

Duration: 08:30 - 17:50

Room: Istanbul

WS-08

High Efficiency Power Amplifiers and Smart Transmitters

Organisers:

Georg Böck, TU Berlin, Germany

Renato Negra, RWTH Aachen, Germany

Abstract

A wide range of advanced transmitter architectures which exploit the characteristics of highly efficient power amplifiers for wireless application has been the focus of international research over the past two decades. This full-day workshop combines international academic specialists to outline the most recent activities, achievements and future possibilities in this area. The talks span from circuit design to system level and introduce both progresses in the design of multiband Doherty and highly efficient power amplifiers, as well as their application in digital-centric flexible transmitter architectures. Special emphasis is on transmitters beyond the state-of-the-art technology of envelop tracking. The principles of pulse shaping, outphasing and active load-pulling transmitter architectures will be introduced and their potential will be illustrated through practical implementations and measurement results. An emphasis on critical issues and limitations in realising these amplifiers and systems will be given.

Programme

08:30 - 09:20 *Advanced GaN Based MMIC Power Amplifiers for Backhaul Radio Links*

Paolo Colantonio, University of Rome "Tor Vergata", Rome, Italy

09:20 - 10:10 *Frequency Reconfigurable Transmitter Technology*

Kevin Morris, University of Bristol, Bristol, UK

10:10 - 10:50 *Break*

10:50 - 11:40 *Linear and Efficient mm-Wave Transmitters for 5G Base Station Applications*

Mustafa Özen, Christian Fager, Chalmers University, Sweden

11:40 - 12:30 *Linear GaN Transmitter for Ku-Band VSAT*

Daniel Maassen, Felix Rautschke, Georg Böck, Berlin University of Technology, Germany

12:30 - 13:50 *Break*

13:50 - 14:40 *Self-Contained Power Amplifiers for 5G Mobile Communications*

Eric Kerherve, Boris Moret, University of Bordeaux, France

Vincent Knopik, STMicroelectronics, France

14:40 - 15:30 *Highly Efficient Broad- and Multiband PA Concepts for Modern RF Transmitters*

Anh Nghiem, Renato Negra, RWTH Aachen, Germany

15:30 - 16:10 *Break*

16:10 - 17:00 *Dynamic Supply Modulation for Broadband Signals*

Zoya Popovic, University of Colorado, USA

17:00 - 17:50 *Multilevel Outphasing Transmitters in Standard CMOS*

Renato Negra, RWTH Aachen, Germany