



# International Conference on Petroleum, Hydrogen & Decarbonization

IIT Guwahati | 03-05 November 2023



## Event Schedule

Day	Time	S	Hall-II						Poster Session-I	Hall-I						Poster Session-II	Hall-III						Hall-IV										
			Breakfast & Registration							Breakfast							IITG-TIC Event						IITG-TIC Event										
Day 1-3rd Nov 2023	08:00-09:00		Breakfast & Registration																														
	09:00-11:00	S-01	Inaugural	PL-01	PL-02																												
	11:00-11:30		High Tea Break																														
	11:30-13:30	S-02	PL-03	KL-01	KL-02	KL-03																											
	13:30-14:30		Lunch Break																														
	14:30-16:00	S-03	KL-04	KL-05	KL-06	KL-07																											
	16:00-16:30		Tea Break																														
	16:30-18:00	S-04	IL-01	IL-02	IL-03	IL-04	IL-05		S-05	IL-06	IL-07	IL-08	IL-09	IL-10																			
18:30-19:30	Cultural Program at Mini Auditorium																																
19:30-21:30	Gala Dinner																																
Day 2-4th Nov 2023	08:00-09:00		Breakfast							Breakfast																							
	09:00-11:00	S-06	PL-04	KL-08	KL-09	KL-10				S-07	IITG-TIC Event						S-08	IITG-TIC Event															
	11:00-11:30		High Tea Break																														
	11:30-13:00	S-09	KL-11	OP-01	OP-02	OP-03	OP-04	OP-05	OP-06	S-10	KL-12	OP-07	OP-08	OP-09	OP-10	OP-11	OP-12	S-11	KL-13	OP-13	OP-14	OP-15	OP-16	OP-17	OP-18	S-12	KL-14	OP-19	OP-20	OP-21	OP-22	OP-23	OP-24
	13:00-14:00		Lunch Break																														
	14:00-16:00	S-13	PL-05	KL-15	ST-1	ST-2	ST-3																										
	16:00-17:30		Tea Break																														
	16:30-18:00	S-14	KL-16	OP-25	OP-26	OP-27	OP-28	OP-29	OP-30	S-15	KL-17	OP-31	OP-32	OP-33	OP-34	OP-35	OP-36	S-16	KL-18	OP-37	OP-38	OP-39	OP-40	OP-41	OP-42	S-17	KL-19	OP-43	OP-44	OP-45	OP-46	OP-47	OP-48
18:30-19:30	Cultural Program at Auditorium (SPICMACAY event)																																
19:30-21:30	Dinner																																
Day 3-5th Nov 2023	08:00-09:00		Breakfast																														
	09:00-11:00	S-18	KL-20	OP-49	OP-50	OP-51	OP-52	OP-53	OP-54	S-19	KL-21	OP-55	OP-56	OP-57	OP-58	OP-59	OP-60	S-20	KL-22	OP-61	OP-62	OP-63	OP-64	OP-65	OP-66	S-21	IL-11	OP-67	OP-68	OP-69	OP-70	OP-71	OP-72
	11:00-11:30		Tea Break																														
	11:30-13:00	S-22	Panel Discussion							S-23	OP-73	OP-74	OP-75	OP-76	OP-77	OP-78		S-24	OP-79	OP-80	OP-81	OP-82	OP-83	OP-84	OP-85								
	13:00-14:00		Lunch Break																														
14:00-16:00	S-25	PL-06	Valedictory																														

S-Session

PL- Planery Lecture

KL- Keynote Lecture

IL- Invited Lecture

OP- Oral Presentation

TIC - Technology Incubation Centre

ST- Stall

## List of Plenary Lectures

Conference ID	Title and Authors	
Inaugural Session		
	09:00-11:00	Day1, 3 <sup>rd</sup> Nov, 2023
<b>PL-01</b>	Emerging Trends in Sustainable Carbon Management: An Approach Towards Net Zero Carbon <i>Prof. K K Pant</i>	
<b>PL-02</b>	Energy Transition: Hype, Reality and Possibilities. What do we do with Oil and Gas? Are they still Relevant? Is CO <sub>2</sub> sequestration for Enhanced Oil and Gas Recovery a Viable Option? <i>Prof. Hemanta Sarma</i>	
Session-02		
	11:30-13:30	Day1, 3 <sup>rd</sup> Nov, 2023
<b>PL-03</b> 12:00-12:40	Hydrogen Production in 3D-Printed Micro Electrolyzer <i>Prof. Suddhasatwa Basu</i>	
Session-06		
	09:00-11:00	Day2, 4 <sup>th</sup> Nov, 2023
<b>PL-04</b> 09:00-09:40	The Net Zero Goal & Sustainability: Green Hydrogen Technologies, CO <sub>2</sub> refineries, Biomass Valorization & Waste Plastic Recycling <i>Prof. Ganapati D. Yadav</i>	
Session-13		
	14:00-16:00	Day2, 4 <sup>th</sup> Nov, 2023
<b>PL-05</b> 14:00-14:40	Machine Learning for Subsurface Energy Resource Management: Example State-of-Art Applications and Future Prognosis <i>Prof. Srikanta Mishra</i>	
Session-25		
	14:00-16:00	Day3, 5 <sup>th</sup> Nov, 2023
<b>PL-06</b> 14:30-15:10	Hidden Hydrogen: The New Frontier <i>Prof. Shalivahan</i>	

