



BiophysTO Lunchtime Seminar Series

Date

Thursday, April 25 2019
12:00 – 1:00 pm

Location

McLennan Physical
Laboratories
Room MP606
60 St. George Street

*Pizza and refreshments will be
provided*

Dr. Haley Wyatt

*Department of Biochemistry
University of Toronto*

The SMX Tri-Nuclease: Making it Safe to Play with Knives

An essential component of every living organism is DNA, which provides the blueprint for life. Paradoxically, DNA is highly susceptible to damage by agents that occur naturally (e.g. metabolic by-products) and in the environment (e.g. ultraviolet radiation). If left unrepaired, damaged DNA can trigger mutations, chromosomal rearrangements, and genome instability. Cells contain sophisticated DNA repair networks to counteract these deleterious effects. Most DNA repair pathways require the actions of nucleases, which are molecular scissors that removed damaged DNA to preserve genome integrity. Nevertheless, the act of cutting DNA is a double-edged sword because it can fuel genetic rearrangements that lead to diseases like cancer. The Wyatt lab is studying how the potentially damaging power of DNA nucleases is directed to safeguard genome integrity. Our long-term goal is to understand how human cells execute accurate DNA repair - a major barrier to the development of cancer.

Host: Dr. Walid A. Houry



**Seminar
Sponsors**

Biochemistry

Physics

Chemistry

IBBME

UTSG