Special Issue

New Challenges of Underground Structures in Earthquake Engineering

Message from the Guest Editors

The objective of this Special Issue is to investigate recent advancements, emerging challenges, and approaches in seismic risk and the design of tunnels and underground structures. It aims to bring together leading researchers and practitioners to share their latest findings on seismic design, vulnerability and risk assessment, numerical modeling, and risk-based evaluation, as well as examples of resilient tunnel and underground structure design and construction. Topics of interest for potential contributions include the ones provided below.

- The impact of earthquakes on tunnels and underground structures;
- Advances in the seismic design for tunnels and underground structures;
- Seismic vulnerability and risk assessment of tunnels and underground structures;
- Seismic early warning and safety control of tunnels and systems;
- Resilience and risk-based evaluation and adaptation of tunnels and underground structures to seismic hazards.

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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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