



Molecular Genetics  
UNIVERSITY OF TORONTO

# DEPARTMENTAL SEMINAR

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**Starving Bacteria To Find New  
Antibiotics**

**HOSTS:** Dr. Brenda Andrews &  
Dr. Charlie Boone

### Abstract:

Antibiotic discovery typically studies bacteria in nutrient-rich laboratory media that poorly reflect conditions during infection. In the host, pathogens face nutrient stress that reshapes metabolism and changes which genes and pathways are essential for survival. Exploring bacterial physiology under these conditions reveals metabolic vulnerabilities that conventional screens miss. Nutrient stress also exposes hidden costs of antibiotic resistance, creating opportunities to exploit resistance mechanisms therapeutically. By recreating aspects of the host nutritional environment, we can uncover new antibacterial targets, discover compounds that act only under infection-relevant conditions, and identify strategies to turn resistance itself into a liability for bacterial pathogens.

Thursday,  
April 9, 2026

**2:00 PM**

**Lassonde  
Mining Building  
MB 128**