Special Issue

Advances in Building Environment and Energy Conservation

Message from the Guest Editor

Urban overheating is a serious environmental issue with tremendous impacts on energy loads and peak electricity demand. Given the ongoing trend of overheating, it is essential that novel technologies with higher efficiencies are developed to eliminate this phenomenon and minimize the corresponding energy penalties. This Special Issue aims to report emerging trends in research activities in novel urban heat mitigation and technologies developed to overcome the rising energy demand. Topics of interest for this Special Issue include, but are not limited to:

- Advanced building materials for glazed and opaque building components;
- Natural ventilation techniques;
- Responsive building components and systems;
- Building-integrated photovoltaics (BIPVs);
- Grid-interactive efficient buildings with renewable energy systems;
- Impact of urban heat mitigation strategies on building energy consumption and the electricity generation potential of BIPVs.

Guest Editor

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Deadline for manuscript submissions

closed (10 December 2023)

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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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