Special Issue

Dealing with Extreme Heat: Intelligent Approaches for Improved Building Performance and Occupant Thermal Comfort

Message from the Guest Editors

Extreme heat, particularly in urban areas, is a serious issue with dire effects on buildings, building systems, and building occupants. We know, for instance, that extreme heat increases energy use for space cooling, reduces the efficacy of HVAC systems, and decreases the thermal satisfaction of building occupants. This Special Issue "Dealing with Extreme Heat: Intelligent Approaches for Improved Building Performance and Occupant Thermal Comfort", aims to explore recent approaches in heat management for sustainable buildings and occupant comfort. We welcome papers on the following disciplines and related topics, including, but not limited to, the following:

- smart building materials
- cool roofs, green roofs, and walls
- intelligent controls for solar insolation and ventilation
- climate-responsive dynamic facades and their control
- intelligent controls of HVAC systems
- digital twins for indoor thermal environment management
- simulation and modeling of extreme heat in buildings
- smart energy management systems in buildings
- heat governance and policy frameworks

Guest Editors

Dr. Jack Ngarambe

Department of Architectural Engineering, Kyung Hee University, Yongin 17104, Republic of Korea

Prof. Dr. Baojie He

School of Architecture and Urban Planning, Chongqing University, Chongqing 400044, China

Deadline for manuscript submissions

closed (10 May 2024)

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/188910

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).