

Special Session on:
Internet of Robotic Things

October 12-27 2023
Aveiro Congress Center, Portugal

In conjunction with IEEE WF-IoT 2023



Organizing Chairs:

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Programme Committee:

TBD

Important dates:

Paper submission: Jul 30, 2023

Notification of acceptance: Aug 21, 2023

Camera-ready submission: Sep 29, 2023

Presentation submission: Oct 2, 2023



Description:

The United Nations expects the number of people living in urban areas in 2020 to double by 2050, while the global population will increase from 7 billion to 10.9 billion. Currently, half of the world's population lives in cities. There is a need for innovative solutions to various problems associated with the increase in population growth in urban areas, such as environmental and transportation issues. The 'smart city' refers to an innovative city that combines and integrates various information and communication technologies (ICT) to improve quality of life and enhance the efficiency and competitiveness of urban operations while improving the socioeconomic and environmental needs of its current and future residents. The basic framework of the smart city includes sensors and support technologies that gather information on various quality-of-life performance indicators from the urban areas for continuous monitoring, intervention, and improvement. The data is collected by the Internet of Things (IoT), which refers to a network of interconnected heterogeneous devices where each device is recognizable. The real-world devices are connected to cloud storage using IoT, which advances the computing capacity of each framework. Countries worldwide raced to restore order in their citizens' lives. *In regions where smart city technology had been established, the response to the pandemic was swift due to extensive IoT infrastructure.* Urban areas are highly susceptible to not only pandemics but also to natural disasters such as floods and earthquakes, as well as human-caused disruptions such as terrorism and cyber-attacks. IoT-based smart cities prove improved resilience against such troubles. Furthermore, IoT-based technologies find their application in monitoring and mitigating the impacts such as air and water pollution due to urbanization and population growth in smart cities. The next framework for a thriving smart city depends on implementing robotics, one of the most critical "last-mile technologies". Robots integrate into a smart city framework by effortlessly allowing e-commerce companies to process a larger number of orders within the shortest possible time and execute more last-mile deliveries, conduct dangerous and critical search and rescue missions, intervene to maintain a healthy environment based on collected data, and numerous other tasks which would otherwise be resource intensive.

Topics of Interest:

This special session calls for contributions to IoT frameworks that use robots and edge devices as end devices. We invite people from Academia and Industry to contribute to this special session.

The Special Session aims to address but not limited to the following:

1. Multi-modal sensing using IoT frameworks.
2. Integration of Drones for IoT applications.
3. Remotely Operated Vehicles (ROV) and Autonomous Vehicles for underwater IoT applications.
4. Computer vision in IoT frameworks.
5. Challenges in Underwater Imaging – data acquisition and transmission.
6. Robots in biomedical applications.
7. System-level integration of end effectors

Paper Submission:

All papers must be submitted through eWorks. You must choose the Special session track (Spes-06) when submitting your paper in order to be considered for this special session. The paper should be up to six (6) pages in length. The

conference allows up to two additional pages for a maximum length of eight (8) pages upon payment of extra page fees once the paper has been accepted.

The paper can be prepared using the template available through the Authors / Proposers tab from the WF-IoT conference website main page at:

<https://wfiot2023.iot.ieee.org>.

An alternative is to use the IEEE Word or Latex tools that can be found through:

<https://conferences.ieeeauthorcenter.ieee.org/write-your-paper/authoring-tools-and-templates/>.

Authors of accepted papers will need to provide a final version of your paper in PDF format and upload it by the camera-ready deadline and complete the assignment of copyright and release form. For your paper to be included in the proceedings and published in IEEE Xplore, at least one author is required to register for WF-IoT 2023 by the deadline.

More information on the Special Session:

<https://wfiot2023.iot.ieee.org/internet-robotic-things>