

Open-Challenges and Recent Advances in Buildings' Vulnerability Assessment Under Natural Hazards

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Message from the Guest Editors

Given the global distribution of disaster events and the increasing exposure and vulnerability, it is urgent to develop a comprehensive framework providing a better understanding of complex multi-hazard dynamics and improved predictive models to quantify multiple risks.

Against this background, this Special Issue aims to promote the discussion, debate and the sharing of knowledge on effective approaches through a comprehensive multi-hazard (earthquakes, landslides, tsunamis, volcanoes) and multisectoral approach.

The discussion will encourage the debate on building vulnerability/fragility assessment and on its remaining challenges, and on integrated approaches explicitly considering hazards interaction and its effects on vulnerability. Welcomed topics include, but are not limited to, the following:

The definition of homogenized damage scale or a generalized conversion rule effective to uniform the results comparison from the different methods;

The effect of using different intensity measures (IM) in fragility assessment...

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Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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