INTERNATIONAL CONGRESS ON AGENT COMPUTING

NOVEMBER 29-30, 2016 ● FAIRFAX, VIRGINIA, USA

George Mason University
Research Hall (10401 York River Road)
(Visitor parking, Shenandoah Parking Deck, entrance on Sandy Creek Way)

Tuesday:

8:00 AM	*Breakfast*
9:00 AM	**Welcome**: Dean Peggy Agouris (College of Science) and sponsors
9:15 AM	**Opening remarks**: Joshua M. Epstein, "Agent-based modeling: From Napkins to Nations"
10:00 AM	**Keynote lecture**: W. Brian Arthur, "Complexity Economics: Six Questions for the Future"
10:45 AM	*Coffee break*
11:00 AM	Parallel sessions round 1:
	1A: Agents and Finance, Showcase
	1B: Agents for Fisheries Management, room 161
	1C: Agents and Economics, room 162
	1D: Agent Modeling of Health and Disease, room 163
12:30 PM	*Lunch*
1:30 PM	**Keynote lecture**: David Krakauer, "The Representation of Reality: Models, Simulations, and Simulacra"
2:30 PM	Parallel sessions round 2:
	2A: Agents, Inequality, and Segregation, room 163
	2B: Agents, Policy, and Economic Development, room 161
	2C: Agent Modeling Methodology and Pedagogy, Showcase
	2D: Agents and Social Complexity, room 162
4:30 PM	**Reception and poster session**
6:30 PM	**Dinner** (Hub ballroom): Stu Kauffman, "Is the Becoming of the World Calculable?"

Wednesday:

8:00 AM	*Breakfast*
9:00 AM	**Day 2 opening remarks**: Rob Axtell, "The Adoption of Agent Computing over Time by Social Scientists as Compared to Game Theory and Experimental/Behavioral Economics"
9:45 AM	**Panel discussion**: Barriers to Progress in Agent Computing—Technical and Social: C. Barrett, S. Kimbrough, B. LeBaron, D. Parker, F. Squazzoni, and L. Tesfatsion
11:15 AM	*Coffee break*
11:30 AM	Parallel sessions round 3:
	3A: The Virginia Tech Approach to Large-Scale Agent Computing, room 163
	3B: Agents and Spatial Processes, room 161
	3C: Agents and the Environment, Showcase
	3D: Agents, Learning, and Games, room 162
1:00 PM	*Lunch*
2:00 PM	**Keynote lecture**: Michael Batty, "Articulating Aggregate Urban Models through Agent-Based Simulation"
3:00 PM	Parallel sessions round 4:
	4A: Agents and Macroeconomics, room 163
	4B: Agents and Networks, Showcase
	4C: Software for Agent Models, room 161
	4D: Agents and Politics, room 162
5:00 PM	Adjourn

Session 1A: *Agents and Finance*, Blake Lebaron (Brandeis), chair
1. Brian Tivnan *et al.*, "Toward a model of the national market system"
2. Harbir Lamba, "Using hysteresis operators to add memory into financial market and DSGE models"
3. Blake LeBaron, "Endogenous forecast heterogeneity"

Session 1B: *Agents for Fisheries Management*, Steve Kimbrough (Wharton), chair
1. Steve Scott, "Policy modeling for U.S. fisheries: An agent-based approach"
2. Steve Saul, "An agent-based model of fisher behavior and fish population dynamics in the Gulf of Mexico: How does fisher behavior affect stock assessment?"
3. Jens Koed, "The POSEIDON project"

Session 1C: *Agents and Economics*, Dan Houser (Mason), chair
1. Jean-Daniel Kant *et al.*, "Work-Sim: An agent-based framework to study labor markets"
2. Chris Shin, "General equilibrium with Lancaster preferences"
3. Davoud Taghawi-Nejad, "In the short run we are all dead: Non-equilibrium dynamics in a CGE model"

