



Sustainable Building Thermal and Energy Management: Novel Materials and Advanced Cooling Strategies

Guest Editors:

Dr. Chi Yan Tso

School of Energy and Environment, City University of Hong Kong, Hong Kong, China

Dr. Jianheng Chen

College of Pipeline and Civil Engineering, China University of Petroleum (East China), Qingdao, China

Deadline for manuscript submissions:

30 September 2026

Message from the Guest Editors

By exploring novel materials and advanced cooling strategies, this Special Issue will contribute to the development of energy-efficient buildings that promote thermal comfort, reduce energy consumption, and mitigate environmental impacts. This Special Issue will address a wide range of topics, including, but not limited to, the following:

- Novel materials for building thermal insulation
- Advanced cooling strategies
- Energy-efficient building design
- Building retrofitting for thermal and energy efficiency
- Passive envelope systems
- Renewable energy applications in buildings
- Thermal and electrical energy storage systems
- Indoor thermal comfort and occupant well-being
- HVAC systems
- Intelligent buildings (operation and control)
- Life cycle assessment and environmental impact
- Emerging technologies for sustainable facilities and infrastructure





an Open Access Journal by MDPI

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

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

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)

Contact Us

Buildings Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/buildings
buildings@mdpi.com
X@Buildings_MDPI