

Call for Papers

Sustainability and simulation/gaming

Special issue of

Simulation & Gaming:

An Interdisciplinary Journal of Theory, Practice and Research

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As the challenges involving the achievement of a sustainable society become truly global involving complex interdependencies among social, political, and technical dimensions that collectively influence risk, simulation gaming with complex system models is becoming a highly effective strategy to study them. In today's challenging policy environment, government officials and other decision-makers are confronting difficult sustainability problems whose common feature is their *complexity*.

Even under optimistic conditions, unexpected disasters and crises will increase severity of conditions for immediate disaster relief and the need to assist large number of refugees. Also, human actions contribute to environmental disasters such as oil spills. These emerging challenges suggest development of adaptive and resilient plans that can be revised under conditions of deep uncertainty. Development of simulation-based predictive displays for a control system or predictive displays based on multisimulation to evaluate several futures and decisions based on the outcomes of several futures will be critical enablers to deal with uncertainty that is pervasive in complex interconnected systems that need to be properly managed. Better data can also drive simulation games, which can help predicting important trends, assessing how well proposed policies and strategies would meet desired system-level objectives, and determining the optimal levels of resource use. Examples include growth, development, and evolution of urban areas, management of critical infrastructures during crisis and disaster, and management of natural environments such as forests or rivers as well as policies for governance such as fiscal and economic policies to assure sustainability and definitely to avoid disasters. However, effectiveness and relevance of simulation games to decision-making require careful consideration of the integration of the simulation gaming solutions with deliberation and political process. Hence, the issues pertaining to transparency, legitimacy, and participation are critical pillars of an integrated strategy.

With this special issue, we aim to provide the opportunity for authors to contribute original and unpublished articles that present the use of Simulation & Gaming for exploring social, economic, and environmental sustainability of human and natural systems. Simulation gaming can serve as a proactive anticipatory system to examine possibly unintended consequences of course of actions, as their impacts are amplified and are often unforeseeable due to complex interactions and emergence that permeate through the components of a complex interconnected system of systems. Multidisciplinary approaches are particularly welcome to address the problem of complex system sustainability.

Topics of interest include, but are not limited to:

- Integrated economic, social, and environmental simulation games for sustainability
- Models of human factors and social dynamics in relation to human and organizational enterprises
- Simulation games for decision support under uncertainty and long-term policy analysis
- Metrics for proactive anticipation of unsustainable conditions and their solution
- Tools and techniques for assessing adaptability, resilience, and emergent behavior in complex adaptive human and social systems
- Simulation gaming for disaster management and recovery
- Advanced methods and tools for testing of the resilience of proposed financial regulations
- New ways of thinking for policy makers for predictability, control, and explanation of complex adaptive phenomena
- New resource management paradigms investigated by M&S
- Data needs and validation of sustainability models and simulation games
- Synergy of software agents and simulation games, including agent-monitored simulation games

Instructions for Submission: Before submitting a manuscript, please consult the **Guide for S&G Authors**, available at <http://www.unice.fr/sg/>. The first step involves sending an **abstract** and keywords to the **guest editors**. After the approval of your abstract by the guest editors, you can submit your full manuscript.

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Schedule

- Receipt of proposals: by end of January 2013.
- Response to proposals: in a month.
- Submission of manuscripts: by May 15, 2013
- First review: to be submitted by July 15, 2013.
- Revision (maybe 2nd review), editing, proofing, in a month
- On line publication: as articles are accepted.
- Publication of special issue: 2013