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2011-12 Colloquium

Tuesday, September 27 in Carver 268 at 4:10

Two-strategy games on the lattice.

In the seventies, biologists Maynard Smith and Price used concepts from game theory to describe animal conflicts. Their work is the origin of the popular framework known today as evolutionary game theory.

Space is another component that has been identified as a key factor in how ecological communities are shaped. Spatial game models or games involving graphs - AMS classification 91A43 - are therefore of primary interest for biologists but also sociologists and economists. There is however a lack of analytical results in this field. The objective of this talk is to explore the framework analytically through a simple spatial game process based on the voter model. Our results indicate that the behavior of this process strongly differs from the one of its non-spatial mean-field approximation, which reveals the importance of space in game theoretic interactions.