

## IEEE EMC Distinguished Lecture

### Topic: Multiphysics Method for Nanoelectronics

**Speaker: Professor Wen-Yan Yin**, Qiu Shi Distinguished Professor, Centre for Optical and Electromagnetic Research, Zhejiang University, China.

**Time/Date:** Sep.24, 2012.

**Venue:**

**Abstract:** More recently, significant progress has been achieved in the development of carbon nanotube (CNT)- and graphene-based interconnects and field effect transistors (CNTFET&GFET). In order to thoroughly understand signal transmission characteristics of single-, double-, multi-walled carbon nanotube (SWCNT & DWCNT& MWCNT) and few-layer graphene transmission lines together with input-output responses of both CNTFET and GFET, we have to take quantum effects into account appropriately.

In this talk, multiphysics solutions to various SWCNT, DWCNT, MWCNT, few-layer graphene nanoribbon transmission lines and active devices will be presented, and both frequency- and temperature-dependent quantum effects will be treated in detail. Also, CNT- and graphene-based shielding structures for EMC applications will be addressed and discussed.

**About the Speaker: Wen-Yan Yin** received his M.Sc. degree from Xidian University in 1989 and Ph.D. degree from Xi'an Jiaotong University in 1994. He worked in the Department of Electronic Engineering, Northwestern Polytechnic University as an Associate Professor from 1993 to 1996. He was a Research Fellow with the Department of Electrical Engineering at Duisburg University, granted by the Alexander von Humboldt-Stiftung of Germany from 1996 to 1998. Since Dec.1998, he has been with the MMIC Modelling and Packing Lab, Department of ECE of National University of Singapore (NUS) as a Research Fellow. In March 2002, he joined the Temasek Laboratories of NUS, as a Research Scientist. From April 2005 to Dec.2008, he was with the School of Electronic Information and Electrical Engineering, as a Professor of Shanghai Jiao Tong University (SJTU). He was also the Director of Centre for Microwave and RF Technologies (CMRFT) of SJTU. From Jan. 2009 to now, he is the "Qiu Shi" Distinguished Professor of Zhejiang University (ZJU), working at the Centre for Optical and Electromagnetic Research, National State Key Lab of MOI, ZJU of China. He is also the adjunct Professor of CMRFT, SJTU of China.

His main research interests are in the development of electromagnetic compatibility (EMC) and electromagnetic protection (EMP) of communication platforms, modelling techniques for passive and active RF and millimetre wave device and circuits, nanoelectronics, computational multiphysics methods and its applications.

He has published more than 200 international journal articles (including one international book, 15 book chapters and more than 80 IEEE Transaction and Letter Papers). two chapters are included in the Encyclopedia of RF and Microwave Engineering, published in 2005 and 2011 by John Wiley & Sons, Inc., respectively.

Dr. Yin is the Guest Editor of IEEE Trans. Components, Packaging, Manufacturing Technology; IEEE EMC Society Distinguished Lecturer from 2011 to 2012; Associate Editor and Guest Editor of Inter. Journal of Numerical Modelling of Electronic Networks, Devices and Fields; and General Co-Chair of IEEE EDAPS'2011. He received the Science and Technology Promotion Awards of the First Class from the local Shanghai government of China in 2005 and 2011, respectively; the Technology Invention Award of the First Class from the Educational Ministry of China in 2007, the National Technology Invention Award of the Second Class from Chinese government in 2008, and the Best Paper Awards of APEMC'2008, 2012, respectively.

**Contact Person: Prof. ( )**