Special Issue

Low-Carbon and Sustainable Building Structures

Message from the Guest Editors

The global building and construction sector is a primary contributor to carbon emissions, resource depletion and waste generation. In the face of escalating climate change, there is a critical and urgent need for a paradigm shift towards decarbonization and sustainability throughout the lifecycle of building structures. This has spurred a wave of innovation focused on creating structures that are not only resilient and efficient but also environmentally responsible. This Special Issue aims to showcase state-of-the-art research and recent advancements in the design, construction and performance of low-carbon and sustainable building structures. We invite the submission of high-quality original research articles and comprehensive review papers that address, but are not limited to, the following topics:

- Low-carbon structural design aimed at climate change adaptation and mitigation.
- Innovative low-carbon construction materials (e.g., green concrete, recycled composites, mass timber).
- Design for deconstruction, reuse and adaptability.
- Lifecycle assessment (LCA) and carbon footprint analysis of building structures.
- Structural optimization for reduced environmental impacts.
- ...

Guest Editors

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Deadline for manuscript submissions

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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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Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).