

**RYERSON UNIVERSITY
DEPARTMENT OF MATHEMATICS
COLLOQUIUM SERIES**

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Date: Thursday, February 28, 2013

Time: 12:10

Location: ENG 210

**Chaotic dynamics in predator-prey models
with time delay**

Abstract:

First we will consider the dynamics of one of the simplest classical predator-prey models and then incorporate a delay to model the time between the capture of the prey and its conversion to viable biomass. Considering the time delay introduces a sequence of period doubling bifurcations eventually leading to chaos, with a strange attractor that resembles the chaotic attractor of the Mackey-Glass equation. We will then compare the dynamics with that of the analogous models for predator-prey dynamics in the chemostat, a device for the continuous culture of microorganisms.

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