## List of Keynote Lectures

Conference ID	Title and Authors	
<b>Session-02</b>		
<b>12:00-13:30</b>		<b>Day1, 3<sup>rd</sup> Nov, 2023</b>
<b>KL-01</b> 12:40-13:00	Machine Learning and Big Data: It's Utility and Challenges <i>Rakesh Kumar Vij</i>	
<b>KL-02</b> 13:00-13:20	CCUS-Plus: An integrated chemical looping platform for Clean Energy and CO <sub>2</sub> mitigation <i>M. Rafiqul Awal</i>	
<b>KL-03</b> 13:20-13:40	Solving the Net Zero Equation <i>Baroruchi Mishra</i>	
<b>Session-03</b>		
<b>14:30-16:00</b>		<b>Day1, 3<sup>rd</sup> Nov, 2023</b>
<b>KL-04</b> 14:30-14:50	Success Story of Earliest Monetization of Oil & Gas Field – Future of Greater Recovery Using Technology from North Eastern Fields <i>K. K. Nayak</i>	
<b>KL-05</b> 14:50-15:10	Bioinspired Technologies for Sustainable Petroleum Production from Depleted Reservoirs <i>Ramakrishna Sen</i>	
<b>KL-06</b> 15:10-15:30	Nanoparticle-Enhanced Surfactant-Stabilized Nanoemulsions for Enhanced Oil Recovery <i>Avantika Kaushik; Ajay Mandal</i>	
<b>KL-07</b> 15:30-15:50	Atmospheric and Vacuum Distillation Curves of Shale Oil Compared with TGA Weight Loss Data <i>Omar S. ALayed, Oliver Jarvik, Hamza Hmidat</i>	
<b>Session-06</b>		
<b>09:00-11:00</b>		<b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-08</b> 09:40-10:00	Hydrogen geo-storage: an overview and new insights <i>Stefan Iglauer</i>	
<b>KL-09</b> 10:00-10:20	Fischer-Tropsch Reaction Over Kmofo/Cnts Nano-Structured Catalyst in A Fixed Bed Reactor: Reaction Mechanism and Kinetic Study <i>Ajay K. Dalai</i>	
<b>KL-10</b> 10:20-10:40	Recent developments in the application of microfluidic in oil and gas industry <i>Prem Bikkina, Sushobhan Pradhan, Imran Shaik, Rupom Bhattacharjee, Ayush Joshi</i>	
<b>Session-09</b>		
<b>11:30-13:00</b>		<b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-11</b> 11:30-11:50	Capillary Driven flow in Heterogeneous Porous media <i>Shabina Ashraf, Jyoti Phirani</i>	
<b>Session-10</b>		
<b>11:30-13:00</b>		<b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-12</b> 11:30-11:50	Assimilation of Dynamic Data into Subsurface Reservoir Models Using a Model Selection Approach <i>Sanjay Srinivasan</i>	
<b>Session-11</b>		
<b>11:30-13:00</b>		<b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-13</b> 11:30-11:50	Compact Membrane Reformer for On-Site Hydrogen Production: A Technical Prospect toward Commercialization <i>Rajesh K Upadhayay</i>	
<b>Session-12</b>		
<b>11:30-13:00</b>		<b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-14</b> 13:30-13:50	Microbial Stimulation: An Emerging Technology for Enhancing Coalbed Methane Recovery <i>Keka Ojha, Suman Saini</i>	
<b>Session-13</b>		
<b>14:00-16:00</b>		<b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-15</b> 15:10-15:20	Current trends in the Russian oil and gas industry during the period of decarbonization of global energy <i>Alexandra Saitova, Alexander Iliyinsky</i>	
<b>Session-14</b>		
<b>16:30-18:00</b>		<b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-16</b> 16:30-16:50	Empowering Chemical Engineering for a Net Zero Process Industry <i>Kevin Van Geem</i>	
<b>Session-15</b>		
<b>16:30-18:00</b>		<b>Day2, 4<sup>th</sup> Nov, 2023</b>

