



## Fifth IEEE International Workshop on Terahertz Communications



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### Important Dates

Paper submission deadline:

**January 20, 2022**

Notification of acceptance:

March 06, 2022

Camera-ready papers:

March 15, 2022

### Submission link

<https://edas.info/N28800>

**Webpage** <https://www.thz-comm.org/>

### Scope

Despite the successful roll-out of 5G wireless networks at frequencies spanning up to the millimeter-wave spectrum, the quest for increasing data rates persists. Towards this end, higher frequencies over the terahertz (THz) band (0.1-10 THz) will be central to ubiquitous wireless communications in 6G networks. In particular, THz frequencies promise to support ample spectrum, data rates approaching or even exceeding the 1 Terabit-per-second (Tbps) mark, massive connectivity, denser networks, and highly secure transmissions. Several unique challenges, however, have still to be addressed to achieve the full potential of THz communications. For instance, THz transmissions incur very high propagation losses, which significantly limit the communication distances. Furthermore, the coexistence of mmWave, sub 6GHz, and optical wireless communications and networking is not yet fully understood. On the other hand, emerging beyond-5G technologies such as reconfigurable intelligent surfaces, ultra-massive MIMO configurations, and integrated access and backhaul, can boost the gains of THz communications. At the algorithmic level, novel signal processing techniques and networking protocols can get around the THz quasi-optical propagation characteristics and mitigate microwave characteristics to enable seamless connectivity. The workshop aims to attract researchers and academics from various fields of study, ranging from THz materials and devices, to THz communications and networking.

### Topics

We seek original completed and unpublished work not currently under review by any other journal/magazine/conference.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:

- Transceivers for terahertz communications
- Antenna and ultra-massive antenna arrays for Terahertz communications
- Information theoretic analysis of Terahertz communications
- Channel models for Terahertz communications
- Channel estimation techniques for Terahertz communications
- Ultrabroadband modulation and waveform design for Terahertz communications
- Beamforming, precoding and space-time coding schemes for Terahertz communications
- 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
- Integration of Terahertz with millimeter wave and sub-6GHz transmissions
- Terahertz for space communications
- Terahertz for nano-networks
- Terahertz for industrial IoT

### Paper Submission

The workshop accepts only novel, previously unpublished papers. The page length limit for all initial submissions for review is SIX (6) printed pages (10-point font) and must be written in English. All final submissions of accepted papers must be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures. No more than one (1) additional printed page (10-point font) may be included in final submissions and the extra page (the 7th page) will incur an over length page charge of USD100. For more information, please see IEEE ICC 2022 official website: <https://icc2022.ieee-icc.org/authors>