

Seismic Behaviour of High-Rise Buildings under Influence of Dynamic Soil–Structure Interactions

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Message from the Guest Editor

In traditional design methods, structures are usually assumed to be rigid base structures, and soil–structure interactions (SSI) are not considered. However, the lessons learned from recent earthquakes have revealed that this assumption could be misleading, and SSIs may have different effects on the seismic response of different structural systems. Moreover, previous literature has mostly concentrated on the seismic behaviour of mid-rise buildings, and high-rise buildings have not been considered due to their complexity. Therefore, there is a need to comprehensively investigate the seismic response of high-rise buildings to dynamic soil–structure interactions. As a result, this Special Issue of Buildings will focus on innovative and emerging methods and solutions in the building sector developed by international researchers and professional engineers to promote and advance the use of state-of-the-art evaluation methods for determining the seismic behaviour of high-rise buildings under the influence of dynamic soil–structure interactions, as well as other phenomena such as the seismic pounding of the adjacent buildings.



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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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