

Special Issue

Computational Fluid Dynamics Simulations of Urban Airflow

Message from the Guest Editors

The purpose of this Special Issue is not only to highlight the capabilities of CFD simulations in urban airflow studies but also to discuss the limitations and the future possibilities of CFD modeling in this field. In addition, experimental studies are also welcome for demonstrating CFD datasets used for discussion of CFD accuracy. In particular, the following topics are welcome:

- Multi-scale/multi-physics CFD modeling of transport phenomena of urban airflows ;
- Large-scale simulation of urban airflows using high-resolution CFD models;
- Pollution dispersion/droplet dynamics in urban areas;
- Indoor/outdoor air quality;
- Infection risk modeling under urban microclimate interactions;
- Urban heat islands;
- Pedestrian wind environments;
- Extreme gust and weak winds;
- Urban ventilation;
- Indoor and outdoor airflow interactions;
- Turbulence model development for urban airflow;
- Hybrid turbulence models for urban airflow modeling.

Guest Editors

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Deadline for manuscript submissions

closed (15 January 2023)



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About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

Dr. Daniele Contini

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