



IEEE pimrc'17

28th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications  
08-13 OCTOBER 2017 // MONTREAL, QUEBEC, CANADA



SPECIAL CELEBRATION-YEAR EDITION!

CALL FOR WORKSHOP PAPERS

www.pimrc2017.org

## WORKSHOP WS-02 ON COGNITIVE RADIO AND INNOVATIVE SPECTRUM SHARING PARADIGMS FOR FUTURE NETWORKS (CRAFT 2017)

### SCOPE

There has been a vast increase in the range and proliferation of wireless technologies over recent decades, which has led to the crowding of existing **spectrum**. Among available solutions to address the resulting **congestion and shortage of capacity**, cognitive radio (CR) and spectrum sharing concepts have been envisioned. Such concepts will be particularly important in the context of **5G communication systems**, where despite the introduction of novel mm-wave "pioneer bands", there will be evermore increased pressure – especially on lower-frequency spectrum. This is due to the **coverage and reliability requirements of 5G**, in tandem with vastly increased capacity and throughput. CR and other spectrum sharing paradigms can address such issues through increasing the net spectrum available to each particular user. CR can also serve other benefits, such as enhancing the **management, performance and coexistence** of heterogeneous networks with diverse radio access technologies. It is widely expected that **new emerging technologies applied in 5G networks** will enable **pioneering services**, making 5G both socially beneficial and economically viable. Advanced solutions must be identified in both technical and regulatory domains to realize CR and spectrum sharing for such 5G and other future networks. Towards such ends, this workshop aims to gather and promote discussion among researchers, engineers, practitioners, and end-user groups, with the goal of inspiring the analysis and development of CR and spectrum sharing solutions for future networks. A key focus of this workshop is on the **practical implementation** of the above concepts, and "**shift-to-market**" considerations. Moreover, this workshop also focuses on **issues, advances and challenges** in various research domains related to cognition and **wider spectrum sharing schemes** in future generation communication systems and networks.

### TOPICS

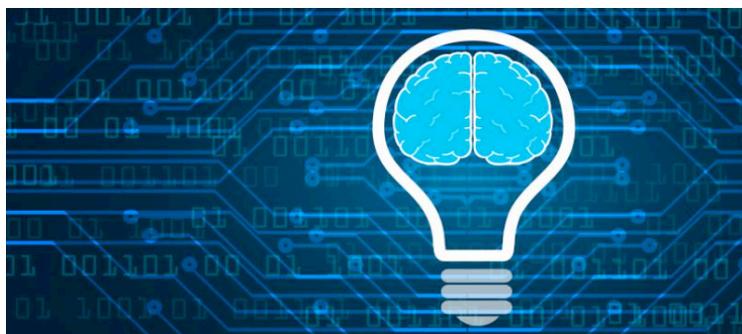
CRAFT is soliciting papers describing original work, unpublished and not currently submitted for publication elsewhere, on topics including, but not limited to, the following:

- Signal processing for cognitive applications,
- SDN and SDR for CR and spectrum sharing,
- Cognitive communication security,
- Cognitive MAC protocols,
- Cognitive RRM mechanisms,
- Cognitive self-organized networks (SONs),
- CR for 5G networks,
- Cognitive HetNet, D2D, M2M and V2V networks,
- Solutions for combined access to diverse spectrum opportunities, including spectrum aggregation techniques,
- Energy and spectral efficient CR networks,
- Geolocation/spectrum databases for CR and spectrum sharing,
- Cognitive small cells and heterogeneous networks,
- Spectrum regulation and management aspects for cognitive 5G networks,
- Spectrum sharing in 5G HetNets,
- Spectrum Sharing in Satellite Bands, protection of satellite incumbents,
- 3D spectrum sharing, in particular protection of satellites, drones, etc.,

- Spectrum sharing in mm-wave bands,
- Novel applications of CR technology,
- New wireless communication technologies for rural broadband using white spaces (MIMO, full-duplex radios, hierarchical cells, novel waveform design),
- Spectrum access systems (SAS),
- Licensed-shared access (LSA),
- TV white spaces,
- Innovative methods of white spaces identification,
- Underlay wide area coverage networks,
- Regulatory frameworks for spectrum management and dynamic access.

EDAS submission link: <https://edas.info/N23907>

Accepted and presented papers will be published in the IEEE PIMRC 2017 Conference Proceedings and submitted for inclusion in IEEEExplore®.



### IMPORTANT DATES

Review paper submission: **28 July 2017**  
Notification of acceptance: **11 August 2017**  
Camera-ready submission: **18 August 2017**

### WORKSHOP WS-02 CO-CHAIRS

**Kareem Baddour**, Communications Research Centre, Canada  
**Fauzi Bader**, CentraleSupélec, France,  
**Panagiotis Demestichas**, University of Piraeus, Greece  
**Oliver Holland**, King's College London, UK (**Lead Co-Chair**)  
**Adrian Kliks**, Poznan University of Technology, Poland  
**Yioul Kritikou**, WINGS ICT Solutions, Greece  
**Markus Mueck**, Intel Mobile & Communications Group, Germany

### MORE INFO

E-mail: [workshop.ws-02.co-chairs@pimrc2017.org](mailto:workshop.ws-02.co-chairs@pimrc2017.org)

Workshops webpage: <http://pimrc2017.ieee-pimrc.org/authors/call-for-workshop-papers/>