

# International Workshop and Symposium on Carbon Capture and Beyond (CCB)

Join the Global Dialogue on Decarbonization and Circular Economy Solutions

**February 24 – 26, 2025 | IIT Delhi – Abu Dhabi**

## Tentative Program

### February 24

Focused on Cutting-Edge Carbon Capture Technologies and Industrial Applications

<b>Opening Session</b>
<b>Registration</b> 08:30 - 09:00
<b>Welcome Note</b> Prof. Shantanu Roy 09:00 - 09:10
<b>Day 1: Session I</b>
<b>Challenges and Opportunities for Carbon Capture in the Transition to Net Zero</b> Prof. Rangan Banerjee 09:10 - 09:30
<b>Materials and Processes for CCB</b> Prof. Ahmed Al Hajaj 09:30 - 10:10
<b>Coffee Break</b> 10:10 - 10:40
<b>Day 1: Session II</b>
<b>Carbon Management in Hard to Abate Sectors</b> Prof. Preeti Aghalayam 10:40 - 11:20
<b>Sustainability and Circularity in CCB</b> Prof. Bhavik Bakshi 11:20 - 12:00
<b>Carbon Recycling for Sustainable Energy: A Journey from Fundamental Chemistry to Green Technologies</b> Prof. Sebastian C. Peter 12:00 - 12:40
<b>Group Picture and Campus Tour</b> 12:40 - 13:30
<b>Lunch Break</b> 13:30 - 14:30
<b>Day 1: Session III</b>
<b>Plasmonic Black Gold: A Catalyst for Solar-Driven CO<sub>2</sub> Conversion</b> Prof. Vivek Polshettiwar 14:30 - 15:10
<b>High-throughput and AI Screening of Porous Materials for Biogas Purification</b> Prof. Elena Besley 15:10 - 15:50
<b>Integration of CCU in a Coal-to-Methanol Pilot Plant: Bridging the Gap to Net Zero</b> Prof. Divesh Bhatia 15:50 - 16:20
<b>Coffee Break</b> 16:20 - 17:00
<b>Cultural Excursion</b> 17:00 - 19:00

### February 25

Focused on AI, Digitalization, and Entrepreneurial Innovations in CCB

<b>Day 2: Session I</b>
<b>Open Framework Materials Catalysts for CO<sub>2</sub> Utilization</b> Prof. Dinesh Shetty 09:00 - 09:30
<b>Advanced Materials Characterization for Carbon Capture and Beyond: Use of AI and ML tools</b> Dr. Rachit Khare 09:30 - 10:00
<b>From Molecules to Processes: Ad Hoc Design of Materials for CO<sub>2</sub> Capture and Utilization by Multiscale Modeling</b> Prof. Lourdes F. Vega 10:00 - 10:40
<b>Coffee Break</b> 10:40 - 11:10
<b>Day 2: Session II</b>
<b>Application of AI in CCB</b> Prof. Hariprasad Kodamana 11:10 - 11:40
<b>Generative AI for Sustainability</b> Dr. Alex Aliper 11:40 - 12:20
<b>Poster Session</b> 12:20 - 13:30
<b>Lunch Break</b> 13:30 - 14:30
<b>Day 2: Session III</b>
<b>Panel Discussion: Opportunities for AI in CCB</b> 14:30 - 15:30
<b>Advances in Reactor Design for CCB</b> Prof. Sreedevi Upadhyayula 15:30 - 16:00
<b>Coffee Break</b> 16:00 - 16:30
<b>Tuning the Physicochemical Attributes of Catalytically Active Materials for Better Understanding of Structure-Property-Performance Triad</b> Prof. Manjesh Kumar 16:30 - 17:00
<b>Capture and Electrochemical Conversion of Carbon Dioxide</b> Prof. Ahsanulhaq Qurashi 17:00 - 17:30
<b>Publishing and Reviewing for Nano Letters</b> Prof. Elena Besley 17:30 - 18:00
<b>Group Photo</b> 18:00 - 18:30
<b>Networking and Dinner</b> 18:30 - 20:00

### February 26

Focused on Future of Carbon Utilization, and Sustainable Strategies

<b>Day 3: Session I</b>
<b>Strategic Approaches for CO<sub>2</sub> Emissions Reduction in Steel, Power and Transportation Industries</b> Prof. Ejaz Ahmad 09:00 - 09:30
<b>The Art of Designing Multifunctional Catalysts for Value-Added Products: Fundamentals and Beyond</b> Prof. Kyriaki Polychronopoulou 09:30 - 10:00
<b>New Industrial Approaches for CCB</b> Dr. Mathew Aneke 10:00 - 10:40
<b>Poster Session and Coffee Break</b> 10:40 - 11:30
<b>Day 3: Session II</b>
<b>Three Stage CCUS Integration in Industrial Landscape: End of Pipe (EOP), CO<sub>2</sub> Compliant Designs (CCD), CCUS in One Pot (COP)</b> Prof. R.R. Sonde 11:30 - 12:10
<b>Opportunities for Innovations in CCB: Developing a Multi-Level Perspective</b> Prof. M. Ali Haider 12:10 - 12:40
<b>Lunch Break</b> 12:40 - 14:00
<b>Day 3: Session III</b>
<b>Decarbonizing Energy Storage and Utilization: Pathways for a Low-Carbon Future</b> Prof. Dibakar Rakshit 14:00 - 14:30
<b>Workshop and Focused Group Discussion</b> 14:30 - 16:30
<b>Concluding Remarks and Awards</b> 16:30 - 17:00



### Location

Khalifa City B, Abu Dhabi, UAE

### Contact

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### Organisers

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