



Call For Papers

Simulation: Transactions of the Society for Modeling and Simulation International

Special Issue: Recent Advances in Unified Modeling and Simulation Approaches

Introduction

In recent years, the application of Modeling and Simulation has moved from traditional fields to a new wide range of real systems, each requiring a unified modeling and simulation approach.

For instance, nowadays, advanced simulation approaches in systems biology deal with elucidation of the design principles controlling gene expression. The simulation of semiconductor devices requires the prototyping of multi-layer circuits, ranging from low-level physics to higher levels of abstraction. Applications in environmental sciences must integrate multiple sources of data (i.e., meteorological, chemical, traffic). Simulation in training applications has become a source for studying human behavior and operator efficiency.

Dealing with the current level of complexity requires advanced research efforts in the methodologies applied, focusing on the integration of the multiple components in a seamless fashion with a unifying modeling view. This includes the use of formal methodologies (for instance, DEVS - Discrete-Event Systems Specifications - or Colored Petri Nets), novel algorithms (including scalable parallel simulation, distributed Modeling and Simulation), composition of multiple techniques (from physics to human behavior, including agent-based solutions) and solid output analysis techniques (including stability and high performance).

The special issue is focused on techniques and applications using unified modeling approaches. Authors are encouraged to both theoretical and practical results of significance. The scope of the Special Issue includes, but is not limited to:

- 3D Simulation and Visualization

- Agent Directed Simulation
- Applications in Business, Management, Planning and Forecasting
- Bioinformatics / Biology
- Computational Modeling and Simulation of Embedded Systems
- Construction
- Crowd and Pedestrian Behavior
- Design, Analysis and Simulation of Distributed systems
- DEVS
- Education and Body of Knowledge
- Emergency Simulation
- Environment, Agriculture and Ecology
- Inventory Control & Production Planning
- Military Applications
- Multimodal Transportation and Logistics
- Optimization of Logistic Systems
- Model-Based Specification and Simulation-Based Design and Procurement
- Simulation Tools Interfaces

Instructions for Manuscript Submission

For manuscript formatting and other guidelines, please visit the [Author Guidelines for SIMULATION](#) page.

Submissions for Full Paper Review

Manuscripts should be prepared and submitted by email to the Guest Editor. Please note in your cover letter the special issue for which your submission is intended.

Note: Manuscripts must not have been previously published or be submitted for publication elsewhere. Each submitted manuscript must include title, names, authors' affiliations, postal and e-mail addresses, an extended paper, and a list of keywords. For multiple author submission, please identify the corresponding author.

Due Dates

Submission for full papers:	April 1, 2008
Notification of acceptance:	May 1, 2008
Final (revised) paper submissions due:	June 15, 2008
Expected date of publication:	Fall 2008

Final Paper Submissions

Each final submission must be prepared based on the Simulation journal requirements (see the [Author Guidelines for SIMULATION](#) page).

Guest Editor

- [Prof. Gabriel A. Wainer](#), Carleton University, Ottawa, ON, Canada