Department of Physics and Astronomy Colloquium Series

Tuesday January 28, 2025, 2:30pm in PSE 317

Speaker: Pierre Savard

Institution: University of Toronto

Title: Higgs Boson Physics: The past, the present, and the future

Abstract:

In July 2012, the ATLAS and CMS experiments announced a major scientific breakthrough: the discovery of a new particle consistent with the Higgs boson predicted by the Standard Model of particle physics. In the last 12 years, a lot of progress has been made in understanding the properties of this special particle. In this colloquium, I will re-introduce the Higgs boson and its role in the Standard Model of particle physics, review what we have learned in the first three data-taking runs at the Large Hadron Collider (LHC), and finally discuss future Higgs boson physics prospects using the order of magnitude increase in the size of the dataset that will be delivered by the High-Luminosity LHC.