



Quasi-stable dye-sensitized solar cells with low volatile organic molecules as solvent in electrolyte

by Miss Cho Swee Jen

Date: 29th October 2009 (Thursday)

Time: 12:30pm to 1:00pm

Venue: EA-02-11 (Executive Seminar Room)

Abstract

The promising light-to-current conversion efficiency of 11% based on organic solvent dye-sensitized solar cells has received greatest attention as a cost effective alternatives to conventional silicon solar cells. However, liquid electrolytes result some practical limitation of sealing under long term hostile operation due to difficulty in encapsulation of this high volatility of organic solvent. One way to improve the stability of the dye-sensitized solar cells is to replace the volatile organic solvent with ionic liquid. However, ionic liquids are too expensive, and substantially increase the cost. Here, we will report quasi-stable dye-sensitized solar cells with low-volatile organic molecules replacing the organic solvent in electrolyte. These materials are commercially available and quite cheap. Our dye-sensitized solar cells with the new electrolyte exhibits high photovoltaic performance and good stability.

Miss Cho Swee Jen **Speaker**

Ms. Cho Swee Jen obtained his bachelor's degree in Materials Science and Engineering from University of Science Malaysia. She is now a PhD candidate in the Department of Materials Science and Engineering, National University of Singapore. Her research interest focuses on dye-sensitized solar cells and she is under the guidance of Dr. Ouyang Jianyong.

Dr Xue Jun Min **Host**

All are Welcome!