

# Special Guest Lecture

The Centre for Water Resources Studies, and The Department of Civil & Resource Engineering invite you to a Lecture presented by:

**Dr. Claire Oswald, BSc ( Hons.) MSc, McM, PhD**  
**Ryerson University**

**Assistant Professor, Geography & Environmental Studies**



## **Fate and transport of road salt chloride in urbanizing watersheds**

In seasonally frozen environments such as Canada, de-icers (chloride salts) are widely used to maintain safe driving conditions. Previous studies have shown that in certain regions road salts are the single largest non-point source input of chloride to surface water bodies, such as streams, rivers and lakes. While the beneficial role of road salts for public safety is unequivocal, the environmental consequences of their use can pose significant risks to freshwater ecosystems. The overall goal of this research is to improve our understanding of how chloride is transported through watersheds and how this impacts the risk of toxicity to aquatic biota. In this presentation I will discuss key results from two chloride-related projects: an inter-watershed comparison of chloride retention across a gradient of urbanization in Southern Ontario and the implementation of a process-based, semi-distributed model of hydrological and in-stream chloride dynamics for the urbanizing East Holland River watershed. The results of both of these studies provide important information for the development of predictive chloride models and the identification of salt vulnerable areas.

**Dr. Claire Oswald** is an Assistant Professor in the Department of Geography and Environmental Studies at Ryerson University in Toronto, ON. Dr. Oswald is a broadly-trained physical geographer with research interests in catchment hydrology, biogeochemistry, pollutant (e.g. mercury, chloride) fate and transport, and dissolved organic matter quantity and quality. These interests span both natural and human-dominated landscapes, from the Boreal forests of northwestern Ontario to constructed wetlands in the Alberta Oil Sands Region to urban and urbanizing watersheds in south-central Ontario. Dr. Oswald holds a PhD (2011) in Physical Geography from the University of Toronto, an MSc (2002) in Physical Geography from McMaster University and a BSc (1999) in Physics from McMaster University.

**RSVP to [Paula.Zwicker@dal.ca](mailto:Paula.Zwicker@dal.ca) before Aug 27<sup>th</sup>**

**A light lunch will be served**

**Wed, August 29, 2018 | 12:00 PM | Sexton Campus, B Building Room 228 |**