Special Issue

Trends and Prospects in Cementitious Material

Message from the Guest Editors

Dear colleagues, Cementitious materials are integral to our built environment. As global attention shifts toward reducing carbon emissions, the innovation of low-carbon cement alternatives is critical. These materials not only mitigate environmental impact, but also pave the way for greener construction practices. Additionally, the resilience of cementitious materials under extreme temperature conditions is increasingly vital, enabling infrastructure to withstand both severe heat and cold. Addressing issues of corrosion and fatigue extends the lifespan of structures, ensuring safety and reducing maintenance costs. This Special Issue delves into these key areas, highlighting breakthroughs in low-carbon technologies, durability in harsh environments, and advancements in corrosion and fatigue resistance. By exploring these topics, we aim to equip researchers, engineers and industry professionals with the knowledge to drive forward a sustainable and resilient future in construction.

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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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