<b>KL-17</b> 16:30-16:50	Carbon neutrality through combined CO <sub>2</sub> capture and novel H <sub>2</sub> technology with production of non-conventional fuels <i>Subrata Borgohain Gogoi</i>
<b>Session-16</b>	<b>16:30-18:00</b> <b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-18</b> 16:30-16:50	CO <sub>2</sub> Sequestration as Hydrate in Subsea Conditions <i>Yogendra Kumar, Jitendra Sangwai</i>
<b>Session-17</b>	<b>16:30-18:00</b> <b>Day2, 4<sup>th</sup> Nov, 2023</b>
<b>KL-19</b> 16:30-16:50	Optofluidic Devices for the Conversion of Solar Energy to Green Hydrogen <i>Nageswara Rao Peela</i>
<b>Session-18</b>	<b>09:00-11:00</b> <b>Day3, 5<sup>th</sup> Nov, 2023</b>
<b>KL-20</b> 09:00-09:20	Machine Learning Applications for Safe and Sustainable Energy Transition <i>Prof. Mayank Tyagi</i>
<b>Session-19</b>	<b>09:00-11:00</b> <b>Day3, 5<sup>th</sup> Nov, 2023</b>
<b>KL-21</b> 09:20-9:40	Reducing Carbon Footprint of Plastics Via Lignocellulosic Fibers-Based Composite Materials Design <i>Rameshwar Adhikari</i>
<b>Session-20</b>	<b>09:00-11:00</b> <b>Day3, 5<sup>th</sup> Nov, 2023</b>
<b>KL-22</b> 09:00-09:20	Data analytics and machine learning for oil and gas exploration and production optimization <i>Sunil Kumar Khare</i>

## List of Invited Lectures

Conference ID	Title and Authors
<b>Session-04, 16:30-18:00</b>	
<b>Day 1, 3rd Nov 2023</b>	
<b>IL-01</b>	CO <sub>2</sub> Foam Flooding in Hydrate Reservoir: Assessing Foam Stability in Reservoir Conditions with Nano-Particle Integration <i>Vishnu Chandrasekharan Nair</i>
<b>IL-02</b>	EOR Opportunities in Depleted Reservoirs of Assam Arakan Basin: A Laboratory EOR Approach in Tengakhat Area of Assam <i>Kuladip Sarma, Sushovan Hens, Debasish Baishya, Rajib Sarmah, Vishal Dhar Pankaj Tiwari</i>
<b>IL-03</b>	Green Hydrogen for Decarbonization: Challenges and Future Perspectives <i>Rohit Shrivastav</i>
<b>IL-04</b>	Application of Seismic Exploration Techniques in Exploration of Unconventional Hydrocarbons and CCS projects <i>Ajay Malkoti, Nimisha Vedanti</i>
<b>IL-05</b>	Characterization of Polymers for Selection of Effective Candidate in Enhanced Oil <i>Achinta Bera</i>
<b>Session-05, 16:30-18:00</b>	
<b>Day 1, 3rd Nov 2023</b>	
<b>IL-06</b>	Direct Thermal Liquefaction of Rice Husk to Produce Bio-Oil and High-Purity Amorphous Silica Nanoparticles <i>Manvendra Singh and Shushil Kumar</i>
<b>IL-07</b>	Structure and Energetic Behaviour of Light Crude Oil Molecules and Asphaltene Molecules at Rock-Oil Interface <i>Prashil Badwaik, Shubham Chobe, Bipasha Samantha, Meena Singh, Ateeque Malani</i>
<b>IL-08</b>	Fabrication of Composite Sponge Structure for Mitigating Oil Spill over Marine Water <i>Saurabh Mishra, Geetanjali Chauhan</i>
<b>IL-09</b>	Application of Bio based novel pour point depressants (PPDs) for flow assurance of Indian waxy crude oil <i>Tarun Kumar Naiya, Sampa Guin, Biswadeep Pal, Shirsendu Banerjee</i>
<b>IL-10</b>	A comprehensive approach towards execution of Sustainable, Eco-friendly and Energy Efficient Automobile Workshop and Transportation of Oil India Limited <i>Dipankar Deka, Sushant Kumar Gupta, Amorjit Bhardwaj</i>
<b>Session-21, 9:00-11:00</b>	
<b>Day 3, 5th Nov 2023</b>	
<b>IL-11</b> <b>09:00-09:15</b>	Decarbonising the Indian Power Grid: Requirement, Opportunities and Challenges <i>Mohammad Rihan</i>

