SEMINAR NOTICE

Department of Physics and Engineering Physics
University of Saskatchewan

SPEAKER: Brad Dempsie, PhD candidate,
Physics and Engineering Physics

TOPIC*:* *Magnetic Dynamics in the M.U.Z-pinch and STOR-M Tokamak Fusion Devices*

DATE: Tuesday February 11th, 2025

TIME: 3:30-4:30 p.m.

PLACE: ***Physics 103***

Abstract:

While the nuclear reactor holds the promise of meeting the large energy demands of the future, a practical energy producing fusion reactor has eluded humanity since it's conception in the middle of the twentieth century. The difficulty can partially be attributed to the complicated behaviours of the plasma state of matter, the medium where fusion reactions take place.

This talk will begin by overviewing some basic plasma properties and outlining a theoretical framework for describing plasma behaviour. Two specific systems oriented towards fusion applications, the z-pinch and tokamak, will then be discussed followed by a presentation of magnetic diagnosis and analytical techniques used to observe some plasma phenomena. Results of experimental magnetic measurements from both z-pinch and tokamak experiments will then be presented and interpreted in terms of plasma formation, magnetohydrodynamics waves/instabilities, and plasma disruptions.

Coffee and cookies will be available in the physics lounge room 177 at 3:00pm for those attending the seminar.