

The continuing unprecedented growth in the urban population has placed renewed emphasis on aspects like sustainable development, environmental impact, public health, and mobility. Currently, cities around the world are vigorously involved in finding solutions to empower the quality of inhabitants as well as to enrich the use of city infrastructure and resources with reduced operational costs. Urban sensing plays a vital role in the ability to monitor and control infrastructure, as well as to make data-driven urban planning and management. Efficient sensors, sensing methods and actuator systems are required for effective coordination and control of urban infrastructure. As urban sensing becomes prevalent, the use of data and machine learning techniques like federated learning comes to the fore, especially to deal with aspects like the heterogeneous nature of urban systems, security and data/user privacy. It is intended that this Special Issue of the IEEE Sensors Journal will focus on research that is directly connected to urban sensing technologies, the management of sensor devices and the data they create in urban environments, and machine learning methods for urban sensing applications. Original research contributions and review papers are sought in the following related areas including (not limited to):

- Electronic and physical aspects of sensors in urban sensing systems
- The longevity (battery, computation, overall health) of physical sensors in urban sensing systems
- Wireless Sensor networks in urban sensing systems
- Advances in sensor big data analytics for urban applications
- Frontiers in security, privacy, and trust in sensor-based urban cities
- Machine Learning Techniques in Urban Sensing Systems
- Sensing of environmental parameters for monitoring of air/water quality, and disease spread/control
- Urban Sensing technologies and their architectures for sustainable transportation and mobility solutions
- Novel applications of sensing technologies in urban Cyber-Physical Systems
- Sensing and transducing solutions in smart grids for reliable, efficient, and sustainable electronic power distribution

Manuscripts submitted to the special issue should maintain an explicit focus on sensors, sensor architectures, sensor data processing or sensor systems, to be considered within the scope of the IEEE Sensors Journal. Solicited and invited papers shall undergo the standard IEEE Sensors Journal peer-review process. All manuscripts must be submitted online, via the IEEE Manuscript Central, see <http://mc.manuscriptcentral.com/sensors>. When submitting, please indicate in the "Manuscript Type" and select the "Urban Sensing: Applications, Technologies and Systems" Special Issue. Authors are particularly encouraged to suggest names of potential reviewers for their manuscripts in the space provided for these recommendations in Manuscript Central. For manuscript preparation and submission, please follow the guidelines in the Information for Authors on the IEEE Sensors Journal web page, <http://www.ieee-sensors.org/journals>.

**Deadlines:**

- Manuscript Submission: April 30, 2023
- Notification of Acceptance: July 31, 2023
- Final Manuscript published: the Fourth Quarter of 2023

**Guest Editors:**

1. Gautam Srivastava, Brandon University, Canada ([srivastavag@brandonu.ca](mailto:srivastavag@brandonu.ca))
2. Ashish Pandharipande, NXP Semiconductors, The Netherlands ([pashish@ieee.org](mailto:pashish@ieee.org))
3. Sabrina Sicari, DiSTA, University of Insubria, Italy ([sabrina.sicari@uninsubria.it](mailto:sabrina.sicari@uninsubria.it))
4. Khaled N. Salama, King Abdullah University of Science and Technology, Saudi Arabia ([khaled\\_salama@ieee.org](mailto:khaled_salama@ieee.org))
5. C.K.M. Lee, Hong Kong Polytechnic University, Hong Kong ([ckm.lee@polyu.edu.hk](mailto:ckm.lee@polyu.edu.hk))
6. Norbert Herencsar, Brno University of Technology, Czech Republic ([herencsn@ieee.org](mailto:herencsn@ieee.org))