

Cognitive Radio: A Step Towards the Communications Utopia

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Abstract

The talk is organised in such a way as to give a comprehensive overview of the concept of Cognitive Radio. The speaker will treat the basic definition, the need for this solution, the advantages conferred by it, the technology involved, the work currently being done and the challenges that have to be met, as well as economic and social aspects. This talk is destined for two distinct groups. The first version is specifically meant for undergraduate students and assumes that their prior knowledge of the subject is inexistent. For this audience, a broad overview will be given, aiming at inciting their interest in the topic. The second audience group consists of members of the research community who are already familiar with the concept and have carried out some work in the field. For this group, a special mention will be made of the technical challenges and the different directions in which research is being carried out.

Biography

Dr. Balwant Godara heads the Systems for Telecommunications & Radiocommunications (STAR) research group at the Institut Supérieur d'Electronique de Paris (ISEP), France. In 2002, Balwant obtained the Bachelor of Technology degree from the Indian Institute of Technology, Delhi, (IIT) one of the world's leading technical education institutes. He was awarded a PhD from the University of Bordeaux, France in November 2006, for research on topics related to electronics: circuits and sub-systems for wireless communications receivers. Since setting up the STAR research group, Balwant's fields of interest and expertise have moved into the design of complete solutions using high-potential emerging technologies: optimisation of radio links in wireless medical implants, vehicle-to-vehicle communication for critical civil scenarios, multi-standard wireless receivers, and innovative solutions for cognitive radios. Dr. Godara guides several students in their projects, including two PhD students. He also teaches telecommunications-related subjects at the ISEP. He has been regularly publishing his work in reputed journals and presenting it at international conferences. He is a member of the IEEE.