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Engineering

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Tuning Electron Density of Heterogeneous Catalysts for Selective
Hydrogenation of Biomass Derivatives

By

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Date: 1 March 2016 (Tuesday)

Time: 3:00p.m. - 4:00p.m.

Venue: E12- 1022

Abstract

The reliance on fossil feedstocks for the production of fuels and chemicals and the environmental concerns connected this reliance have provoked extensive explorations of biomass-based feedstocks as substitutes. Biomass is generally a very complex mixture of polymeric compounds with many kinds of oxygen rich components in biomass, which require different catalysis than the petroleum industry currently uses for efficient conversion. The efficient transformation of biomass into high-value products and fuels relies on the selective cleavage of the C-O bonds while

keeping the C-C bonds intact in biomass molecules. This requires a research to understand the fundamentals of C-C, C-O, C-H, and O-H bond-scission. In this lecture we will demonstrate the selective cleavage of chemical bonds can be realized in hydrogenation of biomass and derivatives by tuning electron density of heterogeneous catalysts.

Biography

Jun Ni obtained his Ph.D. in Chemical and Chemical Engineering from Queen's University of Belfast, UK. After that, he worked as Post-doctor for French National Center for Scientific Research (CNRS) in Laboratory for Catalysis & Spectrochemistry in 2009 and Research Fellow at the National University of Singapore during 2010-2012. He is currently employed as Associate Professor at Zhejiang University of Technology, China. He has published about 20 peer-viewed high quality papers and his research activities are based around heterogeneous catalysis for a wealth of application in various industries and in many domains linked to the biomass conversion and utilization.

All are Welcome!