香港城市大學 City University of Hong Kong

Department of Electronic Engineering

毫米波 State Key Laboratory of Millimeter Waves 國家重點實驗室（香港）

IEEE (HK) Section AP/MTT

Seminar on

State-of-the-Art in the Design of Electrically Small Antennas

by

Dr. Steven R. Best

8 Tamarack Lane, Townsend, MA 01469

Abstract

The design of electrically small antennas has been of significant interest in recent years. In this presentation, we discuss the theory, challenges, performance trade-offs and basic approaches associated with the design of electrically small antennas. The relationships between the small antenna's performance properties and its physical characteristics are discussed. We present examples of several antenna designs that illustrate optimum quality factors (bandwidth) for different antenna geometries. Finally, we discuss some of the most recent approaches for small antenna designs, including Metamaterials, left-handed antennas, non-foster matching and direct antenna modulation.

Biography

Steven R. Best is a Principal Sensor Systems Engineer with the MITRE Corporation in Bedford, MA. He received the B.Sc.Eng and the Ph.D. degrees in Electrical Engineering in 1983 and 1988 from the University of New Brunswick in Canada. Dr. Best has over 25 years of experience in business management and antenna design engineering in both military and commercial markets. Prior to joining MITRE, Dr. Best was with the Air Force Research Laboratory (AFRL) at Hanscom AFB, where his research interests included electrically small antennas, wideband radiating elements, conformal antennas, antenna arrays and communications antennas. Prior to joining AFRL, he was President of Cushcraft Corporation in Manchester, NH from 1997 to 2002. He was Director of Engineering at Cushcraft from 1996 to 1997. Prior to joining Cushcraft, he was co-founder and Vice President and General Manager of Parisi Antenna Systems from 1993 through 1996. He was Vice President and General Manager of D&M/Chu Technology, Inc (formerly Chu Associates) from 1990 – 1993. He joined Chu Associates as a Senior Electrical Engineer in 1987.

Dr. Best is the author or co-author of 3 book chapters and over 100 papers in various journal, conference and industry publications. He frequently presents a three-day short course – Antennas and Propagation for Wireless Communication, he is the author of a CD-ROM series on antenna theory and design, and he has presented several Webinars on antenna topics. He has also authored an IEEE Expert Now module on electrically small antennas. Dr. Best is a former Distinguished Lecturer for IEEE Antennas and Propagation Society (AP-S), a former member of the AP-S AdCom, a former Associate Editor for the IEEE Transactions on Antennas and Propagation, and Senior Past Chair of the IEEE Boston Section. He is currently the AP-S Electronic Communications Editor-in-Chief. Dr Best is a Fellow of the IEEE and the current President of the IEEE Antennas and Propagation Society.

Date : 31 Aug., 2012 (Friday)
Time : 06:00pm – 06:30pm
Venue : B6605, Academic 1,
City University of Hong Kong

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

Enquiries: Prof Kwok Wa Leung, Department of Electronic Engineering
Tel. : 3442 9659 Fax : 27887791 e-mail: eekleung@cityu.edu.hk