## List of Oral Presentations

Conference ID	Title and Authors
<b>Session -09 11:30- 13:00</b> <span style="float: right;"><b>Day 2, 4<sup>th</sup> Nov 2023</b></span>	
<b>OP-1</b>	Enhanced Rock Physics Understanding for Bassein Formation Characterization Plant-based Phytochemicals for Synthesis of Z-scheme In <sub>2</sub> O <sub>3</sub> /CdS Heterostructure for Photocatalytic CO <sub>2</sub> Reduction to Fuels <i>Pramod M. Gawal, Animes K. Golder</i>
<b>OP-2</b>	Numerical Investigations on the Characterization of a Leaky deep saline aquifer for Storing sc-CO <sub>2</sub> <i>Tummuri Naga Venkata Pavan, Srinivasa Reddy Devarapu, Suresh Kumar Govindarajan</i>
<b>OP-3</b>	Enhancing Carbon Mineralisation in Serpentinised Peridotite for Sustainable CO <sub>2</sub> Storage and Utilisation <i>Shreya Katre, Prince Ochonma, Hassnain Asgar, Archana M. Nair, Ravi K., Greeshma Gadikota</i>
<b>OP-4</b>	An Innovative Biphasic Amine Blend for Post-combustion Carbon Dioxide Capture <i>Pimple Sujit, Mondal Manoj Kumar</i>
<b>OP-5</b>	Supercritical Carbon Dioxide Fracturing of Shale Reservoir and Geological Sequestration: An Approach for CO <sub>2</sub> Utilization and Storage <i>Amit Verma, Nikita Gupta, Narendra Kumar</i>
<b>OP-6</b>	Carbon-Neutral Vehicular Fuel Production: Innovations in CO <sub>2</sub> Hydrogenation with MEA and Electrolysis <i>Pranab Boral, Subrata Borgohain Gogoi</i>
<b>Session -10 11:30- 13:00</b> <span style="float: right;"><b>Day 2, 4<sup>th</sup> Nov 2023</b></span>	
<b>OP-7</b>	Investigating Oil Recovery through Miscible and Immiscible Displacement of Oil by Polymer Alternating Gas Injection <i>Shubham Prakash, Ajay Mandal</i>
<b>OP-8</b>	Assessment of Geological Carbon Sequestration Potential in Deccan Traps Basaltic Formations: Transforming Emissions into Resources <i>Mohd Saif, Raj Kiran</i>
<b>OP-9</b>	Capture of CO <sub>2</sub> by Choline chloride and DL-menthol based Deep Eutectic Solvent: A Molecular Dynamics based Investigation <i>Rajib Nandi, Nabendu Paul, Tamal Banerjee</i>
<b>OP-10</b>	Numerical Simulation Advances in Carbon Capture, Utilization, and Storage (CCUS) in Shale Gas Reservoirs: A Comprehensive Review <i>Niranjan Bhole, Samarth Patwardhan, Hisham Khaled Ben Mahmud, Stefan Iglauer</i>
<b>OP-11</b>	Experimental study on CH <sub>4</sub> gas production from simulated methane hydrate reservoir using depressurization and CO <sub>2</sub> Injection <i>Sweta Saini, Pawan Gupta</i>
<b>OP-12</b>	Simulation of trapping indexes for CO <sub>2</sub> Sequestration in heterogeneous saline aquifers <i>Seenivasan B., Archana Balikram</i>
<b>Session -11 11:30- 13:00</b> <span style="float: right;"><b>Day 2, 4<sup>th</sup> Nov 2023</b></span>	
<b>OP-13</b>	Investigation on the Formation of Instabilities during Fluid Injection through Porous Media <i>Saikiran Naikoti, Jithin S. Kumar, Ramesh Kannan Kandasami</i>
<b>OP-14</b>	Modeling the Transport and Retention of Nanoparticles in a Single Partially-Saturated Pore in Soil <i>J. Jayaraj, S. Majid Hassanizadeh, N. Seetha</i>
<b>OP-15</b>	Numerical Characterization of Capillary Driven Flow in Layered Porous Reservoirs <i>Akshit Agarwal, Jyoti Phirani</i>
<b>OP-16</b>	Multiphase Flow Modeling using Reduced Order Model and Full Scale Model: A Comparison <i>Tilling Taser, Dinesh P., Nelson M.</i>
<b>OP-17</b>	Isolation and Characterization of a probiotic from Panitenga- an Assamese Fermented Food and Exploring its Potential for Biosurfactant Production <i>Smrity Sonbhadra, Lalit M. Pandey</i>



