State Key Laboratory of Terahertz and Millimeter Waves
香港城市大學 City University of Hong Kong

IEEE (HK) Section AP/MTT

Seminar On

Ultra-wideband Silicon-based mm-Wave and Terahertz Chips and Systems

Dr. Dawei Tang
Southeast University, China

Date : **1 April 2026 (Wednesday)**

Time : **11:00 am – 12:00 nn**

Venue : **Room 15-202, 15/F, State Key Laboratory of Terahertz and Millimeter Waves, Lau Ming Wai Academic Building, City University of Hong Kong**

Abstract

The mm-Wave and THz band offers immense bandwidth for future wireless systems, yet existing circuit solutions face fundamental challenges in achieving simultaneous wideband operation and high performance. This talk presents a set of device-to-system design methodologies addressing these challenges for ultra-wideband millimeter-wave and terahertz applications, including: a 2-250 GHz non-distributed amplifier achieving 4.67-THz GBW, a 6-110 GHz self-compensating vector-modulated phase shifter, a 90-180 GHz CMOS power amplifier delivering 15-18 dBm saturated output power, a 70-160 GHz amplifier with balance compensation, and a set of 200-300 GHz CMOS amplifiers with state-of-the-art performance. Some of these blocks are also integrated into sub-THz ASK transceivers, demonstrating a 64 Gbps wired link and a 14 Gbps wireless link over 270 meters.

Biography

Dr. Dawei Tang received the B.S. degree in electronics science and technology from Southwest Jiaotong University, Chengdu, China, in 2020, and the Ph.D. degree under the supervision of Prof. Wei Hong in electronics science and technology with the State Key Laboratory of Millimeter-Waves, Southeast University, Nanjing, China, in 2025. His research interests include millimeter-wave and terahertz integrated circuits and systems for broadband and high-speed wireless communication and sensing.

He has authored two ISSCC papers (1 first & 1 corresponding), four JSSC papers (3 first & 1 co-first), as well as first-author papers in the CICC, RFIC, ASSCC, MWTL. He was a recipient of the IEEE SSCS Predoctoral Achievement Award, the National Scholarship in 2017, 2018, 2019, and 2024, the Best Posters Award for the Excellent Doctoral Forum of the Chinese Institute of Electronics in 2025, the Workshop on IC Advances in China (ICAC) Best Poster Award in both 2025 and 2024. He also serves as a reviewer for IEEE TMTT, IEEE TCASII, and IEEE MWTL.

***** ALL ARE WELCOME *****

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