Special Issue

Innovative Approaches for Seismic Performance Analysis and Design in Building Structures

Message from the Guest Editors

Earthquakes can cause significant damage to buildings and infrastructures, ranging from minor cracks to complete structural collapse. Seismic analysis and design have long been fundamental aspects of structural engineering in earthquake-prone regions, and enable the mitigation of seismic risk in buildings. They have progressed significantly in recent decades, driven by field experience and advancements in technology, materials, and design philosophies, and have been gradually incorporated into design codes. Innovative approaches to seismic analysis and design are reshaping how buildings are designed and/or renovated to cope with seismic effects. These approaches incorporate new structural systems, advanced materials, non-traditional protective and damping systems, innovative computational modeling, and novel design philosophies that outperform traditional static and dynamic analysis techniques. For further reading, please follow the link to the Special Issue Website at: https://www.mdpi.com/journal/buildings/special_issues/3K6252JIZ6

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About the Journal

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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