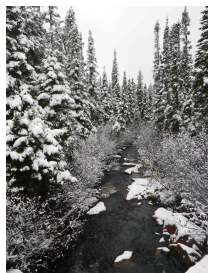


Graduate Student Research Opportunities in Boreal Land-to-Sea Biogeochemistry

Guaranteed funding for 2 year MSc or 4 year PhD positions available as part of two new Canada Research Chair programs at Memorial University of Newfoundland.



Why Land-to-Sea Biogeochemistry in Boreal regions? Boreal landscapes encompass the majority of the watersheds feeding large Arctic rivers, and are predicted to undergo some of the largest climate changes globally this century. Increasing terrestrial organic matter export from boreal rivers over the past few decades suggests climate-induced alterations of these landscapes with repercussions for downstream aquatic ecosystems. These alterations include changes to: (1) the fate of terrestrial organic matter (i.e. biologic or photochemical oxidation, sediments) with carbon-climate feedback implications; (2) productivity of downstream riverine and coastal ecosystems; and (3) trophodynamics impacting important species to local and indigenous people (e.g. arctic char and salmon). The watersheds accessible within boreal zones, such as those in Newfoundland and Labrador, provide excellent sentinels for ongoing climate change, enabling critical research to predict future impacts.

What's in it for you? Training in laboratory and field based research techniques including cutting edge biomarker, microbial ecology, nuclear magnetic resonance and stable isotope techniques. Opportunities to work with *in situ* analytical equipment for monitoring pCO₂, dissolved organic carbon, chlorophyll, and other water quality measures will be available across a wide array of ecosystems. Data analysis and writing instruction will be provided as part of student publication of peer-review papers. Interactions with collaborators within the Canadian Forest Service, Department of Fisheries and Oceans, the Nunatsiavut Government and with international collaborators including those associated with the Newfoundland and Labrador Boreal Ecosystem Latitudinal Transect ([NL-BELT](#)) will enable students to make contacts and obtain wide ranging experiences in both research and communication techniques.

Who should apply? We encourage students interested in either or both laboratory and field-based research and who have a BSc or MSc in biology, chemistry, ecology, oceanography, environmental science, or related fields. Research opportunities span a whole spectrum from more biologically to more chemically focused and we are looking to further build on the diversity of research expertise in our groups.

Project supervisors: Drs. [Susan Ziegler](#), Canada Research Chair in Boreal Biogeochemistry and [Rachel Sipler](#), Canada Research Chair in Marine Biogeochemistry, and are seeking students interested in their related NSERC funded programs. Co-supervision or sole supervision options within the Environmental or Earth Sciences or Marine Biology graduate programs are available depending upon research focus and background.

Application details: We encourage informal inquiries to both Rachel Sipler (resipler@mun.ca) and Susan Ziegler (sziegler@mun.ca). To apply please send CV and letter describing your background and suitability for this research program. Be sure to include contact information for at least 2 references. Application deadline: January 5th, 2018 with positions available May and September 2018. Memorial University is located in beautiful, historic [St. John's, Newfoundland](#) (<https://www.newfoundlandlabrador.com/top-destinations/st-johns>) in eastern Canada, and has a student population of ~18,000.