

# Interdisciplinary Center for the Study of Biocomplexity Colloquium

**Lawrence J. Shimkets**


Department of Microbiology  
University of Georgia

will give a lecture entitled:

*Emergent Behaviors in Myxococcus Xanthus*

## Abstract

Emergent behaviors in biological systems are patterns that arise out of multiple, relatively simple interactions. A widespread example is swarming, which includes schooling fish, flocking birds, and in the microbial world, social motility. We study emergent behaviors in the bacterium *Myxococcus xanthus*. The biological pattern emerges over time due to environmental stimuli, cell-cell communication, heritable information and cell motility. Swarming is the foundation on which two more complex patterns are built. Traveling waves present a rhythmic pattern due to temporal and spatial oscillations in cell reversals, often induced by prey bacteria. Fruiting body development involves the morphogenesis of macroscopic structures containing spores. Recent work with both behaviors will be discussed.



**Tuesday, October 09, 2012  
2:30 p.m. to 3:30 p.m.  
213 DeBartolo Hall**