



Sustainable Communications for Renaissance

Call for Papers

IoT & Sensor Networks

Symposium

Symposium Co-Chairs

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Scope and Motivation

With the promise of revolutionizing the way we live, work, and manufacture, it is no surprise that the Internet of Things (IoT) has gathered momentum in both industry and academia. Thanks to increased connectivity and the continued miniaturization of computers and smart devices, IoT will generate huge volumes of data to be analyzed to uncover hidden patterns, correlations, and other insights. Moreover, in the industrial environments (Industry 4.0) and in smart spaces (buildings, houses, etc.) and connected vehicles, communications will require higher reliability, lower latency, and scalability. Several technologies such as BLE, Zigbee, WirelessHART, IEEE Std 802.15.4 TSCH, 6TiSCH, LPWAN (LoRa, Sigfox, NB-IoT, LTE-M), and RAW have been proposed to tackle these requirements. The evolving 5G networks provide increased data rates and ultra-low data latency communication for critical IoT applications that require extreme reliability. 5G will enable Machine Type Communication (MTC), one of the most promising technologies for IoT applications, gaining a tremendous interest among mobile network operators, equipment vendors, MTC specialist companies, and research bodies. These anticipated high-traffic demands, low-latency, and deterministic delivery requirements stemming from IoT and Machine-to-Machine (M2M) communications can be met only with radical changes in architecture and communication solutions. Recently, the Fog/Edge-to-thing continuum is proposed to mitigate the heavy burden on the network due to the centralized processing and storing of the massive IoT data by ensuring closer processing in proximity to the devices. The IoT and Sensor Networks Symposium at IEEE ICC 2023 will provide a forum that brings together scientists and researchers to present their cutting-edge innovations in all aspects of the field.

Topics of Interest

This track solicits technical papers describing original, previously unpublished papers on trends, issues, and challenges of the Internet of Things and sensor networks. You are invited to submit research paper(s) related to the following topics of interest (but not limited to):

- 5G and beyond 5G/6G networks and IoT
- Protocols, architectures and applications for IoT
- Design space exploration techniques for IoT devices and systems
- Design principles and best practices for IoT application development
- IoT and Tactile Internet
- IoT and social networks
- IoT and AR/VR technologies
- Connected car, automotive, intelligent transportation
- IoT for smart manufacturing (industry 4.0) and smart spaces
- IoT protocols and standards (IPv6, 6LoWPAN, RPL, 6TiSCH, RAW, WoT, oneM2M, etc.)
- Low-power wide area networks and technologies
- Ultra-low power IoT technologies and embedded system architectures
- Distributed storage, data fusion for IoT
- Wearables, body sensor networks, smart portable devices
- Messaging technologies for the Industrial IoT and Factory of Things
- Aerial IoT networks
- Underwater and underground sensor and actuator networks
- IoT networks for smart cities, smart grids, smart living spaces, Intelligent Transportation Systems
- Nano ad hoc, sensor and IoT networks
- RFID sensing technology
- Ambient intelligence
- Autonomic computing for IoT
- Software Defined Networking (SDN) and Network Function Virtualization (NFV) for IoT
- Artificial intelligence and machine learning for IoT
- IoT big data mining and analytics
- IoT large scale pilots and portability, interoperability and multi-platform integration
- Low-power computing
- Massive MTC (mMTC)
- Mobility, localization and context adaptive IoT
- Data aggregation and dissemination in multi-hop IoT networks
- Fog/edge computing and IoT: architectures and implementations
- Security, privacy, and trust issues in IoT networks
- Blockchain technology for IoT
- Semantics-aware communications
- Modeling and performance evaluation
- Security
- Testbeds and real-world implementations

Important Dates

Paper Submission: 11 October 2022

Notification: 18 January 2023

Camera Ready and Registration: 15 February 2023

Important Note

The authors of selected papers from this symposium will be invited to submit an extended version of their work for fast-track review and possible publication in the IEEE Open Journal of the Communications Society.

How to Submit a Paper

All papers for technical symposium should be submitted via EDAS. Full instructions on how to submit papers are provided on the IEEE ICC 2023 website: <https://icc2023.ieee-icc.org/>