

Special Issue

3D Printing and Low-Carbon Technologies in Cementitious Composites

Message from the Guest Editors

The construction of our civil infrastructure is heavily dependent on cementitious materials, and their continuous development has revolutionized structural design and optimization. The high strength, toughness, and durability of concrete are desirable to develop sustainable and resilient buildings, bridges, and tunnels. Any component changes in cementitious composites may result in changes in the mechanical properties and performance of concrete structures. As such, developing environmentally friendly concrete materials is feasible and necessary to reduce energy consumption and current global CO₂ emissions, as well as to slow down climate change. In the meantime, the development of digital construction technology provides new opportunities to reduce the time of labor-intensive construction work as well as to enhance construction quality and update construction philosophy. In this Special Issue, we welcome papers on the recent development of 3D printing and low-carbon concrete technologies from a material to structural level.

Guest Editors

Dr. Yanping Zhu

Department of Civil Engineering, Montana Technological University,
Butte, MT, USA

Dr. Jingjie Wei

Department of Civil, Architectural and Environmental Engineering,
Center for Infrastructure Engineering Studies, Missouri University of
Science and Technology, Rolla, MO 65409, USA

Deadline for manuscript submissions

closed (31 October 2024)



Buildings

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 4.4



mdpi.com/si/182822

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

[mdpi.com/journal/
buildings](https://mdpi.com/journal/buildings)





Buildings

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 4.4



[mdpi.com/journal/
buildings](https://mdpi.com/journal/buildings)



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

Author Benefits

High Visibility:

indexed within SCIE (Web of Science), Scopus, Ei Compendex, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Construction and Building Technology) /
CiteScore - Q1 (Architecture)

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).