

- [Positions](#)
- [Publications](#)
- [Software](#)

POMÈS LAB

Computational Biophysics: Biomacromolecular Structure, Function, and Dynamics



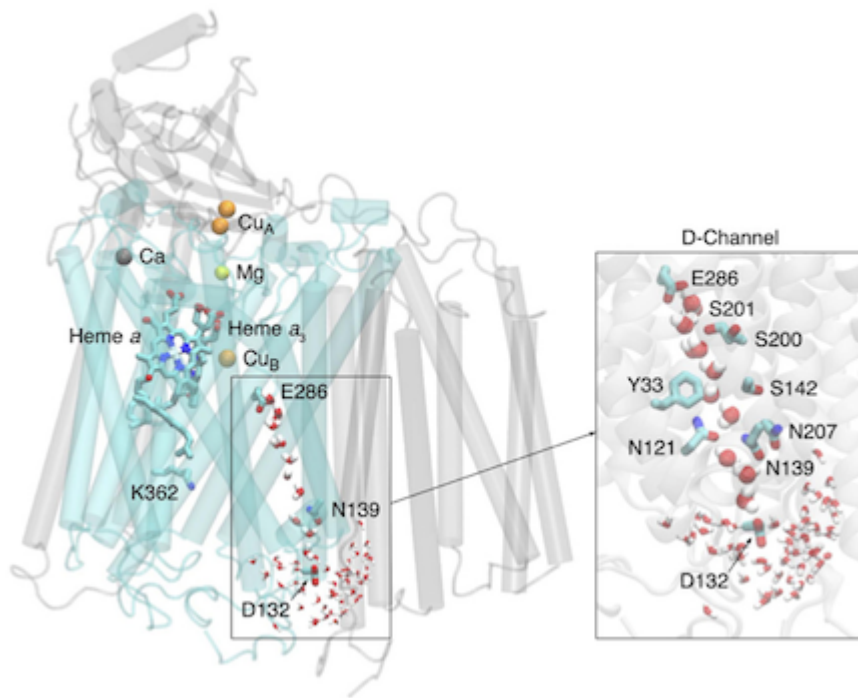
Christopher Ing

I aim to understand the biophysical mechanisms of wild-type and mutant [cytochrome c oxidase](#) using all-atom molecular dynamics. I am particularly interested in ion movement and solvation in these proteins.

Research Interests

Under the guidance of [Dr. Pierre Nicholas Roy](#), I calculated properties of small quantum clusters systems at ultra low temperatures. To achieve this I utilized a path integral molecular dynamics sampling method which I assisted in implementing in the [Molecular Modelling Toolkit](#). The simulation of path integral helium about a fixed CO₂ impurity is [shown here](#) for a 64 time-slice helium atom.

In my current research, I aim to advance research in the Pomès Lab on the molecular structure and function of cytochrome c oxidase. Cytochrome c oxidase of *R. sphaeroides* is depicted in the following figure from J. Phys.: Condens. Matter **23** (2011) 234102. Subunit I, which contains the D channel (inset) and the binuclear centre, highlighted in blue. These are the primary regions of importance to electron and proton transport.



I am also actively involved in studying the molecular structure and function of other membrane proteins like the voltage-gated sodium channel. I am currently working on Python software to assist in the analysis of timeseries data from multiple simulation repeats.



Group - [Alumni](#)

- [Régis Pomès](#) - Principal investigator
- [Ananya Srivastava](#) - MSc
- [Anna Liang](#) - MSc
- [Christopher Ing](#) - PhD Candidate
- [Jingjing Huang](#) - PhD Candidate
- [Quang Huynh](#) - MSc
- [Richard Banh](#) - Researcher
- [Zhi Zeng](#) - MSc

Contact

Régis Pomès

Molecular Structure & Function
Hospital for Sick Children
555 University Avenue
Toronto, Ontario, Canada M5G 1X8

Tel: (416) 813-5686, Fax: (416) 813-5022

Funding

- [Canadian Institutes of Health Research](#)
- [Natural Science and Engineering Research Council](#)
- [National Institutes of Health](#)
- [Canadian Foundation for Innovation](#)

Search

Search for words used in entries and pages on this website

Enter the word[s] to search for here: