NOVACAM

Developing catalysts using non-critical elements designed to unlock the potential of biomass

JOIN OUR WEBINAR
24th June 2015 @ 9am

(10am CET and 5pm Japanese time)

Overview: This free webinar will take about 1 hour with a short overview introduction, followed by a 40 minute lecture from the Novacam Project Leader (Professor Dr. Emiel Hensen, Technische Universiteit Eindhoven), and 20 minutes for discussion of the questions collected from delegates during the lecture.

Novel approaches for lignin upgrading

Professor Dr. Emiel Hensen

Abstract:
In this lecture, I will discuss opportunities to convert lignin into useful chemicals and fuel products. Lignin is the most recalcitrant fraction of lignocellulosic biomass. With cellulosic ethanol production approaching commercial practice, it becomes necessary to economically process the lignin co-product obtained from lignocellulosic feedstock. The amount of lignin will exceed both the internal energy needs of biorefineries and the world market for lignin-derived specialty products by a large margin.

I will introduce the structure of lignin, the variation in structure depending on the source and provide an overview of (catalytic) methods by which lignin can be deconstructed into monomers and other useful products. Usually, a second hydrotreating step is necessary to decrease the oxygen content of the product oil. I will highlight a novel approach involving a Cu-containing mixed metal oxide catalyst that is effective in converting different lignins;1 the process is carried out in supercritical ethanol and delivers high aromatics yields. The underlying chemistry of this process will be discussed. This lecture introduces the interested researcher into the basic concepts of lignin conversion and the characterization methods used to study the complex product mixtures obtained from upgrading this recalcitrant biopolymer.

References
1 ¬ X. Huang, T.I. Korányi, M.D. Boot and E.J.M. Hensen, 'Catalytic Depolymerization of Lignin in Supercritical Ethanol, ChemSusChem 7 (2014) 2051.

TO REGISTER FOR OUR WEBINAR, VISIT
HTTP://NOVACAMWEBINARJUNE.EVENTBRITE.COM

NOVACAM is a coordinated EU-Japan project. The European Consortium has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement No 604319 and the Japanese consortium is supported by the Japan Science and Technology Agency.