M. Murman Award for Advising, MIT, 2010
- Dean's Educational & Student Advising Award, MIT, 2003

## RESEARCH AREAS

Education, Classroom Techniques

## FUNDING REQUEST

Your contributions will support Dr. Pritchard's research, as he creates free online courses and conducts educational research and development in them. Your donations will support the necessary \$300K per year required to support personnel. An additional \$250K per year could fund overlapping postdocs and their successors to reduce the need for training a new postdoc every year. In choosing to donate, you will be a part of improving undergraduate and high school education scientifically!