

IEEE Journal on Emerging and Selected Topics on Circuits & Systems (JETCAS)

– Call for Papers –

- **Special Issue on:** “Advanced Circuits and Systems for CR/SDR Applications”

In the last years, the cognitive radio (CR) has emerged as a revolutionary concept to efficiently exploit the scarce radio electromagnetic spectrum. To this aim, this radio must sense the electromagnetic environment to subsequently adapt its transmissions to the inputs, with the objective to obtain reliable communications and/or data from the surroundings. The principle is not limited to communications applications, but can also be extended to other scenarios where the radio electromagnetic spectrum is utilized, such as in radar systems and sensor networks. The aforementioned dynamic spectrum management can only be accomplished by making use of advanced hardware and software concepts. The needed inherent system reconfigurability demands a flexible software-defined radio (SDR), which additionally may permits the acquisition of multi-standard/multi-band services. Many efforts have been detected in the circuits and systems area with a view to implement the CR/SDR concept from many research institutions.

This Special Issue aims to provide the reader with covering on advanced circuits, systems and architectures for CR/SDR applications. Some research topics to be addressed, among others, are as follows:

- Circuits and systems for CR/SDR applications.
- Multi-band/multi-purpose circuits for CR/SDR applications.
- Reconfigurable/tunable RF circuits for CR/SDR applications.
- Power-efficient circuits for CR/SDR applications.
- Advanced concepts for CR/SDR radio architectures.
- Transmitter design for CR/SDR applications.
- All-digital transmitters.
- Receiver architectures for CR/SDR applications.
- Signal processing techniques for CR/SDR based radios.
- Behavior modeling of multi-band radio systems.
- Distortion and impairment mitigation of CR /SDR systems.
- Digital and digitally enhanced transceivers for CR/SDR applications.
- CR/SDR communication techniques.
- Implementation aspects of CR/SDR systems.

- Proposed Publication Schedule

- Initial paper submission: May 31, 2013
- First round of reviews completed: July 15, 2013
- Revised manuscripts due: August 10, 2013
- Notification of acceptance: September 10, 2013
- Final manuscripts due date: September 30, 2013

JETCAS Issue Date: December 2013

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