

2nd Italian Workshop on Communication Technologies

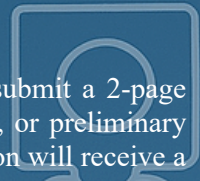
Milan, Politecnico di Milano Feb 8th-9th 2027

The evolution toward beyond 5G and 6G networks is redefining the foundations of wireless communication. New paradigms such as intelligent surfaces, integrated sensing and communication, AI-native protocol stacks, ultra-reliable low-latency links, and extreme connectivity require a rethinking of how we design the physical (PHY) and Data Link (DL) layers.

This workshop invites researchers, engineers, and especially young scholars and PhD students to contribute their ideas and results on modern communication systems, with a focus on PHY/DL techniques that enable next-generation wireless, optical, and hybrid networks. The workshop aims to foster open discussion, creative approaches, and early-stage research, offering a collaborative space for exchanging insights on the future of telecommunications.

Topics of interest include (but are not limited to):

- New modulation formats and waveforms (OTFS, OAM, mmWave, THz)
- PHY and DL for RIS-assisted and AI-native networks
- Massive MIMO and reconfigurable beamforming
- Integrated sensing and communication (ISAC)
- Optical wireless communications (terrestrial, underwater, satellite)
- Optical fiber communications
- Physical-layer security and PHY-based authentication
- Advanced multiple access techniques (NOMA, SDMA, grant-free)
- Adaptive PHY/DL using AI and machine learning
- Communication in harsh environments (underwater, space, industrial)
- Reinforcement learning and continual learning for adaptive access
- Channel coding for high mobility and high-reliability systems
- URLLC and low-latency protocols
- Energy-efficient PHY and DL for IoT and XR
- Wake-up radios and ultra-low power interfaces
- Physical layer design for Metaverse and human-centric networking
- Quantum Communications
- Non terrestrial communications



We encourage young researchers, including PhD students and early-career academics, to submit a 2-page extended abstract (IEEE format, in English) describing their ongoing research, novel ideas, or preliminary results. All selected abstracts will be presented in sessions and the most promising contribution will receive a **Young Researcher Award**.

Contributions can be sent at the following mail address: iwct@gtti.it within December 15th 2026. Notification will be sent out before January 8th 2027.



Organizing Committee: Mauro Biagi (Univ. “La Sapienza”, Rome), Stefano Buzzi (Univ. of Cassino), Marco Chiani (Univ. of Bologna), Ernesto Ciaramella (SS Sant’Anna, Pisa) Roberto Cusani (Univ. “La Sapienza”, Rome), Marco Luise (Univ. of Pisa), Riccardo Raheli (Univ. of Parma), Umberto Spagnolini (Polit. Milan), Stefano Tomasin (Univ. Padua)