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Intelligent Monitoring and Detecting Methodologies for Building Structures

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Message from the Guest Editors

Dear Colleagues,

Ensuring the safety and operational reliability of building structures is a critical concern. Investigating health monitoring and nondestructive testing methods becomes imperative in establishing resilient cities, extending the lifespan of buildings, and minimizing risks associated with structural deterioration. Furthermore, with fast strides being made into the era of artificial intelligence, improvements in computing power, the emergence of algorithms, and the accumulation of monitoring data enable more possibilities for the use of intelligent structural monitoring and detection.

The main aim of this ***Special Issue*** is to explore the recent challenges and developments of intelligent monitoring and detecting approaches for building structures. Topics of interest include, but are not limited to, the following:

- Structural health monitoring;
- Nondestructive testing;
- Building structures;
- Sensing approach;
- Signal and data processing;
- Advanced equipment development;
- Artificial intelligence.

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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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