Special Issue

Advanced Cementitious Materials for Sustainable Structures: Testing, Monitoring, and Modeling

Message from the Guest Editors

With the rapid advancement of sustainable and smart civil engineering systems, cementitious materials are evolving toward low-carbon, multifunctional, and intelligent materials. This Special Issue aims to highlight recent advances in sustainable and intelligent cementitious materials, including the design, fabrication, multifunctional performance, monitoring technologies, and simulation approaches. Particular emphasis will be placed on innovative materials and structural systems that integrate high-toughness mechanical behavior, smart sensing, energy harvesting, structural health monitoring, and resistance to dynamic and extreme loading. Potential topics include but are not limited to:

- **Architected Cementitious Materials and Structures based on Additive Manufacturing Technology**
- **High-Performance Fiber-Reinforced Cementitious Composites and Structural Applications**
- **Multifunctional Cementitious Materials**
- **Advanced simulation and AI-driven techniques for cementitious materials**
- **Advanced Monitoring Techniques for Cementitious Materials and Structures**
- **Dynamic and Impact Testing of Cementitious Materials**

We look forward to your contributions!

Guest Editors

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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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