Games in Space

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The human activity of playing games - games of chance or of strategy - has occasionally led to new ideas in mathematics. For example, Game Theory was developed by Von Neumann and others to treat strategic decisions made by a player facing an opponent who may choose any one of several strategies. The inclusion of time introduces questions of stability and dynamics into this, and evolutionary game theory now provides a framework for modeling competition or cooperation within populations, which has applications to economics and biology. I will discuss a more recent development, with roots in ecological modeling: the inclusion of space, allowing players to move while playing. An overview of recent results will be given, focusing on both standard payoff matrix based games such as the prisoner's dilemma and public goods games. I will emphasize the connection to partial differential equations.

The lecture will take place in Thackeray 704 at 3:30pm.
Refreshments will start at 3:00pm.