

Special Issue

Advances of Computational Heat and Mass Transfer in HVAC Systems

Message from the Guest Editors

HVAC systems involve multi-physics phenomena of heat and mass transfer, which significantly affect indoor environment quality and energy efficiency. Besides experimental methods, the rapid evolution of computational modeling has unlocked unprecedented capabilities for deep system analysis, optimization, and innovation.

This Special Issue, "Advances of Computational Heat and Mass Transfer in HVAC Systems", will compile state-of-the-art research that leverages computational fluid dynamics (CFD), numerical heat transfer (NHT), and other advanced simulation techniques to address the heat and mass transfer processes in modern HVAC systems. This Special Issue welcomes submissions on varied topics, including, but not limited to, the following:

- CFD analysis and optimization of heat exchangers.
- High-resolution simulations of indoor airflow.
- Contaminant dispersion.
- Thermal comfort.
- Moisture management.
- Modeling of multiphase and phase-change phenomena.
- Application of machine learning and reduced-order models for faster system simulation, control, and fault detection.

Guest Editors

Dr. Xiaofang Shan

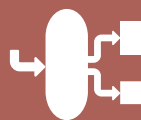
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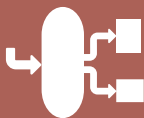


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