

Special Issue

Advanced Research on Concrete Materials in Construction

Message from the Guest Editors

Concrete remains the most widely used construction material, yet its environmental impact and challenges related to its performance necessitate continuous innovation. Further research on concrete materials is essential in order to achieve sustainability, durability, and resilience in modern infrastructure. The development of low-carbon alternatives, optimized mix designs, and enhanced recycling techniques plays an essential role in reducing carbon emissions and resource depletion. Additionally, understanding reaction mechanisms and microstructural evolution is key to improving concrete's long-term performance. The main aim of this Special Issue is to explore the latest advancements in cementitious materials regarding both experimental and modeling research. We invite researchers and practitioners to contribute their insights and findings to this Special Issue in order to develop the next generation of sustainable cementitious materials.

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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.

Editor-in-Chief

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