Special Issue

Safety Assessment and Structural Analysis of Reinforced Concrete Buildings

Message from the Guest Editors

This topic encompasses both the theoretical and practical aspects of evaluating the structural integrity of reinforced concrete (RC) elements, including beams, columns, slabs, and foundations. The process involves assessing load-bearing capacity, durability, and resistance to environmental factors such as corrosion and seismic activity. Advanced methods, such as the analytic hierarchy process (AHP), have been applied to quantitatively evaluate the safety risks of RC structures post-disaster, providing a structured framework for decision-making. Additionally, modern techniques, such as non-destructive testing and three-dimensional imaging, are increasingly used to detect damage and predict the remaining service life of these structures. The ultimate goal is to enhance the robustness of RC structures through innovative design approaches, such as nonlinear finite element analysis, and by integrating safety parameters into the construction and maintenance phases.

Guest Editors

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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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