



# PHYSICS AND ASTRONOMY RESEARCH SEMINAR

**Dr. Elizabeth Nowadnick**

New Jersey Institute of Technology

**“Understanding and engineering  
energy materials: my vision”**

Abstract

"In this talk I will describe the computational materials physics research program for energy materials. This understanding to design and predict new materials with targeted properties. First, I will discuss my planned research in the area of hybrid organic-inorganic halide perovskites, which are very promising materials for photovoltaic and optoelectronic applications. Second, I will describe my proposed research on ferroelectric and multiferroic oxides, with a particular focus on their unique properties which have potential for enabling waste heat harvesting. I will also briefly discuss the theoretical and computational tools that my research group uses, which include group theoretic symmetry analysis, density functional theory, and microscopic models".

Thursday, February 28, 2019

3:30 p.m.

Elliott Building – Room 228