

Department of Physics and Astronomy Colloquium Series

Tuesday, March 3, 2026, 2:30pm in PSE 317

Speaker: Ziqing Hong

Institution: University of Toronto

Title: Probing New Physics with Cryogenic Detectors

Abstract: The Standard Model of Particle Physics has been a huge success in describing the properties and interactions of the fundamental particles that make up the whole universe. The most recent success was the successful prediction of the fundamental particle that was discovered in 2012, the Higgs Boson. Despite its huge success, we also understand that the Standard Model is incomplete. Examples include that it does not describe how gravity force is mediated, it does not fully explain the finite masses of the neutrinos and a few other properties, and it does not describe the dark matter and dark energy that makes up a large fraction of the universe. One way to probe the physics beyond the Standard Model is through the category of “Rare Event Search” experiments, utilizing the advanced technologies in the ultra sensitive cryogenic detectors. In this colloquium, I will discuss the cryogenic detector technologies and their applications in searching for new physics.