

Bio Phys TO

Lunchtime Seminar Series

WHEN?

October 10, 2024

12:00-1:00PM

WHERE?

McLennan Physical Laboratories

255 Huron Street

Rm. 606

WHY?

Join us for pizza and an opportunity to learn and engage with members of the UofT Biophysics community!

SPEAKER

Dr. Ji-Young Youn

SickKids, Temerty Faculty of Medicine (Molecular Genetics) - U of T
Canada Research Chair Tier II in membraneless organelle proteomics

Proximity-Labeling Proteomics Reveals Novel Regulatory Mechanisms of Condensate Dynamics

Biomolecular condensates concentrate biomolecules in the cell, often formed by the physical process of liquid-liquid phase separation. By enriching specific biomolecules, biomolecular condensates can increase or decrease biochemical reactions, buffer protein concentrations, sense environmental changes, and provide mechanical forces. To study condensate function, we employ proximity-based labeling methods (BioID or APEX) to determine condensate proteomes. Biomolecular condensates are dynamic and also metastable. Aberrant phase transition underlies the pathogenesis of neurodegenerative diseases. We apply quantitative mass spectrometry to measure changes in proximal interactions associated with condensate formation and aberrant phase transition.

I will share our ongoing studies of cytosolic biomolecular condensates formed during stress, called stress granules (SGs) and TDP-43 (TARDBP) condensates.

SEMINAR SPONSORS

UTSG Departments of
Biochemistry
Chemistry
Physics

