Special Issue

Innovations in Composite Material Technologies and Structural Design

Message from the Guest Editors

This Special Issue aims to highlight the latest developments in composite material technologies and structural design strategies, with particular emphasis on their application in civil engineering structures exposed to natural and extreme loading conditions. We invite researchers to submit original contributions that address, but are not limited to, the following topics:

- Additive manufacturing and fabrication techniques for civil engineering composites;
- Innovative structural design and optimization methods using composite materials;
- Experimental and computational characterization of composite systems under service and extreme loads;
- Structural analysis and design for seismic, wind, fire, blast, and corrosion resistance;
- Multi-hazard performance assessment and mitigation strategies;
- Long-term durability, maintenance, and health monitoring of composite structures;
- Sustainability and life-cycle analysis of composite materials in civil infrastructure;
- Code-based design and regulatory compliance for composite structures under extreme conditions;
- Case studies and real-world applications of composite materials in civil engineering.

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Deadline for manuscript submissions

20 February 2026

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/251191

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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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