

**Call for Paper**  
**Special Session on “Cognitive Radio Enabled Networks”**  
**in Conjunction with International Conference on Wireless, Intelligent, and**  
**Distributed Environment for COMMunication (WIDECOM 2020)**  
**Ryerson University, Canada May 06-08, 2020**  
<http://www.widecomconference.org/>

**Scope and aim of the special session:** With the advent of various emerging wireless products, the usage of limited spectrum has grown exponentially in the recent years. In the next few years, it is expected that global mobile data traffic will grow up to 49 EB/ month, which is nearly a five times increase over year 2018. Therefore, it will become extremely difficult to satisfy the ever increasing demand through the current fixed spectrum assignment policy in which spectrum band is exclusively used for the particular applications and it has also led to under-utilization of a significant portion of the spectrum (like TV bands). It is almost impractical to find new frequency spectrum bands from the already inadequate spectrum resources to improve overall system capacity. The solution to this problem is implemented by the use of cognitive radio by enabling any unlicensed user to use the licensed frequency band such that no interference to the primary license holders is ensured. Cognitive in this context means the applications of perception, learning, reasoning, memory and adaptive approaches in the design of communication systems. These in turn lead to benefits such as improvements in spectrum usage efficiency, reduction in mutual interference among spectrum users, better end-user perceived performance, harmonious co-existence among multiple radio access technologies, and more energy-efficient communications, among many others. These benefits have rendered cognitive networking an integral component of next generation wireless networks and will be of fundamental importance in 5G and beyond networking contexts.

The aim of this special session is to bring together practitioners and researchers from both academia and industry in order to have a forum for discussion and technical presentations that address various aspects of analysis, design, optimization, implementation, standardization in various cognitive radio enabled networks like IEEE 802.22 Wireless Regional Area Networks, Wireless Cognitive radio Sensor Networks, Spectrum aware underwater networks, CRN based Smart Grid and Wireless body area networks.

This special session seeks original contributions in, but not limited to,

- Challenges in designing cognitive radio networks.
- Architecture, protocols, cross-layer, and cognition cycle design for cognitive networks.
- Spectrum sensing, spectrum access and spectrum management.
- Geolocation-database or other database-driven methods for spectrum.
- Game-theoretic modeling of cognitive radio systems.
- Energy-efficient cognitive radio communications and networking.
- Routing protocols for cognitive radio networks.
- Incentive design mechanism for various issues in cognitive radio networks.
- Efficient admission control policy to maintain QOS.
- Caching issues in cognitive radio networks.

- Machine learning and artificial intelligence for cognitive communications and networks.
- Spectrum sharing, trading and relevant economic aspects of networks.
- Security and privacy issues in cognitive networks.
- Test-beds for real-world deployment of cognitive radio networks.

Authors should prepare a PDF version of their paper formatting according to Springer Word or LaTeX template available at <https://www.springer.com/us/authors-editors/book-authors-editors/manuscript-preparation/5636>

Short papers should be up to 8 pages maximum including references AND regular papers should be up to 20 pages maximum including references.

The submission page for WIDECOM2020 through EasyChair system is :  
<https://easychair.org/conferences/?conf=widecom2020>

In order to submit your paper, you must first create an EasyChair account if you do not have one already, using <https://www.easychair.org/account/signin.cgi> The EasyChair system will then email you your password, which you can then use.

#### **Important dates:**

- Submission of papers: **September 20, 2019**
- Acceptance notification: **Oct. 20, 2019**
- Camera-ready papers: **Nov. 20, 2019**

All accepted papers will be included in **Springer Series: Lecture Notes in Computer Science**. Proceedings will be sent by Springer for indexing in EI Compendex, MetaPress, ISI Proceedings, Springerlink, and SCOPUS. Authors of accepted papers will be given instructions for submission of camera ready and copyright form. Selected papers at WIDECOM 2019 will be considered for publication in some Special Issues in International Journals. For any additional query, please email the workshop chair using: [workshop.widecom@gmail.com](mailto:workshop.widecom@gmail.com)

#### **Session Co-chairs:**

- Nitin Gupta, National Institute of Technology, Hamirpur, India
- Sanjay K. Dhurandher, NSIT, University of Delhi, India