IEEE Global Communications Conference: Selected Areas in Communications: Terahertz Communications

SYMPOSIUM CHAIRS AND CO-CHAIRS

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SCOPE AND MOTIVATION

Scope:
Today, academia and industry unanimously agree on the critical role the sub-terahertz and terahertz bands (i.e., the frequencies between 100 GHz and 10 THz) will play in 6G and beyond. The very large bandwidth available at terahertz frequencies can alleviate the spectrum scarcity problem of current wireless networks and open the door to wireless terabit-per-second (Tbps) links needed, for example, to support high-definition holography and networked virtual reality in the fronthaul or to enable ultra-high-capacity wireless backhaul that can bridge the digital divide in rural areas, among many others. In addition, the very small size of terahertz transceivers and antennas (sub-millimetric at terahertz frequencies) leads to extremely small radios that can be non-intrusively embedded effectively everywhere, enabling innovative applications, such as wireless networks on chip and the Internet of Nano-Things, to name a few. Moreover, the terahertz band also opens the door to new forms of wireless sensing beyond radar and localization, including air quality monitoring, climate change study, and even nano-bio-sensing for transformative healthcare applications. Nevertheless, there are many challenges from the device, communication, and networking perspectives, which require fundamentally new solutions.

TOPICS OF INTEREST

Original research articles are solicited in, but not limited to, the following topics:
- Analog and digital transceivers for terahertz communication and sensing
- Antennas, antenna arrays, lenses, and metasurfaces for terahertz systems
- Propagation studies and channel models for terahertz communications
- Channel estimation techniques for terahertz communications
- Ultrabroadband modulation design for terahertz communications
- Near-field wavefront engineering for terahertz systems
- Beamforming, precoding, and space-time coding schemes for terahertz communications
- Energy efficiency in terahertz systems

- MAC layer design for terahertz communications
- Interference management for terahertz communications
- Relaying and routing in terahertz communications
- System-level modeling and experimental demonstrations for terahertz communications
- Coexistence of terahertz with millimeter wave and sub-6GHz transmissions
- Applications of terahertz communications: nanonetworking, industrial IoT, non-terrestrial networks

IMPORTANT DATES

Deadline for paper submission: 1 April 2024

Date for notification: 1 August 2024

Deadline for final paper submission: 1 September 2024

SUBMISSION INSTRUCTIONS

All papers for technical symposia should be submitted via EDAS through the following link:

https://edas.info/N31420