

## Call for Papers

### Special Section on Cognitive Radio and Spectrum Sharing Technology

The Institute of Electronics, Information and Communication Engineers (IEICE) Transactions on Communications is pleased to announce that it will publish a special section entitled "Special Section on Cognitive Radio and Spectrum Sharing Technology" in **January 2008**. The cognitive radio is a revolutionary technology in wireless communications for dynamic or decentralized access to the radio spectrum without interfering with the transmission of authorized devices. Recent development of dynamic and adaptive software defined radio technology enables the spectrum sharing in cognitive radio, such as adaptive RF circuits, reconfigurable processing devices, adaptive signal processing, and dynamic resource allocation, as well as sophisticated spectrum monitoring technology. For instance the FCC adopted its first "Report & Order" on cognitive radio in 2005 and expressed its intent to continue to explore new and evolving applications of cognitive radio such as unlicensed use in television band. With a view to promoting further progress of R&D in this field, the special section will present the latest work on cognitive radio and spectrum sharing technology.

#### 1. Scope

The topics of interest include the following areas, but are not limited as long as related to cognitive radio technology:

- ✓ Cognitive Radio
  - Spectrum measurements, radio channel models, system model for cognitive radio
  - Spectrum sensing, signal detection, cooperative detection
  - Dynamic radio resource management, opportunistic scheduling
  - Dynamic network architecture, seamless roaming, protocols
  - Spatial spectrum sharing, transmit and receive interference cancellation
  - Policy and regulation for cognitive radio
- ✓ Technology for Spectrum Sharing
  - Software defined and cognitive radio prototype hardware
  - Implementation of radio signal processing technology on reconfigurable devices
  - Broadband, multi-band, or reconfigurable antennas
  - Broadband, multi-band, adaptive analog RF circuits and devices
  - High speed, broadband, adaptive analog-to-digital (A/D) and digital-to-analog (D/A) converters
  - RF direct sampling, band pass sampling, sampling mixer technology
  - Reconfigurable signal processing devices

#### 2. Submission Instructions

Papers must be submitted by **April 27, 2007**. Manuscript should be prepared according to the guideline given in the Information for Authors. The latest version of it is available at the web site, [http://www.ieice.or.jp/eng/shiori/mokuji\\_cs.html](http://www.ieice.or.jp/eng/shiori/mokuji_cs.html), or you can refer its brief summary attached to IEICE Transactions. The length of the paper should not exceed 8 printed pages in principle. The term for revising the manuscript after acknowledgement of conditional acceptance for this special section could be shorter than that for other issues (60 days) because of the tight review schedule. In this special section, only the electric submission is adopted. Prospective authors are requested to follow carefully the submission process described below.

1. Submit papers using the IEICE Web site [https://review.ieice.org/regist\\_e.aspx](https://review.ieice.org/regist_e.aspx). The acceptable format of the file is PDF file. Other any files, e-mail submission, and postal mail are NOT acceptable. Authors should choose the [Special-EB] Cognitive Radio and Spectrum Sharing Technology as a "Type of Issue/Category of Transactions" on the online screen. Do not choose [Regular-EB] Communications or other special sections.
2. "Copyright Transfer and Page charge Agreement" and "Confirmation Sheet of Manuscript Registration" must be sent by postal mail to the following address (secretariat of this issue). Please mark "Special Section on Cognitive Radio and Spectrum Sharing Technology" on the envelope.

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#### 3. Special Section Editorial Committee

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*\*Please note that at least one of the authors must be an IEICE member when the manuscript is submitted for review. If the manuscript is accepted for publication, all authors, including authors of invited papers, should pay for the page charges covering partial cost of publication. Authors will receive 50 copies of the reprint.*