

AGRIMODELS Cluster: State of play regarding modelling of individual decision making

Contact person: John Helming (john.helming@wur.nl)

Participation at the AGRIMODELS cluster Organized Session can be selected in the Convera-Registration system (yes/no).

Abstract: The Agrimodels cluster (<https://agrimodels-cluster.eu/>) consists of the H2020 projects BESTMAP, AGRICORE, and MIND STEP, which have started in 2019. All three projects have in common that they address a variety of challenges related to modelling policies dealing with agriculture and the related management of renewable resources at various geographic scales. This implies the development of a new architecture taking advantage of progress in modelling approaches and ICT. Given the focus on local effects of global events and EU policies, new approaches in the Agrimodels cluster take into account the individual decision-making (IDM) unit.

The modelling activities within the Agrimodels cluster include aspects such as behaviour of individual farmers, production, investments and environmental and climatic impacts of farming at different scales, interaction between farms and improved micro-economic underpinning of large scale farms. The purpose of this organised session is to provide the project teams and an interested wider audience an overview on the state of the art regarding the modelling activities carried out since 2019, discuss preliminary results of common scenarios and the envisaged ways towards the ends of the projects. The presentations will focus on modelling exercises, scenario analyses, and selected methodological issues. BESTMAP will report about a workshop that was organised with experts to discuss potential and challenges of model linking between ABM, CGE, and PE modeling.

Presentations

INTRODUCTION

Title: **Common challenges and joint activities within the AGRIMODELS Cluster**
Presenter: John Helming, Marc Müller

AGRICORE

Title: **PMP agent-based AGRICORE model for ex-ante assessment of regional agri-environmental schemes**
Presenter: Filippo Arfini, Lisa Baldi

BESTMAP

Title: **Benefits and challenges of the linking of general computable equilibrium (CGE) or partial equilibrium (PE) models with agent-based models (ABM)**
Presenter: Alena Schmidt

MIND STEP

Title: **Analyses of Carbon and Nitrogen taxation scenarios in a multi-model framework**
Presenter: John Helming, Marc Müller

Speakers

Lisa Baldi is a PhD candidate in Ecology at the Department of Chemistry, Life Sciences and Environmental Sustainability, University of Parma. Her field of research focus on predicting the effect of the Common Agricultural Policy measures on the provision of ecosystem services through positive agent-based modelling. She holds a MSc degree in Political Sciences and International Economics and a MSc in Science and Technology for the Environment and Resources. She has extensive working experience as Project and Team Manager.

Filippo Arfini is full Professor in Agricultural Economics at the Department of Business and Economic Science of University of Parma. He is an expert in Positive Mathematical Programming models and works on Agent-Based Modelling in context of the H2020 AGRICORE project. He is the leader of the Modelling Research Unit within the University of Parma. His research focuses on impact assessment of agricultural and environmental policies, and related implications on food security and rural developments.

Alena Schmidt is a Postdoc at the “Global and Regional Land-Use Change” group at the University of Basel and holds a Ph.D. from ETH Zurich. She works on agent-based modelling at Agroscope in Tänikon and Wageningen University and Research. Currently, she gets familiar with computable general equilibrium models. Her research focus is on nitrogen policies.

John Helming is a senior researcher at Wageningen Economic Research. He has more than 25-year experience in agricultural economic modelling at different scales. He is project leader of the H2020 project MIND STEP.

Marc Müller is an agricultural economist and senior researcher at Wageningen Economic Research. Over the last 20 years, he has worked with general and partial equilibrium models as well as with farm-level programming models. He joined Wageningen Economic Research in 2019 and focusses on the application and development of the FarmDyn model.