Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

Internal Seminar

Recent Advances in Transition Metal Catalysed Small Molecule Activation: Insights from Synthetic Model Studies

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Transition metal-catalysed small molecule activation plays a critical role in mimicking biological processes and designing synthetic catalysts with wide-ranging applications. In this seminar, we delve into several innovative studies:

1) A sulphur-ligated copper complex mimicking **oxygen activation by the formylglycine-generating enzyme (FGE)**; 2) A unique **amine-imine interconversion** mediated by a Ni(II) complex, contrasting with the inertness of Co(II); and 3) A Ni(II)-hydrosulphido complex catalysing **sulphur atom transfer**, akin to the sulphide oxidase activity of Cu/Zn-SOD1. These studies provide valuable insights into biological processes, inspire the design of bioinspired catalysts, and have potential applications in areas such as therapeutics, sustainable chemistry, and biotechnology.

Thursday, Feb 6th 2025

14:30 Hrs

CR-4, TIFRH