

## **Students' Annual Seminar**

### **Functional heterolayer MOF thin film for Catalysis**

#### **Suvendu Panda**

Metal-organic frameworks (MOFs) exhibit exceptional potential as porous heterogeneous catalysts due to their highly ordered porous structure and customisable chemical functions. Previous literatures predominately highlighted selective catalysis using porous heterogeneous catalysts based on substrate-sieving effect. Only few of those emphasised diffusion-controlled catalysis employing polycrystalline (powder) MOFs. In our approach, we aim to leverage MOF thin film as a catalyst layer to precisely control substrate diffusion. To achieve this we have developed a novel methodology for heterolayer MOF thin film synthesis. My presentation will primarily focus on the methodology of the functional heterolayer MOF thin films and their utilisation to comprehend diffusion-controlled catalytic reactions.

***Friday, Mar 1<sup>st</sup> 2024***

***14:00 Hrs (Tea / Coffee 13:45 Hrs)***

***CR-4, TIFR-H***