

Seminar On

Millimeter-Wave Antennas for 5G

By

Prof Zhi Ning Chen

Professor of National University of Singapore, Fellow of IEEE (2007)

- Date** : 19 November 2018 (Monday)
Time : 04:00 pm – 05:00 pm
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

Millimeter wave (mmW) technology has long attracted much interest in wireless communications, imaging systems, and vehicular radar systems. mmW antenna design has many unique challenging issues from design, fabrication to measurement. The designs usually suffer from high losses, difficult integration into other circuits and critical tolerance fabrication. The measurement has been position as the toughest aspect in mmW antenna development due to expensive testing setup, high sensitivity to connection between antenna under test and feeding system, customized calibration setup and procedure. This talk briefs the potentials and the key technical challenges in mmW antenna design in the coming fifth generation wireless communications. After that, some of technologies related to packaging-integrated antennas (PIA) and developed substrate-integrated antennas (SIAs) are exemplified with the introduction of the latest built measurement system up to 325 GHz.

Biography

Professor Zhi Ning Chen received his BEng, MEng, and PhD degrees all in Electrical Engineering from the Institute of Communications Engineering (ICE), China and his second PhD degree from University of Tsukuba, Japan, respectively.

During 1988-1995, he worked at ICE as a Lecturer and later an Associate Professor, as well as Associate Professor at Southeast University, China as a Postdoctoral Fellow and later as an Associate Professor. Professor Chen joined the City University of Hong Kong as a Research Assistant and later a Research Fellow in 1995-1997. In 1997, he conducted his research at the University of Tsukuba, Japan supported by the Japan Society for the Promotion of Science (JSPS) Fellowship. In 2001 and 2004, he visited the University of Tsukuba under a JSPS Fellowship Program (senior level). In 2004, he worked at IBM T. J. Watson Research Center, USA as an Academic Visitor. During 1999-2016, he worked with the Institute for Infocomm Research (I2R) (formerly known as Centre for Wireless Communications and Institute for Communications Research) as Member of Technical Staff (MTS), Senior MTS, Principal MTS, Senior Scientist, Lead Scientist, Principal Scientist, Head for RF & Optical Department and Advisor. In 2012, he joined the Department of Electrical and Computer Engineering, National University of Singapore as a Professor and is concurrently holding Visiting/Adjunct/Guest Professor positions at Southeast University, Nanjing University, Shanghai Jiaotong University, Tsinghua University, Tongji University, University of Science and Technology, China, Dalian Maritime University, Chiba University, and City University of Hong Kong. He visited the “Laboratoire des Signaux et Systèmes”, UMR8506 CNRS-SUPELEC-Univ. Paris Sud, in Gif-sur-Yvette as a senior DIGITEO Guest Scientist in 2013 and Tohoku University as a Visiting Professor in 2015.

Professor Chen has been the founding General Chairs of International Workshop on Antenna Technology (iWAT), International Symposium on InfoComm & Media Technology in Bio-Medical & Healthcare Applications (IS 3T-in-3A), International Microwave Forum (IMWF) as well as Asia-Pacific Conference on Antennas and Propagation (APCAP).

Professor Chen is currently interested in engineering electromagnetics and antennas for microwaves, mmW, submmW, and THz systems. He has published 580 technical papers and authored/edited the books entitled Handbook of Antenna Technologies by Springer Reference as an Editor in Chief (76 chapters and 3600 pages), Broadband Planar Antennas, UWB Wireless Communication, Antennas for Portable Devices, and Antennas for Base Stations in Wireless Communications. He also contributed to the books entitled UWB Antennas and Propagation for Communications, Radar, and Imaging, Antenna Engineering Handbook as well as Microstrip and Printed Antennas. He is holding 32 granted/filed patents with 35 licensed deals. He is the recipient of ASEAN Outstanding Engineering Achievement Award 2013, International Symposium on Antennas and Propagation Best Paper Award 2010, the CST University Publication Award 2008, IEEE AP-S Honorable Mention Student Paper Contest 2008, IES Prestigious Engineering Achievement Awards 2006, 2013 & 2014, I2R Quarterly Best Paper Award 2004, and IEEE iWAT 2005&2017 Best Poster Awards.

Professor Chen elevated a Fellow of the IEEE for the contribution to small and broadband antennas for wireless applications in 2007. He is serving IEEE Council on RFID as Vice President and Distinguished Lecturer since 2016. He served IEEE Trans Antennas and Propagation as an Associate Editor and a Distinguished Lecturer. (www.ece.nus.edu.sg/staff/bio/czn.html)

*** ALL ARE WELCOME ***

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