

## **Seminar**

### **Valorisation of Carbon Dioxide for Biodegradable Polymer Synthesis and Post-Polymerisation Functionalisation for Targeted Applications**

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Utilisation of CO<sub>2</sub> had witnessed intense research activity from scientific community mainly due to climate change considerations. In our laboratory we have a long-term interest in using CO<sub>2</sub> as a C1 feedstock during the catalytic coupling of epoxides and CO<sub>2</sub> to achieve polycarbonate polymers in sustainable manner. Thus capturing CO<sub>2</sub> from point sources and further its utilisation as a C1 feedstock can result in cheaper and cleaner production processes. The idea of utilising CO<sub>2</sub> for creating valuable products might reduce the overall cost for removal of carbon dioxide from the atmosphere. Although tremendous progress has been achieved, the aliphatic characteristics and lack of functionalities of these polymers limit the scope of their application in high value-added and functional materials. In my talk I will highlight our recent progress in the functionalisation of these polycarbonate polymers through chain transfer and click chemistry which directed their applications in areas such as self-healing materials, inks for 3D printing, micellar catalysis etc.

***Thursday, Sep 19<sup>th</sup> 2024***

***16:00 Hrs (Tea / Coffee 15:45 Hrs)***

***Auditorium, TIFR-H***