“Environmental Controls on Algal Structure and Function in Northern Boreal Wetlands”

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Wednesday, November 16
8 a.m. - 9 a.m.
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Abstract
Algae are important to many of the processes that characterize wetland ecosystems. They can exert considerable control over dissolved oxygen concentrations, sediment formation, nutrient uptake and retention, and can account for a significant amount of total primary production. Despite their importance, we know relatively little about the factors that regulate algal communities in wetlands. This is particularly true for northern boreal regions where wetlands are abundant and are considered to be extremely vulnerable to disturbances associated with climate change. My dissertation research investigates the factors that regulate algal primary production and taxonomic structure in high latitude wetlands, along with the spatial and temporal trends in these biotic and abiotic factors. Understanding the regulation of algal dynamics in wetlands is essential to predicting and understanding the implications of environmental variation, anthropogenic effects, and changes in climate, all of which can alter the current wetland ecosystem infrastructure.