

March 27, 2024, 3.00 PM Scuola Universitaria Superiore IUSS, Aula Magna - Sala del Camino Palazzo Broletto - Piazza della Vittoria, 15 - Pavia

Multi-(hazard) risks and cascading disasters in the context of climate change

Lecturer: Prof. Chris White (University of Strathclyde; Scotland)

Extreme weather-driven hazards are among the most likely and costly global risks, with societal fragility confirmed repeatedly through recent events. Record-breaking events and sequences of interacting weather extremes are increasingly causing devastating impacts through severe storms, heatwaves, wildfires, droughts and floods. Climate change is altering their dependencies and exacerbating their impacts. Our interconnected world means that these impacts are not confined to one environment, sector, or society, or to within nations. These events are complex, with cascading risks and compounding disasters crossing boundaries and escalating through natural and manmade system interdependencies, economies and social constructs. This complexity makes understanding the risks of – and, crucially, the solutions to – these 'multi-hazard' events an immense challenging. In this seminar, we take an **interdisciplinary approach to disaster risk management** that recognises that natural hazards and the impacts of climate change are as complex and interconnected as our environment, people, places and systems. We show the development of new multi-hazard and multi-risk approaches that consider complex hazard interactions, vulnerability, exposure, system capacity and cascading impacts. By incorporating multi-hazards, cascading risks and 'systems thinking, we aim to deliver increased resilience by filling fundamental knowledge gaps in the climate, engineering and risk management sciences.



Dr Chris White is the Head of the Centre for Water, Environment, Sustainability and Public Health at the University of Strathclyde in Glasgow, UK. As a Reader (Associate Professor), he leads the Engineering for Extremes research group that focuses on improving the understanding of extreme weather events, hydro-meteorological hazards such as floods and droughts, and water resource management. He leads several projects including the multi-hazard interactions and cascading impacts work package of the MEDiate ('Multi-hazard and risk-informed system for enhanced local and regional disaster risk management') project.

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