



Western University
Department of Physics and Astronomy

PHYSICS & ASTRONOMY COLLOQUIUM

Date: **Thursday, 11th January 2018**
Time: **1:30 p.m.**
Location: **Physics & Astronomy Seminar Room 100**

Dr. Shriharsh Tendulkar

Department of Physics
McGill Space Institute, McGill University

"Probing the Origins of Fast Radio Bursts"

ABSTRACT

Fast Radio Bursts (FRBs) are by far the most frequent observable astrophysical transients in the sky, yet in the past decade, we have only observed ~30 events, one of which is seen to repeat. With this small heterogeneous sample of FRBs, it is challenging to understand their origins and draw statistical conclusions. We do not know if all FRBs repeat or if there are multiple populations or how propagation effects in the interstellar medium affect our observations. In the first part of my talk, I will describe the upcoming CHIME-FRB project which is estimated to detect 5-50 FRBs per day and will generate a homogeneously-selected sample of thousands of FRBs. I will discuss the science questions that we are addressing and the search pipeline design that allows us to detect the FRBs along with recent updates from the CHIME site. Later, I will discuss our parallel efforts with the Arecibo observatory and JVLA, searching for associations of FRBs with other rare transient classes -- inspired by the suggested link of the repeating FRB 121102 to long GRBs and hydrogen-deficient superluminous supernovae.

COFFEE + light snacks will be available in the Atrium, 2nd floor, at 1:15 p.m.