Special Issue

Advances in Cognitive Radio Networks

Message from the Guest Editor

The need for efficient utilization of radio spectrum resources is a key requirement in modern wireless networks, as existing and new wireless applications and services require ever-higher transmission capacity and performance. In this context, cognitive radio (CR) networks, which can adapt wireless transmission schemes through dynamic spectrum access (DSA), represent a valid and well-studied solution. The CR network infrastructure plays a fundamental role in managing information about radio devices and their operating environments, evaluating the effects of interference, and enabling cooperation among devices. Recently, energy efficiency (EE) is emerging as a major paradigm for next-generation wireless systems. Combining energy harvesting (EH) with CR can improve spectral as well as energy efficiency. In these systems, referred to as radio frequency (RF)-powered CR networks, a CR transmitter harvests RF energy when the legitimate user is present, and uses such energy for its own data transmission when the spectrum is vacant. This Special Issue will bring together innovative developments and synergies in the field of cognitive radio networks.

Guest Editor

Dr. Donatella Darsena

Department of Engineering, University of Naples Parthenope, 80133 Naples, Italy

Deadline for manuscript submissions

closed (10 December 2021)

Sensors

an Open Access Journal by MDPI

Impact Factor 3.5
CiteScore 8.2
Indexed in PubMed

mdpi.com/si/44811

Sensors
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
sensors@mdpi.com

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Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Dipartimento di Ingegneria Elettrica e dell'Informazione (Department of Electrical and Information Engineering), Politecnico di Bari, Via Edoardo Orabona n. 4, 70125 Bari, Italy

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