University of Miami
Institute for Theoretical and Mathematical Ecology
in cooperation with the
Department of Mathematics
College of Arts and Sciences

Colloquium

Professor Priyanga Amarasekare

University of California Los Angeles

will present

"Ecological and evolutionary consequences of dispersal in multi-trophic communities"

Friday, March 12th, 2010
4:30- 6:00 pm, Ungar Bldg. rm 402

Refreshments served at 4:00 p.m. in CC 521

Abstract

I investigate the effects of non-random dispersal strategies on coexistence and species distributions in multi-trophic communities with competition and predation. I conduct a comparative analysis of dispersal strategies with random and fitness-dependent dispersal at the extremes and two intermediate strategies that rely on cues (density and habitat quality) that serve as proxies for fitness. The most important finding is an asymmetry between consumer species in their dispersal effects. The dispersal strategy of inferior resource competitors that are less susceptible to predation have a large effect on both coexistence and species distributions, but the dispersal strategy of the superior resource competitor that is more susceptible to predation has little or no effect on dispersal. I explore the consequences of this asymmetry for the evolution of dispersal.