



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 that I would like to implement at the University of Victoria. The overall vision of my research program is to advance our fundamental understanding of the electronic, optical, magnetic, and thermal properties of energy materials, and use 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 thermal properties which have potential for enabling waste heat harvesting. I also will briefly discuss the theoretical and computational tools that my research group will use, which include group theoretic symmetry analysis, density functional theory, and microscopic models".

Thursday, February 28, 2019

3:30 p.m.

Elliott Building – Room 228