

Seminário, Terça 21/11/2023 16:00h

Local: Auditório: Méson Pi - DRCC

Caio Licciardi (University of Windsor, Canada)

Title: Search for Majorana Neutrinos with Liquid Xenon

Abstract: The observed asymmetry between matter and antimatter in the universe still awaits for an explanation. If lepton number conservation, a global symmetry of the standard model, is violated, that could help understand it. The most sensitive probe to search for this violation is through a hypothetical decay known as neutrinoless double beta decay. Observation of this decay would prove that neutrinos are their own antiparticles, the so-called Majorana particles. The primary focus of our group is the search for this rare process using a liquid xenon time-projection chamber. We will describe our contributions to the EXO-200 experiment and nEXO Collaboration, as well as discuss our active projects towards the ultimate search for the hypothetical decay at the kilotonne scale.