Special Issue

Sustainable Concrete: Design and Performance Analysis

Message from the Guest Editor

Sustainable concrete research focuses on innovative materials, designs, and technologies to reduce the environmental footprint of concrete while maintaining or improving its performance. This Special Issue aims to gather cutting-edge research and case studies. Related topics include:

- Development and characterization of eco-friendly concrete materials, such as those incorporating recycled aggregates, industrial by-products, or alternative binders.
- Design methodologies that enhance the durability and lifecycle performance of sustainable concrete structures.
- Advanced manufacturing techniques and technologies, such as 3D printing and modular construction, promote sustainability in concrete applications.
- Evaluation of the environmental impact of concrete production and usage through lifecycle assessment (LCA) and other analytical tools.
- Case studies demonstrating successful applications of sustainable concrete in real-world projects, highlighting both challenges and achievements.
- Policies, regulations, and incentives that support the adoption of sustainable concrete practices.

Guest Editor

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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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