Call for Papers
Track 4 – Wireless Communications: Fundamentals and PHY

Track Chairs:

Bang Chul Jung, Chungnam National University, South Korea

Suman Kumar, Troy University, USA

Scope and Motivation:

The track on Wireless Communications: Fundamentals and PHY covers all aspects on theory and practice of wireless communications. In particular, topics related to current and future wireless communication systems are encouraged. In addition, papers on physical layer (PHY) techniques, PHY-related network analysis and design, cross-layer optimization techniques, field trials and applications, fundamental analysis for wireless communication systems are of special interest.

Main Topics of Interest:

This track seeks original contributions in the following areas, as well as others that are not explicitly listed but are closely related

- Beyond 5G/6G mobile communications
- Advanced modulation techniques (OFDM, multi-carrier modulation, and waveform design)
- Antennas and beamforming techniques
- Cell-free massive MIMO, Hybrid beamforming techniques
- mmWave/Tera-hertz communication techniques
- Orbital angular momentum (OAM)-based wireless communications
- Dual function radar communication techniques
- Machine-learning techniques for wireless communications
- AI and data analytics for wireless communications
- Spectrum sharing/Cognitive radio techniques for future wireless communication systems
- Drone/UAV communications, Non-terrestrial wireless communications
- Wireless power transfer and simultaneous wireless information and power transfer (SWIPT)
- Green communications & Energy efficiency in wireless communications
- Information theoretic aspects of wireless communications
- Channel modeling, estimation, and equalization techniques
- Fog networks, contents caching, and edge computing techniques
- Non-orthogonal multiple access (NOMA) & Various multiple access techniques
- Massive IoT/M2M and Wireless sensor networks
- Interference management (coordination, cancellation, and alignment) techniques
- Physical-layer security & Anti-jamming techniques
- Positioning and localization techniques
- Signal processing for wireless communications