

Topical Collection

Buildings' Thermal Behaviour and Energy Efficiency for a Sustainable Construction

Message from the Collection Editors

Currently, energy and sustainability are two of the major concerns of mankind. Given the actual relevant energy consumption share of the building sector, innovative design solutions and optimal thermal performance of buildings are important for reducing energy bills and greenhouse gas emissions, while maintaining comfort of occupants. Additionally, seeking a more environmentally efficient use of resources is also critical. This Special Issue is dedicated to the analysis of recent advances on: (1) Thermal performance of building's elements (e.g. walls, floors, roofs, windows, doors, etc.); (2) Energy efficiency in buildings; (3) Sustainable construction. All types of research approaches are acceptable: experimental, theoretical, numerical, analytical, computational, case studies, and combinations thereof. The main criteria for paper acceptance is the academic excellence, the scientific soundness, as well as the originality and novelty of applications, methods, fundamental findings or experiments.

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Buildings

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 4.4



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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

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