APR11-2011-000222

Abstract for an Invited Paper
for the APR11 Meeting of
the American Physical Society

Excellence in Physics Education Award Talk: AAPT/PTRA Leader and the Participant Perspectives

GEORGE AMANN, AAPT/PTRA

The AAPT/PTRA professional development model is an integrated and extensive framework focused on improving the quality of education in physics and physical science. This talk will focus on different aspects of the curriculum and how it combines educational research, best practice, and current technology to provide a thorough and unique learning experience for teachers and their students. The talk will discuss how the use of tools like Physlets, demonstrations and make, take & do items, combine to engage student's interest. PTRA activities - employing both low and high tech methods - are used during professional development and serve as a model for student-centered classroom activities. Rather than relying on teacher or textbook authority, physical relationships are derived from laboratory data. Participants analyze the data using the concepts of graphical analysis to develop physical principles based on personal experience. The talk will conclude with examples of how techniques such white-boarding, Ranking Tasks and Practicums yield authentic assessment for understanding of basic physics principles.