

Call for participation: **Workshop G2** at the 8th International Congress on Environmental Modelling and Software (iEMSs 2014) conference, SanDiego, California, USA, in June, 15-19, 2014. <http://www.iemss.org/sites/iemss2014/>
“Analysing and synthesising results from complex socio-ecosystem models with high-dimensional input, parameter and output spaces” (Gary Polhill, Dawn Parker, and Tatiana Filatova, organizers)

Background and context: In the last decade, agent-based modellers have made substantial progress to identify compelling research questions, design models to investigate them, and develop methods to bring real-world data into models at both the creation and evaluation stage. Since the models we design have stochastic elements and many potential parameter combinations, multiple model runs that sweep parameters are conducted, creating large quantities of computationally generated, hyper-dimensional, "big data" from which we hope to extract answers to research questions on coupled socio-ecosystems. Yet we lack appropriate methods to mine, analyze, and synthesis large-scale model output data in order to answer our questions. Traditional analysis methods for mapping relationships between input parameters and output data—in both real-world and computational data—are designed for data that are linear, continuous, and normally distributed. However, data from models of complex socio-ecological systems can be non-linear, discontinuous, and power-law distributed.

Planned activities: The workshop will begin with a very short series of five minute presentations that demonstrate methods currently used, and highlight deficits and desired areas of progress, from ongoing modeling research. Structured focus group discussions will follow around the following topics:

- 1) What existing and developing methodologies are currently being used to analyze, visualize, and synthesize model output data?
- 2) What are the further unmet requirements of this community for data analysis, visualization, and synthesis?

We will also seek feedback on a prototype web-based model output and visualization tool, which is being developed as a collaboration between our research groups to provide a means to interactively explore model output and to share model output analysis tools with the broader research community.

Participants will be asked to fill out a brief comment form with some background survey questions, and potentially to try out the model output tool, before the workshop.

Please follow up with any of the organizers with further inquires:

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