Special Issue

New Trends in Seismic Performance Evaluation

Message from the Guest Editors

Earthquakes are generally the most catastrophic disasters that civil structures may experience during their lifetime. With the development of simulation and experimental technologies, various advanced approaches are emerging and becoming increasingly attractive in seismic performance evaluation; these include artificial intelligence, computer vision, big data, real-time hybrid simulation, large/full-scale shake table testing, etc. These methods lead to new trends for the more efficient and accurate seismic performance evaluation of civil structures.

This Special Issue concentrates on the new trends in seismic performance evaluation for civil structures, such as bridges, buildings, wind turbine towers, oil tanks, etc. Potential topics include, but are not limited to:

Machine learning in seismic performance evaluation.
Characterization of structural damage limit states.
Advanced experimental methods for seismic performance evaluation.
Data-driven modeling and performance evaluation.
Accurate numerical models for materials and structural components.
Seismic resilience evaluation of structures.
Computer-vision-based damage detection.

Guest Editors

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Dr. Nailiang Xiang

Dr. Ge Ou

Dr. Anas Issa

Deadline for manuscript submissions

closed (30 November 2023)

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.

Editor-in-Chief

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