



University at Buffalo
The State University of New York

Department of Industrial and Systems Engineering
School of Engineering and Applied Sciences

“Multiagent Systems Research at Southern Illinois University”

By

Dr. Henry Hexmoor

Friday September 25, 2009

12:00-1:00 p.m.

Knox 104

This seminar outlines Dr. Hexmoor’s ongoing research program on foundations of agent-based systems as well as a few implemented testbeds and frameworks. A handful of prototypical models will be presented and demonstrated that account for autonomy, trust, and power that mimic the social capital in natural settings. The focal theories and research topics related to multiagent systems will be briefly presented. The talk describes a few of our agent-based testbeds and frameworks that illustrate useful applications of agent-based systems with validated benefits in contemporary, mission-critical complex environments. A demonstration will be provided of a system for collaboration among multiple Unattended Aerial Vehicles (UAV’s).

Agents are applied in service of human supervision as well as mediation and adaptation in communities lacking common ontologies.

Dr. Henry Hexmoor (Ph.D., Computer Science, University at Buffalo) is an Assistant Professor at Southern Illinois University at Carbondale. His current research interests include Artificial intelligence, multi-agent systems, cognitive science, mobile robotics, knowledge representation and reasoning. Dr. Hexmoor's basic research on cognitively inspired models has been funded. In addition to spawning numerous theses, his work has been significantly transitioned to mission critical projects of national priority. Hexmoor has pioneered interdisciplinary research that builds on social science models as tools for validation of large agent-based systems in use in space, as well as U.S. military applications. Hexmoor's research laboratory has the mission to promote practical education and research in intelligent agency and multi-agent systems.

His long range interest is to design and implement robotic and software agents and systems with the properties for autonomy, self-adaptation, sociality, and cognition, as well as safety and predictability. Sponsors include DoD, Air Force, Army and private companies.