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Dynamic Response of Structures

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Message from the Guest Editors

Structures are threatened by dynamic loading due to blasts, vibrations and earthquakes. Regarding the safety of buildings and properties, it is necessary to research the dynamic response of structures. Predictive systems of ground vibration are operated with the aim of protecting the surrounding urban communities. However, it is not enough to obtain the propagation of ground vibration, blast and seismic wave under different disasters; the damage of buildings under dynamic loading should be analyzed.

This Special Issue aims to gather innovative research and development in dynamic response of structures to improve the capability of disaster prevention and mitigation of buildings. The scope of this issue covers original research and review studies, including (but not limited to):

- Dynamic response of structures;
- Measurement, spectral analysis, and energy distribution of ground vibration;
- Attenuation law of blasting-induced vibration and seismic wave;
- Artificial intelligence for predicting ground vibration and blast;
- Vibration absorption measures designing;
- Seismic vulnerability analysis of structures;
- Damage of structures evaluating.

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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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