



Advanced Concrete Structures: Structural Behaviors and Design Methods

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Deadline for manuscript
submissions:

closed (31 December 2023)

Message from the Guest Editors

Dear Colleagues,

In recent years, numerous novel concrete materials and innovative concrete structures that enable accelerated construction, enhanced durability, cost-efficiency, and a longer service life have been developed. However, research on the structural behavior and the methods used to design such materials and structures is limited, and the codification of the corresponding standards is still in its infant phase. This has significantly hindered the wider application of these novel concrete structures. The purpose of this Special Issue is to illustrate the latest achievements regarding the fundamental and practical investigation of novel concrete structures, with a particular focus on their structural behavior and design methods.

The main topics of interest include, but are not limited to, the following:

- Novel structures made of new concrete material, e.g., ultra-high performance concrete (UHPC), fiber-reinforced concrete (FRC), and engineering cementitious composites (ECC), etc.
- Precast/prestressed concrete structures for accelerated construction...

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9CS580PPD4





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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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