Seminar On

Integrating Circuits and Antennas at Millimeter-Wave and Terahertz

By

Prof Sanming Hu

Southeast University, China

Date : **20 June 2018 (Wednesday)**

Time : **11:00 am – 12:00 noon**

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

Abstract

Integrated circuit (IC) is extremely important, especially in China. Meanwhile, millimeter-wave (mmWave) and terahertz (THz) technologies have shown great potential for numerous applications including communications, automotive radar, biomedical imaging, security screening, and even cultural heritage conservation without any destruction.

This talk reviews our research on mmWave/THz ICs, antennas, and especially their integration at three stages. For the first stage, we will present 135GHz ICs with PCB antenna array, using separate design and conventional wire-bonding integration. Subsequently, for the second stage, inspirited by digital/low-frequency 3D IC, this talk will introduces our proposal on mmWave 3D IC, based on advanced through-silicon via technology for "more than Moore" integration. Moving forward to the third stage, this talk introduces our research on 315GHz and 400GHz designs by integrating circuits and antennas in the same single chip, by co-designing and inherently integrating ICs, antennas, and 2D materials.

Biography

Sanming Hu received his Ph.D. degree in 2009 from the State Key Laboratory of Millimeter Waves, Southeast University, Nanjing, China, where he is a Professor.

From 2006 to 2009, he visited Nanyang Technological University, Singapore, for his doctoral research, and then worked as a Research Engineer. From 2009 to 2015, he was a Senior Research Engineer, a Scientist I, and a Scientist II at the Institute of Microelectronics, A*STAR, Singapore, an Alexander von Humboldt Research Fellow at University of Ulm, Germany, and then an Assistant Professor at Heriot-Watt University, Edinburgh, UK.

Dr Hu is a Senior Member of IEEE and Chinese Institute of Electronics (CIE), a committee member of microwave society of CIE. As the first author, he received the Best Paper Award of the IEEE Transactions on Components, Packaging, and Manufacturing Technology. He was the recipient of a Research Fellowship of the Alexander von Humboldt Foundation, Germany, and the recipient of the Recruitment Program of Global Experts – Young Professionals, China (2015).

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

Enquiries:
Professor Chi Hou Chan, State Key Laboratory of Millimeter Waves
Tel.: (852) 3442 9360 Fax: (852) 3442 0353 Email: eechic@cityu.edu.hk