

## MSc in Environmental and Life Sciences, Trent University, Peterborough, Ontario

Seeking 2- 3 MSc students beginning September 1<sup>st</sup> 2019 to work on projects related to the general issue of calcium decline in central Ontario and potential remediation efforts using wood ash.



I am seeking enthusiastic, motivated students with a background in biogeochemistry and/or plant ecology to work on projects related to calcium decline in Muskoka Haliburton. One or two students would assess the impact of wood ash application on forest ecosystems beginning Sept 1st 2019, while the third would conduct a broader study into calcium biogeochemistry potentially using stable isotopes (Sr, Ca). The students would enroll in the Environmental and Life Sciences Graduate

Program (ENLS) (<https://www.trentu.ca/els/msc.php>) at Trent University and would be supervised by Prof. Shaun Watmough but would benefit from working closely with other agencies (OMNRF, NRCAN, Friends of Muskoka, OMECP) as well as researchers in other institutions (e.g. Laurentian) conducting experiments as part of a larger ASH-NET study (<https://cfs.nrcan.gc.ca/projects/140>). The student must meet the academic requirements for entrance to the ENLS Program (77% average), have a valid driver's license and be comfortable working in the field and in a laboratory. The field work will be conducted primarily in the Muskoka Haliburton region in central Ontario.



The loss of key nutrients (calcium, phosphorous etc.) from forest soils in central Ontario and elsewhere due to the legacy of acid deposition and timber harvesting may threaten the long-term sustainability of forest ecosystems. A greater understanding of calcium biogeochemistry is therefore needed to adequately address this concern. In Europe, wood ash is often applied to mitigate nutrient losses, though this practice is not wide spread in North America owing to several environmental concerns. Further research is therefore needed to assess the suitability of wood ash as a potential remediation strategy for nutrient losses from forest soils.

Interested students should contact Dr. Shaun Watmough ([swatmough@trentu.ac](mailto:swatmough@trentu.ac)).