

MATHEMATICS FOR PLANET EARTH (M4E)

Second Workshop: 9 –11 November 2026

Politecnico di Milano · Rogers Room, Building 11 · Via Ampère 2, Milano

Monday, 9 November 2026

Time	Speaker	Title
13:45–14:00	Opening	
14:00–14:50	PL1: Paola Goatin	Reducing Congestion and Emissions with Mixed Automated Traffic
14:50–15:40	Marco Gambarini	Numerical aspects of an integrated assessment model: the case of WITCHWISE
	Gabriele Ciaramella	Gradient-flow optimization of layout control design of wave energy parks
15:40–16:10	Coffee break	
16:10–17:00	Antonia Larese	Natural hazard simulation: multiphysics particle-based techniques for structural impact assessment
	Angela Martiradonna	Dynamic bioeconomic management of blue crab invasion in coastal lagoons under climate risk
17:00–17:45	Poster blitz	
17:45–19:30	Poster exhibition & cocktail party	

Tuesday, 10 November 2026

Time	Speaker	Title
09:00–09:50	PL2: David Ginsbourger	The Many Lives of Gaussian Processes
09:50–10:40	Stefano Bonetti	A PolyDg framework for thermo-hydro-mechanics
	Teresa Bortolotti	Remote monitoring of spaceborne ground displacement data via conformal p-value maps
10:40–11:10	Coffee break	
11:10–12:00	Luca Formaggia Tanya Scalia Simone Vantini	From space to action: harnessing Earth observation data for natural disaster management
12:00–12:50	Pedro S. Peixoto	Novel polytopal discontinuous Galerkin methods for geophysical fluid dynamics: the rotating shallow water equations on polygonal grids
	Tommaso Benacchio	Next-generation weather forecasts with advanced mathematical models
12:50–14:30	Lunch break	
14:30–15:30	Double interview	A. Guadagnini vs A. Cominelli; P. Bagnerini vs G. Lentini
15:30–16:20	PL3: Maša Prodanović	Modeling of Foam in Porous and Fractured Media
16:20–16:50	Coffee break	
16:50–17:40	Lorenzo Panzeri	Optimizing electrical resistivity tomography surveys for targeted subsurface characterization: an integrated computational framework
	Denise Grappein	Numerical modeling of rock slope instability using a phase-field material point method
17:40–18:30	Alberto Cominelli	Modelling wellhead-to-reservoir thermal effects during CO ₂ injection into depleted gas reservoirs
	Massimiliano Ferronato	Multi-physics and multi-domain simulation of coupled processes in geo-environmental systems

Wednesday, 11 November 2026

Time	Speaker	Title
09:00–09:50	PL4: Ep Heuvelink	Mathematical Models for Crop Growth, Development and Yield in Controlled Environment Agriculture
09:50–10:40	Dajana Conte	Adapted numerical methods for reaction-diffusion problems in sustainability
	Raffaele D'Ambrosio	Stochastic numerical modelling for sustainability
10:40–11:10	Coffee break	
11:10–12:00	Giacomo Cocetta Benjamin Franchetti Simona Perotto	SUSTAINing Tomorrow's Agriculture: Mathematics, Crops and Innovation in Dialogue
12:00–12:50	Lucia Castellani	Hydrodynamics as a design method for composing light with bioluminescent phytoplankton
	Susanna Mirabella	A CFD–crop modelling framework for the virtual assessment of dynamic lighting strategies in indoor cultivation systems
12:50–13:00	Closing remarks	