<b>OP-18</b>	Enhanced Rock Physics Understanding for Bassein Formation Characterization through Ultrasonic Velocity and Attenuation Analysis <i>Hirakjyoti Kalita, Ravi Sharma, Neha Panwar, Aninda Ghosh, Surendra Singh Khanna</i>
<b>Session -12 11:30- 13:00</b> <span style="float: right;"><b>Day 2, 4<sup>th</sup> Nov 2023</b></span>	
<b>OP-19</b>	Novel Application of Self-degradable Particulates as Fluid Diverters during Hydraulic Fracturing Horizontal and Vertical Wells <i>Maunish S. Shah</i>
<b>OP-20</b>	Rheological Studies of Organically-Crosslink Gel Systems for Water Shutoff Applications for High-Temperature Reservoirs <i>Mohd.Shahnawaz Alam, Sandeep D. Kulkarni</i>
<b>OP-21</b>	Implication of Engineered Nanoparticle Low Salinity Solution Towards the Wettability Alteration of Mineral Surface <i>N. P. Devakumar, Jitendra Sangwai</i>
<b>OP-22</b>	Improved Oil Recovery Performance of Polymer/Nanoparticle assisted Low Salinity - Smart Water Systems in Sandstone Reservoir <i>Nilanjan Pal</i>
<b>OP-23</b>	Synthesis and Characterization of a Non-ionic Gemini Surfactant Derived from Mustard Oil <i>Lavisha Jangid, Rohit Saw, Keka Ojha, Ajay Mandal</i>
<b>OP-24</b>	Hydrothermal Gasification of Pine Needles for Co-synthesis of H <sub>2</sub> -rich Gaseous Fuel and Nanometal Carbon Hybrid using Metal Effluent <i>Pankaj Kumar, Sivamohan N. Reddy</i>
<b>Session -14 16:30- 18:00</b> <span style="float: right;"><b>Day 2, 4<sup>th</sup> Nov 2023</b></span>	
<b>OP-25</b>	Synthesis of a Novel Catalyst for Natural Gas-based Membrane Reformer to Produce Ultra-pure Hydrogen <i>Anjali Baudh, Rahul Sharma, Sweta Sharma, Rajesh Kumar Upadhyay</i>
<b>OP-26</b>	Investigation of Circular Baffles on the Performance of Pd-Ag Membrane Module for Hydrogen Separation: Effect of Baffle Pitch and Aperture Ratio <i>Sachin Kumar Vishwakarma, Keshav Kumar, Rajesh Kumar Upadhyay</i>
<b>OP-27</b>	Green Hydrogen and Oxygen Production over IrO <sub>2</sub> /Pt/TiO <sub>2</sub> via Photocatalytic Overall Water Splitting under Visible Light Illumination <i>Laxmi Prasad Rao Pala, Nageswara Rao Peela</i>
<b>OP-28</b>	Metal Additive Manufactured Bipolar Plates for Membrane-Based Electrolyzer for Hydrogen Production <i>Hari Pavan Sriram Yalamati, Rakesh Kumar Vij</i>
<b>OP-29</b>	Exploring the Role of Vinyl Copolymers in Next-Generation Water-Based Drilling Fluids for Geothermal Wells <i>Anirudh Bardhan, Anurag Pandey, Darshan Halari, Shivanjali Sharma, Amit Saxena, Shailesh Kumar</i>
<b>OP-30</b>	Process Parameter Correlation Analysis and Microstructural Investigation for Laser-Assisted Rock Drilling of Jalore Granite <i>Antash Kishore Sinha, Shrikrishna N. Joshi</i>
<b>Session -15 16:30- 18:00</b> <span style="float: right;"><b>Day 2, 4<sup>th</sup> Nov 2023</b></span>	
<b>OP-31</b>	Biohythane Production from integrated brewery waste using MIL 88(Fe) MOF Nanoparticles <i>Suyash Harsh, Raj Mohan B.</i>
<b>OP-32</b>	Enhancing Gas Hydrate Saturation Estimation using Forward and Inverse Rock Physical & Petrophysical Mapping of Complex Morphologies <i>Ashish Dhiman, Ravi Sharma, Varun Dev Jamwal, Hirakjyoti Kalita</i>
<b>OP-33</b>	Temperature-Constrained High-Frequency Evaluation of Damodar Valley Shales <i>Varun Dev Jamwal, Nimisha Vedanti, Ravi Sharma</i>
<b>OP-34</b>	Process Engineering Strategy for Improved Methanol Production in <i>Methylosinus trichosporium</i> through Enhanced Mass Transfer and Solubility of Methane and Carbon Dioxide <i>Krishna Kalyani Sahoo, Debasish Das</i>
<b>OP-35</b>	Optimal Design and Operation of CO <sub>2</sub> Transport Pipelines with Impurities <i>Mohamed Mazhar Laljee, Ahmed Alhajaj</i>

