Title: Catalytic Reduction of CO_2 and Esters with Nickel and Iron Pincer Complexes

Prof. Hairong Guan
Department of Chemistry, University of Cincinnati, USA

Abstract: To meet the global energy and resource demand in a sustainable fashion, chemists need to develop catalytic reactions that use less energy and more renewable or readily available materials. To this end, we have investigated the reactivity of Ni-POCOP and Fe-PNP pincer complexes, which are based earth-abundant metals. The nickel complexes are efficient catalysts for the reduction of CO_2 with boranes, whereas the iron complexes are effective catalysts for the hydrogenation of esters including industrially important fatty acid methyl esters.