

The Department of Electronics, Carleton University and IEEE Ottawa EDS/SSCS/CASS Joint Chapter are inviting all interested IEEE members, entrepreneurs, academics, scientists, industry leaders, engineers, technologists, and students to the Seminar on:

Cognitive Radio Transceiver Chips

Distinguished Lecture by
Eric Klumperink

University in Enschede, The Netherlands



DATE: Thu, Oct. 29, 2015.

TIME: 11:30 am – 12:30 pm.

PLACE: Room MC 2014, Minto Center, Carleton University, 1125 Colonel By Drive, Ottawa, Ontario, Canada.

Refreshments: will be served.

ADMISSION: Free.

Abstract

A Cognitive Radio transceiver senses its radio environment and adaptively utilizes free parts of the radio spectrum. CMOS IC-technology is the mainstream technology to implement smart signal processing and for reasons of cost and size it is attractive to also integrate the radio frequency (RF) hardware in CMOS. This lecture discusses radio transceiver ICs designed for cognitive radio applications, with focus on analog RF. Cognitive radio asks for new functionality, e.g. spectrum sensing and more agility in the radio transmitter and flexibility in the receiver. Moreover, the technical requirements on the building blocks are more challenging than for traditional single standard applications, e.g. in bandwidth, programmability, sensing sensitivity, blocker tolerance, linearity and spurious emissions. Circuit ideas that address these challenges will be discussed, and examples of chips and their achieved performance will be given.

Speakers' Bio

Eric Klumperink received his PhD from Twente University in Enschede, The Netherlands, in 1997. He is currently an Associate Professor at the same university where he teaches Analog and RF CMOS IC Design and guides research projects focussing on Cognitive Radio, Software Defined Radio and Beamforming. Eric served as Associate Editor for TCAS-I and II, and for the Journal of Solid-State Circuits. He is a technical program committee member of ISSCC and RFIC and is Respected Lecturer for IEEE. He holds several patents, authored and co-authored more than 150 international refereed journal and conference papers, and is a co-recipient of the ISSCC 2002 and the ISSCC 2009 "Van Vessel Outstanding Paper Award".