Department of Physics and Astronomy Colloquium Series

Tuesday, December 6th, 2022, 2:30pm in PSE 317

Speaker: Hae-Young Kee

Institution: University of Toronto

Title: Topology in Quantum Materials

Abstract:

Over the past decades, our knowledge of quantum matter has advanced through a series of discoveries. Topology and entanglement offer modern ways to classify distinct phases of matter. Among them, entanglement of many particles engenders an entirely new phase of matter with topological order. Examples include fractional quantum Hall effects and quantum spin liquids with unusual excitations. While fascinating, identifying solid-state materials that exhibit such phases with exotic particles different from bosons and fermions has been a challenging task. In this colloquium, I will share the recent progress made in correlated quantum materials where electron-electron interactions are significant and manifestations of topology in their physical properties.