Special Issue

Building Resilient Cities: Architecture and Urban Planning for Combating Extreme Hot and Cold Weather

Message from the Guest Editors

The increasing global temperature has been identified as a key driver of the rise in extreme weather conditions observed in recent years. Events such as heatwaves and cold snaps can cause power outages and failures in energy systems, which cut the required heating and cooling energy supplies for buildings. Furthermore, these extreme conditions can negatively impact the productivity, health, and well-being of occupants. In light of these trends, it is imperative to enhance the resilience of cities and buildings to ensure their functionality and comfort under such conditions. We wholeheartedly welcome papers on related topics including, but not limited to the following:

- Climate-resilient architecture and urban planning solutions;
- Energy-efficient and climate resilient building solutions;
- Urban microclimate and extreme heat/cold adaptation strategies;
- Heat-health risk assessment of cities;
- Practices of climate-resilient buildings and cities;
- Climate-resilient materials and construction methods;
- Smart technologies for resilience and sustainability;
- Policy and governance strategies to promote climate-resilience;
- Enhancing the resilience of urban energy systems.

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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.

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