



multi-Risk sciEnce for resilientT commUnities  
undeR a changiNg climate

2025 Edition of the PhD Autumn School in  
Security, Risk and Vulnerability:  
Insights from the RETURN project

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DETAILED PROGRAM



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**Monday, September 22**

8.30 – 9.00	<b>Registration</b>
9.00 – 9.15	<b>Welcome and overview of the PhD Autumn School in Security, Risk and Vulnerability</b> Serena Cattari – Coordinator of the SRV PhD Program, University of Genoa
9.15 – 10.00	<b>Overview of the RETURN project</b> Andrea Prota – University of Naples Federico II (Coordinator of RETURN project)
10.00 – 10.45	<b>Disentangling the complexities of multi-(hazard) risk</b> Marleen de Ruiter – Amsterdam Sustainability Institute, Netherlands
10.45 – 11.15	<b>Coffee break</b>
11.15 – 12.00	<b>Fundamentals of flood risk</b> Giorgio Boni – SRV PhD Program, University of Genoa (VS1-RETURN project)
12.00 – 12.45	<b>Fundamentals of seismic risk</b> Serena Cattari – SRV PhD Program, University of Genoa (VS3&TS1-RETURN project)
12.45 – 14.15	<b>Free time for lunch</b>
14.15 – 15.00	<b>Use of hazard and risk models for Disaster Risk Management: examples of applications in Italy</b> Daniela Di Bucci – Italian Department of Civil Protection
15.00 – 15.45	<b>Harnessing New Technologies for Disaster Risk Assessment</b> Vitor Silva – University of Aveiro, Portugal
15.45 – 16.15	<b>Coffee break</b>
16.15 – 18.15	<b>What Really Drives Risk? A face-to-face debate on the technical and social dimensions of seismic and flood risk studies</b> <i>Round table moderators:</i> Daniela Di Bucci – Italian Department of Civil Protection & Mauro Dolce – President of ReLUIS Consortium <i>Participants:</i> Alberto Montanari – University of Bologna (VS1-RETURN project); Malvina Ongaro – Polytechnic of Milan (VS1&VS3-RETURN project); Benjamin J. Dewals – University of Liege; Iunio Iervolino ( <i>to be confirmed</i> ) - University of Naples Federico II (VS3-RETURN); Warner Marzocchi - University of Naples Federico II (VS3-RETURN); Vitor Silva – University of Aveiro, Portugal; Dimitrios Vamvatzikos – National Technical University of Athens, Greece
18.30 – 22.30	<b>Light dinner with drinks &amp; Poster session and selection of the 6 finalists for the “3-Minute Flash Talk” competition</b>

**Tuesday, September 23**

9.00 – 12.30	<b>Risk Storylines Workshop</b> Workshop moderators: Andrea Pirni and Claudio Marciano – University of Genoa (TS1-RETURN project)  <i>Participants will work in groups to gain hands-on understanding of the interactions between exposure, vulnerability, and hazard in multi-risk studies, and the resulting impacts not only on the built and natural environments, but also on society. Participants will directly interact with researchers from the RETURN partnership and internationally renowned researchers, as well as with local stakeholders and decision-makers engaged in mitigation policy planning and civil protection. At the end of the workshop, a collective summary of the group work will be presented, followed by a round table discussion.</i>
12.30 – 14.30	<b>Free time for lunch</b>
14.30 – 15.15	<b>Multi-Criteria Analysis for Identifying Effective Risk Reduction Measures in Multi-Hazard Contexts</b> Daniela Molinari – Polytechnic of Milan (TS3-RETURN project)
15.15 – 16.15	<b>The Strategic Role of Planning in Risk Management: Law and Participation</b> Marina Morando – CIMA Foundation (TS3-RETURN project), Matteo Timo and Giovanni Botto – SRV PhD Program, University of Genoa
16.15 – 16.45	<b>Coffee break</b>
16.45 – 17.30	<b>How risk assessment informs decision-making for real-world risk mitigation strategies</b> Paolo Bazzurro – IUSS Pavia and RED Risk Engineering + Development
17.30 – 18.30	<b>Natural Disasters and Nature-Related Risks: Social, Economic and Financial Perspectives</b> <i>Round table moderator:</i> Laura Nieri – PhD SRV Program, University of Genoa <i>Participants:</i> Dario Focarelli – Chief Executive Officers of ANIA; Alessandra Mongiardino, Independent Non Executive Director Triodos Bank, UK; Stefano Piserà – University of Genoa -

