

## **Title: Energy Systems for Electric Vehicles**

### **Speaker:**

Prof. Joseph Y Hui  
ISS Chair Professor  
Computer and Energy Engineering  
Arizona State University

**Date:** Thursday, 20 May 2010

**Time:** 11:00 am – 12:00 noon

**Venue:** Room 603, Chow Yei Ching Building

### **Abstract:**

Living in Arizona where it is sunny and hot 330 days of the year, I have adopted a life style based on renewable energy, such as using solar power and electric vehicles. Hence I have a new found research interests in solar power, new energy storage methods, and electric vehicles.

I shall talk about my solar and EV experience, and describe a recent project in building a "Solar Power Vending Station" based on a revolutionary charger for which I shall describe its advantages. Next I'll describe a solar electric car concept which can be entirely carbon free (at least in Arizona).

The second half of the talk shall examine various energy sources for EV, including various Lithium battery technologies, a recharger Zinc Oxide fuel cell, an ultra-capacitor, and a recent invention called the proton capacitor.

### **Biography of the speaker:**

Joseph Y Hui is ISS Chair Professor of Electrical, Computer and Energy Engineering at Arizona State University since 1999. He obtained his BS, MS, and PhD degrees at MIT before joining Bellcore in 1983. He has held various teaching and visiting positions at Rutgers University, Columbia University, the Chinese University of Hong Kong, and Arizona State University.

He is an IEEE Fellow recognized for his contributions in multiple access communications and broadband switching. He received the William Bennet Prize paper award for the paper "Multiple Accessing for the Collision Channel without Feedback" and wrote the first textbook on Broadband Switching. He is also HKIE Fellow, Henry Rutgers Research Fellow, and NSF Presidential Young Investigator. His broad research interest includes information and communication theory, switching and teletraffic analysis, cloud computing and virtualization, as well as electric vehicles and energy management systems.

He has founded many companies, including IXTech and IXSoft while on the faculty of the Chinese University of Hong Kong. Since returning to the US in 1999, he has founded Viva Communications and 4Blox. Since 2007, he has founded Nuon Labs, with 4 subsidiaries Virtuon, Etherion, Pcion, and a recently acquired Advanced Battery Management (ABM).

**Organizer:** Dr. L.K. Yeung