This lecture is kindly sponsored by:

- BASF - The Chemical Company
- GE Water and Process Technologies
- MemSpring Technology Pte Ltd
- NAFIGATE Corporation a.s.
- Singapore Technologies Dynamics Pte Ltd

Date: Wednesday, 14 November 2012
Time: 7:00 pm – 8:00 pm
Registration starts at 6:00 pm
Venue: National University of Singapore Engineering Auditorium
Block E, Faculty of Engineering
9 Engineering Drive 1
Singapore 117576

Admission is free. Buffet dinner will be served before the lecture.
SYNOPSIS
Clean water, clean energy, global warming and affordable healthcare are four major concerns globally resulting from clean water shortages, high fluctuations of oil prices, climate changes and high costs of healthcare. Clean water and public health are also highly related, while energy is essential for prosperity.

Among many potential solutions, advances in membrane technology are one of the most direct, effective and feasible approaches to solve these sophisticated issues. Membrane technology is a fully integrated science and engineering which consists of materials science and engineering, chemistry and chemical engineering, separation and purification phenomena, environmental science and sustainability, statistical mechanics-based molecular simulation, process and product design.

In this presentation, we will introduce our efforts toward solving these issues and enhancing earth sustainability. Our recent technology breakthroughs on membrane developments for clean water (forward osmosis, membrane distillation, nano-filtration), clean energy (natural gas and hydrogen) and CO₂ capture will be highlighted.

BIOGRAPHY
Prof Chung received his PhD from SUNY at Buffalo (USA). He had worked for US industries for 15 years before joining NUS in 1995. He has received grants of more than US$40 million, produced 31 PhD students, published 1 book, 17 book chapters, 30 patents and patent applications, 440 journal papers and 300 conference papers. He is a Subject Editor of Chemical Engineering Research and Design (CHERD) and editorial board member of 15 journals including J. Membrane Science, I & EC Research, Desalination, Separation and Purification Reviews, Chemical Engineering J., Chemical Engineering and Technology, Polymer Engineering and Science, J., Applied Polymer Science, and many others.

Prof Chung’s research focuses on membranes for clean water, clean energy, and CO₂ capture. Novel membranes for purification of natural gas and hydrogen, and CO₂ capture have been developed. Breakthroughs on high performance forward osmosis, membrane distillation and aquaporin embedded biomimetic membranes for clean water have been demonstrated. In 2005-2008, he worked as a Senior Consultant for Hyflux, led and built its membrane research team. He was a co-inventor of Hyflux Kristal™ 600 ultrafiltration membranes which was commercialized worldwide. He received two IChemE “Highly Recommended” Awards in Energy and Water in 2009. In 2010, he received the IES (Institution of Engineers Singapore) Prestigious Engineering Achievement Award, the Hyflux-SNIC (Singapore National Institute of Chemistry) Award in Environmental Chemistry, and the IChemE in Singapore Awards in Sustainability. He was appointed as Provost’s Chair Professor and received the Engineering Research Leadership Award at the NUS Faculty of Engineering in 2011. He became a Fellow in the Singapore Academy of Engineering in 2012.

PROGRAMME

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<td>6:00 pm</td>
<td>Registration and buffet dinner</td>
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<td>7:00 pm</td>
<td>Opening Address by Professor Chua Soo Jin, Chair of the NUS Engineering Lecture Series</td>
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<td>Lecture by Professor Chung Tai-Shung, Neal</td>
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<td>Q &amp; A</td>
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* Qualified for 1 PDU by PEB