

SUNDAY 08:30 – 17:50

RFIC Design, Packaging and Antenna Solutions for mmWave and Sub-THz Communication and Radar

WS06
EuMC/
EuMIC

Chair: Ivan Ndip¹

Co-Chair: Matthias Wietstruck²

¹Brandenburg University of Technology (BTU)/ Fraunhofer IZM, ²Leibniz Institute for High Performance Microelectronics, IHP GmbH

Room: Flash

In this workshop, experts from academia and industry will present the latest developments on RFIC design, antenna and packaging solutions for mmWave and sub-THz wireless communication and radar sensing applications.

First, BiCMOS technology and process design kit for mmWave monolithically integrated circuits as well as communication and sensing applications of this technology above 100 GHz will be presented. This will be followed by two presentations focusing on different aspects of SiGe-based transceiver design for radar applications above 100 GHz. Challenges and design solutions of CMOS-based on-chip antennas at D-band will be presented. The remaining four presentations will concentrate on RF packaging

design and system-integration technologies. Specifically, wafer-level packaging, silicon interposers, interconnects and waveguide transitions as well as novel system-in-package (SiP) and AirCore waveguide technologies for mmWave and sub-THz wireless applications will be extensively discussed.

PROGRAMME

BiCMOS Technology and Design Kit for High-Frequency Communication and Sensing Applications

Klaus Aufinger¹

¹Infineon

High-Power Millimeter-Wave Power Amplifiers above 100 GHz in Silicon-Germanium Technology

Ahmet Çağrı Ulusoy¹

¹Karlsruhe Institute of Technology (KIT)

SiGe IC Design for Radar Applications Beyond 100 GHz

Dominic Funke¹

¹Fraunhofer FHR & Ruhr University Bochum

Integrated Signal Generation and on-chip antennas up to 300 GHz in CMOS

Vadim Issakov¹

¹Technical University Braunschweig

SiGe BiCMOS and Wafer-level Packaging Technologies for mm-Wave/sub-THz Applications

Matthias Wietstruck¹

¹Leibniz Institute for High Performance Microelectronics, IHP GmbH

TERASi Next Generation Packaging: Enabling SiP and Chiplets for E-Band and Beyond

Kristófer Kristinsson¹, Adrian Gomez-Torrent¹, Bernhard Beuerle¹, James Campion²

¹TERASi AB, ²TeraSi AB, Sweden

Heterogeneous Integration for the Next Generation of Communication and Sensing

Xiao Sun¹

¹IMEC

Overview of Compact and Low-loss integration concepts for 3D Metal Waveguide and Multi-layer Gap Waveguide Antenna modules at mmWave frequency range

Ashraf Uz Zaman¹

¹Chalmers University