

Topics in Biophysical Chemistry ~ CHMC21H3 Fall 2017 !

Lectures: Wednesday, 12:00~14:00, AA208 !

Instructor: Ruby Sullan, EV566, ruby.sullan@utoronto.ca !

Office Hours: Fridays, 10:00~12:00!

Welcome to Topics in Biophysical Chemistry! In a nutshell, Biophysical Chemistry is a field of study that focuses on how basic physical principles govern structure, function, and behaviour of biological systems. As the field is broad covering topics as diverse as molecular imaging, signal transduction, energetics of transport across membranes, protein folding, biological energy conversion, and rational drug design, emphasis will be given to state-of-the-art biophysical techniques used to characterize these biological processes as well as biomolecules and cells, at a single-molecule and single-cell resolutions. With all the recent breakthroughs and advances in optical and force techniques that opened the window to previously unobserved details of biological structures and processes~ it's such an exciting time to peek through the myriad of reactions inside a living cell, elucidate molecular mechanisms and quantify biophysical interactions! !

At the end of this course, you are expected to: !

1. Apply your knowledge on the fundamental concepts in physical chemistry to explain biological systems and observations at the molecular level;
2. Develop familiarity with current and state-of-the-art biophysical techniques increasingly used in the study of complex biological processes and systems at different length- and time- scales;
3. Critically evaluate experimental data and integrate a suitable combination of techniques in addressing a biological question; and
4. Communicate a specialized topic ~ both at its most basic level and broader-theme application.

Method of Evaluation

Communication

Check the Blackboard for important announcements. Readings, journal articles, and other relevant materials will be posted on Blackboard throughout the course. You may access it at:

Accessibility !