Session 1D: *Agent Modeling of Health and Disease*, Joshua Epstein (Hopkins), chair
1. Maksim Tsvetovat, "Reducing the risk of second heart attacks: A support network perspective"
2. Florian Miksch *et al.*, "An agent-based influenza model for decision support and insights into flu epidemics"
3. Luis Nardin *et al.*, "Planning horizon affects prophylactic decision-making and epidemic dynamics"
4. Joshua Epstein and Erez Hatna, "An agent-based model of Zika"

Session 2A: *Agents, Inequality, and Segregation*, Leigh Tesfatsion (Iowa State), chair
1. Myong-Hun Chang and Joseph Harrington, "The social dynamics of stigma"
2. Denis Phan *et al.*, "Emergence in agent based models: Cognitive hierarchy, detection, and complexity reduction—Axtell, Epstein and Young's model of classes revisited"
3. Erez Hatna, "Integration and Segregation in the Schelling Model"
4. William Kennedy, "Reversing the Schelling segregation model"
5. Victor Yakovenko: "Monetary inequality: Agent-based modeling versus real data"

Session 2B: *Agents, Policy and Economic Development*, Dawn Parker (Waterloo), chair
1. Qing Tian, "Adaptive policy for promoting rural development amid urbanization: A case from China"
2. Zining Yang, "Integrating agent learning with system dynamics in a multi-level model of economic development"
3. Ken Comer, "Getting to 'yes': How to incorporate ABMs and complexity theory into the decision-making process"
4. Klaus Jaffe, *et al.*: "Simulations unveil the role of synergy in biology and economics"

Session 2C: *Agent Modeling Methodology and Pedagogy*, Tanya Leise (Amherst), chair
1. Chenna Reddy Cotla, "The dialogue between agents and experiments: Social preferences, learning, and the dynamics of cooperation in public goods games"
2. Bill Rand, "Understanding complex social systems using 'big data' and agent-based models"
3. Steve Guerin, "Projecting artificial societies: Participatory ABM on AnySurface"
4. Tanya Leise, "Introducing research skills to undergraduates through agent-based modeling"

Session 2D: *Agents and Social Complexity*, Claudio Cioffi-Revilla (Mason), chair
1. Brant Horio and Kyle Ballard, "Modeling a victim-centered approach for detection of human trafficking victims within migrant camps"
2. Sean Downey *et al.*, "A robust budding model of Balinese water temple networks"
3. Claudio Cioffi-Revilla, "Advanced research on polities and their environments via agent models"
4. Doug Samuelson, "Multi-player harem games: Risk-informed competitive decision-making and value of information"

Session 3A: *The Virginia Tech Approach to Large-Scale Agent Computing*, Chris Barrett (Virginia Tech), chair
1. Stephen Eubank, "Applications-driven ABMs"
2. Madhav Marathe, "Computational issues in ABMs"
3. Dave Higdon, "Statistical problems arising in ABMs"
4. Aravind Srinivasan, "Algorithmic and theoretical issues in ABMs"

Session 3B: *Agents and Spatial Processes*, Dale Rothman (Denver), chair
1. Dawn Parker *et al.*, "The WARM Prototype: An agent-based integrated residential land market and transportation model to simulate impacts of light-rail transit on a medium sized North American urban area"
2. Jason Thompson *et al.*, "Exploring the relationship between separated infrastructure and behavioral adaptation for improving cycling safety: A mechanistic paradox"
3. Alison Heppenstall and Andrew Crooks, "Geographical systems as a tool for exploring population behavior"

Session 3C: *Agents and the Environment*, Tim Gulden (RAND), chair
1. Mark Coletti and Melissa Allen, "Integrating Earth system science and agent-based modeling to improve understanding of the relationship between neighborhood level human activity and global climate change"
2. José Magallanes, "Climate change in the Andes: A case of agent-based modeling for anticipatory policy making"
3. Steven Kimbrough, Iqbal Adjali, *et al.*, "Can adoption of rooftop solar PV panels trigger a death spiral? A tale of two cities"

