

The Eastern Michigan University Department of Mathematics Presents:
Mathematics Across the Disciplines

A 2003-2004 lecture series exploring the value and power of mathematics

Lecture #7:

The Functions of Behavior or How Did a Behavioral Ecologist Get Mixed Up with Equations Like These?

By Dr. Peter Bednekoff
Associate Professor of Biology

Tuesday, March 2, 2004

4:00 – 5:00 PM

324 Pray-Harrold

Abstract: The study of animal behavior combines engaging observations with theoretically sophisticated analysis. Behavioral ecologists focus on the function of behavior, that is on how behavior helps animals to survive and succeed in their environments. Mathematical models promote precise thinking about both behavioral options and environmental conditions. I will illustrate these points by developing a model of optimal foraging under risk of predation, and by using this model to ask whether it is worse to eat too much or eat too little. I will also discuss how I backed into being a theoretical biologist, and how a series of modeling efforts has yielded novel insights into sentinel behavior.

Coffee & Cookies in the Math Den (Pray-Harrold 501) at 3:30 PM