



COGNITIVE RADIO WORKSHOP: THE NEW TRENDS

The new paradigm shift in wireless communications towards cognitive radio technology had attracted many stakeholders of spectrum users around the world. Cognitive radios enabled by software defined radio technology addresses many long standing issues in regards to efficient usage of spectrum in the spatio-temporal domain. This therefore attracts the radio regulatory agencies for reusing the unused spectrum and the commercial spectrum owners/leasers for maximising their profit by improving the spectral efficiency. Dynamic spectrum access therefore has become the prime application of cognitive radio technology leading towards various standards around the world. Embedding intelligence into radios opens up the space to design efficient radio communications to suit a specific need. In this sense green communications, smart grid networks and vehicular communication networks are some of the other recently identified application areas for cognitive radios and networks. Green communications is referred to energy efficient communication systems where the total energy consumption for wireless transmission is minimized to assist reducing the global carbon footprint. The intelligence embedded in cognitive radios is used in this sense to harvest energy in wireless networks without compromising on the QoS.

In order to promisingly use the cognitive radio technology, for the above mentioned and various other applications, many technical challenges are required to be addressed still. In this workshop therefore we address such challenging issues as summarised below;

- Dynamic spectrum access
- Spectrum sensing for cognitive radios
- Localization strategies for cognitive radios
- Power controlling techniques
- Database for cognitive radio,
- Economics of cognitive radio technology
- Learning techniques and strategies in cognitive radio networks
- Spectral usage models and experimental results
- Cognitive radio test bed developments
- Cognitive radios for green communications
- Novel applications of cognitive radio technology
- Regional regulatory frameworks for dynamic spectrum access
- Polices and languages

Submission Deadline	21 May 2012
Acceptance Notification	16 July 2012
Camera Ready Submission	06 Aug 2012

WORKSHOP CHAIRS

Dr. Kandeepan Sithamparanathan (RMIT University/NICTA)

Prof. Merouane DEBBAH (SUPELEC / Alcatel-Lucent Chair on Flexible Radio)

Dr. Markus Mueck (Intel Mobile Communications/ Chair ETSI TC Reconfigurable Radio Systems)

Prof. Iain Collings (CSIRO ICT Centre)

Dr. Hiroshi Harada (NICT/Chair IEEE DYSPAN Standards Committee)

Keynote Speech

By: Prof. Honggang Zhang

(Zhejiang University / Chair IEEE Technical Committee on Cognitive Networks)

Title: Cognitive Green Communications: When Energy Meets Intelligence

Accepted papers will appear on IEEExplore