

# LIVE WEBCAST

## Uncertainty, Transparency, and Robustness in Socio-Environmental Systems (SES) Modeling and Assessments

WEDS. 28 APRIL 2021, 15:00-16:30 (EDT UTC -4)

WEDS. 28 APRIL 2021, 21:00 – 22:30 (CEST UTC +2)

THUR. 29 APRIL 2021, 05:00 - 06:30 (AEST UTC)

Hosted by:

The Integrated Assessment Society (TIAS)

The National Socio-Environmental Synthesis Center (SESYNC)

And the journal, *Socio-Environmental Systems Modeling* (SESMO)



**Jan Bakkes**  
Introduction



**Andrea Saltelli**



**Veronica Gaffey**  
Panelists



**Arthur Petersen**



**Sondoss El Sawah**  
Welcome

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Expanding the development and use of socio-environmental system (SES) models is critical to solving urgent problems situated at the human-nature interface. Substantial progress is being made, but modeling challenges associated with a range of diverse issues remain. For example, these include how to best represent the human dimension in SES models, account for temporal and spatial scale mismatches, and cope with deep uncertainty.

This is the second in a series of webcasts based on the 2020 article “Eight grand challenges in socio-environmental systems modeling,” by El Sawah et al. While the first webcast explored current challenges and the future of SES modeling more generally, this webcast addresses models and the environmental and development-related assessments that rely on them, in terms of uncertainty issues, transparency (including trust, bias and world views), and robustness of the conclusions.

The webcast is intended for practitioners and scholars who commission, sponsor or use SES models. It will begin with an introduction by Jan Bakkes, briefly describing the challenges. Each of the panelists will then provide comments or responses and this will be followed by an open discussion. Viewers may post questions and comments.

#### PROGRAM

**Welcome and Introduction:** **Sondoss El Sawah**, Associate Professor, Engineering Management, University of New South Wales, Canberra

**Introduction:** “Uncertainty, Transparency and Robustness in Socio-Environmental Systems Modeling and Assessments” (20 mins.)

**Jan Bakkes**, Vice President of TIAS and past senior project leader for PBL, Netherlands Environmental Assessment Agency

**Q&A:** Presenter responds to questions from the participants (10 mins.)

**Panel Session:** (Responses 10 mins. per panelist)

**Andrea Saltelli**, Open Evidence Research, Open University of Catalonia

**Veronica Gaffey**, Chair of the Regulatory Scrutiny Board, European Commission

**Arthur Petersen**, Professor of Science, Technology and Public Policy in the Department of Science, Technology, Engineering and Public Policy (STeAPP), University College London

**Questions to the Panelists:** (10 mins.)

**Open Discussion:** (20 mins.)

## PRESENTER & PANELISTS BIOS

**Dr. Sondoss El Sawah** is an Associate Professor in the School of Engineering and Information Technology at the University of New South Wales and leads the modeling and simulation effort in the Capability Systems Centre. Her research focuses on the behavior of large complex problems and systemic risks arising from interactions between social, ecological, and technological systems. She is Editor of the journal **Environmental Modeling and Software** and has published over 90 journal articles, three of which are Web of Science high-impact papers. Her research and leadership have been recognized with eight awards and fellowships, including the Early Career Research Award by the International Environmental Modelling & Software Society and election as Fellow of the Modelling & Simulation Society of Australia and New Zealand.

**Jan Bakkes** specializes in assessing and processing environmental information for decision-making. He is vice president of The Integrated Assessment Society and past senior project leader for PBL, Netherlands Environmental Assessment Agency. Since 2010, he has been assisting the China Council for International Collaboration on Environment and Development as a member of high-level Task Forces and Policy Studies. He has worked with the OECD and the World Bank and was associated with UNEP (Nairobi) for a long period. He has helped these organizations kick-start broad-based assessments and future outlooks, such as the OECD Environmental Outlook. He fulfilled key roles in a range of science-policy interface projects for the European Commission and other EU organizations, such as Cost of Policy Inaction; Beyond GDP; and EU Resource Efficiency in a Global Context.

**Dr. Andrea Saltelli** is with the Open Evidence Research, Open University of Catalonia where his research focuses on sensitivity analysis of model output, a discipline where statistical tools are used to interpret the output from mathematical or computational models, and on sensitivity auditing, an extension of sensitivity analysis to the entire evidence-generating process in a policy context. He led a European Commission unit of econometrics and applied statistics between 2005 and 2015, and was adjunct professor at the Centre for the Study of the Sciences and the Humanities (SVT) - University of Bergen (UIB) from 2016 to 2020. His most recent papers have tackled sensitivity analysis and auditing, the ecological footprint, the future of statistics, the rational of evidence-based policy, the crisis of science and the post-truth discussion.

**Veronica Gaffey** is Chair of the Regulatory Scrutiny Board of the European Commission and has over 20 years experience within the Commission including directing the Budget and General Affairs as well as Innovative Actions units within the Directorate-General Regional and Urban Policy. The board provides quality control and support for impact assessments and evaluations of the Commission at early stages in the legislative process. It also reviews and issues its views and recommendations on all the Commission's draft impact assessments, fitness checks, and major evaluations of existing legislation.

**Dr. Arthur Petersen** is Professor of Science, Technology and Public Policy in the Department of Science, Technology, Engineering and Public Policy (STeAPP) at University College London. He specialises in the philosophy of science, international relations (science diplomacy and soft power), science & religion, and philosophy of culture. Most of his research is focuses on dealing with uncertainty. Prior to joining UCL in 2014, he spent more than 13 years as scientific adviser on environment and infrastructure policy within the Dutch Government and as Chief Scientist of the Netherlands Environmental Assessment Agency PBL (2011–2014). Professor Petersen is editor-in-chief of Zygon, Journal of Religion and Science.

Register by 27 APRIL Midnight UCT: [https://umd.zoom.us/meeting/register/tJAqcO6sqD0vHtWJZ5t0xbFH-DrWNDe\\_cMC1D](https://umd.zoom.us/meeting/register/tJAqcO6sqD0vHtWJZ5t0xbFH-DrWNDe_cMC1D)

