Special Issue

Functional Improvement, Characterization and Simulation of Cement-Based Materials

Message from the Guest Editors

The main aim of this special issue is to explore the recent challenges and developments in the properties of cement-based materials. Topics include, but are not limited to, the following:

- Study on the properties of high-ductility cement-based composites;
- Functional optimization for conductivity, thermal conductivity, and anti-icing of cement-based materials
- Mix proportion design, formulation of curing regime, and improvement of preparation;
- Performance improvement for mechanical properties, durability, and volume stability;
- Finite element simulations of mechanical properties, durability, and hydration process;
- Interface characteristics between cement-based materials and fiber, steel bars, or FRP;
- Service-life prediction and repair of cement-based materials;
- Working performance of cement-based materials;
- Application of industrial solid waste in cementitious materials and development of low-carbon cementitious systems;
- Damage rule and model under extreme environments such as plateaus and oceans;
- Microstructure design of electromagnetic protection cement-based composites.

Guest Editors

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Deadline for manuscript submissions

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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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