Seminar on

Ultra-Wideband (UWB) Antennas and Circuits in Communication and Radar Applications

by

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Date : **15 May 2017 (Monday)**

Time : **02:30 pm – 04:00 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

Some research efforts on ultra-wideband (UWB) will be presented in this talk. UWB technology has attracted enormous research interest, since the Federal Communications Commission (FCC) authorized unlicensed use of UWB bands on February 14, 2002. Compared with traditional narrow-band wireless technologies, UWB offers higher data rate, more immunity to multi-path fading, lower power consumption, less cost, and less complexity. Therefore, it is believed one of the potential candidates for next-generation communication and radar systems. This talk presents three UWB-related research efforts. (1) An UWB radar sensor network aiming at low-cost and low-power radar sensors that could be mass manufactured and deployed over a large area for long-term surveillance purposes. (2) An UWB car-borne radar system, which takes advantage of 22 - 29 GHz UWB band to realize a compact and low-cost radar for safety of commercial vehicles. (3) A novel circuit architecture to time reverse UWB signals based on frequency-domain approach.

Biography

Mingyu Lu received the B.S. and M.S. degrees in electrical engineering from Tsinghua University, Beijing, China, in 1995 and 1997 respectively, and the Ph.D. degree in electrical engineering from the University of Illinois at Urbana-Champaign in 2002. From 1997 to 2002, he was a research assistant at the Department of Electrical and Computer Engineering in the University of Illinois at Urbana-Champaign. From 2002 to 2005, he was a postdoctoral research associate at the Electromagnetics Laboratory in the University of Illinois at Urbana-Champaign. He was an assistant professor with the Department of Electrical Engineering, University of Texas at Arlington from 2005 to 2012. He joined the Department of Electrical and Computer Engineering, West Virginia University Institute of Technology in 2012 and he is currently an associate professor. His research interests include wireless power transmission, radar systems, microwave remote sensing, antenna design, and computational electromagnetics. He was the recipient of the first prize award in the student paper competition of the IEEE International Antennas and Propagation Symposium, Boston, MA in 2001. He served as the chair of Antennas and Propagation Society of IEEE Fort Worth Chapter from 2006 to 2011.

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

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