Session 3D: *Agents, Learning, and Games*, Sean Luke (Mason), chair
1. Nathan Palmer, "Learning to dynamically optimize from individual experience"
2. Alejandro Lee-Penagos, "Learning to coordinate"
3. Eric Hammer: "Endowment effects in evolutionary game theory: Enhancing property rights"

Session 4A: *Agents and Macroeconomics*, Rob Axtell (Mason), chair
1. Leigh Tesfatsion, "Economies as constructively rational games: Oh, the places we could go!"
2. Paul McNelis and Hongyi Chen, "Monetary regime change in China: Policy rules for navigating dark corners"
3. Alan Isaac, "Econophysics versus macroeconomics?"
4. John Schuler *et al.*: "The effects of monetary shocks on the distribution of prices"

Session 4B: *Agents and Networks*, Stephen Eubank (Virginia Tech), chair
1. Bert Baumgaertner *et al.*, "Spatial opinion dynamics and the effects of two types of mixing"
2. Sarah Wise, "Generating a synthetic population with embedded social networks"
3. Taeseok Jang, "Random network and group behavior in agent-based modeling"
4. Eduardo Lopez: "Limited path percolation in complex networks"

Session 4C: *Software for Agent Models*, Bill Kennedy (Mason), chair
1. Jackie Kazil, "MESA: An agent-based modeling library in Python 3"
2. Ken De Jong, "High-performance evolutionary algorithms"
3. Ovi Chris Rouly, "Designing (artificial) life: Emergent sociality and collective intelligence using situated and embodied machine intelligence"
4. Sean Luke, TBD

Session 4D: *Agents and Politics*, Flaminio Squazzoni (Brescia), chair
1. Bianica Pires, "Challenges and opportunities for modeling violent collective action"
2. Federico Bianchi and Flamenico Squazzoni, "Getting it transparent or keeping it obscure? Potential implications of open peer review on scientist competition and collaboration"
3. Hilton Root: "Network dynamics of dynastic regions"
4. José Magallanes and Craig Thomas, "Agent-based modeling of the tradeoff between effectiveness and representativeness in collaborative governance"

Poster presenters:
1. Fernando Arteaga, "The political economy behind political jurisdictions: Exploring the size of nations through agent based modeling"
2. Brent Auble, "Sweet Talking: Programming Sugarscape's agents to narrate their life history"
3. Dale Brearcliffe, "Parallelization of the zero intelligence trader model in a high performance computing environment"
4. Seth Brown, "To green or not to green: Simulating incentive-based dynamics for green infrastructure on private properties"
5. Jim Caton, "Creativity in a theory of entrepreneurship"
6. Kevin Comer, "Agent-based model to replicate an equilibrium model of adverse selection in insurance markets"
7. Abigail Devreaux and Xioayi Yuan, "Simulating the formation of transactive memory systems"
8. Carlotta Domeniconi, Adarsh Kulkami, Suraj Kulkarni, and Priya Mani, "Network-based anomaly detection for insider trading"
9. Clarence Dillon, Tom Briggs, Brent Auble, and Peter Froncek, "Model selection as mate selection: Four Ph.D. students walk into a bar…"
10. Cameron Harwick, "Helicopters and the neutrality of money"
11. Brant Horio and Kyle Ballard, "Modeling a victim-centered approach for detection of human trafficking victims within migrant camps"
12. Salwa Ismail, "Towards an ABM for civil revolution"
13. Vince Kane, "A metabolic model of complex adaptive systems"
14. Jacqueline Kazil, "MESA: An agent-based modeling library in Python 3"
15. E. André L'Huillier, "How uncertainty and herd behavior shape the home console entertainment industry"
16. Matthew Oldham, "Letting agents grow the efficient frontier"
17. Joseph Shaheen, "Reproduction of a social medial network using an agent-based model: The case of ISIS/ISIL/Daesh"
18. Jessica Wang, "Modeling software piracy as a complex adaptive system"
19. Keith Waters, "Knowledge spillovers and labor agglomeration"