

## **Important deadlines:**

Submission (full paper)	Nov
Notification	Jan
Registration	Jan
Camera ready	Jan

November 27, 2012 January 15, 2013 January 29, 2013 January 29, 2013

### Tracks:

## **Fundamentals**

Cognitive radio and network architectures; Collaborative radio networks; Information theory and performance limits of dynamic spectrum access; Agile spectrum and dynamic spectrum sharing techniques; Cognitive spectrum sharing, coexistence, and interoperability; Cross-layer algorithms based on spectrum sensing techniques; Cognitive radio sensing in the large and feature detection; Collaboration optimization and refinement; Collaborative spectrum sensing schemes with weighted user contributions; Connectivity, capacity, and scalability of heterogeneous systems via cognitive networking; Auction and pricing models for dynamic spectrum sharing

### Mechanisms and protocols

Interoperability, interference and co-existence of dissimilar wireless networks; Distributed algorithms for spectrum detection and cooperative spectrum sensing; Models and fundamental limits of cognitive networking; Transient behavior and stability analysis in cognitive networking; Cognitive MAC, multicast, and routing protocols for heterogeneous networks with highly dynamic topology; Software radio and radio resource allocation; Spectrum policy reform issues and standardization

# **Processing and devices**

Propagation channel modeling and utilization; Cognitive and collaborative radio architecture for equipments; Transceivers and front-end technologies, SOC and SiP; MIMO, advanced signal processing, and smart antennas; Primary transmitter shadowing and fading; High-speed and broadband wireless technologies; Software defined radios and cognitive radios; Hardware reconfigurability; Smart antennas; Passive antennas

#### Measurement and management

Software radio and cognitive radio management; Interference measurements and metrics; Spectrum and performance management in cognitive radio networks; Security and robustness issues in cognitive networking; Cooperative resource management and optimization; QoS provisioning in adaptive, spectrum agile, and cognitive networks; Context management, sensing, reasoning and context acquisition; Traffic patterns, topology, mobility, and interference tolerance in cognitive networking; Statistical inference and cognition with from measurements that are inaccurate, incomplete, inconsistent, and delayed measurements; Sensing and feedback mechanism in cognitive networking and the associated cost; Cognitive radio with reinforcement learning

# Applications

Cognitive radio applications; Wideband sensing and multiband agile wireless networks; Future Internet with cognitive technologies; Flexible and opportunistic wireless access; Multimedia communications through cognitive networks; Simulation of cognitive wireless networks; Cognitive radio test-beds and hardware prototypes