New methods and epistemologies to explore simulation models - II

Satellite Symposium proposal - CCS 2019

Organizers

Juste Raimbault, Romain Reuillon (UPS CNRS 3611 Complex System Institute Paris Ile-de-France), Franck Varenne (UMR CNRS 8590 IHPST)

Topic

This satellite session focuses on methods to explore, validate and calibrate simulation models, and the epistemological evolutions going along with these new practices. It aims at extending the discussions introduced at CCS2018 in the previous satellite on the exploration of simulation models. This previous session presented the OpenMOLE platform and interrogated the use of high performance computing together with optimization heuristics such as evolutionary computation for the calibration and validation of simulation models. This second session will ask similar questions but (i) aiming at a higher disciplinarity, possibly including disciplines in which simulation is not a mainstream practice either because of the difficulty to quantify such as in archeology, or because of a stronger confidence given to other methods such as analytical resolution in economics; (ii) aiming at a higher epistemological component in the discussion, to reflexively investigate how can simulation and high performance computing transform a discipline and what are the condition for acceptably validated knowledge in that context.

Contributions will be open to any research developing new methods, practices, theories and epistemologies related to models of simulation. No discipline is privileged as the debates are aimed at being interdisciplinary. Methodological contributions are as much welcomed as contributions in epistemology or history of science.

Format

- Expected full-day satellite

- Expected number of contributions: 3/4 keynote speakers and 4/6 selected contributions

- Expected number of participants: 20-30

Invited speakers

DR. ELSA ARCAUTE, CASA, UCL. *Simulation for topological road network analysis*

DR. MARION DIERICKX, Harvard College Observatory, Harvard. *Simulation in astrophysics for n-body problems*

PR. DENISE PUMAIN, Université Paris 1. *Modeling and simulation of urban systems*