

Special Issue

Sustainable Building Materials for Enhancing Building Energy, Environment and Thermal Comfort Performance under Different Climates

Message from the Guest Editors

Buildings account for one-third of energy use and a quarter of greenhouse gas (GHG) emissions in the world. They are estimated to make up 24% of baseline energy use by the end of the 21st century due to unmitigated climate change. Building fabrics (wall, roof, and floor) are mainly responsible for 50–60% of heat transfer in buildings. However, lightweight construction materials are being developed to reduce heat transfer loss through building envelope, but they exacerbate summertime overheating under extreme heatwave periods. Summertime overheating enhances heat-related mortalities and morbidities in buildings. Therefore, there is a need to mitigate adverse health and environmental impacts in buildings by developing sustainable construction materials, designing energy-efficient design and retrofit strategies, and alternative passive measures. This Special Issue aims to contribute to new research developments in sustainable construction materials, novel energy-efficient designs, environmentally and economically feasible retrofit and refurbishment strategies, and advanced passive measures for sustainable built environment design under different climate conditions.

Guest Editors

Dr. Dileep Kumar

Faculty of Science, Engineering & Built Environment, Deakin University, Warrn Ponds, Geelong 3216, Australia

Dr. Md Morshed Alam

Centre for Sustainable Infrastructure and Digital Construction, Department of Civil and Construction Engineering ATC 734, Hawthorn Campus, Swinburne University of Technology, Hawthorn, VIC 3122, Australia

Deadline for manuscript submissions

closed (31 August 2024)



Sustainability

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 7.7



mdpi.com/si/194388

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

[mdpi.com/journal/
sustainability](https://mdpi.com/journal/sustainability)





Sustainability

an Open Access Journal
by MDPI

Impact Factor 3.3
CiteScore 7.7



[mdpi.com/journal/
sustainability](https://mdpi.com/journal/sustainability)



About the Journal

Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in Sustainability, an international open access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full articles) and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

Prof. Dr. Steve W. Lyon

School of Environment and Natural Resources, Ohio State University,
Columbus, OH 43210, USA

Author Benefits

Open Access:

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

High Visibility:

indexed within Scopus, SCIE and SSCI (Web of Science), GEOBASE, GeoRef, Inspec, RePEc, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Environmental Studies) / CiteScore - Q1
(Geography, Planning and Development)