

Fiber-Reinforced Polymers and Fiber-Reinforced Concrete in Civil Engineering

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Message from the Guest Editors

Dear Colleagues,

Fiber-reinforced polymers (FRPs) have been widely applied for structural retrofitting and strengthening, and even as structural members for new construction, owing to their high strength, light weight, and corrosion resistance. Additionally, fiber-reinforced concrete (FRC) has been proposed to enhance the crack resistance and ductility of concrete. At present, researchers and engineers have overcome a series of bottlenecks in the theory and application of FRP and FRC. Although significant advances have been achieved, numerous important challenges still exist regarding life cycle analysis, performance under extreme disasters (earthquakes, hurricanes, floods, tsunamis, fires, and blasts), advanced numerical models and simulations, intellectualization, standardization, sustainability, etc. From the above perspective, this Special Issue aims to contribute to the latest progress in the research and application of FRP and FRC.



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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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