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Presenting on:

Agents and Climate Change: From Rational to Behavioral to Deontic Agents in the Emergence of Social Norms

November 6, 2012
12 noon
(Lunch served at 11:50 am)

129 Baker Conference Room
Department of Engineering and Public Policy

Seminar Abstract: Agent-based modeling is increasingly used to study the social impacts of climate change. In a typical application representative agents respond to changing environmental circumstances, choosing actions that extremize some cost or benefit function. The optimization calculus employed in such models is usually 'local' in space or time, so more like satisficing or purposive instead of fully rational. Behavioral experiments clearly reveal that substantial numbers of people have relatively simple behaviors in climate-relevant experiments like public goods games. Specifically, the existence of a few player 'types' in public goods games, the effect of 'leaders' in such games, and experimental results on threshold uncertainty and ambiguity will be reviewed. In many respects, the experimental evidence is suggestive of deontic-motivated agents, not utilitarian ones. We will conclude with a prototype agent model that utilizes these ideas at much larger scale than can be accomplished in laboratory settings. We are particularly interested in the establishment of social norms in large populations and transitions between distinct norms.

Speaker Bio: Rob Axtell earned an interdisciplinary Ph.D. at Carnegie Mellon University, where he studied computing, social science, and public policy. His teaching and research involves computational and mathematical modeling of social and economic processes. Specifically, he works at the intersection of multi-agent systems computer science and the social sciences, building so-called agent-based models of a variety of market and non-market phenomena.

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