UNIVERSITY OF SASKATCHEWAN
College of Medicine
DEPARTMENTS OF
ANATOMY, PHYSIOLOGY AND PHARMACOLOGY
BIOCHEMISTRY, MICROBIOLOGY AND IMMUNOLOGY

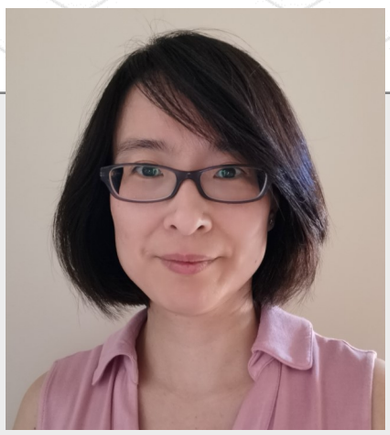
Proteomics Research in Interactions
PRISM
and Structure of Macromolecules

COMBINED SEMINAR SERIES

Departments of Anatomy, Physiology, & Pharmacology and Biochemistry, Microbiology & Immunology and PRISM Research Centre

Thursday, December 2
11:30 am – 12:30 pm

(Zoom Meeting)



Dr. Mary Cheng

Professor

Department of Biology

University of Toronto

"UBR4: links between the biosynthetic secretory pathway and the circadian clock "

Ubiquitin ligases control the degradation of core clock proteins to govern the speed and resetting properties of the circadian pacemaker. However, few studies have addressed their potential to regulate other cellular events within clock neurons beyond clock protein turnover. In this seminar, I will present data showing that the ubiquitin ligase, UBR4/POE, strengthens the central pacemaker by facilitating neuropeptide trafficking in clock neurons and promoting network synchrony. Ubr4-deficient mice are resistant to jetlag, whereas poe knockdown flies are prone to arrhythmicity under constant dark conditions, behaviors reflective of the reduced axonal trafficking of circadian neuropeptides. At the cellular level, Ubr4 ablation impairs the export of secreted proteins from the Golgi apparatus by reducing the expression of Coronin 7, which is required for budding of Golgi-derived transport vesicles. In summary, UBR4/POE fulfills a conserved and unexpected role in the vesicular trafficking of neuropeptides, a function that has important implications for circadian clock synchrony and circuit-level signal processing.

Zoom Meeting Details:

Meeting link: https://usask-ca.zoom.us/j/93997230072?pwd=dFFLOEZNeVNvOFUwUDE1SE9rL2t6UT09

Meeting ID: 939 9723 0072

Passcode: 19412354

Join by phone

Find your local number here: https://usask-ca.zoom.us/u/aUkaKusC0

Everyone Welcome