Special Issue

IoT-Based Sensing Systems for Urban Air Quality Forecasting

Message from the Guest Editor

This Special Issue focuses on how scientific, societal, and public health advancements can be facilitated using diverse IoT systems in dense urban environments (outdoors and indoors), on autonomous robotic systems, and in wearable IoT devices. These IoT devices can be enhanced by machine learning, e.g., for sensor calibration, and provide a range of data products and/or the development of advanced forecasting methods. There is a natural synergy of data from IoT sensors with operational forecasting and data assimilation systems. There are many public health benefits of precise, localized air quality information facilitated by IoT devices and/or forecasts, especially for those with health vulnerabilities. There is significant value in exploring methodologies for assessing IoT data quality and uncertainty, studying cost-effective sensor calibration techniques, characterizing the optimum spatial and temporal scales required to capture the natural variability of micro-environments, and promoting transparency and reproducibility through open source approaches, open data, open data standards, and open-design sensor systems.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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