Organic molecule-mediated selective catalysis (i.e. selective organocatalysis) has evolved into a generally applicable, powerful strategy for asymmetric synthesis over the last decade. The advent of selective organocatalysis is marked by the discovery and development of a variety of fundamentally important modes of catalysis, which include general acid catalysis by chiral thioureas, general base catalysis by cinchona alkaloids, iminium as well as enamine catalysis by prolines and synthetic chiral amines, phase transfer catalysis, nucleophilic catalysis and NHC catalysis. During the last several years, the introduction and development of biomimetic concepts such as cooperative catalysis and multifunctional catalysis have played a transformative role in expanding the generality and increasing the complexity of selective organocatalysis. This lecture focuses on key advances made and lessons learned from synthetic and mechanistic studies of biomimetic enantioselective catalysis with organic molecules.

Date: 7th March 2013 (Thursday)
Time: 11:00am – 12:30pm
Venue: NTU SPMS CBC Building Level 2, Conference Room
Host: Assoc Professor Shunsuke Chiba