

DAMOP16-2016-020015

Abstract for an Invited Paper  
for the DAMOP16 Meeting of  
the American Physical Society

### **Engaging Students In Modeling Instruction for Introductory Physics<sup>1</sup>**

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Teaching introductory physics is arguably one of the most important things that a physics department does. It is the primary way that students from other science disciplines engage with physics and it is the introduction to physics for majors. Modeling instruction is an active learning strategy for introductory physics built on the premise that science proceeds through the iterative process of model construction, development, deployment, and revision. We describe the role that participating in authentic modeling has in learning and then explore how students engage in this process in the classroom. In this presentation, we provide a theoretical background on models and modeling and describe how these theoretical elements are enacted in the introductory university physics classroom. We provide both quantitative and video data to link the development of a conceptual model to the design of the learning environment and to student outcomes.

<sup>1</sup>This work is supported in part by DUE 1140706