

Distinguished Seminar on

Metamaterials-based Antennas: Rethinking and Designs

by

Professor Zhi Ning Chen

Professor, National University of Singapore

Principal Scientist/Advisor, Institute for Infocomm Research

Abstract

Metamaterials has been the hottest research topic in electromagnetic community since 2000. This talk reports the latest progress in the applications of metamaterials in antenna engineering at Microwave/millimeter-wave bands. First, I share my own opinion of the generalization of metamaterials concepts to expand the research and development coverage. After that, I briefly update the progress in the research and development of metamaterial-based antennas, for example, zero-phase shift large-coverage near-field ultra-high frequency radio-frequency identification antennas and horizontally polarized omni-directional WLAN antenna arrays, zero-index structure loaded high-gain tapered slot antenna, and broadband low-profile planar antennas. Last, I comment on the effect of metamaterial concepts on antenna engineering, in particular at RF/Microwave and mmW/submmW bands.

Biography

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 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 1999-2012, 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, and Principal Scientist as well as Head for RF & Optical Department. In 2012, he joined the Department of Electrical and Computer Engineering, National University of Singapore as a Professor and is concurrently holding a joint appointment in I2R as Advisor as well as 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.

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 480 technical papers and authored/edited the books entitled 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 working on Handbook of Antenna Technologies (Springer Reference) as Chief Editor. He is holding 38 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 Award 2006, 2013 and 2014, I2R Quarterly Best Paper Award 2004, and IEEE iWAT 2005 Best Poster Award.

Professor Chen is a Fellow of the IEEE for the contribution to small and broadband antennas for wireless applications. He is serving IEEE Trans Antennas and Propagation as an Associate Editor and served IEEE Antennas and Propagation Society as a Distinguished Lecturer. (www1.i2r.a-star.edu.sg/~chenzn)(www.ece.nus.edu.sg/staff/bio/czn.html)

Date : 30 December 2014 (Tuesday)
Time : 10:50 am – 11:50 am
Venue : Room 15-202, meeting room of State Key Laboratory of Millimeter Waves,
15/F, Academic 3, City University of Hong Kong

*** ALL ARE WELCOME ***

Enquiries:

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