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Data Analysis and Energy Modeling in Smart and Zero-Energy Buildings and Communities

Guest Editor:

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Deadline for manuscript submissions:
closed (20 June 2024)

Message from the Guest Editor

Dear Colleagues,

Considering the increased smartness of buildings and the rapid development of monitoring technologies, the mitigation of climate change through renewable energy integration and efficient energy management is expected. The usage of the IoT, sensors, data analysis, and energy modeling can be substantial to achieve the goal of Zero-Energy Buildings and Communities.

Papers submitted for consideration for publication in this Special Issue should advance and disseminate information related to sensing technologies and energy modeling approaches integrated with smart buildings in order to help achieve very high performance.

Acceptable topics include original reviews, advanced research, or explorations of new concepts pertinent to monitoring, data analysis, and energy modeling of smart buildings and cities. Cutting-edge energy data collection and modeling in realizing a zero-energy balance and carbon neutrality for buildings are highly encouraged to contribute to the sustainable development of the building sector.

Guest Editors

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Editor-in-Chief

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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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