

PROGRAM OVERVIEW

Tuesday, May 23th

9:30 AM – 4:00 PM Trainee Symposium

5:00 PM – 7:00 PM Opening Mixer

Wednesday, May 24th

9:00 AM – 9:15 AM Welcome

9:15 AM – 10:15 AM Cryo-Electron Microscopy 1

10:15 AM – 10:45 AM Coffee Break

10:45 AM – 11:45 AM Cryo-Electron Microscopy 2

11:45 AM – 1:30 PM Lunch

1:30 PM – 2:30 PM Computational Biophysics

2:30 PM – 3:00 PM Coffee Break

3:00 PM – 4:30 PM Biomaterials

5:00 PM – 7:00 PM Poster Session

Thursday, May 25th

9:00 AM – 10:45 AM Modeling

10:45 AM – 11:15 PM Coffee Break

11:15 AM – 12:00 PM Biomolecular Structure and Dynamics

12:00 PM – 1:30 PM BSC Business Meeting (In Cassio, located on the second floor of MacEwan Student Centre)

12:00 PM – 2:00 PM Lunch

2:00 PM – 2:45 PM Imaging and Spectroscopy

2:45 PM – 3:15 PM Awards

3:15 PM – 4:00 PM National Lecture

4:00 PM – 4:30 PM Coffee Break

4:30 PM – 5:30 PM Drug Discovery and Anti-microbial Resistance

6:30 PM – 9:30 PM Conference Dinner (Hotel Arts, 119 12 Ave SW)

Friday, May 26th

9:00 AM – 11:00 AM RNA Biology and Biophysics

11:00 AM – 11:30 AM Coffee Break

11:30 AM – 1:00 PM Biological Networks

1:00 PM – 1:15 PM Closing Remarks

TRAINEE SYMPOSIUM
BSC SCIENTIFIC PROGRAM

Wednesday, May 24th

9:00 AM – 9:15 AM **Introduction and Housekeeping**

9:15 AM – 10:15 AM **Cryo-Electron Microscopy 1**

Chair: Omid Haji-Ghassemi

9:15 AM Elitza Tocheva, University of British Columbia
Characterization of cellular ultrastructure using advanced imaging approaches

9:35 AM Lejla Zubcevic, The University of Kansas Medical Center
The role of cytoplasmic domains in TRP channel gating

9:55 AM Francesca Vallese, Columbia University
Architecture of the human erythrocyte ankyrin-1 complex

10:15 AM – 10:45 AM **Coffee Break**

MacEwan Hall Foyer

10:45 AM – 11:45 AM **Cryo-Electron Microscopy 2**

Chair: Joanne Lemieux

10:45 AM Nathanael Caveney, Stanford University School of Medicine
Novel Insights into Cytokine Signalling using CryoEM

11:00 AM Tamir Gonen, UCLA

11:45 AM **Lunch**

1:30 PM – 2:30 PM **Computational Biophysics**

Chair: Peter Tieleman

1:30 PM Rachael (Reiy) Mansbach, Concordia University
AMPlE Data: Understanding of Spaces and Starting Points for Antimicrobial Peptide Design

1:50 PM Miranda Holmes-Cerfon, University of British Columbia
The dynamics of particles with ligand-receptor contacts

2:10 PM Gonca Erdemci-Tandogan, Western University, Department of Physics & Astronomy
Physics of developing tissues: modelling embryonic development

2:30 PM – 3:00 PM **Coffee Break**

MacEwan Hall Foyer

-
- 3:00 PM – 4:30 PM **Biomaterials**
Chair: Megan Engel
- 3:00 PM Molly Shoichet, University of Toronto
Emulating the Microenvironment: 3D Cell Culture Enables Drug Discovery
- 3:45 PM Arnold Mathijssen, University of Pennsylvania
Collective functionalities emerging in microbial active matter
- 4:05 PM Gwynn Elfring, University of British Columbia
Active matter in inhomogeneous environments
-

