

# City University of Hong Kong

School of Energy and Environment

## Electrochemistry at the Membrane/Water Interface: Electrically Conducting Membranes for Targeted Energy Delivery During Membrane-Based Separations

By



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Associate Professor

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University of California, Los Angeles (UCLA)

**Date:** 11 June 2019 (Tuesday)

**Time:** 2:30 p.m. - 3:30 p.m.

**Venue:** G5-215, 5/F, Yeung Kin Man Academic Building,  
City University of Hong Kong, Kowloon Tong, Hong Kong

### Abstract

Electrochemical reactions and processes offer a wide and flexible set of tools that enable innovative and varied separations. These applications depend on the development of appropriate materials, a deep understanding of the various electron- and mass-transport processes, and an acknowledgement of the limitations associated with these processes. In this talk, we will discuss our recent work in developing materials for different water treatment and resource recovery applications. Specifically, we will discuss how carbon nanotubes can be used to form electro-active membrane materials for various separation processes, including wastewater treatment, desalination, and resource extraction. We will articulate the material fabrication steps, material characterization, and electrochemical processes that can be harnessed to improve existing processes or enable completely new separations. In addition, we will discuss the challenges and unresolved problems associated with these technologies.

## About the Speaker

David Jassby is an associate professor in the Department of Civil and Environmental Engineering at UCLA. Before this, he was an assistant professor in the Department of Chemical and Environmental Engineering at the University of California, Riverside. He received his Ph.D. in Civil and Environmental Engineering from Duke University (2011), an M.S. in Civil and Environmental Engineering from UC Davis (2005), and a B.Sc. in Biology from Hebrew University (2002). David's research is primarily concerned with water treatment technologies, environmental applications of nanotechnology, and environmental electrochemistry. His lab is currently engaged in research concerning industrial wastewater treatment, oil/water separations, desalination, and the electrochemical treatment of contaminated groundwater.

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**~ All are welcome ~**