



## Natural-Based Solution for Sustainable Buildings

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### Message from the Guest Editors

Dear Colleagues,

Due to its intrinsic complexity, the environmental sustainability enhancement of cities requires a profound transformation and reorganization of urban spaces. It represents an ambitious goal to be achieved in the near future to promote the spread of resilient cities in which people's liveability can improve. The diffusion of natural ecosystems and natural material components integrated into buildings goes in this direction, allowing for pragmatic solutions to effectively counteract the effects of climate changes and rationalizing the employment of energy reserves that currently find their final use just in cities. Ecosystems such as integrated greenery (even partially) and components made of natural materials in the building envelope find a natural application due to the abundant availability of surfaces and the high potential attainable in terms of the development of local bio-networks, to contrast the urban island effects, to properly manage heavy rainfalls, to improve the wellbeing of the habitants and the air quality in the city and to positively impact on energy consumption in buildings.

*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.

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