<b>OP-36</b>	ASPEN PLUS Simulation Process Model of the Production of CH <sub>3</sub> OH, C <sub>2</sub> H <sub>5</sub> OH and CH <sub>3</sub> OCH <sub>3</sub> with the help of Captured CO <sub>2</sub> and H <sub>2</sub> <i>Meghna Das, Nitumoni Kalita, Prasenjit Talukdar</i>
<b>Session -16</b>	<b>16:30- 18:00</b> <span style="float: right;"><b>Day 2, 4<sup>th</sup> Nov 2023</b></span>
<b>OP-37</b>	Techno-Economic Analysis of Absorber Enhanced Ammonia Synthesis Process <i>Antara Das, Anjali Prasad, N. Sivamohan Reddy, Deepak Kumar Ojha</i>
<b>OP-38</b>	Taylor Flow in U-Bend Microchannel for Sustainable Hydrogen and Decarbonization <i>Deepak Kumar Mishra, Anugrah Singh, Raghvendra Gupta</i>
<b>OP-39</b>	Formation Water Analysis to Examine the Scale Formation and Wettability Alteration Behavior and its Treatment Thereof for Sustaining Crude Oil Production from Porous Media of the Upper Assam Basin <i>Jahnavee Bharadwaj, Dhrubajyoti Neog</i>
<b>OP-40</b>	Study on the Flow Behavior of Heavy Crude Oil- Microfibrillated Cellulose for Enhanced Oil Recovery <i>Vishal Kumar, Gowri Kaniganti, Suresh Kumar Yatirajula</i>
<b>OP-41</b>	High-Performance Carbonated Water Injection using Novel Tetrapolymer and ZnO Nanoparticles: A Sustainable Approach for Improved Oil Recovery and Decarbonization <i>Darshan Halari, Anirudh Bardhan, Anurag Pandey, Shivanjali Sharma, Amit Saxena</i>
<b>OP-42</b>	Synergistic Effect of Silica Nanoparticles in Hybrid Binary-Surfactant-Polymer Solution for Enhanced Oil Recovery <i>Amr Gazem, Hitendra Patel, Hari S., Shanker Krishna</i>
<b>Session -17</b>	<b>16:30- 18:00</b> <span style="float: right;"><b>Day 2, 4<sup>th</sup> Nov 2023</b></span>
<b>OP-43</b>	Numerical Modelling and Sensitivity Analysis of Slim Tube Experiment for Minimum Miscibility Pressure Estimation in CO <sub>2</sub> - Reservoir Oil Systems <i>Akashdeep Hazarika, Sumit Kumar</i>
<b>OP-44</b>	CO <sub>2</sub> Microbubble Suspension and Stabilization Using Natural Surfactant for Advancing Tertiary Oil Recovery <i>Stuti Dubey, Subrata Kumar Majumder</i>
<b>OP-45</b>	Thermal Behaviour of Methane Hydrate Bearing Sediments - A field perspective <i>Mahima S Rao, Ramesh Kannan Kandasami</i>
<b>OP-46</b>	Molecular Insights into the Methane Hydrate Dissociation: Effects of Hydrophilic Silica Nanoparticle and Formation of Methane Nanobubble <i>Bhavesh Moorjani, Jhumpa Adhikari, Samik Hait</i>
<b>OP-47</b>	Enhance Recovery of Methane from Coal and Shale Beds Through CO <sub>2</sub> Injection and Mineralization using Physical, Chemical, and Spectroscopic Techniques <i>Jaywardhan Kumar, Vinod Atmaram Mendhe, Arunkumar Samanta</i>
<b>OP-48</b>	Enhancing Drilling Fluid Performance using Synthesized Chitosan Derivative for Effective Shale Inhibition <i>Amolina Doley, Vikas Mahto, Vinay Kumar Rajak</i>
<b>Session -18</b>	<b>09:00- 11:00</b> <span style="float: right;"><b>Day 3, 5<sup>th</sup> Nov 2023</b></span>
<b>OP-49</b>	Production of Naphtha Grade Hydrocarbons from Fast-Pyrolysis of Post-Consumer Mixed Plastics <i>Bhargav Baruah, Caroline Lievens, Brent Vanderweeën, Kevin Van Geem</i>
<b>OP-50</b>	Effect of Alloying on Hydrogen Production from Formic Acid Decomposition <i>Nandam Hemanth Kumar, Ankit Kumar, Abinaya Sampath</i>
<b>OP-51</b>	Investigation of NiMoSe/ Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> on Carbon Cloth as Effective Electrocatalyst for Hydrogen Evolution Reaction in Acidic Medium <i>Nitish Srivastava, Mohammad Saquib, Pratham Arora, Amit C. Bhosale</i>
<b>OP-52</b>	Feasibility of Green Hydrogen Production from Aligarh Muslim University's Solar Farm for vehicular application <i>Mohd Rihan, Faizan Khalid, Mohammad Uzair, Mohd Raheel Shams</i>
<b>OP-53</b>	Impact of Pyrolysis Reaction Temperature and Intrinsic Heating Effects on Co-pyrolysis of Coal and Sawdust Blend <i>Munmi Bhattacharyya, Pinakeswar Mahanta, Kaustubha Mohanty</i>



