

IEEE GLOBECOM 2023

4-8 December 2023 // Kuala Lumpur, Malaysia

CALL FOR PAPERS

Intelligent Communications for Shared Prosperity

IoT and Sensor Networks Symposium

Co-Chairs

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Scope and Motivation

The Internet of Things (IoT) has emerged as a promising technology to revolutionize the way we live and interact with the surrounding environment. IoT produces and communicates massive amounts of data that needs to be filtered, analyzed, and processed. In industrial environments (i.e., Industry 4.0 and 5.0) as well as in smart cities, communication between connected devices requires high reliability, low latency, and sufficient scalability. Several technologies such as BLE, Zigbee, Wireless HART, IEEE Std 802.15.4 TSCH, 6TiSCH, LPWAN (LoRa, Sigfox, NB-IoT, LTE-M etc.), and RAW have been proposed to tackle these communication requirements. The 5G network provides not only increased data rates but also ultra-low data latency communication for critical IoT applications that require extreme reliability. 5G enables Machine Type Communication (MTC), which is used by mobile network operators, equipment vendors, MTC specialist companies, and research bodies. The high-traffic demand, low-latency, and deterministic delivery requirements stemming from IoT and machine-to-machine (M2M) communications can be met only with radical changes to current communication and networking architectures. Recently, Fog and Edge computing has been proposed to mitigate the heavy burden on the network due to the centralized processing and storing of the massive IoT data. Fog/Edge-enabled IoT architectures ensure closer processing in proximity to the things, which results in small, deterministic latency that enables real-time applications and enforced security.

Topics of Interest

The IoT and Sensor Networks Symposium at IEEE Globecom 2023 aims at a forum that brings together scientists, researchers, and leaders in their domain to present their cutting-edge innovations in all aspects of this field. The IoT and Sensor Networks Symposium seeks original contributions and

unpublished pertaining to trends, issues, and challenges of the following topical areas, plus others that are not explicitly listed but are closely related:

- Blockchain technology for IoTs
- Federated learning for IoT networks
- B5G networks and IoT
- IoT security, trust, and trustworthy
- Secure and privacy-preserving IoT communications
- IoT and personal data protection
- Artificial intelligence and IoT
- IoT large scale pilots and portability
- IoT interoperability and multi-platform integration
- SDN, NFV and IoT
- Intelligent sensor and actuator networks
- Emerging IoT protocols and standards
- Ultra-low power IoT technologies and embedded systems architectures
- Wearables, body sensor networks, smart portable edge devices
- Design space exploration techniques for IoT devices and systems
- Heterogeneous networks, Web of things, Web of everything
- Named data networking for IoT
- Internet of nano things
- IoT data management, mining and analytics
- Distributed IoT data storage and management
- Routing and control protocols for IoT and sensor networks
- Resource management, resource allocation for IoT and sensor networks
- Mobility, localization and context-adaptive IoT
- Medium Access Control for IoT and sensor networks
- Mobility, Localization and Management Aspects for IoT and sensor networks
- Identity management and object recognition for IoT and sensor networks
- Localization technologies for IoT and sensor networks
- Edge computing, fog computing and IoT
- Fog/Edge caching techniques for IoT
- Machine to machine (M2M)/devices-to-devices communications and IoT
- Industrial IoT and factory of things and IoTs
- Emerging technologies for the industrial IoT
- Application of Fog/Edge computing to IoT: architectures and implementations
- Autonomic computing for IoTs
- Connected car, automotive, intelligent transport for IoT and sensor networks
- Cooperative computing for IoTs
- Cooperative IoT and sensor systems
- Design principles and best practices for IoT application development
- Dynamic scheduling, power control, interference management, and QoS for IoT and sensor networks
- Standards based IoT large scale pilots/demonstrators
- Interoperability methodologies for heterogeneous IoT
- IoT big data management and predictive analysis
- IoT for smart manufacturing (industry 5.0) and smart spaces
- IoT standards platforms interworking
- Horizontal application development for IoT
- IoT networks crowdsensing

Biographies of the Co-Chairs

Nizar Zorba is a Professor at the Electrical Engineering department at Qatar University, Doha, Qatar. He has authored five international patents and co-authored over 150 papers in peer-reviewed journals and international conferences. He is area editor in the IEEE Communications Letters and associate editor in IEEE Communications Magazine. He is/was symposium co-chair at IEEE ICC 2019, IEEE Globecom 2021, IEEE ICC 2023 and IEEE Globecom 2023. Currently, he is the chair of the IEEE ComSoc Communication Systems Integration and Modeling Technical Committee (TC CSIM).

Baoxian Zhang is currently a full professor with the University of Chinese Academy of Sciences, Beijing, China. He is currently an associate editor of IEEE Systems Journal and has served as a guest editor of

several special issues, including for IEEE JSAC. He has served as Symposium Co-Chairs for IEEE GLOBECOM 2021 and IEEE ICC 2020. He has published over 200 refereed technical papers in archival journals and conference proceedings. His research interests cover network protocol and algorithm design, wireless ad hoc and sensor networks, Internet of Things, and IP networks.

Selma Boumerdassi is an Associate Professor at CNAM Paris and a Research Associate at INRIA Paris. She served as a General Chair for many international conferences and as a Symposium Co-Chair for IEEE Globecom 2022. She also served as Guest Editor for various international journals. She has published more than 150 technical papers in international journals and conference proceedings. She served as an expert for the evaluation of French national and international projects. From January 2020 to December 2021, she served as the secretary of TCIIIN (the IEEE ComSoc Technical Committee on Information Infrastructure and Networking) and she has been serving as Vice-Chair since January 2022. Her research interests include IoT and sensor networks, with a special focus on information dissemination and lightweight security.

Krishna Moorthy Sivalingam is an Institute Chair Professor in the CSE Department of IIT Madras, Chennai, INDIA. Earlier, he was a faculty member in University of Maryland, Baltimore County; Washington State University, Pullman and University of North Carolina Greensboro, all in the USA. His research interests include computer networks and wireless networks. He is an IEEE Fellow, INAE Fellow and ACM Distinguished Scientist. He has served as Editor-in-Chief of Springer Photonic Network Communications Journal and EAI Transactions on Future Internet. He served as Technical Program Co-Chair for IEEE ICC Optical Networking Symposium 2016, Technical Program Co-Chair for IEEE INFOCOM 2008, General Chair for IEEE SECON 2006.

How to Submit a Paper

All papers for technical symposia should be submitted via EDAS. Full instructions on how to submit papers and important deadlines are posted at <https://globecom2023.ieee-globecom.org/>