Special Issue

Applications of Advanced Composites in Civil Engineering

Message from the Guest Editors

Researchers and practitioners are keen to uncover novel ideas and applications of advanced composite materials that can realize the high performance of newly built structures and prolong the serviceable life of existing structures in various environments. In this context, this Special Issue focuses on the studies and applications of advanced composites in civil engineering. It covers (but is not limited to) the following topics: 1. Mechanical performance of smart composite materials, sustainable composite materials, high-performance cemetitious materials and bio-inspired composite materials; 2. novel composite structures and novel strengthening technologies; 3. machine learning for failure prediction, digital twin monitoring; 4. cost–benefit and life-cycle analysis; 5. recycling strategies, carbon footprint analysis, circular economy integration; 6. offshore and marine applications; 7. theoretical and numerical modelling for composite materials; 8. advanced manufacturing processes for composite materials and structures; and 9. damage detection and health monitoring in composite structures.

Guest Editors

Dr. Yawei Fang

Dr. Tian-Qiao Liu

Dr. Junlong Yang

Dr. Zheqi Peng

Dr. Ran Deng

Deadline for manuscript submissions

31 December 2025

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/243675

Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

mdpi.com/journal/buildings

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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

Prof. Dr. David Arditi
Construction Engineering and Management Program, Department of Civil, Architectural, and Environmental Engineering, Illinois Institute of Technology, 3201 South Dearborn Street, Chicago, IL 60616, USA

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