Special Issue

Modeling, Analysis, Optimization and Control of HVAC Systems in Buildings—Volume 2

Message from the Guest Editor

Reliable models, optimization techniques, and advanced control strategies are essential to achieve the maximum overall performance efficiency of HVAC systems and, thereby, reduce building energy uses. The aim of this Special Issue is to address the needs of new modeling techniques for the design and operation of building energy systems, advanced operation of HVAC systems through better control and control sequence strategies, data-enabled modeling and optimization methods, advanced computational methods for buildings, and any innovative design and operation techniques that can lead to better building energy system efficiency. We invite high-quality, cutting-edge articles for this Special Issue; Possible topics include, but are not limited to, the following:

- Building energy system design and operation;
- Modeling and optimization of HVAC systems;
- HVAC system analysis;
- HVAC system control and optimization;
- Applications of Artificial intelligence and computational methods to building energy systems;
- Advanced computational methods and modern data analysis techniques for buildings.

Guest Editor

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Deadline for manuscript submissions

closed (31 December 2024)

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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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