Distinguished Lecture

Low-cost small smart antennas for wireless communications

by

Prof Steven Gao

University of Kent, Canterbury, UK

Date : **29 August 2016 (Monday)**
Time : **10:30 am – 12:30 pm**
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

Smart antenna is the key technology for broadband satellite communications, terrestrial mobile communications (4G and 5G), radar and future Internet of Things. It can achieve electronically beam steering towards desired directions while forming nulls towards interferences. The traditional smart antennas are, however, very complicated, bulky and expensive, which make it difficult for civilian applications. For commercial applications, it is important to investigate novel smart antennas which can have small size, high efficiency and low cost. This talk will review the recent development of low-cost small smart antennas for terrestrial and satellite communications. Some case studies including low-cost small smart antennas for mobile terminals in terrestrial wireless communications, Ka-band smart antennas for satellite communications on the move, low-cost smart antennas for Ku-band satellite communications, etc, will be discussed. A conclusion will be given in the end.

Biography

Steven Gao, PhD, is a Professor and Chair of RF and Microwave Engineering at the University of Kent, Canterbury, UK. He started his career since 1994 while at China Research Institute of Radiowave Propagation (China). Then he worked as a Post-doctoral Research Fellow at National University of Singapore (Singapore), a Research Fellow at Birmingham University (UK), a Visiting Research Scientist at Swiss Federal Institute of Technology (ETH Zurich, Switzerland), a Visiting Fellow at Chiba University (Japan), a Visiting Scientist at University of California at Santa Barbara (US), and a Senior Lecturer, Reader and Head of Antenna and Microwave Group at Northumbria University (UK). Prior to joining Kent as a Professor in Jan. 2013, he was the Head of Satellite Antennas and RF System Group at Surrey Space Centre, University of Surrey (UK). He also held short-term visiting appointments at some institutes including as a Visiting Professor at Northwestern Polytechnic University (China) and the University of Calabria (Italy).

Prof. Gao is a Distinguished Lecturer of IEEE Antennas and Propagation Society, an Associate Editor of IEEE Transactions on Antennas and Propagation, Associate Editor of Radio Science (US), General Chair of 2013 Loughborough Antennas and Propagation Conference (LAPC), Chair of Special Session on “Satellite Communication Antennas” in 2012 IEEE/IET International Symposium on Communication Systems and Networks, Chair of Workshop on "New Technology Development for Space" in 2015 IEEE Microwave Symposium, etc. He was also a Guest Editor of IEEE Trans on Antennas and Propagation for Special Issue on "Antennas for Satellite Communications"(2015), and is a member of the editorial boards of International Journal of Space Science and Engineering (US), IET Circuits, Devices and Systems (UK), Chinese Journal of Electronics (China), Chinese Journal of Radio Science (China), and the Editor-in-Chief for Wiley Book Series on "Microwave and Wireless Technologies". He is a Plenary Speaker at AES'2014, an Invited Speaker at IEEE IMS'2015 (USA), IWAT'2014 (Sydney, 2014), SOMIRES'2013 (Japan, 2013), APCAP’2014 (China, 2014), etc. He is a Fellow of Institute of Engineering and Technology (IET), UK.

He has two books including Space Antenna Handbook (Wiley, 2012) and Circularly Polarized Antennas (Wiley-IEEE, 2014), over 250 papers and several patents. He received URSI Young Scientist Award from International Union of Radio Science (URSI), 2002, Japan Society of Promotion Science (JSPS) Fellowship Award, Japan, 2005, Best Paper Award, LAPC, 2012, JSPS Award, Japan, 2013, Royal Academy of Engineering Visiting Fellow Award, UK, 2013, etc.

His main areas of expertise are in antennas, smart antennas, phased arrays, MIMO, satellite antenna, RF/microwave/millimeter-wave/THz circuits and RF front ends (high-efficiency RF/microwave power amplifiers, filters), satellite communications, wireless power transfer, UWB radars, GNSS reflectometry, synthetic-aperture radars, remote sensing, electromagnetic modelling and small satellites.

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

Enquiries:
Professor Kwai Man Luk, Department of Electronic Engineering
Tel.: (852) 3442 7352 Fax: (852) 3442 0353 Email: eekmluk@cityu.edu.hk