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Low-Carbon Concrete with Different Sources of Solid Waste

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Deadline for manuscript submissions:
closed (28 February 2025)

Message from the Guest Editors

Dear Colleagues,

With rapid economic development and urbanization, the widespread use of concrete has led to significant carbon emissions. The Special Issue will cover, but is not limited to, the following:

- Low-carbon UHPC;
- Multi-physics deterioration modeling for reinforced concrete structures;
- FRP-reinforced concrete structures;
- Modular construction;
- The preparation process of low-carbon concrete from solid waste sources and its effects on mechanical properties, durability, and environmental impact;
- The effects mechanisms of solid waste admixture on concrete microstructure;
- The current status and prospects of solid waste applications in low-carbon concrete;
- The technical challenges and policy recommendations for the resource utilization of solid waste;
- 3D printing concrete construction virtual simulation and numerical simulation;
- The application of multi-scale stochastic finite element in isogeometric analysis;
- Computer-aided design and finite element software development.

For more information, please click on the special issue link:

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Special Issue

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Editor-in-Chief

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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.

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