



## **Prof.Dr.Prayoot Akkaraekthalin**

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Professor Prayoot Akkaraekthalin received the B.Eng. and M.Eng. degrees in Electrical Engineering from King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand, in 1986 and 1990, respectively, and the Ph.D. degree from the University of Delaware, Newark, USA, in 1998. From 1986 to 1988, he worked in the Microtek Co.Ltd., Thailand, as a research and development engineer. In 1988, he joined the Department of Electrical Engineering at KMUTNB, as an instructor and researcher. His current research interests include passive and active microwave circuits, telecommunications, and innovative sensor systems. Dr. Prayoot is the author and co-author of over 50 papers in international journals, over 300 conference papers, and four books/ book chapters. He is members of the IEEE, IEICE Japan, EEAAT and ECTI Thailand. He was the Chairman for the IEEE MTT/AP/ED Thailand Joint Chapter during 2007 and 2010. He was the Editor-in-Chief of the ECTI Transactions from 2011 to 2013. He was the vice President of EEAAT association, Thailand from 2012 to 2013 and served as the vice President and the President for the ECTI Association, Thailand from 2012 to 2015. He is now the leader of TRF Senior Research Scholar Project of "Innovative Sensor Technology for Thailand Development" granted by the Thailand Research Fund, Thailand.

## **Tutorial**

### *Innovative Sensor Technology for Industrial and Agricultural Applications*

This tutorial focuses on the innovative sensors using electromagnetic sensing principles and sensor systems for various applications in industry and agriculture. Several new materials and techniques have been applied to increase the sensor system performances. Our presented sensors include metamaterial-based gas sensors, waveguide sensors for material characterisation, radio frequency moisture content sensor systems, chipless RFID sensors, and ground penetrating radar for classifying buried objects. The structures and designs for all of these sensors will be given in details. Also, some applications of the sensors will be demonstrated.