

Special Issue

Geophysics for Built Environment Characterization

Message from the Guest Editors

For seismic risk assessment, it is of utmost importance to characterise cities in their entirety. This Special Issue focuses on the characterization of buildings and structures/infrastructures (strategic buildings, bridges, cultural heritage, lifelines, etc.), neighbourhoods, or entire cities in terms of their structural characteristics (e.g., main vibrational periods, modal shapes, equivalent damping factors and their changes due to damage, etc.), geometric features (e.g., shape, height, area, proximity, etc.), and construction typologies through experimental studies using in situ and remote (ground-based, UAVs, airborne and satellite data) geophysical technologies at different scales and resolutions.

Furthermore, we encourage papers on innovative data analysis techniques and methods for structural identification, seismic damage detection, and soil-structure/city interaction studies. Finally, studies combining data from different sources or sensors, as well as those that promote dissemination of databases using WebGIS technologies for smart cities also fall within the scope of this Special Issue.

Guest Editors

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Deadline for manuscript submissions

closed (20 January 2024)



Buildings

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CiteScore 4.4



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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.

Editor-in-Chief

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