



University of Pavia

Ph.D. School of Electrical and Electronics Engineering and Computer Science

SEMINAR

Cognitive Radio technology and Software Defined Radio

Ahmed Masri

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Aula Seminari ex Dip. Elettronica

Abstract: With the development of wireless communication technology, the need for bandwidth is increasing continuously, and the growing need makes wireless spectrum resources suffer from scarcity. Cognitive radio (CR) has been identified as a promising solution for the spectrum scarcity, and it is based on the dynamic spectrum access. It can opportunistically utilize the idle spectrum without causing harm to primary users, so that multiple services or users can share a part of the spectrum, thus achieving the goal of avoiding the high cost of spectrum resetting and improving the utilization of spectrum resources. In this seminar, we will start discussing the future demands in the wireless world in general then we will define and discuss the basics of CR technology and the CR cycle. An overview for the complete CR system (Spectrum sensing, accessing and sharing) will be given and the details of this part will be left for the upcoming seminars. Finally, we will have a look on the standardization process in CR and focus on the details of the IEEE 802.22 CR standard.

Bio: Ahmed Masri was born in Nablus (Palestine) on July 10, 1984. He obtained his BS degree in computer engineering, from An-Najah National University in 2007. Then, at end of 2008, he graduated from the 2nd level specializing master "Wireless Systems and Related Technologies" from Politecnico di Torino with summa cum laude. Next in 2009, he started his PhD study in the Department of Electronics and Telecommunications at the Politecnico di Torino. During 2011, he was a visiting researcher at Aalto University in Finland as part of his PhD study. He obtained his PhD degree with thesis titled "Design and Performance Evaluation of Cognitive Radio Networks" in 2012. Starting from 2013, he is an assistant professor in the Telecommunication Engineering Department at An-Najah National University and he is the project leader for the Internet over TV band design and implementation project.

Organizer

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Seminar in English

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