



Sustainable Communications for Renaissance

Call for Papers

1st Beyond URLLC Workshop (BUW-6G)

SCOPE

Ultra-reliable and low-latency communication (URLLC), one of the three main scenarios in 5G networks, can serve as an enabler for mission-critical applications. However, 5G URLLC is not sufficient to support diverse applications in real-time Internet of Things (IoT) such as industry automation, unmanned and autonomous systems. In such applications, information freshness is essential to support real-time communication, sensing and control. Unlike the conventional latency metric that measures the end-to-end time of each packet, Age of Information (AoI) is introduced in 6G URLLC to measure the freshness of information.

TOPICS OF INTEREST

This workshop aims to bring together researchers to report their recent advances and portray future research directions, significantly prompting the research areas of real-time IoT, including but not limited to the following topics:

- Theoretical bounds, performance limits, and fundamental trade-offs for 6G Key Performance Indicators (KPIs)
- The interplay among multiple KPIs in URLLC-enabled real-time IoT such as AoI, latency, reliability, power, capacity, jitter, coverage, and complexity
- Algorithms, protocols, and systems design for real-time IoT
- Machine learning aided real-time IoT techniques
- Hardware imperfection-aware real-time IoT design
- Integration of real-time IoT with state-of-the-art wireless technologies: power and energy-efficient design, short block-length transmission, intelligent reflecting surface, tactile internet, location-aided design, mobile edge computing, mMTC, V2V/V2I, non-orthogonal multiple access, D2D, MIMO beamforming, smart antenna)
- Experimental demos and prototypes for real-time IoT
- Metrics beyond AoI for real-time IoT applications
- Semantics-aware and goal-oriented communications

PAPER SUBMISSION

All papers for Workshops 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/>

WORKSHOP CO-CHAIRS

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IMPORTANT DATES

Paper Submission Deadline:

20 January 2023

Paper Acceptance Notification:

6 March 2023

**Camera Ready and Registration for
accepted papers:**

15 March 2023

WEBPAGE LINK

icc2023.ieee-icc.org