Special Issue

Computational Mechanics Analysis of Composite Structures

Message from the Guest Editors

Composite structures and materials have become essential in the construction industry due to their exceptional performance characteristics, including high strength-to-weight ratios, durability, and resistance to various environmental factors.

The aim of this Special Issue is to present a collection of groundbreaking research at the intersection of computational mechanics and composite materials science, encompassing the latest advancements in numerical methods, multi-scale modeling, and high-performance computing. We are particularly keen for contributions that address the complex challenges of material heterogeneity, damage, and multi-physics coupling in composites. We are also interested in submissions that showcase the application of artificial intelligence, machine learning, and data-driven approaches in predicting material behavior and optimizing composite manufacturing processes. The integration of these technologies with traditional computational methods promises to unlock new possibilities in the field of composite materials, which could lead to more efficient and reliable engineering solutions in construction.

Guest Editors

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Deadline for manuscript submissions

closed (30 April 2026)

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/227292

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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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