BiophysTO Lunchtime Seminar Series

Date

Thursday, Apr. 20th 2023

12:00 – 1:00 pm

Pizza to follow

LOCATION (Hybrid):
McLennan Physical Laboratories
255 Huron Street
Rm. 606
Zoom link below

Roman Melnyk, Ph.D

Department of Biochemistry, University of Toronto
Molecular Medicine, SickKids Research Institute

Host: James Otis

Harnessing the magic of bacterial toxins

The Melnyk lab is interested in a specialized class of protein toxins produced by bacterial pathogens that as part of their mechanism mediate their own entry into cells where they exert their cytotoxic effects. We are interested in understanding the molecular mechanisms by which these toxins recognize and enter cells and how they inactivate their intracellular substrates once inside. We use these mechanistic insights both to develop novel therapeutics to prevent their action and also to engineder these toxins as to deliver different payloads into cells. In this talk, a class of small molecules that modulate the structure and function of the key toxin produced by the pathogen C. difficile in an entirely novel way will be presented. In the second part of the talk, I will describe how we exploit the translocases of these toxins to deliver a wide variety of large molecule cargo into cells for therapeutic purposes.

Meeting ID: 853 9879 6804
Zoom Link: https://utoronto.zoom.us/j/85398796804

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