

Prof Stephen Cantrell

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Thursday, April 27, 2017

Rm 240 WCharlton Hall

4 – 5 pm

Persistence in Models for Intraguild Predation

Intraguild predation (IGP), where a predator and prey compete for a common resource, is a very common community module in ecology. Early modeling of IGP via systems of ODE's by Bob Holt and Gary Polis tended to predict that the intraguild prey went extinct even though IGP occurs widely in nature. Holt and Polis suggested that incorporating spatial heterogeneity into the modeling framework might be a means of modifying models so as to obtain predictions of persistence of IGP prey. In this talk we consider a quasilinear parabolic PDE model for an IGP system in a focal habitat patch. We show how the IGP prey can persist by dispersing so as to balance capturing resources and avoiding predators.

Refreshments will be served 3:15 – 3:45 pm in the Faculty & Graduate Student Lounge
Rm 4118 French Hall West