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Research on the Performance of Non-metallic Reinforced Concrete

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Message from the Guest Editors

The climate crisis is the main challenge of our time. To reduce the global CO_2 emission drastically, the building industry has to change. More than 50% of total CO_2 emissions can be traced back to the construction industry. There are many different possible ways available to reduce global CO_2 emissions. A prominent potential solution is to avoid demolition and preserve existing buildings by strengthening or retrofitting those structures, e. g. with resource-efficient methods. Another solution is the use of innovative and non-corrosive materials for concrete structures for new buildings.

To reduce the global CO_2 emissions effectively, better and more resource-efficient solutions for concrete structures in both potential construction fields (strengthening of existing structures and building new) are necessary.

Therefore, the main aim of this Special Issue is to explore the recent challenges, potentials and developments of innovative concrete structures for more resource-efficient buildings.

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Special Issue

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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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