Graduate Student Positions in Lake-Ice Modelling
University of Waterloo
Waterloo, Ontario, Canada

Applicants are sought for three graduate student positions at the Masters or PhD level in coupled hydrodynamic lake-ice modelling in the departments of Applied Mathematics or Systems Design Engineering at the University of Waterloo.

Students will conduct high resolution simulations of lake ice dynamics in large lakes using three-dimensional coupled hydrodynamic-ice models to explore small scale processes. The project includes model inter-comparisons and validation with observational data, which will lead to the development of improved ice models. Other aspects of the project include exploring frazil ice dynamics.

This project is funded by Global Water Futures (https://uwaterloo.ca/global-water-futures/). The project will include interaction with participants of other GWF funded projects, in particular with the multi-disciplinary project Lake Futures.

Interested students should have a background in fluid mechanics or ice modelling, strong mathematical and computational/programming skills and an interest in small scale processes associated with ice dynamics in large lakes. They should also have an interest in multi-disciplinary research. Experience with high-performance computing is an asset. The Department of Applied Mathematics has a very active Environmental and Geophysical Fluid Dynamics group (https://uwaterloo.ca/applied-mathematics/research-links/research-groups/environmental-and-geophysical-fluid-dynamics-group). In addition, the University of Waterloo has a Water Institute and interested students will have the option of participating in the institute's Collaborative Water Program (https://uwaterloo.ca/water-institute/education/collaborative-water-program).

For more information contact Kevin Lamb (kglamb@uwaterloo.ca, https://uwaterloo.ca/applied-mathematics/people-profiles/kevin-lamb), Andrea Scott (ka3scott@uwaterloo.ca, https://uwaterloo.ca/systems-design-engineering/people-profiles/andrea-scott) or Marek Stastna (mmstastn@uwaterloo.ca, https://uwaterloo.ca/applied-mathematics/people-profiles/marek-stastna).