Special Issue

Cracking in Cement-Based Materials

Message from the Guest Editors

Cracking is an almost inevitable issue in cement-based composites, leading to accelerated deterioration and a shortened service life. Addressing this critical challenge has prompted extensive research aimed at understanding, inspecting, characterizing, controlling, mitigating, and repairing or self-healing cracks in cement-based materials. This issue will focus on a wide range of topics, including but not limited to the following: (1) **Understanding and controlling crack formation**; (2) **Crack prevention and mitigation strategies**; (3) **Crack inspection and characterization**; (4) **Crack repair and self-healing**; (5) **Engineering applications and case studies**. This Special Issue will comprehensively address the topics of crack formation, regulation, mitigation, inspection, characterization, repair, and self-healing in cement-based materials. Contributions from both academic and industrial researchers are welcomed, as we aim to advance the collective understanding of cracking and foster future innovations in creating more resilient, durable, and sustainable cement-based 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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