

# TACKLING CLIMATE CHANGE AND NATURAL HAZARDS FOR NEXT-GENERATION COMMUNITIES



## 28-30 APRIL

**Scuola Universitaria Superiore IUSS**  
Palazzo del Broletto, Pavia

RESEARCH & INNOVATION

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INDUSTRY PERSPECTIVES

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NETWORK OPPORTUNITIES

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REAL-WORLD CASE STUDIES

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### ORGANISING COMMITTEE

Gianrocco Mucedero, Mattia Calò, Ricardo Monteiro,  
Marcello Arosio, Mario Martina, Helen Crowley,  
Roberto Nascimbene, Rui Pinho

### MORE INFORMATION AT

[www.educatingfuturecitizens.com](http://www.educatingfuturecitizens.com)

[www.iusspavia.it](http://www.iusspavia.it)

### What to expect

- Impacts of extreme events (e.g. earthquakes, floods, droughts) on communities
- Links between climate change and community resilience
- Mitigation and adaptation strategies through case studies and best practices
- Networking and exchange with researchers, practitioners and policy actors



# NEXT-GEN Spring School

## Tackling Climate Change and Natural Hazard Risk for Next-Generation Communities

### 28-30, April 2026 - Sala del Camino, IUSS Pavia

The “Tackling Climate Change and Natural Hazard Risk for Next-Generation Communities” Spring School is a multidisciplinary training initiative designed for university undergraduate, master and PhD students, as well as researchers and practitioners interested in understanding the growing impact of extreme events on structures, infrastructures and populations in the context of climate change. The goal is to provide practical skills, scientific updates, and networking opportunities to address the challenges posed by an increasingly unstable climate.

#### Objectives

- Deepen the understanding of the effects of extreme events (e.g., earthquakes, floods, droughts) on communities.
- Analyse the interconnections between climate change and community resilience.
- Discuss mitigation and adaptation strategies, including both structural and socioeconomic approaches, through concrete examples and best practices.
- Foster collaboration between science, policy, and civil society.

### Day 1 – April 28th: Insights from Research

#### Afternoon session

#### Registration (15:00 – 15:30)

- **Mario Martina** – Rector, IUSS Pavia (15:30 – 15:40)  
*Welcome address.*
- **Rui Pinho** – President, Eucentre Foundation (15:40 – 16:00)  
*The role of the EUCENTRE Foundation in supporting the Italian Civil Protection.*
- **Helen Crowley** – Secretary General, GEM Foundation (16:00 – 16:20)  
*The role of the Global Earthquake Model (GEM) Foundation in global seismic risk assessment.*

#### Coffee break (16:20 – 16:40)

- **Giorgia Fosser** – Coordinator PhD Programme in Sustainable Development and Climate Change, IUSS Pavia (16:40 – 17:00)  
*A unique and innovative educational roadmap for a transition towards a de-carbonised and sustainable future.*
- **Ricardo Monteiro** – Coordinator, PhD Programme in Earthquake Engineering, IUSS Pavia (17:00 – 17:20)  
*The Earthquake Engineering (ROSE) programme: 25 years of success and leadership.*

#### Discussion (17:20 – 17:30)



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## Day 2 – April 29th: Understanding Extreme Events

### Morning session

#### Registration (09:00 – 09:30)

- **Massimiliano Pittore** – Senior researcher, EURAC Research (09:30 – 10:30)  
*Impacts of climate change on economy, society and sustainable development.*

#### Coffee break (10:30 – 11:00)

- **Vitor Silva** – Head of Risk Engineering, GEM Foundation (11:00 – 12:00)  
*Rethinking seismic risk in the age of new technology.*
- **Francesco Dottori** – Associate Professor, IUSS Pavia (12:00 – 13:00)  
*How can we adapt to rising flood risk? Scientific perspectives and practical pathways.*

#### Lunch break (13:00-14:00)

### Afternoon session

- **Paolo Tarolli** – Full Professor, University of Padova (14:00 – 15:00)  
*Agricultural drought: monitoring, risk assessment, and adaptation strategies.*
- **Alessio Ricci** – Associate Professor, IUSS Pavia (15:00 – 16:00)  
*Understanding wind hazard: advances in modelling non-synoptic extreme winds.*

