

**RYERSON UNIVERSITY
DEPARTMENT OF MATHEMATICS
COLLOQUIUM SERIES**

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Date: Thursday, March 17, 2016

Time: 12:10

Location: ENG 210

Modeling the evolutionary biology of drug resistance

Abstract:

The evolution of resistance to drugs used for combating infectious diseases has become one of the most serious public health problems in modern medicine. In this talk I will present some theoretical and empirical results that explore this problem from several different perspectives, with the goal of better mitigating the emergence and spread of resistance. I will show how simple mathematical models of the drug supply system, of the population-level epidemiology, and of the within-host dynamics of pathogen replication, can contribute to this goal. I will conclude by illustrating how these theoretical results suggest a new approach for preventing the evolution of resistance and present some preliminary data that supports these ideas.

ALL FACULTY, STAFF, STUDENTS AND GUESTS ARE WELCOME TO ATTEND
LIGHT REFRESHMENTS WILL BE PROVIDED