Call for Papers for
Cognitive Radio and Networks Symposium

Symposium Co-Chairs:

Octavia A. Dobre, Memorial University, Canada
C. Faouzi Bader, CentraleSupélec, France
Zhiyong Feng, Beijing University of Post and Telecommunications, China

Scope and Motivation:

Emerging cognitive radio communications and networking technologies potentially provide a promising solution to the spectrum underutilization problem in wireless access, improving the interoperability and coexistence among different wireless/mobile communications systems and making the future generation radio devices/systems autonomous and self reconfigurable. The goal of this symposium is to bring together and disseminate state-of-the-art research contributions that address various aspects of analysis, design, optimization, implementation, standardization, and application of cognitive radio communications and networking technologies. The scope of this symposium includes (but is not limited to) the topics below.

Main Topics of Interest:

The Cognitive Radio and Networks Symposium seeks original contributions in, but not limited to, the following topical areas:
- Challenges and issues in designing cognitive radios and cognitive radio networks
- Architectures and building blocks of cognitive radio networks
- Spectrum sensing, measurements and statistical modeling of spectrum usage
- Waveform design, modulation, and interference aggregation for cognitive radio
- Distributed cooperative spectrum sensing and multi-user access
- Cognitive medium access control, interference management and modeling
- Dynamic spectrum sharing
- Handoff and routing protocols
- Resource allocation for multi-antenna based cognitive radio communications
- Energy-efficient cognitive radio communications and networking
- Self-configuration, interoperability and co-existence issues
- Distributed adaptation and optimization methods
- Machine learning techniques for cognitive radio systems
- Architecture and implementation of database-based cognitive radio networks
- Cooperative and coordinated communications

- Economic aspects of spectrum sharing in cognitive radio networks
- Regulatory policies and their interactions with communications and networking
- Privacy and security of cognitive spectrum-agile networks
- Attack modeling, prevention, mitigation, and defense in cognitive radio systems
- Physical-layer secrecy in cognitive networks
- Modeling and performance evaluation
- Quality of service provisioning in cognitive radio networks
- Spectrum sensing and sharing for Internet of Things
- Spectrum sensing and sharing for mmWave
- Applications and services (e.g., cognitive networking in TV whitespace, adaptation with LTE networks such as LTE unlicensed, and integration with other merging techniques such as massive MIMO and full-duplex)
- Cognitive radio standards, testbeds, simulation tools, and hardware prototypes.

The authors of selected papers from this symposium will be invited to submit an extended version of their work for fast-track review and possible publication in the IEEE Transactions on Cognitive Communications and Networking.