Special Issue

Next-Generation Intelligent and Resilient Structures

Message from the Guest Editors

The notion of “smart structure” integrates promises of disaster resilience, generally incorporating the capacities for civil structures to anticipate, react, respond, and reorganize after being subjected to natural and human-made disturbances. Dealing with this, the emerging AI and the state-of-the-art industrial technology are heralded as integrated means for enhancing resilience. With the rapid development of AI-enabled civil engineering, it appears that timely assessment, prediction, and improvement of urban resilience can be realized. Despite the critical progress, it remains challenging to promote research advances in theory, experiments, and framework.

This Special Issue on “Next-Generation Intelligent and Resilient Structures” aims to bring together cutting-edge development in emerging AI technologies for resilient civil infrastructural systems. Further, recent developments in novel structural health monitoring, vibration control, and construction are of interest. This Special Issue welcomes original contributions containing fundamental research, case studies, opinion papers, and review articles.

Guest Editors

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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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