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 sixth 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 will focus on the critical challenge of working with diverse stakeholders and scholars to co-develop models to address socio-environmental problems. Participatory modeling provides a powerful collaborative process for developing and testing solutions. The webcast will present the state of the art in participatory modeling, focusing on the fundamental challenges and promising research directions for meeting those obstacles. This event is intended for practitioners and scholars who commission, sponsor, or use SES models.

**PROGRAM**

**Welcome:** [Margaret Palmer](#), Director, SESYNC, USA
Introduction: Sondoss Elsawah, Associate Professor, University of New South Wales, Canberra, Australia

Presentation: “Participatory Modeling to Address Socio-Environmental Problems” (20 min.) Moira Zellner, Professor of Public Policy and Urban Affairs; Director of Participatory Modeling and Data Science; and Co-Director of NULab for Texts, Maps, and Networks at Northeastern University, USA

Panel Session: (Responses 7 min. per panelist)
Juan Castilla-Rho, Senior Lecturer, University of Canberra, Australia
Nagesh Kolagani, Professor, Centurion University of Technology and Management, India
Laura Schmitt Olabisi, Professor, Michigan State University, USA

Q&A: Presenters and panelists respond to questions from the participants (15 min.)
Open Discussion: (10 min.)

SESYNC RESOURCES | Lessons on Teaching Qualitative Methods

Looking for Ways to Teach Students How to Apply Qualitative Methods?

Check out two new lessons from SESYNC's growing Learn & Teach collection that aim to do just that! And don't miss the rest of our resource collection.

Qualitative Methods for Actionable Sustainability Science: Appreciative Inquiries and Learning Journeys

In this lesson, participants use appreciative inquiry and a learning journey to document positive actions on their campus and in their community. This exercise will culminate in sharing a “good seed”—an idea or plan to move forward sustainability initiatives. The lesson is appropriate for undergraduates and well beyond. See the lesson.

Learning Objectives
- Understand and apply the qualitative methods of appreciative inquiry and a learning journey to an interesting space on your campus.
- Engage in field-based learning by visiting a campus sustainability initiative, discussing observations and how the initiative might contribute to a more positive future through story or plans.
- Based on field work, create a presentation or written description that considers the distinct kinds of information that come from qualitative and quantitative data.
- Undertake an optional exercise to engage in actionable science by linking a campus initiative with a global web resource.

Introduction to Qualitative Methods for Sustainability: Narrative and Identity in Climate Beliefs

This lesson develops students’ ability to apply qualitative methods to navigate complex socio-environmental dynamics in climate change knowledge and enrich their work with a diversity of human perspectives. This lesson is appropriate for undergraduate and graduate students who seek a greater epistemological grasp.
Learning Objectives:
- Learn the distinction between quantitative and qualitative measurement.
- Explore ways that narrative, emotion, and identity play crucial roles in socio-environmental perspectives.
- Collaborate to achieve an in-depth understanding of three key climate change perspectives: 1) alarmed, 2) uncommitted, and 3) dismissive.
- Conduct interviews and synthesize qualitative findings with actionable rhetoric to provide compelling climate messages to each of the three key belief groups.
- Integrate the humanities, rhetoric, sociology, and psychology into a solutions-based climate path forward that complements the natural sciences.

Have suggestions for resources you'd like to see? Contact us at communications@sesync.org.

BOOK REVIEW | Looking to the Past for the Future

SESYNC Director Reviews Book That Argues for Using the Past's Lessons to Inform Cities' Future Adaptability

Read SESYNC Director Margaret Palmer's recent review in Science of the newly published book "If the Past Teaches, What Does the Future Learn?"

The open-access book, edited by archaeologists Carol Crumley and John Murphy, resulted from activities conducted as part of the Integrated History and Future of People on Earth (IHOPE) project, which includes a SESYNC-supported Foundation.

The book "successfully makes the case that historical cities that exhibited durability can offer us valuable insights into how to build modern cities that can reinvent themselves in the face of change," Palmer says. Read the review.

NEW PUBLICATIONS | SESYNC in the Journals

"How Is the World Shaped by Infrastructure Projects That Have Been Cancelled or Stalled?." Published in the Digital Repository of the University of Maryland, by former SESYNC fellow Dana J. Graef and colleagues Montina Cole, Alan P. Covich, Jorge A. Huete-Pérez, Amanda Maxwell, Jonathan Peyton, Andrew Stuhl, and Julie Velásquez Runk. This report resulted from the SESYNC Foundation Unimplemented Development.

"Dasymetric population mapping based on US census data and 30-m gridded estimates of impervious surface." Published in Scientific Data by former SESYNC staff Rachel H. Swanwick, Quentin D. Read, Kelly L. Hondula, Andrew J. Elmore and colleagues Steven M. Guinn and Matthew A. Williamson.
"Transforming urban environments." Published in *Science* by SESYNC Director Margaret Palmer.

"Constructing animal networks for parasite transmission inference." Published in *Animal Behavior and Parasitism* by Janine Mistrick, Marie L.J. Gilbertson, former SESYNC postdoc Lauren White, and Meggan E. Craft.

"A tale of urban forest patch governance in four eastern US cities." Published in *Urban Forestry & Urban Greening* by Anita T. Morzillo, Lindsay K. Campbell, Kristen L. King, Katherine J. Lautar, Lydia Scott, Michelle L. Johnson, Mysha Clarke, Luke Rhodes, Stephanie Pincetl, Nancy F. Sonti, Dexter H. Locke, John Paul Schmit, Robert T. Fahey, Matthew E. Baker, Lindsay Darling, and Lea R. Johnson. This paper resulted from the SESYNC Pursuit: Social-ecological drivers of change over time in urban woodlands.

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