

## **Seminar**

### **Reductive Carbocyclization of Homoallylic Alcohols to syn-Cyclobutanes and Advanced Synthesis on the Physical Organic Saddle**

**Chinmoy Kumar Hazra**

**IBS & KAIST, South Korea**

The present talk will consist of two modern topics of interest - i) Reductive carbocyclization of homoallylic alcohols to syn-cyclobutanes and ii) Advanced synthesis on the physical organic saddle. A full mechanistic study and scope of cyclobutanation will be presented first then future research proposal will be highlighted. The catalytic generation of Silylium ion from Lambert Salt will be explored. The reactivity and selectivity of this catalysis for the multi-functionalization as well as late-stage functionalization will be discussed. The synthetic application of the methodologies, mechanistic aspects and the synthesis of new materials also will be highlighted. The second part of the talk will be focused on the development of a Hiyama cross coupling reaction and its applications towards total synthesis of biologically active molecules. The third part of the talk will consist of remote functionalization by using Iridium or Ruthenium complex or with a dual catalysis system. Finally, palladium-catalyzed asymmetric C(sp<sup>3</sup>)-H functionalization using transient directing group will be discussed. In this part, detailed mechanistic studies with synthetic applications will be presented.

***Friday, Jul 27<sup>th</sup> 2018***

***4:00 PM (Tea/Coffee at 3:30 PM)***

***Seminar Hall, TIFR-H***