



# BOOK OF ABSTRACTS: POSTER SESSIONS

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# FOREWORD

## Dear Members,

This Book of Abstracts collects the posters presented at the Annual Conference of the Marie Curie Alumni Association which took place online on 5-7 March 2021.

For each poster, a page includes an abstract, an image of the poster, and information about the author(s) and their organisation(s). Posters are categorised under nine areas:

- Chemistry
- Economics
- Engineering
- Environmental Sciences
- Life Sciences
- Mathematics
- Physics
- Social Sciences, Humanities & Arts
- MCAA Chapters

The MCAA wishes to thank everyone who showcased their posters at the first-ever online Annual Conference event. All members and non-members are encouraged to submit posters for future Annual Conferences and General Assemblies.

The abstract authors may be contacted via the MCAA web portal.

Sincerely,  
The MCAA 2021 Conference Committee



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## SOCIAL SCIENCES, HUMANITIES AND ARTS

### Modelling individual farmers behaviours in Coupled Human Natural Systems under changing climate and society (MODFaBe)

Climate change and water resources governance represent two necessarily interdisciplinary topics in which the natural and social sciences must be integrated. Assuming water flows as physical, social, political, and symbolic matters, it is necessary to entwining these domains in specific configurations in which water users, managers, and decision-makers could be directly involved. Social learning is considered an important issue in achieving this goal by promoting new understanding or shared meaning to (1) increase adaptive capacity, (2) build trust and collaborative problem solving, and (3) ensure better co-working. The perception of climate change is fundamental for two important reasons: first, because it constitutes a key component of the socio-political context within which policymakers exercise their decisions in socio-ecological systems. The second reason is more direct: climate change adaptation requires behaviour transformation and attitude change from those who make individual and collective choices that have a huge impact on the planet's climate balance.

The MODFABE project aims to increase the robustness of decision-making processes in Coupled Human-Nature Systems (CHNS) by modelling farmers' perception and adaptation capacity to climate change. The MODFABE's core is to integrate observational data (farmers' perception) into an existing behavioural model (DistriLake) applied to the management of water supply and demand in Lake Como (Italy) to increase the rationality of farmers' interventions in the decision-making processes considering multiple competing purposes and a multi-objective context. The Muzza system is the case study acting as a test for understanding which

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driving factors are affecting farmers' perception regarding climate change impacts and how their adaptation capacity affects the management of the CHNS. Results could be extrapolated to other socio-ecological systems and used to reformulate policy recommendations from social-learning to better respond to climate change by considering the preferences shift toward a new equilibrium in decision-making processes.



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