Sustainable Communications for Renaissance

Call for Papers

Workshop on The Evolution of Digital Twin Paradigm in Wireless Communications

SCOPE

Embracing the principles of network virtualization and digitization as a main pillar in the upcoming wireless generation has motivated the emergence of the digital twin (DT) paradigm as an enabler for 6G networks. The key concept of the DT technology is to create a digital replica of the physical components and functions of wireless networks, with the aim to realize ultra-reliable, low latency communication, while ensuring high energy-efficiency in resource-constrained networks. It is envisaged that DT will be the seed for the efficient deployment of intelligent, fully automated, zero-touch networks, in which artificial intelligence (AI) algorithms will be leveraged at the digital realm to enable virtualized network monitoring and operation. The aim of this workshop is to solicit research papers with original contributions, that address and promote the recent advancements in the integration of DT and wireless networks. It is worthy to note that the research on the interplay of DT and wireless networks is relatively new and has not been well investigated in the recent literature, and therefore, this workshop aims to promote the research on this field, and to bring together contributors from academia and industry to present the research on the practical implementation, analysis, design and modeling, and applications, and to identify technical challenges of DT in 6G networks. It further opens the floor for interactive live discussions among highly skilled researchers (through its panel discussion) in order to explore the potential advantages realized when integrating the DT paradigm in the design and optimization of future wireless networks.

TOPICS OF INTEREST

We seek original completed and unpublished work not currently under review by any other journal/ magazine/conference. Topics of interest include, but are not limited to:

- DT-enabled wireless networks.
- The interplay of machine learning and DT in 6G networks.
- Security and Privacy in DT-enabled 6G.
- DT-based optimization in 6G networks.
- DT for intelligent surface-assisted wireless networks.
- DT for high-frequency wireless networks.
- DT edge networks
- DT for industrial IoT.
- DT-enabled vehicular networks.
- DT for zero-touch networks.
- The interplay of DT and network slicing.
- DT for optical wireless communication.
- DT for satellite-enabled wireless communication.
- Testbed designs and implementation of DT in wireless networks.
- Network simulations of DT-enabled 6G.

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
Mérouane Debbah
Technology Innovation Institute, UAE
Lina Bariah
Technology Innovation Institute, UAE

MAIN CONTACT
Lina Bariah
lina.bariah@ieee.org

IMPORTANT DATES
Paper Submission Deadline:
20 January 2023
Paper Acceptance Notification:
6 March 2023
Camera Ready and Registration for accepted papers:
15 March 2023

WORKSHOP WEBPAGE
IEEE ICC WS: Digital Twin

CONFERENCE WEBPAGE
icc2023.ieee-icc.org