<b>OP-54</b>	Energetic and Exergetic Assessment of a Solar Hybrid Trigeneration System for Cooling, Electricity and Green Hydrogen Production <i>Mohd Rihan, Syed Abuzar Suhail, Faizan Khalid, Mohd Kashif Quamar</i>
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<b>OP-56</b>	Optimization and Molecular Insights of Naphthalene Biodegradation by <i>Enterobacter ludwigii</i> NS12 Isolated from Petroleum Contaminated Sites of Northeast India <i>Sreezana Gautom, Vishal Thakur Singh, Pawan Baghmare, Niraj Kumar, Jitendra Singh Verma, Archana Yadav, Palakshi Bordoloi, Ratul Saikia, Sachin Ramesharao Geed</i>
<b>OP-57</b>	Analysis of Offshore Topside under Hydrocarbon Fire <i>Srinivasan Chandrasekaran, Pradeepa M.</i>
<b>OP-58</b>	Degradation Kinetics Study of Diesel by Mixed Culture of <i>Acinetobacter baumannii</i> IITG19 and <i>Klebsiella michiganensis</i> RK <i>Rahul Kumar, Mahuya De</i>
<b>OP-59</b>	Numerical Modeling and Control of Sustainable Offshore Energy Systems under Metro-Ocean Environment <i>R. Manikandan, R. Sakthivel</i>
<b>OP-60</b>	Data-driven Methodology for Enhanced Oil Recovery Screening <i>Atman Madhumaya, Aditya Vyas</i>
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<b>OP-61</b>	Development of Various Machine Learning Algorithm for The Prediction of CO <sub>2</sub> Adsorptivity with the help of Bio-Waste Derived Porous Carbons <i>Pranav Sarda, Hemanth Kumar Tanneru</i>
<b>OP-62</b>	Prediction of Carbon Capture in MOFs by Machine Learning <i>Iradat Hussain Mafat, Sridhar Palla, Dadi Venkata Surya</i>
<b>OP-63</b>	Decarbonization of Alkaline Surfactant Polymer Flooding Enhanced Oil Recovery Process with Green Hydrogen: Uncertainty Quantification and Probabilistic Prediction Studies by Monte Carlo Simulation <i>N.S.V. Dinesh, P. Sivasankar</i>
<b>OP-64</b>	Anodic Dissolution Mechanism of Molybdenum in the Presence of Oxidizer by Reaction Mechanism Analysis <i>Sayani Adhikari, Prasanna Venkatesh Rajaraman</i>
<b>OP-65</b>	Investigative Studies on CO <sub>2</sub> Trapping Mechanisms in Saline Aquifer Sandstone Reservoirs for Carbon Sequestration: A Prospective Solution for Saline Aquifers <i>Dinesh Joshi, Shubham Prakash, Neetish Kumar Maurya, Ajay Mandal</i>
<b>OP-66</b>	Aqueous amine blend of 1,4-Butanediamine and 2-Dimethylaminoethanol for post-combustion CO <sub>2</sub> capture: An approach towards carbon neutrality <i>Ashish Gautam, Monoj Kumar Mondal</i>
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<b>OP-67</b>	Role of primary, secondary, and tertiary amines on carbon dioxide capture <i>Geetanjali Bhati, Bishnupada Mandal, Ramgopal V. S. Uppaluri</i>
<b>OP-68</b>	Synthesis, Evaluation and Application of a Terpolymer as Kinetic Hydrate Inhibitor for THF-hydrates using Low-Temperature Differential Scanning Calorimetry Studies <i>Argha Ojha, Soubir Das, Udayabhanu Gopalakrishnan Nair, Vikas Mahto</i>
<b>OP-69</b>	Development of Machine Learning model for the Oxidative Conversion of Methane to Light Olefins <i>Pranav Sarda, Sumanth Darla, Iradat Hussain Mafat, Sridhar Palla, Hemanth Kumar Tanneru</i>
<b>OP-70</b>	Valorization of Aqueous Phase from Hydrothermal Liquefaction of Lignin <i>Anindita Das, Kaustubha Mohanty</i>
<b>OP-71</b>	Numerical Investigations on The Impact of Layered Heterogeneity on the Hot Water Flooding Performance <i>Md Irshad Ansari, Suresh Kumar Govindarajan</i>
<b>OP-72</b>	PET Derived Carbon Quantum Dots as Nanoparticle Tracers for Oil Fields

