

# LIVE WEBCAST

## Modeling Behavioral Change in Socio-Environmental Systems

MON. 20 JUNE 2022, 15:00 – 16:30 (EDT UTC -4)

MON. 20 JUNE 2022, 21:00 – 22:30 (CEST UTC +2)

TUES. 21 JUNE 2022, 05:00 – 06:30 (AEST UTC +10)

Hosted by:

The Integrated Assessment Society

The National Socio-Environmental Synthesis Center

And the journal, *Socio-Environmental Systems Modelling*



**Jonathan  
Gilligan**  
Presenter



**Marco  
Janssen**  
Panelist



**Firouzeh  
Taghikhah**  
Panelist



**Gilberto  
Montibeller**  
Panelist



**Katherine  
Lacasse**  
Panelist

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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.

This is the fifth in a series of webcasts based on the 2020 article “[Eight grand challenges in socio-environmental systems modelling](#)” by Sondoss Elsawah and colleagues.

This webcast and panel discussion event is focused on the critical challenge of incorporating the human dimension in SES modeling. The webcast will present the state of the art in modeling behavioral change, fundamental scientific challenges, and promising research directions. The event is intended for practitioners and scholars who commission, sponsor, or use SES models.

It will begin with a pre-recorded presentation by Dr. Jonathan Gilligan, followed by a short talk from each panelist reflecting on the specific challenges and solutions for incorporating human dimension using case studies from their experience. Then an open discussion will follow. Viewers may post questions and comments.

#### PROGRAM

Welcome & Juneteenth Remembrance: [Margaret Palmer](#), Director, National Socio-Environmental Synthesis Center, USA

Introduction: [Sondoss Elsawah](#), Associate Professor, University of New South Wales, Canberra, Australia

Presentation: “[Modeling Behavioral Change in Socio-Environmental Systems](#)” (20 mins.)

[Jonathan Gilligan](#), Associate Professor and Associate Director for Research, Vanderbilt Climate Change Research Network, Vanderbilt University, USA

Panel Session: (Responses 7 mins. per panelist)

[Marco Janssen](#), Professor, Arizona State University, USA

[Firouzeh Taghikhah](#), Research Fellow, The Australian National University, Australia

[Gilberto Montibeller](#), Professor and Director of Professional and Executive Education at the Loughborough University, UK and a Senior Research Fellow at the University of Southern California, USA

[Katherine Lacasse](#), Associate Professor, Rhode Island College, USA

Q&A: Presenters and panelists respond to questions from the participants (15 mins.)

Open Discussion: (10 mins.)

## PRESENTERS' & PANELISTS' BIOS

**Dr. Jonathan Gilligan** is Associate Professor of Earth & Environmental Sciences and Associate Professor of Civil and Environmental Engineering, and the Alexander Heard Distinguished Service Professor at Vanderbilt University, where he directs Vanderbilt's Grand Challenge Initiative on Climate and Society. He received his bachelor's degree in physics from Swarthmore College and his PhD in physics from Yale University. He was a National Research Council Postdoctoral Associate at the National Institute of Standards and Technology and a postdoctoral research associate at the National Oceanic and Atmospheric Administration (NOAA)'s Environmental Research Laboratory. His research has been recognized with a National Aeronautics and Space Administration Group Achievement Award, a NOAA Outstanding Scientific Paper Award, and the 2017 Morrison Prize for the highest-impact paper of the year on sustainability law and policy. His book, *Beyond Politics: The Private Governance Response to Climate Change* was named by Environmental Forum as one of the most important books on environmental policy of the last 50 years.

**Dr. Marco Janssen** is a Professor in the School of Sustainability and School of Complex Adaptive Systems at Arizona State University. Marco is trained in Operations Research and Applied Mathematics, and his research interests relate to the study of governance of shared resources using computational modeling, behavioral experiments, and case study analysis. While his initial research focused on integrated assessment modeling of climate change, increasingly, Marco worked with social scientists to study human-environmental systems at different spatial and temporal scales. As a result, he has published in economics, political science, anthropology, sociology, psychology, and interdisciplinary studies of social-ecological systems. Nowadays, his main interest is the study of the conditions of communities to self-govern their shared resources.

**Dr. Firouzeh Taghikhah** is a Research Fellow at The Australian National University and a Young Resilient Fellow for Resilience Engineering (RE) community of the Four Technical Universities (4TU) in the Netherlands. She is also a visiting scholar at the Faculty of Engineering and IT, University of Technology Sydney. Firouzeh's research interests are at the interface of computational/complex systems modeling, environmental science, social sciences, and engineering. Her research line focuses on developing innovative technologies (advanced analytical decision-making tools) to address socio-environmental issues and guide evidence-based policy making, with application to ecosystem services' resilience, renewable energy, and food security. Her work has been recognized by a number of top-tier journals (e.g., *European Journal of Operations Research*) and international awards and grants (e.g., the Australian Association of Mathematics), mostly related to behavioral modeling.

**Dr. Gilberto Montibeller** is Professor of Management Science and Director of Professional and Executive Education at the Loughborough University (UK) and a Senior Research Fellow at the University of Southern California (USA). Gilberto is an expert in behavioral decision analysis and multi-criteria decision analysis. He is Associate Editor of the *Informs Decision Analysis* journal. He has published widely in decision sciences, authoring or co-authoring more than 50 peer-reviewed articles and book chapters. The quality of his research has been recognized by best publications awards from the INFORMS Decision Analysis Society, the Society for Risk Analysis, and the International Society on Multi-Criteria Decision Making.

**Dr. Katherine Lacasse** is an Associate Professor in the Department of Psychology at Rhode Island College. She is a social psychologist broadly interested in understanding human risk perception, decision making, and behavior change. She conducts much of her work as part of interdisciplinary teams, working on integrating human behavioral feedbacks into the modeling of the climate and local ecological systems.

