

Biology Seminar



Western
UNIVERSITY • CANADA

12:30 - 1:30 pm
Friday, January 18, 2019
BGS 0153



Elizabeth Weretilnyk
Professor
Department of
Biological Life Sciences
McMaster University

Coping with low phosphate: Lessons from the extremophyte *Eutrema salsugineum*

“Omics” platforms now provide valuable approaches for comparing metabolite profiles and gene expression patterns from stress-sensitive and stress-adapted genomes, studies that can lead to greater mechanistic understanding of biological processes underlying stress tolerance. Our research focuses upon the extremophyte, *Eutrema salsugineum* (aka *Thellungiella salsuginea*), a close relative of *Arabidopsis thaliana* but a plant species far more tolerant of extremes in temperature, water deficits, soil salinity, and nutrient deficiencies. Transcriptomes and metabolite profiles prepared from *E. salsugineum* plants subjected to stress treatments in growth cabinets have been compared to profiles from plants collected in the challenging conditions of its native semi-arid, sub-Arctic habitat in the Yukon, Canada. These comparative genomics approaches reveal a rich diversity in novel coping strategies, some well exemplified in processes of osmotic adjustment and managing nutrient deficiencies.

