



CoCo Seminar Series Spring 2022

Participatory Multi-Modelling for Decision Making Under Deep Uncertainty

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**Wednesday March 2, 2022 12:00-1:00pm EST
Fully online (via Zoom; meeting link available on
<http://coco.binghamton.edu/>)**



Energy and industrial infrastructures are large-scale complex adaptive socio-technical systems. They have co-evolved with and support the modern global human civilization, and must undergo a fundamental transformation if they are to allow the society to transition towards a more sustainable future. Like any co-evolutionary process, this transformation is an intractable and deeply uncertain process, often understood as a Wicked Problem, where not only the value of various parameters is uncertain, but the very nature of the problem is unknown and changes, and no societal consensus on the causes, the definition of the problem and, let alone the solutions, is possible. The traditional methods for infrastructure planning and investment reply on a predict-and-act decision making paradigm, using deterministic optimization models developed by experts, focusing on a narrow range of static future scenarios. These methods are increasingly recognized by the stakeholders to be deeply inadequate for tackling the challenge. The transdisciplinary research program "Participatory Multi-Modelling for decision making Under Deep Uncertainty" at the TPM faculty of the TU Delft, lead by the speaker, is aimed addressing this problem by developing theoretical foundations, modelling tools, social process design and active decision support for the involved stakeholders. The talk will present the overview of the theoretical concepts used (participatory modelling, multi-modelling, decision making and deep uncertainty), methods and tools developed and showcase the practical projects undertaken. The goal is to provide a broad overview of the activities, identify synergies and create collaboration opportunities between CoCo / Binghamton University and Technology, Policy and Management faculty of the TU Delft.

Igor Nikolic is an Associate Professor at the Faculty of Technology, Policy and Management, Delft University of Technology. He obtained his PhD from TU Delft in 2009. He applies complex adaptive systems theory, agent-based modeling, universal Darwinism and evolutionary theory to model industry and infrastructure network evolution. For more information, contact Andreas Pape apape@binghamton.edu. <http://coco.binghamton.edu/>