



IEEE Solid-State Circuits Society SSCS Distinguished Lecture IEEE SSCS/CASS Atlanta Joint Chapter Seminar

Title: Interference Robust CMOS Radio Receiver Techniques

Speaker: Professor Eric Klumperink

Affiliation: Department of Electrical Engineering, University of Twente, the Netherlands

Abstract: The radio spectrum is becoming more and more crowded, and radio receivers become interference limited. As there is a demand for multi-mode flexible radio devices, traditional dedicated narrowband filtering no longer satisfies. During the last decade, several new radio receiver architectures have been proposed which offer more flexibility than traditional receivers with dedicated fixed filtering, while still achieving good sensitivity and robustness for interference. Different names have been used to refer to these receivers, e.g. reconfigurable receiver, multi-band receiver, wideband receiver, SAW-less receiver, software defined radio receiver or cognitive radio receiver. These receivers have in common that they all aim for a high dynamic range while relying less on fixed filters. This lecture reviews several proposed concepts, e.g. linearization techniques, noise and distortion cancelling, Low Noise Transconductance Amplifiers followed by current-mode mixing, mixer-first receivers, frequency-translated N-path filtering, harmonic rejection and spatial interference rejection.

Speaker Biography: 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 an IEEE Distinguished Lecturer. He holds several patents, authored and co-authored more than 180 international refereed journal and conference papers, and is a co-recipient of the ISSCC 2002 and the ISSCC 2009 "Van Vesseem Outstanding Paper Award".



Seminar Time: 2:00PM-3:30PM on Oct 15th 2015

Seminar Location: TSRB 509 GEDC Board Room, Georgia Tech.

Organizer: Dr. Hua Wang, IEEE SSCS/CASS Atlanta Joint Chapter Chair, Assistant Professor, School of Electrical and Computer Engineering, Georgia Institute of Technology. Email: hua.wang@ece.gatech.edu. Phone: (404) 385-6003

Light refreshments will be served at the seminar.