

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

**Colloquium**

**Professor Suzanne Lenhart**

University of Tennessee

*will present*

**“Rabies in Raccoons: Optimal Control for a Discrete  
Time Model on a Spatial Grid”**

**Friday, September 14, 2007**  
**4:30- 5:30 pm, Ungar Bldg. rm 402**

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

**Abstract**

An epidemic model for rabies in raccoons is formulated with discrete time and spatial features. The goal is to analyze the strategies for optimal distribution of vaccine baits to minimize the spread of the disease and the cost of implementing the control. Discrete optimal control techniques are used to derive the optimality system, which is then solved numerically to illustrate various scenarios.