



Bioclimatic Architecture for Building Renovation

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Message from the Guest Editors

Rates within the next ten years (European Commission, 2021) to reduce the consequences of climate change. Increasing average temperatures, as observed since the pre-industrial period (European Environment Agency, 2021), provide the potential of decreasing heating demand for buildings during cold periods. In contrast, the cooling demand will increase to satisfy occupants' need for adequate thermal comfort. The application of bioclimatic architecture strategies for newly built buildings has proven to bring satisfactory indoor climates for centuries as well as saving energy. Thus, extending their application for building renovation can be a massive potential and significant focus in the coming years towards developing sustainable renovation design scenarios, given the sustainable nature of architecture passive design strategies. To this end, this Special Issue is dedicated to bringing together the recent efforts in both research and/or practice of concepts, opportunities, challenges, and application of bioclimatic approaches in building renovation or sustainable renovation.





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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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