

Seminar On

Dispersion Engineering for Real-Time Microwave Analog Signal Processing

By

Dr Qingfeng Zhang

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Date : 20 March 2018 (Tuesday)
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

The exploding demand for higher spectral efficiency in radio has spurred a renewed interest in analog real-time components and systems beyond conventional purely digital signal processing techniques. Although they are unrivaled at low microwave frequencies, due to their high flexibility, compact size, low cost and strong reliability, digital devices suffer of major issues, such as poor performance, high cost of A/D and D/A converters and excessive power consumption, at higher microwave and millimeter-wave frequencies. At such frequencies, analog devices and related real-time or analog signal processing (ASP) systems, which manipulate broadband signals in the time domain, may be far preferable, as they offer the benefits of lower complexity and higher speed, which may offer unprecedented solutions in the major areas of radio engineering, including communications, but also radars, sensors, instrumentation and imaging. This talk overviews the existing technologies, synthesis techniques and various applications in real-time analog signal processing.

Biography

Dr Qingfeng Zhang was born in Changzhou, Jiangsu, China. He obtained the B.E. degree from University of Science and Technology of China (USTC), Hefei, China, in 2007, the Ph.D. degree from Nanyang Technological University, Singapore, in 2011, all in electrical engineering. From Jun. 2011 to Dec. 2013, he was with Poly-Grames Research Center at Ecole Polytechnique de Montréal, Montréal, Canada. Since Dec. 2013, he joined Southern University of Science and Technology, Shenzhen, China, as an assistant professor.

His research interests are mainly focused on the emerging novel electromagnetics technologies and multi-discipline topics. He has authored and co-authored more than 120 papers, including over 50 journal papers and one book chapter. Dr Zhang is an IEEE Senior member. He has been an associate editor of *IEEE Access* since Mar. 2017, a Lead Guest Editor of *Int. J. Antennas Propag.* From 2014 to 2015. He is the publication chair of *IEEE ICCS 2016*, local organization co-chair of *IEEE EDAPS 2017*, and TPC member of several international conferences including *EUCAP 2015*, *APCAP 2015*, *EUCAP 2017*, *EUCAP 2018*, *iWAT 2018*, and so on.

Dr Zhang was awarded "Shenzhen Overseas High-Caliber Personnel in 2014, Guangdong Natural Science Funds for Distinguished Young Scholar in 2015, "Shenzhen Nanshan Piloting Talents" in 2016, "Guangdong Special Support Program" for Top-Notch Young Talents in 2017, and URSI Young Scientist Award in 2018.

*** ALL ARE WELCOME ***

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