NIMBioS Interdisciplinary Seminar

Dr. Keenan Mack
NIMBioS Postdoctoral Fellow

3:30 p.m.*, Tuesday, October 16, 2012

Hallam Auditorium, Room 206
Claxton Education Building, 1122 Volunteer Blvd.

“Spatial dependence of positive and negative species interactions”

When species feedbacks are negative, they can facilitate the maintenance of diversity by favoring heterospecifics. The average strengths of these feedbacks can predict the relative abundance of species within a community, suggesting that feedbacks are an important driver of community composition. When species feedbacks are positive, the maintenance of these cooperative interactions requires mechanisms such as spatial structure to prevent non-cooperative individuals from invading. However, selection for increased dispersal can erode that structure. I used spatially explicit computer simulations to test how these dynamics depend on dispersal and interaction distance. Increasing dispersal and interaction scale decreased the slope of the relationship between average feedback and abundance. Likewise, the stability of mutualism relied on the ability of mutualists to evolve shorter dispersal than non-mutualists. These results show how the dynamics of feedbacks depend on spatial structure.

**Join us for refreshments at 3 p.m. in the 1st floor visitor breakroom.

For more information about this and other NIMBioS Seminars, visit http://www.nimbios.org/seminars

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