

**RYERSON UNIVERSITY  
DEPARTMENT OF MATHEMATICS  
BIOMATHEMATICS & FLUIDS SEMINAR**

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Date: Thursday, February 7, 2013

Time: 11:10

Location: ENG 210

**An Age-Structured Population Model with  
State-Dependent Delay**

**Abstract:**

We present an age-structured population model that accounts for the following aspects of complex life cycles: (i) There are juvenile and adult stages, (ii) only the adult stage is capable of reproducing, (iii) cohorts of juveniles can transition to the adult stage when they have consumed enough nutrition and (iv) the juvenile and adult populations consume different limited food sources. Taking all of these into account leads to a new mathematical model that cannot be directly analyzed using the established framework of functional differential equations or simulated by standard numerical schemes for age-structured populations. This is joint work with N. Kosovalić and J. Wu.

ALL FACULTY, STAFF, STUDENTS AND GUESTS ARE WELCOME TO ATTEND

LIGHT REFRESHMENTS WILL BE PROVIDED