**Wednesday, September 24**

9.00 – 9.45	<b>Multi-Hazard analysis of Ground Instabilities: from learned to predictive scenarios. Toolchains and Digital Platforms for impact assessment in the context of a changing climate</b> Carlo Esposito - Sapienza University of Rome (VS2-RETURN project)	
9.45 – 10.30	<b>Overview of weather related risks and their predictability: from downburst to heat waves</b> Marco Tizzi - ARPAL	
10.30 – 11.00	<b>Coffee break</b>	
11.00 – 12.00	<b>From idea to audience: how to present research</b> Alessio Maria Braccini – Tuscia University & University of Agder, Kristiansand, Norway	
12.00 – 12.30	<b>“3-Minute Flash Talk” competition</b>	
12.30 – 14.30	<b>Free time for lunch</b>	
	<b>Earthquake risk session</b>	<b>Flood risk session</b>
14.30 – 15.15	<b>A culinary view of seismic risk assessment</b> Dimitrios Vamvatzikos – National Technical University of Athens, Greece	<b>Hydrologic hazard in a changing climate</b> Marco Marani - University of Padua (DS-RETURN project)
15.15 – 16.00	<b>Classification and seismic vulnerability of building types: from taxonomy to fragility curves</b> Sergio Lagomarsino – SRV PhD Program, University of Genoa (TS1-RETURN project)	<b>Flood risk mitigation: a multi-scale perspective</b> Francesco Ballio – Polytechnic of Milan (VS1-RETURN project)
16.00 – 16.30	<b>Coffee break</b>	
16.30 – 17.15	<b>Risk analysis, prioritization and retrofit strategies to support mitigation policies for URM buildings</b> Francesca Da Porto – University of Padua (TS2-RETURN project)	<b>Living by the coast in a changing climate: potential risks and sustainable adaptation</b> Rosaria Musumeci – University of Catania (VS1-RETURN project)
17.15 – 18.00	<b>Towards earthquake building design targeting people, planet, and profit losses</b> Roberto Gentile – University College London, UK	<b>Flash flood hazard assessment in small river basins at the regional scale</b> Enrica Caporali – University of Florence (VS1-RETURN project)
20.00	<b>Social dinner</b>	

**Thursday, September 25**

	Earthquake risk session	Flood risk session
9.00 – 9.45	<b>Recent advances towards the engineering use of physics-based numerical simulations of earthquake ground motion</b> Roberto Paolucci – Polytechnic of Milan (VS3-RETURN project)	<b>Pluvial Flooding in Urban Areas: Bridging Modelling Challenges and Practical Applications</b> Giada Varra – University of Parthenope Naples (VS1-RETURN project)
9.45 – 10.30	<b>Use of physics-based simulated ground motions for enhanced seismic risk assessments at urban scale</b> Chiara Smerzini – Polytechnic of Milan (VS3-RETURN project)	<b>Hydraulic hazards in small mountain river basins</b> Larcher Michele – Polytechnic of Bolzano (VS1-RETURN project)
10.30 – 11.00	<b>Coffee break</b>	
11.00 – 11.45	<b>Improving estimates of high-frequency ground motion parameters for earthquake risk mitigation</b> Stefano Parolai – University of Trieste (VS3-RETURN project)	<b>Lessons learned from extreme events and implications for flood risk management</b> Benjamin J. Dewals – University of Liege, Belgium
11.45 – 12.30	<b>Methodologies and Applications of Multi-Risk Analysis in Volcanic Areas</b> Giulio Zuccaro – University of Naples Federico II (VS3-RETURN Project)	<b>From flood hazard to losses: the role of vulnerability</b> Annarita Scorzini – University of L'Aquila (VS1-RETURN project)
12.30 – 14.30	<b>Free time for lunch</b>	
14.30 – 15.15	<b>Impact chains: unraveling the complexity of (climate) risk through conceptual models</b> Massimiliano Pittore – EURAC (TS1-RETURN project)	
15.15 – 16.00	<b>Impact chains: hands-on workshop (Part 1)</b> Massimiliano Pittore – EURAC (TS1-RETURN project) and Francesca Ferretti – University of Bologna (TS1-RETURN project)	
16.00 – 16.30	<b>Coffee break</b>	
16.30 – 18.00	<b>Impact chains: hands-on workshop (Part 2)</b> Massimiliano Pittore – EURAC (TS1-RETURN project) and Francesca Ferretti – University of Bologna (TS1-RETURN project)	

**Friday, September 26**

9.00 – 9.45	<b>Multi-Risk assessment in Urban Contexts: example application for Naples and use of the RETURN platform</b> Maria Polese – University of Naples Federico II (TS1-RETURN project)
9.45 – 10.30	<b>Multi-risk analysis of Genoa: building features, social vulnerability, impact chains, and mapping of consequences in GIS</b> Sergio Lagomarsino – PhD SRV Program, University of Genoa (TS1-RETURN project)
10.30 – 11.00	<b>Coffee break</b>
11.00 – 11.45	<b>Mapping Multi-Risk to Cultural Heritage Across Spatial Scales</b> Chiara Arrighi – University of Florence (TS3-RETURN project)
11.45 – 12.30	<b>Flood Hazard in Estuarine Cities: The Case of the Misa River – Practice and Research</b> Maurizio Brocchini – Polytechnic University of March (VS1-RETURN project)
12.30 – 13.00	<b>Closing session of PhD Autumn School in Security, Risk and Vulnerability</b> Serena Cattari – Coordinator of the SRV PhD Program of University of Genoa
13.00 – 14.30	<b>Free time for lunch</b>
14.30 – 18.30	<b>Technical visit in 5Terre</b>