

# COCORA 2015

## Foreword

The Fifth International Conference on Advances in Cognitive Radio (COCORA 2015), held between April 19<sup>th</sup>-24<sup>th</sup>, 2015 in Barcelona, Spain, continued a series of events dealing with various aspects, advanced solutions and challenges in cognitive (and collaborative) radio networks. It covered fundamentals on cognitive and collaborative radio, specific mechanism and protocols, signal processing and dedicated devices, measurements and applications.

Most of the national and cross-national boards (FCC, European Commission) had/have a series of activities in the technical, economic, and regulatory domains in searching for better spectrum management policies and techniques, due to spectrum scarcity and spectrum underutilization issues. Therefore, dynamic spectrum management via cognition capability can make opportunistic spectrum access possible (either by knowledge management mechanisms or by spectrum sensing functionality). The main challenge for a cognitive radio is to detect the existence of primary users reliably in order to minimize the interference to licensed communications. Optimized collaborative spectrum sensing schemes give better spectrum sensing performance. Effects as hidden node, shadowing, fading lead to uncertainties in a channel; collaboration has been proposed as a solution. However, traffic overhead and other management aspects require enhanced collaboration techniques and mechanisms for a more realistic cognitive radio networking.

We take here the opportunity to warmly thank all the members of the COCORA 2015 Technical Program Committee. The creation of such a high quality conference program would not have been possible without their involvement. We also kindly thank all the authors who dedicated much of their time and efforts to contribute to COCORA 2015. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

Also, this event could not have been a reality without the support of many individuals, organizations, and sponsors. We are grateful to the members of the COCORA 2015 organizing committee for their help in handling the logistics and for their work to make this professional meeting a success.

We hope that COCORA 2015 was a successful international forum for the exchange of ideas and results between academia and industry and for the promotion of progress in the field of cognitive radio.

We also hope Barcelona provided a pleasant environment during the conference and everyone saved some time for exploring this beautiful city.

### **COCORA 2015 Advisory Committee:**

Tomohiko Taniguchi, Fujitsu Laboratories Limited, Japan

Adrian Popescu, Blekinge Institute of Technology - Karlskrona, Sweden

Alan A. Varghese, Coherent Logix, USA