

CFP of Special Issue on Applications of Cognitive Radio Networks IEEE Vehicular Technology Magazine

The term Cognitive Radio (CR), originally coined in the late 90s, envisaged a radio able to be aware of its operational environment so that it can dynamically and autonomously adjust its radio operating parameters accordingly to adapt to the different situations. Cognition is achieved through the so-called cognitive cycle, consisting in the observation of the environment, the orientation and planning that leads to making the appropriate decisions pursuing specific operation goals, and finally the actuation over the environment. Decisions on the other hand can be reinforced by learning procedures based on the analysis of prior observations and on the corresponding results of prior actuations. More than a decade after the CR concept was born researchers all over the world have devoted significant efforts to address different technical challenges of CR Networks, mainly covering fundamental problems associated with the cognitive procedures as well as technology enablers of CR concepts. Research has also focused on the potential offered by CR networks for bringing Dynamic Spectrum Access (DSA) to reality, thanks to the ability to identify spatial and temporal spectrum gaps not occupied by primary users, and to place secondary/unlicensed transmissions within such spaces. Based on all these foundations, the objective of this special issue is to address CR networks from an application-oriented perspective, contributing to the exploitation of CR concepts and associated techniques driving them towards practical applications and scenarios of use. In this context, this special issue targets the identification, development and assessment of novel as well as existing applications exploiting the CR concept.

Topics

This special issue looks for tutorial-nature papers that reflect the state-of-the-art and recent advances in the applications of Cognitive Radio networks. We solicit papers covering a variety of applications that include, but are not limited to, the following subjects:

- TV white spaces
- Opportunistic CR networking
- Cognitive Radio for emergency and public safety applications
- Cognitive Radio applied to Vehicular Communications
- Operator-controlled/assisted CR networks
- Novel applications of CR networks

In the framework of the above applications, elements that can be covered include:

- Testbeds, demonstrations and real-life deployment experiences of CR networks applications
- Regulatory aspects
- Business models
- Standardization
- Architectures to support CR networks applications
- QoS provisioning for CR networks applications
- Security issues

Papers should be of tutorial nature and contain state-of-the-art research and development materials. Authors must follow the IEEE Vehicular Technology Magazine guidelines regarding the manuscript format. Articles should be about 3000 words long, with 5 to 10 figures and 10 to 15 references. The use of mathematical equations should be limited a maximum of 3. For further information, please refer to IEEE Vehicular Technology Magazine website at <http://www.ieeevtc.org/vtmagazine/>. All papers should be submitted online using Trackchair: <http://cognitive2011vtm.trackchair.com/>

Important Dates (NEW DEADLINE)

Manuscript Submission Due: 30th September 2011

First notification: 30th November 2011

Manuscript revision due: 31st December 2011

Final acceptance notification: 31st January 2012

Final Manuscript Due: 1st March 2012

Publication: June 2012

Associate Editor

Jordi Pérez-Romero
Universitat Politècnica de
Catalunya (UPC)
Spain
jorperez@tsc.upc.edu

Guest Editor

Linda Doyle
Trinity College Dublin
Ireland
ledoyle@tcd.ie

Guest Editor

Mehmet Can Vuran
University of Nebraska-Lincoln
USA
mcvuran@cse.unl.edu