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New Technologies in Structural Health Monitoring of Buildings and Infrastructure

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Deadline for manuscript submissions:
closed (10 March 2024)

Message from the Guest Editors

Structural health monitoring (SHM) of buildings and infrastructure has been an exceedingly active research topic in the last decade. Civil engineering structures are one-of-a-kind structures that cannot be intentionally damaged to gain information on their behaviour when damage is present; to cope with this issue, the recent concepts of hybrid SHM and transfer learning are aimed at obtaining data corresponding to structural conditions that rarely occur (extreme environmental and operational conditions, damage) from numerical models of the structure and from similar structures where such data are available, respectively. Moreover, concerns about the impact of climate change on buildings and infrastructure have led to the integration of SHM and risk assessment technology to better identify vulnerable structures.
Therefore, this SI intends to bring together publications involving new technologies for the SHM of buildings and infrastructure, acting at all levels to highlight the current capabilities and future trends.

For further reading, please follow the link to the Special Issue Website at:

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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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