Call for Papers

Track 3 – Wireless Communications: MAC and Cross-Layer Design Track

Track Chairs:

Melike Erol-Kantarci, Univ. Of Ottawa, Canada
Shiwen Mao, Auburn University, USA

Scope and Motivation:

The Wireless Communications: MAC and Cross-Layer Design Track focuses on the topics that are related to all aspects of MAC and cross-layer design for consumer communications and networking. With the arrival of 5G wireless, there is an exponentially increase of wireless subscriptions. The fast advances in the Internet of Things (IoT) make it possible to interconnect billions of things. As a result, more and more wireless devices are concentrated into the spectrum ecosystem. There is a critical need for research in MAC to allow effective sharing of radio resources and harmonious co-existence of dense and heterogeneous wireless systems. In most cases, cross-layer design is exploited to obtain a larger design and optimization space for higher efficiency.

This track aims to provide a forum for researchers and practitioners working on state-of-the-art solutions to the challenges in MAC and Cross-Layer Design for wireless systems. Papers that describe original and unpublished work addressing various aspects of MAC and cross-layer design are welcome.

Main Topics of Interest:

The Wireless Communications: MAC and Cross-Layer Design Track seeks original contributions in the following, as well as other closely related, topical areas:

- Low-delay MAC design
- Delay tolerant MAC design
- MAC protocols for 5G: e.g., for mmWave and massive MIMO networks
- Cognitive and cooperative MAC
- MAC for mesh, ad hoc, relay and sensor networks
- MAC for near-field communications, e.g., body area networks and RFID
- MAC for machine-to-machine communications
- MAC for cellular networks, such as HetNet and Cloud-RAN
- Cross-layer design for QoS/QoE provisioning
- Cross-layer design for massive MIMO networks
- Cross-layer design for AR/VR systems
- Cross-layer design for autonomous driving and vehicular networks
- Cross-layer design for mission critical applications
- Cross-layer design for Internet of Things
- Cross-layer design for Cyber Physical Systems
- Cross-layer design for security and privacy
- Scheduling and radio resource management
- Mobile edge computing and caching
- Wireless network virtualization
- Wireless charging and energy harvesting
- Indoor localization and navigation
- Location based services

- Software defined radio and cognitive radio
- Implementation, testbeds and prototypes
- Standardization activities of emerging wireless technologies

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