Challenge 1.
Challenges in Trust in Models

Models are indispensable in many areas of public and private sector decision making. But for a variety of reasons both scientists and decision makers may not fully trust the projections yielded by these models. On the one hand, there may be residual scientific uncertainty about the accuracy of the models themselves as these necessarily incorporate idealisations and exclude potentially relevant factors and because available evidence may be too sparse or indirect or of poor quality to discriminate between rival models. And on the other hand, decision makers may not fully understand how the models work or may be using them to support novel interventions and so be unsure about how they should be applied. This session will address the question of when models and the projections they support should and should not be trusted, how scientists can assess and communicate their level of confidence in their models as well as how they can build confidence in them, and how decision makers might calibrate their decisions to their degree of trust in the model projections on which these decisions depend.

Panel of Speakers

Andrew Wright is Senior Partner in Energy Systems at Ofgem, the gas and electricity regulator for Great Britain. He is a member of the Gas and Electricity Markets Authority, Ofgem's governing body. He has worked at Ofgem since 2008, including a nine-month period as interim Chief Executive, and roles as Group Finance Director, leading the Markets Division, and his current post as Senior Partner for Energy Systems.

Tom Philp is a Science Analyst at XLCatlin, where he works on the validation and take-up of scientific model projections within the organisation, and a Research Associate in the Centre for Philosophy of Natural and Social Science at the LSE. He also works with Blue Marble Microinsurance on their climate risk platform.

Wendy Parker is Associate Professor of Philosophy at the University of Durham and a co-director of their Centre for Humanities Engaging Science and Society. She works on a range issues regarding the role of evidence and values within science, especially climate science.

Jim Smith is Professor of Statistics at Warwick and a Turing Fellow at the Alan Turing Institute. His interests span foundational, methodological and applied Bayesian statistics and decision theory, and he has a particular interest in the role of modelling within decision support.

Session Chairs

Chris Dent: Chancellor's Fellow and Reader in Industrial Mathematics at Edinburgh University and Turing Fellow at the Alan Turing Institute for Data Science.

Richard Bradley: Professor of Philosophy at the London School of Economics.