Special Issue

Advances in Monitoring and Modeling of Urban Air Quality

Message from the Guest Editor

Urban air quality monitoring and modeling methodologies have dramatically advanced. These advanced methodologies enable us to detect and estimate air pollutant concentrations (e.g., PM10, PM2.5, NO2, O3, SO2, CO, CO2) at high temporal (approximately a few seconds) and spatial (approximately a few meters) resolutions. Recent advances include accurate portable devices, low-cost sensor networks, mobile monitoring using vehicles (i.e., van, drone, bicycle, etc.), air pollutant emission models, and multiscale dispersion models, from Gaussian models to computational fluid dynamics (CFD) models. However, there are still some debating issues on the representativeness, repeatability, and validity of the advanced methodologies. This Special Issue aims at reporting recent advances in urban air quality monitoring and modeling and discussing their technical developments as well as improvements in scientific understanding.

- urban air quality
- air quality monitoring
- air quality modeling
- mobile measurement
- low-cost sensors
- air pollutant emission
- air pollutant dispersion
- urban meteorology
- chemical reactions
- aerosol dynamics

Guest Editor

Prof. Dr. Kyung-Hwan Kwak

School of Natural Resources and Environmental Science, Kangwon National University, Chuncheon, Korea

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

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