Conference: **The 9th European Conference on Antennas and Propagation, EuCAP'15**
Lisbon, Portugal, on 12-17 APRIL 2015.

Workshop Title: **Chipless RFID Future and Challenges:**
Multipath Channel, Clutter Effects, Antennas, Reader and Tag Design, Multi-Tag Scenarios, Modulation, Signaling and Real-world Testbed

Workshop Chairs: **Dr.-Ing. Mohamed El-Hadidy and Prof. Dr.-Ing. Thomas Kaiser**
Institute of Digital Signal Processing (DSV)
Duisburg-Essen University, Germany

Workshop Objective: To construct a solid platform for interactive discussions between the researchers from RF, signal processing, communication and networking societies for sharing their objectives, challenges, experiences and future solutions for chipless RFID systems.

The requirements of the tag as well as the reader for chipless RFID systems would be proposed. The printability, nonlinearity and sufficient coding capacity of the tag will be introduced as optimum solutions to dethrone the barcode from item level labelling. Increasing the reading range using enhanced UWB, high gain, pencil beam and steering reader antenna will be illustrated.

Novel techniques for chipless RFID multi-tag detection and identification, enhancing the system latency and increasing encoding capacity would be introduced. The channel and environmental effects on the chipless RFID tag detection will be deeply discussed. Smart channel estimation and equalization algorithms in dense multipath propagation scenarios will be presented.