ICTS Colloquium

Title : Mimicking Transition Metals during Catalysis

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Date : Monday, January 7, 2019

Time : 3:00 PM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : One of the major concerns for today's World has been the development of processes, which are sustainable without destroying our limited resources and environment. In this regard, the development of environmentally benign and cost-effective catalysts is ideal. Transition metals are often used in catalysis for their excellent redox switching behaviour during catalytic cycles. However, there is an urge to develop transition metal free catalysis due to various factors, which seeverly compromises the sustainability of whole process such as expenses, low-abundance and associated toxicity of heavy metals.

The present work conceptulizes on the fundamental understanding of organometallic chemistry how typically a metal works during catalysis. The concept is capitalized based on an organic molecule (named as phenalenyl based molecule) which can accept electrons, store and delivers the way a typical transition metal such as palladium functions in a coupling reaction. This concept is described as " Transition Metal Mimicking Catalysis".