

Special Issue

Smart Materials Based Vibration Control and Structural Resilience in Building

Message from the Guest Editors

This Special Issue focuses on the cutting-edge research progress in smart-materials-based vibration control and structural toughness. The topics of this Special Issue include development of smart material, damper, energy dissipation devices, toughness-based design methods, and so on. Recent innovations in smart materials and their applications in earthquake engineering are particularly encouraged. Original contributions concerning the following research topics are welcome, including but not limited to:

- Development of smart materials in seismic design;
- Recent innovations in dampers, isolation bearings, and energy dissipation components;
- Research progress in self-centering structures;
- Development of resilience-based design methodology;
- Resilience enhancement strategies based on smart materials;
- Recent innovations in vibration control of engineering structures based on smart materials;
- Health monitoring of building structures using smart materials.

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

https://www.mdpi.com/journal/buildings/special_issues/9Q3CPM89AP

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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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manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.1 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the second half of 2025).