

Materials and Technologies for Regenerative Built Environments

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Message from the Guest Editors

During recent years, the building sector has undergone a paradigm shift. The most up-to-date challenges and goals require strategies and technologies for restoring and regenerating, thus promoting positive impacts that enable social and ecological systems to maintain a healthy state and to evolve. This Special Issue aims to gather and share the knowledge available on the aforementioned, with the goal of promoting regenerative buildings through integrated design, passive strategies, low-carbon technologies, and materials, among others. The Special Issue is open for papers addressing, but not limited to, the following topics: Bioclimatic, climate-responsive, and passive design; Indoor environment quality; Active technologies for low-carbon and energy-efficient buildings and communities; Vernacular architecture and construction; Simulation for regenerative buildings and communities.

For further reading, please follow the link to the Special Issue Website at:

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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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