

Special Issue

Resilient Urban and Architecture Design: Strategies for Low-Carbon and Climate-Adaptive Cities

Message from the Guest Editors

With rapid urbanization and climate change, cities must balance growth with sustainability. This Special Issue explores innovative design strategies that promote resilience and adaptability in urban environments and architecture, focusing on low-carbon and climate-adaptive solutions.

This Special Issue begins by examining the principles of resilient urban design, emphasizing integrating natural systems with built environments to create cities capable of withstanding and recovering from climate-related disruptions. It delves into the role of green infrastructure, in enhancing urban biodiversity, reducing heat island effects, and improving air quality. Next, this issue explores low-carbon design practices in architecture, including passive design strategies that utilize natural light, ventilation, and thermal mass to reduce energy consumption, the use of low-carbon sustainable building materials, and the integration of renewable energy systems into urban buildings. By fostering resilience and adaptability it contributes to the creation of cities that mitigate the impacts of climate change and thrive in the face of future uncertainties.

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About the Journal

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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