

Abstract for an Invited Paper
for the NEF09 Meeting of
The American Physical Society

Galileo's Ideas Might Have Been Better Received If He Understood Cognitive Science

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Over the years, considerable rhetoric exists regarding which instructional strategies induce the largest conceptual and attitude gains in helping K-12, college students, and the general public learn science. In response, the Cognition in Astronomy, Physics and Earth Sciences Research (CAPER) Team at the University of Wyoming is conducting a systematic study of how people learn science through astronomy. By uncovering cognitive processes, including misapplied phenomenological primitives and spatial reasoning strategies, the CAPER Team is developing and testing a series of innovative classroom instructional materials constructed upon a highly scaffolded approach grounded in inquiry-instruction that has applications across many scientific disciplines.