

The Technical Chapter IEEE-IMS/CASS invites you to the lecture **Electrical Capacitance Tomography and Multiphase Flow Measurement** by **Prof. Wuqiang Yang**, in the framework of the Distinguished Lecturer Program of the IEEE Instrumentation and Measurement Society.

- Date: April 25, 2014
- Time: 10h00
- Local: Auditorium B205 of the Instituto Metr pole Digital, Universidade Federal do Rio Grande do Norte, Natal, RN.

**Abstract:** Electrical capacitance tomography (ECT) is an imaging technique for industrial applications. ECT is based on measuring capacitance from a multi-electrode capacitance sensor and reconstructing cross-sectional images, aiming to visualize the distribution of dielectric materials, such as gas/oil flows in an oil pipeline and gas/solids distribution in a fluidized bed. The internal information is valuable for understanding complicated phenomena, verifying computational fluid dynamic (CFD) models, measurement and control of industrial processes, which are difficult with conventional process instruments. Compared with other tomography modalities, ECT is the most mature and offers advantages of no radiation, rapid response, non-intrusive and non-invasive, withstanding high temperature and high pressure and low-cost.



**Biography of the lecturer:** Wuqiang Yang is a Fellow of the IET (formerly IEE), Fellow of the InstMC and Fellow of the IEEE. He received his BEng, MSc and PhD degrees from Tsinghua University in Beijing. Since 1991, he has been with The University of Manchester (formerly UMIST) in the UK and now is a professor in the School of Electrical and Electronic Engineering. His main research interests include industrial tomography, especially electrical capacitance tomography, image reconstruction algorithms, sensing and data acquisition systems, electronic circuit design, instrumentation and multiphase measurement. He has published over 300 papers, is a referee for over 40 journals (including 6 IEEE journals), editorial board member of 6 journals, guest editor of several journal special issues and visiting professor at 6 other universities. He received 1997 IEE/NPL Wheatstone Measurement Prize, 1997 Honeywell Prize from the InstMC, 2000 IEE Ayrton Premium, 2006 Global Research Award from the Royal Academy of Engineering, 2008 Outstanding Organization award from the IEEE I&M Society, 2009 Valued Reviewer from Sensors and Actuators journal, 2009 IET Innovation Award Finalist, and 2010 Outstanding Reviewer from Sensor Review journal. He is an honorary chairman of IEEE Int. Conference on Imaging Systems and Techniques 2009-2012. His biography has been included in Who's Who in the World, Who's Who in Science and Engineering and Who's Who in America since 2002.