



University of  
Central Arkansas™

## *UCA Research in STEM Education Seminar*

**Speaker:** Dr. Andrew Mason  
UCA Department of Physics

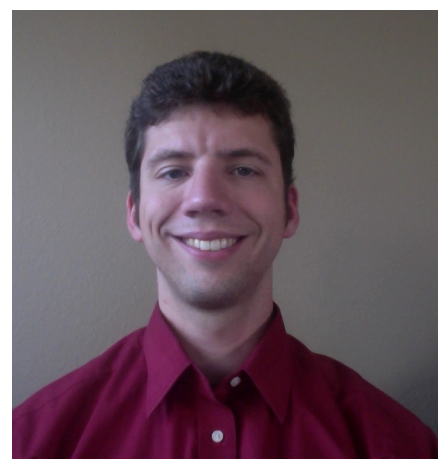
**Title:** Cooperative Physics Problem Solving:  
Expectations and Cognition for Non-  
Physics Science Majors

**Date:** Monday, April 21, 2014

**Time:** 1:00-2:00 p.m.

**Place:** MCS 220

**REFRESHMENTS WILL BE SERVED  
PRIOR TO THE SEMINAR**



**Abstract:** Over the past three semesters, I have been investigating epistemological expectations of students in an introductory physics course sequence with a predominant population of life and health science majors. Certain pedagogical aspects of learning physics, such as problem solving, require appraisal of students' expectations for the course in this light in order for the intended cognitive approach to be effective. However, UCA's two-course algebra-based introductory physics sequence typically contains a predominant population of life science majors and health science majors, who hail from two different colleges with different pedagogical expectations. I will discuss a cooperative group problem solving exercise, which includes individual metacognitive reflections on the solution performance, and data I have been collecting with regard to both cognitive performance and student expectations of the course material. One focus will be on the two different student populations in respectively the life sciences and health sciences. Discussion will be related to future plans to analyze a potential correlation between cognitive measures and physics expectations measures.