Current Research Opportunities for Prospective Graduate Students 2021-2022

Physical Geography, GIS and Remote Sensing

Dongmei Chen (chendm@queensu.ca) (Looking for two, M.Sc. or Ph.D.)

- Machine learning and AI-based methods for change detection from time series remotely sensed data.
- Analysis social/economic/demographic inequality and modeling of human mobility and its impact on COVID-19 spread

Ryan Danby (ryan.danby@queensu.ca) (Looking for one student, M.Sc. or Ph.D.)

- Reconstructing forest history from tree rings (suitable for MSc). We have located remnant stumps from early 19th century land clearance activities in eastern Ontario. The student would conduct sampling and analysis and cross-reference their results with archival records to reconstruct forest history.
- Caribou Habitat Modeling (suitable for PhD). The student would spatially analyze GPS collar data to model changing habitat use of the declining Bathurst caribou herd in Nunavut and Northwest Territories.
- Remote Sensing of Forest-Tundra Environments (suitable for either MSc or PhD; co-supervision with Dr. Paul Treitz). The student would work with NASA-supplied hyperspectral and LiDAR data to assess spatial pattern of forest-tundra environments and/or post-disturbance forest succession.

Melissa Lafrenière (Melissa.Lafreniere@queensu.ca) (looking for one or two M.Sc. or Ph.D.)

- Impacts of climate and permafrost changes on the biogeochemistry and water quality in High Arctic watersheds. Potential projects could include exploring how climate driven changes in snow, rain, and permafrost thaw, stand to impact the mass fluxes and biogeochemical cycling of carbon, nutrients and contaminants in freshwaters in the High Arctic.

Warren Mabee (mabeew@queensu.ca) (Looking for two students, M.Sc. or Ph.D.)

- Re-imagining forest inventory to better support new products and community development.
- Assessing impacts of COVID-19 on energy-related emissions in Canada
Christopher Omelon (c.omelon@queensu.ca) (Looking for two students, M.Sc. and Ph.D.)

- To understand the extent of sub-lake taliks in permafrost as well as their thermal, hydrogeochemical, and microbial characteristics, and the potential biogeochemical impacts of expansion due to permafrost thaw and subsequent hydrologic connectivity with surface and subsurface environments.
- Multi-disciplinary approach including geophysical techniques (M.Sc.) and geochemical and molecular techniques (Ph.D.)

Neal Scott (neal.scott@queensu.ca) (Looking for one or two students, M.Sc. or Ph.D.)

- Impacts of climate change on High Arctic terrestrial ecosystems. Projects could include exploring biogeochemical processes in frozen soils, spatial patterns of soil organic matter quality, and impacts of vegetation distribution on greenhouse gas dynamics.
- Impacts of land-use history on forest structure, function, and resilience to future changes in climate.

Human Geography

Heather Castleden (heather.castleden@queensu.ca) (Looking for one or more students, MA or PhD, for any of the following projects. For details on each, please see http://heclab.com/)

- Making Space for Ceremony: Examining the Immediate and Longer Term Impacts of COVID-19 and Exploring Possibilities for Similar Futures
- Our Ancestors Are in Our Lands, Waters, and Air: Sharing Stories about Integrative Research for Healing, Reconciliation in Pictou County.
- Decolonizing, Indigenizing, and Relational Accountability in the Academy

Dan Cohen (dan.cohen@queensu.ca) (Looking for one or more students, M.A. or Ph.D.)

- I am recruiting graduate students (MA or PhD) working the areas of economic and urban geography. Students may propose their own project, or choose to work with me on the following projects:
The critical analysis of social finance (the use of private financial investment to fund social services) programs, specifically Canada’s Social Finance Fund;

- Studying the geographies of education, including the intersections of finance and student debt; and,
- The geographic implications of central bank’s COVID-19 responses.

More information, including the details of offered funding packages, are available on my faculty website: https://www.queensu.ca/geographyandplanning/people/faculty/dan-cohen

Betsy Donald (betsy.donald@queensu.ca) (Looking for one or two, 1 M.A. and 1 Ph.D., or 2 M.A.)

- I am looking for students interested in mobility, economic geography, urban planning and governance. Students most welcome who are team players with interests in developing their quantitative, qualitative, critical thinking and general research and writing skills. In addition to the minimum base amount guaranteed by the department I will be offering an additional $5,000 per year to a graduate student in the form of a Graduate Research Fellowship (2 years for Masters or 4 years for PhD). This fellowship can be used in the summer term or as negotiated.

Maxwell Hartt (m.hartt@queensu.ca) (Looking for two Ph.D. students)

- The new frontier of shrinking and declining cities in a pandemic and post-pandemic world
- The challenges and opportunities of aging-in-place in suburban communities