

Nanometrology

Speaker: Prof. Kuang-Chao Fan, National Taiwan University



1. Fundamentals of Nanometrology
 - Definition of Nanometrology
 - Metrological Analysis: Resolution, Accuracy, Uncertainty
 - Scanning Probe Microscopes
 - Fundamentals of Homodyne and Heterodyne Interferometers
 - Fiber-coupled Miniature Interferometers
 - Grating Interferometers
2. Nanomeasuring Machines for 3D Nanometrology
 - State of the Art of Nanomeasuring Machines
 - The NMM-1 Nanomeasuring Machine
 - The Development of NTU/HFUT Micro/nano-CMM

About the speaker: Prof. Kuang-Chao Fan received the Ph.D. degree from University of Manchester Institute of Science and Technology in UK in 1984. He is the lifetime distinguished professor and Zhong-Juo Zhang Chair in the Department of Mechanical Engineering of National Taiwan University, where he served as the Chairman of Institute of Industrial Engineering, Director of University-Industrial Research Institute, and Associate Dean of Engineering College. He was the Chairman of Chinese Institute of Automation Technology (CIAE), the Chairman of SME Taipei Chapter, and the Board member of Chinese Society of Mechanical Engineers (CSME). He is the elected Fellow of SME, CSME and CIAE. He is also the Changjian Scholar at Hefei University of Technology in China. He has received the Distinguished Young Engineer Award of CSME (1989), Tung Yuan S&T Award (1998), Best Engineering Paper Awards of Chinese Society of Engineers (1989, 1998), Distinguished Engineering Professor Award of CSME (1999), Distinguished Research Awards of National Science Council (2003, 2010), University-Industry Contribution Award of Ministry of Economic Affairs (2007), Outstanding Paper Award of Measurement Science & Technology (2007). Students he supervised have received more than 20 times of hands-on competition and best paper awards during the past ten years. He has published more than 100 journal papers and 200 conference papers, and granted 25 patents. He has given about 30 speeches at national and international conferences. His research interests include manufacturing metrology, optical measurements, micro/nano-measurements, and machine tool metrology.