

the evolution of

COMPLEX SYSTEMS



2012 Fall Lecture Series

MATTHEW DICKERSON
FRIDAY, OCTOBER 12
12 TO 1:30 PM
RASMUSON HALL ROOM 117



SPATIALLY EXPLICIT MULTI-AGENT SIMULATION AND INDIVIDUAL-BASED MODELING IN NATURAL AND SOCIAL SYSTEMS

Multi-Agent Simulation is used to study systems in many disciplines including but not limited to ecology and biological sciences, economics, political science, and other social sciences. The principle in multi-agent simulation is emergent behavior, since the outcome emerges from the behaviors of the individuals known as agents, and is discovered over time using simulation. Agents are able to interact with their environment and with each other by processing local information, making decisions based on that information, and possibly changing the local environment. This talk will look at multi-agent simulation, drawing on applications from both social and biological sciences, with a particular emphasis to the spatial component: how agents exist in a spatial context, and how definitions of “local” are used. Some examples will be presented using NetLogo.

Matthew Dickerson has a Ph.D. in computer science from Cornell University. He is a professor of computer science at Middlebury College in Vermont where he is also a member of the program of environmental studies. His areas of research interest include geometric, geographic, and spatial computation as well as multi-agent simulation and computer modeling.

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