

STEM Education @ UB

Join us for a workshop with the Helmsley STEM Education Program invited speaker Dr. Suzanne White Brahmia. RSVP for the workshop online: <https://goo.gl/NeeSnz> View the location: <https://goo.gl/N8nQuZ>



Dr. Suzanne Brahmia

*Assistant Professor of Physics at
University of Washington*

For more information, please
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Thursday, November 16

4:30 - 6 p.m.

Location:

University of Bridgeport
Arnold Bernhard Center
84 Iranistan Avenue
Bridgeport, CT
Room:
Schelfhault Gallery / 123 ABC

Discipline Based Education Research (DBER) Workshop:

This workshop introduces Physics Invention Tasks (PITs), curricular activities designed to foster mathematical creativity in the context of physical quantities and relationships. Affective measures show that traditional physics instruction results in students viewing physics as formulaic (Adams et al. 2006), which may contribute to the lack of diverse interest in calculus-based physics courses (Ross & Otero, 2013). Important goals of PITs include developing expectations that physics should make sense, and strengthening beliefs that naïve views and mathematical sense-making facilitate learning physics. Research in mathematics education has shown that invention tasks help students use math creatively while priming them for subsequent formal instruction (Schwartz et al., 2011). PITs support the construction of quantitative physics concepts and relationships while contributing to a well-defined set of physics course norms in which struggle is communal, there are no dumb ideas, and creativity is valued. These norms align well with authentic science practices and the NGSS practices, but contrast starkly with a stereotypical physics course in which there is little motivation for its algebraic reasoning. In this workshop participants will be introduced to the many PITs that are developed and validated. No physics background is assumed.

