

Special Issue

Sustainable Concrete: Innovations in Eco-Friendly Materials and Construction Methods

Message from the Guest Editors

This Special Issue, titled “Sustainable Concrete: Innovations in Eco-Friendly Materials and Construction Methods”, highlights recent progress in sustainable concrete achieved through material and process innovation. We welcome original research and reviews on low-carbon and functional binders (e.g., geopolymers, alkali-activated materials), recycled or waste-based aggregates, and bio-based or performance-enhancing additives. Special attention is given to materials that not only reduce environmental impact but also improve durability, crack resistance, thermal performance, or self-healing behavior. We also invite studies on innovative construction methods, including prefabrication, modular systems, 3D printing, and robotic- or AI-assisted technologies, with the aim of enabling the realization of efficient, low-carbon concrete structures. This issue provides a platform for researchers to showcase advances that drive sustainable, high-performance concrete solutions. We look forward to receiving your contributions.

Guest Editors

Dr. Minfei Liang

Dr. Yidong Gan

Dr. Zhi Wan

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

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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

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

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