

Lina Niu, Akorn Pharmaceuticals and Dan Hrozencik, Chicago State University, Plant population prediction via Leslie Matrices

Abstract: Rare flowering North American plants are of particular concern to conservation biologists interested in preserving species diversity. The impact (both short-term and long-term) of increasingly fluctuating environmental conditions on the demographic health of rare plants is not completely understood. In particular, rare plants are very likely more sensitive to fluctuating environmental conditions than more abundant species. In this talk we investigate whether a rare species *Eupatorium reinosum* is more adversely affected by environmental stochasticity than a common species, *Eupatorium perfoliatum*. We use empirical data to construct stochastic Leslie matrices to compare different populations within each species. The stochastic Leslie matrices are then used to determine population dynamics and predict population growth.