Special Issue

Research on Ventilation and Airflow Distribution of Building Systems

Message from the Guest Editors

Ventilation and airflow distribution are key to indoor air quality and energy efficiency in buildings. This Special Issue will present the latest research results, especially in large public buildings, industrial buildings, and special clean building environments. We focus on the design of energy-efficient ventilation systems, simulation and optimization of airflow dynamics, monitoring and management of indoor air quality, and integration with smart building technologies. Topics relevant to this Special Issue include:

- Ventilation system design and pollutant control strategies for industrial buildings;
- Ventilation system analysis and optimization for large-space public buildings;
- Airflow distribution and pollution control techniques for clean buildings;
- Thermal management and airflow distribution in data centers;
- Energy-efficiency analysis and energy-saving technologies for ventilation systems;
- Application of intelligent control in the management of ventilation systems;
- Ventilation strategies and sustainable design practices for green buildings;
- Research on ventilation safety and health impacts in special environments.

Guest Editors

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Deadline for manuscript submissions

closed (30 July 2025)

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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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