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FOREWORD

Welcome to Agent 2007, co-hosted by Argonne National Laboratory and Northwestern University, in association with the North American Association for Computational Social and Organizational Science (NAACSOS). This is the eighth year of the Agent conference series. As at previous meetings, this year's conference maintains a three-theme organization: (1) methods, toolkits, and techniques; (2) computational social theory; and (3) social simulation applications.

The broader theme of the 2007 conference is *Complex Interaction and Social Emergence*. Agent modeling has transformed scientific methodology across a number of disciplines. One of the strengths of agent simulation is its ability to represent fine-grain and dynamic interactions among diverse types of actors. Because rich interactions are a frequent source of emergent complexities — including social norms, institutions, and transformations — this focus has significant theoretical potential and, thus, implications for computational techniques and various types of applications, as well. Agent 2007 encourages researchers to explore and report on their modeling of complex interactions and on the diverse forms of emergence that arise from their work.

Our invited speakers — Ian Foster, Rosaria Conte, and Leigh Tesfatsion — are leaders in their fields, with contributions in diverse areas of agent-based modeling. *Ian Foster* is the Arthur Holly Compton Distinguished Service Professor of Computer Science at The University of Chicago and Director of the Computation Institute, a joint project between The University of Chicago and Argonne National Laboratory. At Argonne, he leads computer science projects aimed at developing advanced distributed computing ("Grid") technologies.

Rosaria Conte is a cognitive and social scientist and head of the Laboratory of Agent-based Social Simulation at the Institute for Cognitive Science and Technology at Italy's National Research Council. She also teaches Social Psychology at the University of Siena. Her research fields of interest range from agent theory and architecture to multi-agent systems, and from game-theory to cultural evolution and social simulation.

Leigh Tesfatsion is a Professor of Economics at Iowa State University whose current research focuses on agent-based computational economics (ACE), the computational study of economic processes modeled as dynamic systems of interacting agents. Her particular interest is the development of empirically based ACE frameworks for the study of restructured electricity markets.

The combination of conference presentations will help us to explore the present results and future prospects of agent-based modeling. We hope that you will find the conference to be both educational and stimulating. We appreciate your participation and look forward to your future contributions.

The Center for Complex Adaptive Agent Systems Simulation
Decision and Information Sciences Division
Argonne National Laboratory

Charles Macal
Michael North
David Sallach

Northwestern Institute on Complex Systems
Center for Connected Learning and Computer-Based Modeling
Northwestern University

Uri Wilensky
Lynne Kiesling
William Rand

AGENT CONFERENCE INVITED SPEAKERS AND PRESENTATIONS FROM 1999–2007

Agent 1999

Robert Axtell: Why Agents? On the Varied Motivations for Agent Computing in the Social Sciences

Agent 2000

Kathleen Carley: Computational Social Science: Agents, Interaction, and Dynamics
H. Peyton Young: Conventional Contracts

2001 (Agent conference not held due to conflict with National Academy of Science-sponsored Sackler Colloquium)

Agent 2002

Nigel Gilbert: Varieties of Emergence
Kathleen Carley: The Tension between Transparency and Veridicality
Lars-Erik Cederman: Levels of Complexity: Endogenizing Agent-based Modeling
Scott Page: The Interplay of Differences

Agent 2003

Steve Bankes: Next Steps for Social Simulation: Increasing the Utility, Improving the Rigor
R. Keith Sawyer: Assessing Agent Communication Languages
Lars-Erik Cederman: Explaining State Size: A Geopolitical Model

Agent 2004

Roger Burkhart (Methods): Standardizing an Agent Life-cycle Model
Michael Macy (Theory): Social Life in Silico: From Factors to Actors in the New Sociology
Peter Hedstrom (Theory): Social Mechanisms and Social Dynamics

Agent 2005

Steve Bankes (Methods) – Supporting the Modeling Life Cycle
Joshua Epstein (Applications) – Generative Social Science: Applications of Agent-Based Modeling
Lars-Erik Cederman (Theory) – Growing Sovereignty: Organizational Shifts in State Systems

Agent 2006

Uri Wilenski (Methods) – Designing Agent-based Modeling Environments to Promote Restructuring of Scientific Representation and Education
Scott Page (Theory) – It's as Simple as ABC: Agent-Based Culture
Noshir Contractor (Applications) – From Disasters to WoW: Enabling Communities with Cyberinfrastructure

Agent 2007

Ian Foster (Methods) – Agents in an Exponential World
Rosaria Conte (Theory) – Agent Theory: A Missing Requirement of Generative Social Science
Leigh Tesfatsion (Applications) – Agent-based Testbeds for Social Science Research, Teaching, and Training

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ORGANIZING COMMITTEE