

Innovative Solutions towards Sustainable Precast Concrete Products

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Message from the Guest Editors

Concrete is an extraordinary material, showing many qualities crucial for the development of modern societies. However, the increasing demand on concrete products raises diverse sustainable issues, namely, depletion of natural resources (for aggregates or for Portland cement production), carbon emissions, and generation of construction and demolition waste. These conditions, in addition to the presently high cost of energy, push the industry to reinvent itself toward the implementation of more sustainable processes from an environmental and economic point of view. This Special Issue aims to publish original research that presents innovative solutions to increase recycling and valorization of waste materials in precast concrete products. The issue will pay particular attention to the sustainability of mix design, namely the incorporation of industrial, agricultural, and maritime solid wastes, and also mix performance in the fresh and hardened state required for a viable technological process for the precast concrete industry.

I look forward to receiving your contributions.



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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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