

Special Issue

Research and Development of Cement-Based Materials

Message from the Guest Editors

This Special Issue aims to provide a comprehensive platform for disseminating cutting-edge research that advances both fundamental understanding and engineering implementation. Topics of interest include, but are not limited to, the following:

- early-age performance development and hydration kinetics of cement-based materials;
- long-term durability evolution and degradation mechanisms of cement-based materials;
- high-value utilization of recycled aggregates and industrial by-products in cement-based materials;
- novel chemical additives and functional admixtures for sustainable cement-based materials;
- advanced and intelligent multiscale characterization techniques for cement-based materials;
- high-performance cement-based composites designed through fibre reinforcement or bio-inspired strategies.

We particularly welcome contributions that integrate theoretical modelling with experimental validation and field applications to promote the development and deployment of green, durable and intelligent next-generation cement-based materials. For further reading, please follow the link to the Special Issue Website at: https://www.mdpi.com/journal/buildings/special_issues/4Y854KAH4G

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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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