

Ulam Colloquium Abstract:

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Niches in space and time: A mathematician's perspective on biodiversity

4:05 p.m. Friday, March 18, 2011
101 Little Hall

A fundamental principle in ecology, the competitive exclusion principle, states that when two species compete for the same resources in a similar way, one species excludes the other. Given the bewildering diversity of species on earth and the ubiquity of species competing for similar resources, the exclusion principle leads to an apparent paradox between observation and theory. In this talk, I will discuss how variation of environmental factors in space and time (as well as species interactions) can resolve this paradox. In particular, I will provide an idiosyncratic overview of theoretical insights about species coexistence, recent theorems confirming these insights, and discuss empirical evidence consistent with the theory.
