Department of Mathematics, Statistics and Computer Science

St. Francis Xavier University

presents

Evolutionary games with continuous strategy sets

by

Dr. Ross Cressman

Department of Math and Statistics

Wilfrid Laurier University,Waterloo

Monday, September 24th, 2007@ 10:15am in AX23A

The Continuously Stable Strategy (CSS) and Neighborhood Invader Strategy (NIS) concepts, originally developed as intuitive static conditions to predict the dynamic stability of a monomorphic population, are shown to be closely related to classical game-theoretic dominance criteria when applied to continuous strategy spaces. Specifically, for symmetric and non symmetric two-player games, a CSS in the interior of the continuous strategy space is equivalent to neighborhood half-superiority while an NIS is equivalent to full neighborhood superiority, a stronger condition. The CSS and NIS are also important for dynamic stability under the replicator and best response dynamics as well as for adaptive dynamics.

Refreshments will be served before the talk in AX24A