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Spreading of Novel Coronavirus (COVID-19) in Ambient Air: Modeling, Prediction and Mitigation Strategies

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Deadline for manuscript submissions:
closed (31 July 2022)

Message from the Guest Editors

The COVID-19 pandemic has brought about tremendous impact on most activities all over the world. Stopping infection through air transmission is the key point in controlling the outbreak inside buildings. Papers are welcome on mitigation strategy and codes developed in building ventilation requirements, indoor air flow patterns, local air speeds, turbulence, and their effects on virus control in determining criteria for providing better ventilation. Specific topics are:

- Transmission mechanism of SARS-CoV-2 through air.
- Air flow pattern and mixing of clean and infected indoor air.
- Local air speeds and turbulence at occupied zones.
- Ventilation theory, design and application related to SARS-CoV-2 control.
- Correlation relations among the key macroscopic design parameters.
- Computational Fluid Dynamics application in indoor aerodynamics and field measurements.
- Personal ventilation system.
- Ventilation requirements expressed in terms of macroscopic flow number such as number of air changes per hour.
- Comparison of, and criticisms on, current practices in ventilation requirements.
- Criticisms for working out mitigation strategy.
- Case studies.

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Special Issue

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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!

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