



香港城市大學
City University of Hong Kong

City University Distinguished Lecture Series

Speaker

Professor Li-jun Wan

*President, University of Science and Technology of China
Professor, Institute of Chemistry, Chinese Academy of Sciences*



Electrochemistry in Energy Conversion and Storage: Materials and Interfacial Structure

on

Tuesday, 21 April 2015 at 10:00 am

at

Connie Fan Multi-media Conference Room

4/F Cheng Yick-chi Building

City University of Hong Kong

Tat Chee Avenue, Kowloon

Abstract

Energy conversion and storage is becoming a challenging field in electrochemistry. Effective electrode material as electrocatalyst is playing a key role in an energy conversion or storage device. On the other hand, understanding the electrochemical process taking place at the electrolyte/electrode interface is also an important issue to modify and create new electrocatalysts. In this talk, I report the electrochemistry of fuel cell and lithium-ion battery including the preparation of various electrode materials and electrode/electrolyte interface. For instance, the experimental results demonstrate that Pt and Pt-based nanostructured materials such as Pt nanospheres, well-dispersed Pt nanoparticles on CNTs (Pt/CNT), Sn/Pt nanotube array and Pt-Fe films have better electrocatalytic property than the bulk Pt catalyst. In-situ electrochemical scanning tunneling microscopy (STM) was used to monitor the interfacial process of the nanostructured materials and reveal the structural change of an electrode surface and adsorbants on an electrode

Biography

Professor Li-jun Wan is the President of University of Science and Technology of China, a Professor at Institute of Chemistry, Chinese Academy of Sciences (ICCAS), Director of CAS key laboratory of molecular nanostructure and nanotechnology, Director of Beijing National Laboratory for Molecular Science and Chairman of Academic Committee of ICCAS. He received his Ph.D from Tohoku University of Japan in 1996.

His research focuses on (1) the study of single molecule, molecular reaction and molecular assembly on solid surface by chemical environment and electrochemical scanning probe microscopy, and (2) nanomaterials and their applications in energy conversion/storage and environmental protection such as for Li-ion battery, fuel cell, solar cell, and water processing. He published more than 300 peer-reviewed papers. He serves as of Editorial Board Members in *Accounts of Chemical Research*, *Angewandte Chemie*, *ChemComm*, *Advanced Materials*, and Associate Editor of *Journal of the American Chemical Society* (JACS).

Main awards include: TWAS Chemistry Award, 2nd-Class National Natural Science Award, China; Natural Science Award, Beijing and the Prize for Scientific and Technological Progress by The HO LEUNG HO LEE Foundation. He was elected as CAS Academician, Fellow of TWAS, Fellow of Royal Chemical Society, Vice-President of Chinese Chemical Society and President of Chinese Society of Electrochemistry.

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