THE UNIVERSITY OF HONG KONG

DEPARTMENT OF CIVIL ENGINEERING

SEMINAR

Colloidal Fouling for RO and NF Membranes - A Fundamental Framework

Professor CY Tang
Department of Civil & Environmental Engineering
National University of Singapore

Date: 22 April 2026 (Wednesday)
Time: 2:30 p.m. - 4:00 p.m.
Venue: Room 612B, 6/F Haking Wong Building, The University of Hong Kong

ABSTRACT
Despite the wide range of applications of reverse osmosis (RO) and nanofiltration (NF) processes, membrane fouling remains a critical challenge. This presentation will highlight some of my reflections on colloidal fouling in RO and NF processes based on my personal experience over the last twenty years. The concepts of critical flux and limiting flux will be discussed, and the key governing factors will be elucidated. Several simple mechanistic models and controlled experimental testing–some dating back to my PhD days– will be discussed to uncover the fundamental role of flux and solution chemistry in regulating colloidal fouling. Towards the end of my presentation, I will discuss the collision-attachment model, which provides a unified framework for understanding the dynamics of colloidal fouling.

ABOUT THE SPEAKER
CY Tang is a CDE Professor (Chair Professor) at the National University of Singapore. He obtained his PhD degree from Stanford University and has over 25 years' experience in membrane technology, water reuse, and desalination. Professor Tang is a Clarivate Highly Cited Researcher (Environment and Ecology). He has published more than 400 journal papers, with a total citation of >55,000 and an H-index of 129 according to Google Scholar. He is the lead inventor of aquaporin-based biomimetic membranes. His R&D has received many prestigious awards and recognitions, and he is a former co-editor of the Desalination journal.

- ALL ARE WELCOME -

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