



The Arctic Institute of North America presents the
2015–2016

Arctic Speaker Series

Downstream Patterns and Catchment Controls on Suspended Sediment Transport in a High Arctic River

Who: Elena Favaro | **Date:** Wednesday, October 21, 2015 | **Time:** 4:00 – 5:00 pm | **Location:** University of Calgary; Engineering A 101

Projected climate change is expected to have substantial impacts for Arctic ecosystems, especially altering the stability of the landscape and hydrological regime. Changes to the established patterns suspended sediment transport can impact downstream aquatic and coastal marine ecosystems, given that sediment acts as a substrate for both nutrients and contaminants alike. Furthermore, changes to sediment storage and release patterns in this region can signal climatically-induced alterations to the fluvial system. This study seeks to characterize the sediment transport dynamics and seasonal and decadal time scales in the West River (unofficial name) at the Cape Bounty Arctic Watershed Observatory (CBAWO) on Melville Island, Nunavut (74.91° N, 109.44° W). This river has over a decade of hydrological and sediment transport research that is unique in the Canadian Arctic. This study provides insights into the fluvial and geomorphological responses to perturbations affecting the Arctic rivers, as results from this study are broadly applicable to other High Arctic rivers. In particular, this work contributes to understanding the processes of sediment transport in response to warming Arctic temperatures, which is expected to increase as the century progresses, but has had limited study due to the emphasis on snow melt processes and hydrological fluxes in this region.



Biography: Elena Favaro is a PhD student in the Department of Geography, and completed her Master's degree at Queen's University. Her field work took her to Melville Island, in the Canadian High Arctic in the summer of 2012 where she studied the effects of permafrost slope disturbances and rainfall on suspended sediment transport.

This event is **free and open to the public**

There will be a reception in the AINA offices (ES-1040) immediately following the presentation

For the full speaker series schedule, please visit the website.

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