BIOC 560 A– Computational Approaches in Biochemistry

Course Description:
BIOC 560 provides a theoretical and practical introduction into contemporary molecular modeling with focus on molecular dynamics (MD) simulations. The course will provide an overview of the fundamental concepts underlying molecular simulations including details on molecular force fields, potential energy landscape sampling methods, boundary considerations, solvation models and data-guided MD simulations. The students will get hands-on experience in running MD simulations during tutorials as well as insights into MD-based state-of-the art research during paper presentations. The goal is to provide students with skill sets that enable them to critically asses MD simulation results and initiate basic simulation studies for research purposes. Students will be graded based on their paper presentations, tutorial assignments and a final simulation assignment. This course will be offered every other year starting in the winter term of 2020.

Instructors: Dr. Jörg Gsponer
Format: 90-minute lectures with tutorials (12), 1.5 credits
Time: Tues/Thurs (10:00-11:30 pm)
Location: TBA (UBC Point Grey Campus).
Number of seats: 14