ANNOUNCEMENT: Interested members of the University Community are invited to attend the Final Oral Examination for the Degree of Master of Science of

Howard Teresinski

of the Department of Molecular and Cellular Biology on Wednesday, January 7, 2015 at 2:00 p.m. in SCIE 3317

Thesis Title: Distinct C-terminal amino acid sequence motifs serve as the targeting signals for outer mitochondrial membrane and plastid outer envelope TA proteins

Examination Committee: Dr. A. Bendall, Dept. of Molecular and Cellular Biology (Chair)
Dr. R. Mullen, Dept. of Molecular and Cellular Biology
Dr. M. Smith, Dept. of Biology, Wilfrid Laurier University
Dr. B. Meng, Dept. of Molecular and Cellular Biology

ABSTRACT

Howard Teresinski, B.Sc. (Hons.) Advisor: Dr. R. Mullen

Tail-anchored (TA) proteins are a unique class of functionally diverse membrane proteins that are defined by their single C-terminal transmembrane domain and their ability to insert post-translationally into specific organelles in a N_{out}-C_{in} orientation. While in recent years considerable progress has been made towards understanding the biogenesis of TA proteins in yeast and mammals, relatively little is known about how these proteins are properly partitioned within plant cells, mostly because so few plant TA proteins have been identified. Here we show the results of experiments aimed at cataloguing, in silico, all of the TA outer mitochondrial membrane and plastid outer envelope proteins in Arabidopsis and then identifying and characterising distinct, C-terminal targeting motifs responsible for the proper sorting of at least a subset of these proteins. Collectively, the results of this thesis provide important insight to the molecular mechanisms that underlie the biogenesis of TA proteins in plant cells.

CURRICULUM VITAE:

Howard received his BSc. Hon. in Biology with a Minor in Chemistry from Wilfrid Laurier University in 2012. He then began his graduate studies in the laboratory of Dr. Robert Mullen in September 2012.
AWARDS:
Ontario Graduate Scholarship 2013/2014
NSERC PGS-D3 2015-18

PUBLICATIONS:

