Date:	**Tuesday, 27 November 2018**
Time:	**11:00 – 12:20**
Speaker:	**Jonathan OUELLET**
Institution:	**Department of Physics, Massachusetts Institute of Technology**

Title:

Searching for Sub-ueV Axion Dark Matter

Abstract:

The axion was originally proposed to explain the Strong-CP problem, but was subsequently shown to be a strong candidate for explaining the Dark Matter abundance of the Universe. The parameter space for the electromagnetic coupling to DM axions is relatively open, with all masses less than ~10 eV possible. ABRACADABRA is a proposed experiment to search for ultralight axion Dark Matter, with a focus on the mass range 10^{-14} m_a 10^{-6} eV. We search for these axions and other axion like particles (ALPs) through a modification to Maxwell's equations, which cause strong magnetic fields to source weak oscillating electrical currents parallel to the field. In this talk, I will describe the working principle behind searches for sub-ueV axion dark matter as well as the first results from a prototype experiment called ABRACADABRA-10\,cm that we have built at MIT. I will touch on issues for next generation searches which hope to reach the QCD axion scale.

Notes: