Special Issue

Co-Designing Sustainable Built Environments with Human-Centric Generative AI

Message from the Guest Editors

The demand for sustainability, inclusivity, and adaptability has led to the rise of generative AI as a key digital tool for transformative design. To maximize its potential, we need to shift from automation to human-centric co-design frameworks, where AI augments human creativity, ethics, and experience. This Special Issue examines how generative AI and digital tools can support the co-design of sustainable built environments, focusing on human values, occupant needs, and user-centric design processes. It welcomes interdisciplinary contributions in architectural computation, sustainable building and urban design, environmental performance evaluation and optimization, and building certification systems for sustainable, healthy buildings. Key topics include AI-driven energy and comfort simulations, climate-responsive form-finding workflows, human-in-the-loop systems, sustainability assessments, and digital co-design processes. The aim is to highlight how AI and digital tools can foster human-centric, equitable, and climate-conscious sustainable futures.

Guest Editors

Dr. Tsung-Hsien Wang

School of Architecture and Landscape, University of Sheffield Arts Tower, Western Bank, Sheffield S10 2TN, UK

Dr. Jihyun Park

Department of Architecture, Ewha Womans University, Seoul 03760, Republic of Korea

Deadline for manuscript submissions

31 January 2026

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/245345

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

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).