

## 國立台灣大學電機工程學系及電信工程研究所 王暉 特聘教授

### ◆ 主要研究領域:

射頻、微波及毫米波積體電路、微波元件模型、微波電路及元件量測

### ◆ 研究領域摘要:

王暉教授的研究領域主要著重於高頻積體電路。所研究電路的頻譜由射頻 (Radio Frequency, RF) 及微波，以至於毫米波頻段。研究的項目包括電路設計，元件模型及量測。電路設計之內容涵蓋電路架構之研究，電路的分析、模擬及設計；而元件模型則包括固態元件的模型分析及被動元件的分析與設計。為了電路及元件模型的驗證，高頻量測亦為研究的重點。上述之射頻微波及毫米波積體電路的應用則包含無線通訊，衛星及雷達的收發系統，及天文觀測等。

### ◆ 演講題目:

用於偵測蜜蜂位置的諧波雷達系統

### ◆ 演講內容簡介:

近年來，由於成因不明的蜜蜂群體衰竭現象日益嚴重，可能對農業產生重大損害，所以研究蜜蜂群體衰竭現象成為一個重要且迫切的議題。台大電機系與昆蟲系的研究團隊合作，研發一套諧波雷達系統，使用高精準度的C/A碼測距技術，可提升雷達測距精度，並提高系統靈敏度。我們也設計了一個可放置於蜜蜂身上，且不影響其飛行的小型傳感器，借由偵測蜜蜂身上傳感器所感應的訊號以搜索蜜蜂的位置。本演講將會針對此諧波雷達系統的應用、原理以及量測結果做一完整的說明。



**Biography:** Huei Wang (S'83-M'87-SM'95-F'06) was born in Tainan, Taiwan, on March 9, 1958. He received the B. S. degree in electrical engineering from National Taiwan University, Taipei, Taiwan, in 1980, and the M. S. and Ph. D. degrees in electrical engineering from Michigan State University, East Lansing, Michigan in 1984 and 1987, respectively.

During his graduate study, he was engaged in the research on theoretical and numerical analysis of electromagnetic radiation and scattering problems. He was also involved in the development of microwave remote detecting/sensing systems. Dr. Wang joined Electronic Systems and Technology Division of TRW Inc. since

1987. He has been an MTS and Staff Engineer responsible for MMIC modeling of CAD tools, MMIC testing evaluation and design and became the Senior Section Manager of MMW Sensor Product Section in RF Product Center. He visited the Institute of Electronics, National Chiao-Tung University, Hsin-Chu, Taiwan, in 1993 to teach MMIC related topics and returned to TRW in 1994. He joined the faculty of the Department of Electrical Engineering of National Taiwan University, Taipei, Taiwan, Republic of China, as a Professor in February 1998. He served as the Director of Graduate Institute of Communication Engineering of National Taiwan University from Aug. 2006 to July 2009.

Dr. Wang is a member of the honor society Phi Kappa Phi and Tau Beta Pi. He received the Distinguished Research Award of National Science Council, Taiwan, in 2003. He was the Richard M. Hong Endowed Chair Professor of National Taiwan University in 2005-2007. He was elected as an IEEE Fellow in 2006, and has been appointed as an IEEE Distinguished Microwave Lecturer for the term of 2007-2009. Dr. Wang received the Academic Achievement Award from Ministry of Education, Taiwan, in 2007, and the Distinguished Research Award from Pan Wen-Yuan's Foundation in 2008. He was elected as a National Chair Professor by Ministry of Education, Taiwan, Republic of China, in 2010.