

# DEPARTMENT OF ECOLOGY & EVOLUTIONARY BIOLOGY

## Spring 2014 Seminar Series

### “Soil Pathogens and Temperate Forest Diversity”

Keith Clay – Indiana University



A long-term goal of our research is to determine whether pathogen-driven distance and/or density-dependent seedling mortality, as described by the Janzen-Connell Hypothesis (JCH) for tropical forests, occurs in temperate forests and, if so, the magnitude of those effects. Field, greenhouse and laboratory studies with black cherry indicate that soil-borne *Pythium* pathogens result in strong distance-dependent seedling mortality in the eastern deciduous forest but are much weaker in Europe, where black cherry is a major invasive species. Analyses of the USFS Forest Inventory and Analysis (FIA) database have demonstrated that these Janzen-Connell effects are pervasive across forest communities, and are supported by demographic studies of seedling communities in widespread temperate forest communities. In total, our results suggest that distance and density-dependent seedling mortality represents a general organizing force in forest communities independent of latitude.

**Friday, April 11, 2014; Room 307, SERF; 3:30 - 4:30PM. Pre-talk reception: 3:00 PM in Dabney 568**