아주대학교 세미나 (12/8, Fri. 5 pm)

**Title: Renewable Catalysis for Sustainable Chemicals: Bubbles and Rubber Bands from Biomass**

**Abstract**

Thermochemical conversion of lignocellulosic biomass utilizes heterogeneous catalysts to transform sugars to the common chemicals comprising everyday products. Sugars are catalytically transformed to many of the common chemicals and materials used in everyday products including surfactants and synthetic rubber. These materials are specifically targeted due to similar size and oxidation state with biomass. Novel solid acid catalysts and supported metals are utilized to promote selective catalytic dehydration and hydrogenation. In particular, acid-catalyzed acylation of furans with fatty acids (obtained from renewable oils) produces alkylfurans as precursors to novel surfactants. And selective hydrogenation and dehydration produce useful olefin precursors to synthetic rubbers, including isoprene, butadiene and pentadienes. The presentation combines experiment and computation to identify the mechanisms of formation of these foundational chemicals that comprise the bulk of the modern chemical industry.

박대성

2001~2008: 아주대학교 (학사)

2008~2014: 서울대학교 (Ph. D.)

2014~2017: University of Minnesota – Twin Cities (Postdoc)

2017~ : 한국화학연구원