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B.Tech: IIT Kanpur, PhD: University of Houston,
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Industrial Experience: Pharmaceutical: (3 years Project & Production Manager, Ranbaxy Lab Ltd.), Automobile: (1.5 Year, Catalyst Engineer, Cummins India Ltd.), FMCG: (Assistant Manager, ITC Pune)

Research Experience: 10+ years

Patent: 3 (2 US + 1 India)

Research Focus :

- **Heterogenous catalyst synthesis:** Nanoporous (Zeolite & MOF) and Metal & Metal oxide (Titania, Cu, Fe, Pd, Pt).
- **CCUS Value Chain:** Solid CO₂ adsorbents, Reverse water gas shift catalyst development (RWGS), Calcite Crystallization (CO₂ capture by CaO).
- **Refinery Catalyst Development:** Catalyst development for MTO, MTH, Catalytic cracking.
- **Single Atom Catalyst Development:** Interfacing metal (Cu, Fe, Pd, Pt, Mo) with Zeolite, SiO₂, & TiO₂.
- **Substrate Development:** Carbon Matrix for electrode, Carbon Nitride, Titania, Silica, Beads and extrude.
- **Biom mineralization:** Uric Acid crystallization.

Technologies (Proof of Concept- POC, Material Development):

- CO2 Adsorbent Development.
- Ti-Incorporated Zeolite.
- Titania Nanoparticles.
- Catalytic Cracking Catalyst.

Technologies under development:

- CO2 Adsorbent.
- Carbon monoxide Chemistry.
- Carbon dioxide Chemistry.
- Cracking Catalyst.
- Petrochemical Catalyst.

Targeted Industries:

- CCUS value chain.
- Refinery.
- Adsorbent Industry.
- Petrochemical.

**Interested Industry member kindly connect through:
Email Id: icc-industryacademia@iccmil.in**