Abstract Submitted
for the NWS18 Meeting of
The American Physical Society

Commonly-Activated Conceptual Resources for Understanding Mechanical Wave Propagation LISA M. GOODHEW, Univ of Washington, AMY D. ROBERTSON, Seattle Pacific University, PAULA R.L. HERON, University of Washington, RACHEL E. SCHERR, Seattle Pacific University — In a resources theory of knowledge, new knowledge is constructed from existing knowledge elements—called *resources*—that are activated in real-time, in context-sensitive ways. These resources are thought to be derived from experience and continuous with formal physics concepts. Despite proposed benefits of instruction that builds upon student resources, little research has been done to investigate the common resources that students use as they reason about physics concepts. Our work contributes to the conversation on resources-oriented physics instruction by investigating the common conceptual resources that students use to reason about mechanical wave propagation. In this talk, we will present our analysis of written responses to conceptual physics questions that were administered to introductory physics students at multiple institutions across the United States. We will focus on the resources that are commonly activated in wave propagation scenarios, with an eye toward how our results can inform instruction that takes up and builds upon student thinking.

Lisa Goodhew
Univ of Washington

Date submitted: 20 Apr 2018 Electronic form version 1.4