5:00 PM– 7:00 PM **Poster Session**

Thursday, May 25th

- 9:00 AM – 10:45 AM **Modeling**
Chair: Justin MacCallum
- 9:00 AM Gerhard Hummer, Max Planck Institute of Biophysics
Molecular modeling and simulation of the human nuclear pore complex
- 9:45 AM Hans-Joachim Wieden, University of Manitoba
The secret life of the ribosome - How to break it, how to make it and how to fix it.
- 10:05 AM Saman Salari, Memorial University of Newfoundland
Identification and characterization of human mevalonate kinase inhibitors
- 10:25 AM Matthew Leighton, Simon Fraser University
Thermodynamic performance bounds for multi-component molecular machines
-

10:45 AM – 11:15 AM **Coffee Break**

- 11:15 AM – 12:00 PM **Biomolecular Structure and Dynamics**
Chair: Claudio Gradinaru
- 11:15 AM Filip Van Petegem, University of British Columbia
Channelopathies: high-resolution insights into arrhythmias and myopathies
- 11:35 AM David Langelaan, Dalhousie University
Structural studies of co-activator recruitment by the microphthalmia-associated transcription factor
-

12:00 PM **Lunch**

12:00 PM **BSC Business Meeting**

2:00 PM – 2:45 PM	Imaging and Spectroscopy Chair: Vincent Tabard-Cossa
2:00 PM	Hamideh Rezvani Alanagh, McGill University <i>pH-induced changes in the viscoelasticity of coacervates from mussel byssus coating proteins</i>
2:20 PM	Danielle Tokarz, Dalhousie University <i>Measuring the Crystalline Structure of Fibrillar Proteins in Mouse Otoconia by Second Harmonic Generation Microscopy</i>
2:45 PM – 3:15 PM	Awards
3:15 PM – 4:00 PM	National Lecture Chair: Nancy Forde Michael Woodside, University of Alberta <i>Watching biological molecules fold and misfold at the single-molecule level</i>
4:00 PM – 4:30 PM	Coffee Break
4:30 PM – 5:30 PM	Drug Discovery and Antimicrobial Resistance Chair: Susana Straus
4:30 PM	Suzana Straus, University of British Columbia <i>Towards better sepsis therapeutics: biophysical characterization of CG4L73 and its conjugate</i>
4:50 PM	Nicole Weckman, University of Toronto <i>Synthetic Biology Sensing Systems for Tackling Global Healthcare Challenges</i>
5:10 PM	Samy Cecioni, Université de Montréal <i>Chemical strategies for monitoring glycan-processing and for capturing glycan-protein binding</i>
6:30 PM – 8:30 PM	Dinner <i>Dinner at Hotel Arts 119 12 Ave SW</i>

Friday, May 26th

9:00 AM – 11:00AM **RNA Biology and Biophysics**

Chair: Trushar Patel

9:00 AM Pascale Legault, Université de Montréal
RNA dynamics - Taking the road to function one step at a time

9:45 AM Anna Blakney, University of British Columbia
Modulating Immunogenicity and Expression of Self-Amplifying RNA

10:05 AM Nicolas Doucet, University of Quebec
Conformational exchange correlates with functional conservation along the evolutionary pathway of pancreatic-type ribonucleases

10:25 AM Dylan Girodat, University of Arkansas
The Accurate Decoding of mRNA Relies on the Geometric Alignment of Aminoacyl-tRNA with the Catalytic Centers of the Ribosome

11:00 AM – 11:30 AM **Coffee Break**

11:30 AM – 1:00 PM **Biological Networks**

Chair: Cécile Fradin

11:30 AM Gabor Balazsi, Stony Brook University
Mapping the fitness landscapes of cancer with synthetic gene circuits

11:50 AM Robert Lu, University of Toronto
Heparin promotes tropoelastin coacervation through a specific domain 36 interaction

12:10 PM Alice Troitskaia, University of Illinois Urbana-Champaign
Probing the Damage-Sensing Mechanism(s) of a DNA Repair Helicase

12:30 PM Eldon Emberly, Simon Fraser University

1:00 PM – 1:15 PM **Closing Remarks**
