



Ca' Foscari
University
of Venice

Department
of Economics

Andrea Macrina

University College London

Towards Probabilistic Climate-Economic Models

Monday, March 10th, 2025 - 2.30 pm

Meeting Room 7, San Giobbe Economics Campus
Cannaregio 873, Venice

A large body of research investigates the dynamic relationship between economic growth and climate change in an integrated framework. Integrated assessment models (IAM) fall into this category and are the best-known approach that links economic growth and climate change. Dynamic integrated climate-economy (DICE) models capture economic behaviour using the Ramsey model, an example of a neoclassical economic approach. Originally conceived in discrete time, DICE has been reformulated in

continuous time. Alternative models that capture the macroeconomic behaviour using a stock-flow consistent approach based on the Goodwin-Keen dynamics have also been proposed. All these approaches use solutions of ordinary differential equations and are not driven by stochastic dynamics. Therefore, we propose an approach to develop probabilistic climate-economic model dynamics, which allow for risk-assessments of future climate-economic outcomes and informed policy decision-making.