EMC SOCIETY German Chapter

IEEE

EMV Stuttgart Meeting 2019

Ein Treffen des Deutschen Chapters der IEEE EMC Society!

Herzlich eingeladen sind alle Mitglieder, die an unseren Aktivitäten interessiert sind und den persönlichen Kontakt zu unserem Chapter suchen.

Bitte melden Sie sich bis zum 10.03.2019 bei Frau Susanne Kaule, Marketing & Member Services unter **kaule@langer-emv.de** mit Angabe des Namens und der Kontaktadresse an.

Get-together, Networking und Informations-austausch in einem Meeting auf der EMV Stuttgart!

Treffen Sie alte und neue Kollegen, erfahren Sie von den Initiativen 2019 des German EMC Chapters und lernen Sie den Vorstand des Chapters kennen.

Datum: Mittwoch, 20. März 2019

Zeit: 15:00 bis ca. 16:30 Uhr

Ort: ICS
Internationales Congresscenter Stuttgart
Messepiaza 1, 70629 Stuttgart
Raum C.6.1

Programm:

15:00 Begrüßung durch den Vorstand, Vorstellung des Chapters und seiner Aktivitäten

15:10 Preisverleihung Student Contest 2018

15:30 Distinguished Lecture von Dr. K. Gu, IBM (siehe umseitig)

16:15 Abschlussdiskussion und Networking

16:30 Ende der Veranstaltung

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Distinguished Lecture by Dr. Kevin Gu, IBM:

Opportunities, Challenges and Implementations of Silicon Integration and Packaging in mmWave Radar and Communication Applications

Co-design and integration of RFIC, package, and antennas are critical to enable multiple aspects of 5G communications (backhaul, last mile, mobile access) and are particularly challenging at mmWave frequencies. This talk will cover various important aspects of mmWave antenna module packaging and integration for base station, backhaul, and user equipment applications, respectively. We will first present a historical perspective on Si-based mmWave modules and approaches for antenna and IC integration including trade-offs. We will focus on the challenges, implementation, and characterization of a 28-GHz phased-array module with 64 dual polarized antennas for 5G base station applications. We will then introduce a software-defined phased array radio based on the 28-GHz hardware. The highly re-configurable phased array radio features beam shaping/steering control as well as data TX/RX function control from a single Python-based software interface. Second, we will present a W-band phased-array module with 64-element dual-polarization antennas for radar imaging and backhaul application. The module consists of a multilayer organic chip-carrier package and a 16-element phased-array TX IC or a 32-element RX IC chipset. Third, we will describe a compact, low-power, 60-GHz switched-beam transceiver module suitable for handset integration incorporating 4 antennas that supports both normal and end-fire directions for a wide link spatial coverage.

Xiaoxiong (Kevin) Gu received his Ph.D. in Electrical Engineering from the University of Washington in 2006. He joined IBM T. J. Watson Research Center as a Research Staff Member in January 2007. His research activities are focused on 5G radio access technologies, optoelectronic and mm-wave packaging, electrical designs, modeling and characterization of communication and computation systems. He has recently worked on antenna-in-package design and integration for mm-wave imaging and communication systems including Ka-band, V-band and W-band phased-array modules. He has also worked on 3D electrical packaging, signal/power integrity and EMC analysis for high-speed I/O subsystems including on-chip and off-chip interconnects. He has been involved in developing novel TSV and interposer technologies for heterogeneous system integration.

Dr. Gu has authored and co-authored over 80 technical papers and has 9 issued patents. He was the co-recipient of ISSCC 2017 Lewis Winner Award for Outstanding Paper (the world's first reported silicon-based 5G mmWave phased array antenna module operating at 28GHz). He also received an IBM Outstanding Technical Achievement Award in 2016, four IBM Plateau Invention Awards in 2012 ~ 2016, the IEEE EMC Symposium Best Paper Award in 2013, two SRC Mahboob Khan Outstanding Industry Liaison Awards in 2012 and 2014, the Best Conference Paper Award at IEEE EPEPS in 2011, IEC DesignCon Paper Awards in 2008 and 2010, the Best Interactive Session Paper Award at IEEE DATE in 2008, and the Best Session Paper Award at IEEE ECTC in 2007. Dr. Gu is the co-chair of Professional Interest Community (PIC) on Computer System Designs at IBM. He is a Senior Member of IEEE and has been serving on the technical program committees for IMS, EPEPS, ECTC, EDAPS and DesignCon. Dr. Gu was also the general chair of IEEE 2018 EPEPS Conference.