



## Low-Carbon and Green Materials in Construction—2nd Edition

Guest Editors:

**Dr. Long Li**

**Dr. Pujin Wang**

**Dr. Jie Xiao**

**Dr. Lingfei Liu**

Deadline for manuscript  
submissions:

**31 December 2024**

### Message from the Guest Editors

Dear Colleagues,

The CO<sub>2</sub> emission content released by the construction industry totals half of all CO<sub>2</sub> emissions around the world, and a large portion is generated due to the production of construction materials. For example, the production of construction materials contributes to about 27% of the total CO<sub>2</sub> emissions in China. Therefore, we must develop low-carbon construction materials to realize carbon neutrality.

Large amounts of construction and demolition waste (e.g., waste concrete, brick, glass, wood, timber, and so on) are generated every year. The recycling of construction and demolition waste can effectively reduce the amount of landfill waste and save natural resources. It is important for the sustainable development of the construction industry.

The aim of this Special Issue is to encourage scientists and researchers to publish experimental and theoretical findings or solutions on low-carbon and green materials in construction. The topics for this Special Issue include (but not limited to) the following:

- Low-carbon concrete;
- Recycled aggregate concrete;
- Alkali-activated materials;
- Ultra-high performance concrete;
- 3D-printed concrete;
- Carbonation.





## 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 Scopus, SCIE (Web of Science), Inspec, and other databases.

**Journal Rank:** JCR - Q2 (*Engineering, Civil*) / 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