Thematic Sessions Descriptions

ESSA 2013

9th Conference of the European Social Simulation Association

http://www.essa2013.org

Warsaw School of Economics, Warsaw, Poland, September 16-20, 2013

Session: Adaptive behavior, social interactions and global environmental change: an agent-based perspective

Organizers: Tatiana Filatova, Rianne van Duinen and Gary Polhill

Thematic session of the ESSA Special Interest Group on Spatial and Ecological-Economic Issues

The impact of global environmental change on human activity is growing. The co-evolving interactions of individuals, their societies and the environments they inhabit largely determine the resilience of coupled socio-ecological systems. People's attitudes towards, for example, climate change adaptation and mitigation are not static over time. Agents perceive climate change, its impacts, effectiveness of mitigation and adaptation measures, and constantly exchange this information through interactions within their social network. Understanding the role of social interactions in explaining changes in individuals' attitudes towards global environmental change and their consequent behavior is crucial since they cumulatively determine the vulnerability and resilience of a society at an aggregate level. This session invites papers that demonstrate the application of agent-based modeling to address this topic including some of the following aspects:

- Feedbacks between social and environmental systems in the context of global environmental change;
- Individual behavioral changes in spatial and environmental agent-based models;
- The role of social interactions, their frequency, and social network layering and topology in environmental or spatial agent-based models;
- Behavioral change as a switch in choices and strategies or as a change in individual preferences and perceptions;
- Learning and endogenously changing behavioral rules in response to global environmental change;
- Challenges with empirical modeling;
- Aggregation of individual adaptive behaviors and social interactions for integrated models of global environmental change.

Session: Applications of computational social science to business strategy and organizational behavior

Organizer: Maciej Łatek

This track seeks to strengthen applications of computational social science to business decision making. Having access to enormous datasets, firms, banks, rating agencies and regulators are deploying statistical and data mining tools to harness the tremendous potential of data to improve day-to-day and strategic decision making. In this track we will explore how social simulation can challenge or complement the primacy of data sciences in improving managerial functions in businesses. The track invites presentations and demonstrations from industrial participants, giving them an opportunity to showcase the state of the art in business applications of computational social science. We encourage submissions that address a wide range of issues, including, but not limited to, market design and operation; network and social-graph analysis; pricing and revenue management; targeted marketing and customer relationship management; fraud, business planning and logistics.

Session: Applications of computational social science in conflict and sensitive contexts

Organizer: Armando Geller

Computational social science has made inroads into academic research on armed conflict, civil war, insurgency and interstate war. Yet, real-world applications of computational social science to conflict and security domains are rare, although security and defense policy makers and analysts, local communities experiencing conflict and aid workers can benefit from innovations in computational social science. We welcome theoretical and applied contributions that address the title broadly, particularly social simulations of small arms combat, genocide, insurgency, interstate war, mass population displacement, border security, civilian protection, humanitarian aid and economic development.

Session: Heterogeneity and interaction in macroeconomic modeling

Organizer: Grzegorz Koloch

This session aims at providing a platform for discussion of research in the domain of modeling heterogeneous economies. Heterogeneous economies can be modeled within different frameworks and from different perspectives, therefore we encourage submissions which provide simulations encompassing: analytical results, utilize numerical approaches (e.g. heterogeneous DSGE) or agent-based models. Literature reviews, especially aimed at comparison of different modeling methodologies, are also welcome. Submissions can embrace both micro- and microeconomic perspective, as well as theoretical and empirical research.

Session: Statistical analysis of simulation models

Organizer: Bogumił Kamiński

Agent-based simulations represent complex dynamical systems therefore they often exhibit strong nonlinearities and uncertainty in relationships between model parameters and outputs. This track is aimed at advancement of computational and statistical methods helping modelers better understand simulation models complexities. The particular areas of interest are: simulation input and output modeling, metamodeling, simulation optimization, data analysis software for simulations, experiment design and data farming for simulations. Theoretical and applied results as well as literature reviews and methodology examples are welcome.

Session: Social simulation of science processes

Organizer: Framinio Squazzoni

Inspired by the JASSS special issue on "Simulating the Social Processes of Science" (Edmonds et al. 2001), this session aims to motivate substantial simulation work in the field of social aspects of science. Papers that combine empirical and simulation work are especially welcome.

A non-exhaustive list of topics of interest is as follows:

- Scientific reputation
- Peer review
- Collaboration networks
- Scientist behavior and knowledge dynamics
- Scientific competition and socio-economic consequences
- Alternative mechanisms of science organization
- Economic models of science
- Scholarly publication markets
- Citation dynamics
- Journal analysis

Session: Using qualitative data to inform behavioral rules

Organizer: Bruce Edmonds

Qualitative/narrative data can hold rich information about the way actors behave. Thus they are a natural source of inspiration for the behaviors we program into the agents within social simulation. However, how this is done is often unclear - even to the programmers who do it.

Following the ground-breaking theses of Sukaina Bharwani and Richard Taylor and (more recently) the informal workshop held in Manchester in 2012, this special track seeks research which tries to obtain behavioral rules suitable for programming agents within a simulation in a more systematic and transparent manner. This would include all aspects of doing this but including: case studies, approaches, applications and tools.

Substantial progress towards enabling the use of such narrative/qualitative evidence to better inform agent-based social simulations has the potential of opening up a new world of evidence to formal modeling approaches. Later simulations can be checked against quantitative evidence. Thus this special track aims at nothing less than the principled integration of qualitative and quantitative approaches through social simulation.

As well as publication thought the ESSA 2013 channels, participants will be invited to submit to a special issue of JASSS on the subject whose deadline is a month after ESSA 2013 occurs. Presenting during the special track is advised for those intending to submit to this special issue as it will enable the papers/approaches to be thoroughly discussed and improved by others interested in the same area.