

Seismic Risk Assessment of Buildings: Results of the Italian MARS Project and Other Applications Worldwide

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Message from the Guest Editors

Dear Colleagues,

The evaluation at a large scale of seismic risk maps is a challenging and crucial task to correctly predict potential future losses, to plan emergency management procedures, and to define effective mitigation policies.

The fundamental step of seismic risk analysis is the assessment of the building's vulnerability, in terms of fragility curves that may be derived through different approaches (empirical, mechanical, hybrid, etc.). Scientific papers are expected both on residential and strategic or special buildings.

The evaluation of consequences (casualties, unusable buildings, etc.) and economic losses (direct and indirect) is another topic of this Special Issue.

This Special Issue will collect the main results of MARS (Seismic Risk and Damage Maps in Italy), a big national project funded by the Civil Protection Agency, within the activities of the ReLUIIS consortium (Network of the University Laboratories of Seismic Engineering). The aim is to compare the developed procedures with other experiences worldwide; hence, other contributions are welcome.

We look forward to your contributions.



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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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