Special Issue

Research on Emerging Technologies for Structural Design, Inspection, and Maintenance

Message from the Guest Editors

Dear colleagues, Recent advancements in next-generation information technologies, including big data, artificial intelligence (AI), internet of things (IoT), and cloud computing, have spurred significant opportunities in structural engineering. The aim of this Special Issue is to bring together original research and review articles discussing emerging technologies for structural design, inspection, and maintenance. Topics of interest include, but are not limited to, the following:

- The AI-based design and optimization of structures;
- Innovative inspection technologies with smart sensing materials and intelligent equipment in unmanned aerial vehicles and movable robots;
- Advanced testing techniques for precast structures and composite structures;
- Data fusion technologies and applications using multi-sensor or multi-source information from inspection and monitoring;
- The DT-based intelligent construction and maintenance of structures for improved management.

Guest Editors

Dr. Junyong Zhou

School of Civil Engineering, Guangzhou University, Guangzhou 510006, China

Dr. Zeren Jin

Laboratory for Intelligent InFrastructure Technology, Nanyang Technological University, Singapore 639798, Singapore

Deadline for manuscript submissions

20 March 2026

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/207172

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

mdpi.com/journal/buildings

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/journal/buildings

MDPI

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).