

Western Science

DEPARTMENT OF PHYSICS AND ASTRONOMY

Physics Undergraduate Conference (PhUnC) KEYNOTE TALK

Thursday, 14th March 2019 @ 1:30 p.m.
PAB Room 100

Dr. Joseph Bramante

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Queen's University

**“New searches for dark matter with neutron stars,
exploding white dwarfs, and multiscatter events at
underground experiments”**

ABSTRACT

As the hunt for dark matter continues, it has been noted that certain kinds of dark matter (1) turn neutron stars into black holes, (2) cause white dwarfs to explode, and (3) leave a track of many events in underground experiments. I will discuss the theoretical motivation for these kinds of dark matter, along with methods for using compact stars to discover dark matter.

Short Bio of the Speaker

Joseph Bramante is an Assistant Professor at Queen's University. Prior to accepting his current appointments at McDonald Institute, Queen's University, and the Perimeter Institute, he held postdoctoral fellowships at the Perimeter Institute and the University of Notre Dame, and received a PhD from the University of Hawaii for work on “Dark Particles and Primordial Perturbations.” As an undergraduate at Sarah Lawrence College, he completed and published research on atmospheric aerosol particles, using x-ray absorption fine structure spectroscopy data, which he gathered at Brookhaven's National Synchrotron Light Source.