Panel Session:

4503 How can we make agent-based models more relevant?

is scheduled on Friday, 4/11/2014, from 2:40 PM - 4:20 PM in Room 3, TCC, First Floor

Sponsorship(s):
Geographic Information Science and Systems Specialty Group
Spatial Analysis and Modeling Specialty Group

Organizer(s):
Steven M. Manson - University Of Minnesota
David O'Sullivan - University of California, Berkeley

Chair(s):
Tom Evans - Indiana University

Panelist(s):
Andrew Crooks - George Mason University
Li An - San Diego State University
Sara Metcalf - University at Buffalo (SUNY)
Nicholas Magliocca - National Socio-Environmental Synthesis Center
Moira Zellner - University of Illinois at Chicago

Session Description: This panel follows up on previous AAG sessions that examined the state of agent-based modelling (ABM) in the context of land systems science. Agent-based models have become relatively routine and focused on developing case studies for particular times and places, and there is therefore a danger that the research community is not learning many broader lessons from their use,or at the very least not sharing these lessons more widely. What is the marginal contribution of additional ABMs of particular social-ecological systems, and more broadly, what do ABMs offer that other well-understood and powerful methods do not? Past sessions raised four questions that this year's panel will address. One, how do we find the appropriate balance between detailed empirically rich, realistic models, and simpler, theoretically well-grounded models, and how can we learn from such 'mid-level' models? Two, what are appropriate and effective approaches to model evaluation in light of uncertainties not only in model parameter, but in model structure? Three, how can we best explore hybrid model structures that enable us to better understand the dynamics of the systems under study, recognizing that no single approach is best suited to this task. Four, under what circumstances—in terms of model level, model evaluation and model structure—can ABMs be used most effectively to lead to new insight by stakeholders? This panel will explore these questions and more broadly, examine related issues including the place of mid-level models; new approaches to model evaluation; the need for hybrid models; and the challenges of successful model-user engagement. We hope that by tackling these challenges head-on, we can help the growing community of spatial scientists using models in their research to move from 'yet another model' to doing better science with models.

New Query