

Special Session on:  
Quantum Internet of Things

October 12-27 2023  
Aveiro Congress Center, Portugal

In conjunction with IEEE WF-IoT 2023



**Organizing Chairs:**

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**Description:**

IoT will play a pivotal role in future 6G networks. Massive distributed sensing will be necessary to enable the metaverse, human telepresence, and the Tactile Internet. Sensors on human and machines, and in the environment will create interactions among real objects/environment/humans with digital ones in a mixed or virtual reality. This poses unprecedented challenges on IoT systems in terms of massive data mining and processing, which imply communication, computing, and sensing issues. The QIoT Special Session brings worldwide researchers investigating quantum sensing, communications, and computing and their integration in IoT-6G future communication networks. This special session addresses the challenge of ensuring the maturity and the suitable characteristics of quantum technologies for IoT in 6G networks.

**Topics of Interest:**

Design and realisation of quantum sensors, photonic and superconducting qubits in IoT, quantum-assisted distributed computing for IoT, quantum-assisted machine learning for IoT, quantum-assisted physical-layer security for IoT, quantum Internet of Things architecture and protocols, quantum IoT interoperability, 6G-quantum IoT protocol stack design, quantum-6G physical layer service integration, quantum wireless communications for IoT with high-altitude and aerial platforms, quantum-IoT protocols and applications, 6G-quantum IoT new KPIs and KVI, QoS and QoE.

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

- Quantum sensing and metrology
- Protocols for quantum IoT
- Interoperability among different quantum technologies
- Integration between classical and quantum technologies
- Entanglement-assisted communications for quantum IoT

**Paper Submission:**

All papers must be submitted through eWorks. You must choose the SpecialSession track (Spes-11) 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/quantum-internet-things>

**Important dates:**

Paper submission: Jul 30, 2023

Notification of acceptance: Aug 21, 2023

Camera-ready submission: Sep 29, 2023

Presentation submission: Oct 2, 2023



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