About the Talk

The fundamental is of course mastery of the science of material engineering. Beyond that: in depth understanding of the clinical needs. Our body is complex. Each of us has different disease combinations in very different individual body environments. There are many varieties of intertwined biological systems. We have huge needs for better materials for diagnostics, therapeutics, assistive and preventive fields. Take just implantable devices as an example: We can put implants into the blood stream, urinary systems, cerebral-spinal fluids channels, pleura, abdomen, bile ducts, joints, organs, eyes or bronchi. Each of these areas would have complex reactions to the materials, and the design specifications for each clinical need would be quite different. It is important for us to appreciate these issues before we embark on fruitless long journeys. Beyond that, we must consider the commercialisation aspects. If a product cannot be manufactured, distributed or reimbursed, it will not reach the patients. Let's try to avoid having many patents framed but unused on our walls. Let's explore how clinicians and engineers can work together.

About the Speaker

Professor Lee Chuen Neng is Chairman of CHIME (Centre for Healthcare Innovation & Medical Engineering) and University Surgical Cluster, National University Health System (NUHS). He was the founder of the Department of Cardiac, Thoracic & Vascular Surgery, a Professor at the National University of Singapore (NUS) and was appointed as the Director of The Heart Institute, National Healthcare Group (NHG). He had held various appointments including President of the Cardiac Society on three occasions, President of the International Chinese Heart Health Network, Council member of the Asian Federation of Cardiology, Vice Chairman of the Singapore Heart Association. He was the Chairman of the Specialist Training Committee for Cardiothoracic Surgery and a Founding Executive Council Member of the Asian Society for Cardiovascular Surgery since 1993, becoming the President of the Asian Society for Cardiovascular & Thoracic Surgery (ASCVTS) in 2009. Prof Lee graduated from the University of Singapore in 1975. He completed his general surgery training at the University Department of Surgery, Singapore General Hospital and served as a Lecturer in general surgery before going on to cardiothoracic surgery training from 1982. He was trained at the Mayo Clinic from 1983 to 1985 and returned in 1985 to set up the Division of Cardiothoracic Surgery at the National University Hospital, becoming an Associate Professor and Head in the process. He is an elected fellow of American Association for Thoracic Surgery, European Association of Cardiothoracic Surgery, The Society of Thoracic Surgeons, USA, and American College of Cardiology. He is a Founding Editor of the Asian Cardiovascular and Thoracic Annals and currently served on the Reviewer Board. He is also an Examiner (Chairman) to the Surgery Track Exams, Yong Loo Lin School of Medicine, National University of Singapore and Examiner to the General Surgery, School of Postgraduate Medical Studies, National University of Singapore. He has scopus publications of 108, h index of 17, and 3 chapter in books. Professor Lee was awarded College Overseas Medal, Royal College of Surgeons of Edinburgh in 2011 and National Outstanding Clinician mentor Award, Ministry of Health, Singapore in 2015.