Special Issue

Ventilation and Air Distribution Systems in Buildings

Message from the Guest Editor

Ventilation systems are an important component of energy-efficient buildings. Building information modelling (BIM) has recently improved the design of these systems, but there are still many questions to be answered and parts to be developed. Although air distribution systems can influence indoor flow patterns, thermal comfort, and the spread of contaminants, their design is frequently constrained by the building. Papers may address related building materials relevant to ventilation systems or devices that can meet their demands. Measurements on-site or in the laboratory are welcome, as are simulations ranging from BIM to indoor flow (CFD) models.

- ventilation
- air distribution systems
- insulation
- thermal comfort
- measurement
- simulation
- BIM
- heating-cooling demand

Guest Editor

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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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