#### Coffee break (16:00 – 16:30)

- **Sante Laviola** – Senior Scientist, CNR (16:30 – 17:30)  
*Hail from satellite: a big chance for nowcasting of hail hazard risk.*
- **Carmine Galasso** – Full Professor, University College London (17:30 – 18:30)  
*Multi-hazard life-cycle consequence analysis of deteriorating engineering systems.*



## Day 3 – April 30th: Innovative industrial solutions to climate and natural hazard challenges

### Morning session

#### Registration (08:30 – 09:00)

- **Annalisa Rosti** – CAT Risk Analyst, AON Reinsurance Italia S.p.A. (09:00 – 09:20)  
*From models to markets: an introduction to CAT risk in reinsurance.*
- **Matthew Fox** – Head of Catastrophe Modelling, Italy, Guy Carpenter & Company s.r.l. (09:20 – 09:40)  
*Practical considerations for CAT modelling in the (re)insurance sector.*
- **Umberto Tomassetti** – Head of Italy-Iberia Cat Analytics, Gallagher Re Italia S.p.A. (09:40 – 10:00)  
*Natural disasters in Italy: insurance and economic impacts.*
- **Annibale Vecere** – Catastrophe Modelling Specialist, Generali Italia S.p.A. (10:00 – 10:20)  
*Beyond traditional catastrophe models: climate change, non-peak perils and the role of parametric solutions.*

#### Discussion (10:20 – 10:30)

#### Coffee break (10:30 – 11:00)

- **Mattia Calò** – Chief Executive Officer, RESISK s.r.l. (11:00 – 11:15)  
*PerilTrack: a platform for asset- to Europe-wide risk mapping.*
- **Anirudh Rao** – Seismic Risk Modelling Lead, GEM Foundation (11:15 – 11:30)  
*The Openquake engine: bridging seismic hazard and risk models with real-world decisions.*
- **Ettore Fagà** – Chief Operating Officer, RED Risk Engineering + Development (11:30 – 11:45)  
*Landslides risk model for Italy.*
- **Paolo Mazzolli** – Co-Founder, SaferPLACES (11:45 – 12:00)  
*SaferPlaces: Global Platform AI-based Digital Twin Solution for Flood Risk Intelligence.*
- **Paul Masisey** – Head of Consultancy, JBA Risk Management (12:00 – 12:45)  
*Flood risk modelling for implementing parametric insurance.*
- **Gianni Iannelli** – Chief Executive Officer, Saturnalia s.r.l. (12:45 – 13:00)  
*Saturnalia for crop-insurance.*
- **Marcello Arosio** – Chief Executive Officer, Mate s.r.l. (13:00 – 13:15)  
*Bridging research and practice: Agricultural Parametric Insurance (API).*

*Roundtable 1: BUSINESS4RESILIENCE: A dialogue with companies developing tools and strategies to turn natural hazard and climate related risks into opportunities, driving sustainability and resilience (13:15 – 13:30)*

## Lunch (13:30 – 14:30)

### Afternoon session

## PhD Students research presentations

- **Abbas FathiAzar** – (14:30 – 14:45)  
*From single hazards to operationalising multi-hazard risk reduction at the building scale.*
- **Asif Nawaz** – (14:45 – 15:00)  
*Hydro-geomorphological response of Alpine catchments to extreme rainfall-induced flood events: A case of Valnontey catchment (NW Italian Alps).*
- **Fahri Baran Korogluo** – (15:00 – 15:15)  
*A Fast Seismic Assessment Technique for Reinforced Concrete Buildings: Machine Learning-based Hassan Index.*
- **Giovanna Cassavia** – (15:15 – 15:30)  
*Renovation Without Resilience? Integrating Climate Hazards into Prospective LCA of the European Building Stock.*
- **Gunseli Yazici** – (15:30 – 15:45)  
*Multi-risk assessment of urban environments: case study of Bologna.*
- **Jana Olivo** – (15:45 – 16:00)  
*Rethinking Seismic Design: Variation in Height of Shear Walls as a New Design Variable.*
- **Margherita Rago** – (16:00 – 16:15)  
*A novel approach for multi-risk impact assessment on the built and social urban environment.*
- **Mohamed Mahmoud** – (16:15 – 16:30)  
*Reconfigurable structures for circular constructions.*
- **Mohammed Al-Ajamee** – (16:30– 16:45)  
*A Bayesian Perspective on Shear Modulus Estimation for Improving Earthquake Site Response in Data-Limited Regions.*

## Closing event (16:45 – 17:00)

