

Research on Concrete and Composite Materials in Structural Engineering

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Message from the Guest Editors

Dear Colleagues,

Concrete and composite materials both play important roles in structural engineering. The functions of concrete include the following: 1. Load bearing capacity: Concrete can withstand a large amount of pressure and weight. 2. Seismic performance: Concrete can provide stable building structures during earthquakes. 3. Durability: Concrete is capable of resisting natural environment erosion and climate change. In summary, concrete and composite materials can meet the needs of different structures and improve the stability, durability, and safety of buildings.

This Special Issue will provide an overview of the existing knowledge on the new approaches regarding the application of concrete and composite materials in structural engineering. Topics relevant to this Special Issue include (but are not limited to) the following subjects:

- Concrete
- Cementitious materials
- Composite materials
- Functional materials
- Workability
- Physical and mechanical properties
- Durability
- Hydration reaction
- Microscopic testing technology



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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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