



Special Session

The next Backscattering communications for IoT: from ambient sources to 5G-6G infrastructures

SESSION ORGANIZERS

Prof. Cecilia Occhiuzzi (cecilia.occhiuzzi@uniroma2.it), University of Roma Tor Vergata, Italy

Dr. Dinh-Thuy PHAN-HUY (dinhthuy.phanhuy@orange.com), Orange Labs Networks

ABSTRACT

The continuous growth of IoT devices aimed at connecting our physical world to the virtual one, together with the advances in TLC technologies is asking for the adoption of innovative communication platforms, capable to overcome the actual limitations in terms of power requirements, dedicated infrastructures, and protocols.

The design of devices that can be easily deployed in the environment and run autonomously without impacting energy supply, infrastructures, and costs seems nowadays mandatory to assure a real widespread diffusion of IoT in entertainment, industry, and healthcare. Backscatter communication is gaining popularity as a suitable solution to fulfill such needs, especially when ambient signals already available are exploited. In this perspective, the forthcoming Fifth and Sixth Generation (5G-6G) wireless communication systems encourage the deployment of massive IoT solutions and could offer the possibility to improve interoperability among platforms.

The special session aims to give an overview of the latest research on backscattering communications, with a particular focus on ambient and 5G-6G sources. Contributions from the physical layers and from the network/software layers are welcomed, such to have an exhaustive overview of the actual technological landscape.