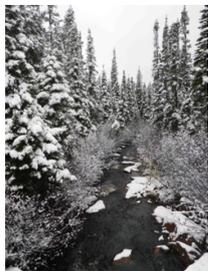


Graduate Student Research Opportunities in Boreal Land-to-Sea Biogeochemistry

Funding available for two 2 year MSc or 4 year PhD positions available as part of a new Canada Research Chair program in Boreal Biogeochemistry at Memorial University of Newfoundland.



Why study Land-to-Sea Biogeochemistry in boreal regions? Boreal landscapes encompass the majority of the watershed area feeding large Arctic rivers, and are predicted to undergo some of the largest climate changes globally this century. Increasing terrestrial organic matter (T_{OM}) export from boreal rivers over the past few decades suggests that climate-induced alterations of these landscapes may result in repercussions for downstream aquatic and marine ecosystems. These alterations include changes to: (1) the fate of T_{OM} (i.e. biologic or photochemical oxidation, sediments) in both terrestrial and aquatic ecosystems 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). Watersheds accessible within boreal climate zones, such as those in Newfoundland and Labrador, provide excellent sentinels for ongoing change with climate, enabling research into these three key areas of inquiry.

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 field equipment for monitoring pCO_2 , dissolved organic carbon and other water quality measures will be available across a wide array of ecosystems. Data analysis and writing training as part of student publication of peer-review papers. Training and interactions with collaborators within both the Canadian Forest Service and Department of Fisheries and Oceans, as well as with international collaborators including those part of the Newfoundland and Labrador Boreal Ecosystem Latitudinal Transect (NL-BELT; <https://www.esd.mun.ca/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, earth sciences, hydrology, ecology, oceanography, environmental science, or related fields. I am looking to further build on the diversity of research expertise in our research group where the questions we seek answers to require expertise spanning a wide range of scientific fields.

Project supervisor: Dr. Susan Ziegler, Tier 1 Canada Research Chair in Boreal Biogeochemistry. Information about the Biogeochemistry of Boreal Ecosystems Research Group (BBERG) can be found at: <https://www.esd.mun.ca/wordpress/sziegler/>

Application details: I encourage informal inquiries via email (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 beginning in 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.