

COCORA 2011

Foreword

The First International Conference on Advances in Cognitive Radio [COCORA 2011], held between April 17 and 22 in Budapest, Hungary, was an inaugural event 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 (including software defined radio) and dedicated devices, measurements and applications.

Most of the national and cross-national boards (FCC, European Commission) 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 2011 Technical Program Committee, as well as the numerous reviewers. The creation of such a broad and 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 2011. 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 2011 organizing committee for their help in handling the logistics and for their work to make this professional meeting a success.

We hope that COCORA 2011 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 are convinced that the participants found the event useful and communications very open. We also hope the attendees enjoyed the historic charm of Budapest, Hungary.

COCORA 2011 Chairs:

Hang Chen, Johnson C. Smith University - Charlotte, USA
Miguel Garcia Pineda, Polytechnic University of Valencia, Spain
Amer Hassan, Microsoft Corporation, USA
Ivana Maric, Aviat Networks - Santa Clara, USA

Amor Nafkha, SUPELEC, France

Homayoun Nikookar, Delft University of Technology, The Netherlands

Adrian Popescu, Blekinge Institute of Technology - Karlskrona, Sweden

Arnd-Ragnar Rhiemeier, Cassidian Electronics - Ulm, Germany

Qin Xin, Simula Research Laboratory, Norway

Tomohiko Taniguchi, Fujitsu Laboratories Limited, Japan