	<i>Madiha Farooq, Sikandar Bind, Himanshu Singh, Himanshu Sharma</i>	
<b>Session -23</b>	<b>11:30- 13:00</b>	<b>Day 3, 5<sup>th</sup> Nov 2023</b>
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<b>OP-74</b>	Investigation on Wettability Alterations on Carbonate Rock Samples using Natural Additives for Enhanced Oil Recovery <i>Deepjyoti Mech, Sidharth Murali, Pradeep Rathod</i>	
<b>OP-75</b>	A Review of Biochemical Applications for Green Enhanced Oil Recovery in Indian Petroleum Fields <i>Tarvi Kothawade, Minal Deshmukh, Ganesh Kumar</i>	
<b>OP-76</b>	Enhancing Recovery of Low Acidic Number Crude Oil using Nanoparticles assisted Alkali-Driven Spontaneous Imbibition using Berea Sandstone core <i>Gomathi Rajalakshmi Seetharaman, N. P. Devakumar, Jitendra S. Sangwai</i>	
<b>OP-77</b>	Experimental Study on Methane Hydrate Formation using Single Step TiO <sub>2</sub> Nanofluids <i>Bidesh Kumar Hembram, Tushar Sharma</i>	
<b>OP-78</b>	Cellulose Nanoparticle with Mustard Oil Methyl Ester as Environment Friendly Pour Point Depressants for Flow Assurance of Indian Waxy Crude Oil <i>Sampa Guin, Tarun Kumar Naiya</i>	
<b>Session -24</b>	<b>11:30- 13:00</b>	<b>Day 3, 5<sup>th</sup> Nov 2023</b>
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<b>OP-80</b>	Integrating Advanced Strategies and Software for Optimal Drilling Operations and Well Integrity in Hydrocarbon Extraction <i>Rishikesh Borah, Sharahnan Puzari, Borkha Mech, Himanta Borgohain</i>	
<b>OP-81</b>	Exploration for Hydrocarbons in the Fluvial Environment through a Remotely Operated Vehicle (ROV) <i>Nitin Lahkar, Arnab K. Barman, Santosha K. Dwivedy</i>	
<b>OP-82</b>	Extraction of Carbon from Low-Grade Graphite Ore using Alkali-Hydrothermal Treatment as a Hybrid Physiochemical Method <i>Brijesh Meena, V. V. Goud, Harsh Chaturvedi</i>	
<b>OP-83</b>	Synthesis of MOF embedded metal sulfide for electrocatalytic overall water splitting <i>Meghali Devi, Vaishnavi Vasant Mundada, Bagya Sivakumar, Ranjith Thangavel</i>	
<b>OP-84</b>	A Novel Eutectic Mixture of Biphenyl and Diphenyl Ether Derivatives as Potential Liquid Organic Hydrogen Carriers: An Experimental and Computational Study <i>Nipu Kumar Das, Dharendra Kumar Mishra, G. Pugazhenthii, Tamal Banerjee</i>	
<b>OP-85</b>	Investigation of rock/fluid interactions in smart water flood for offshore carbonate reservoirs <i>Vivek Raj Srivastava, Sujit Mitra, Giridhar Gopal, Jyoti Phirani and S.K.Gupta</i>	

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<b>PP-02</b>	Development and Assessment of a New Energy System for Green Steel Production <i>Gourav Ghosh, Farrukh Khalid, Pankaj Kalita</i>
<b>PP-03</b>	Miscible EOR: Workflow from Lab to Field <i>Poonam Prajapat, Sumit Kumar</i>
<b>PP-04</b>	Development of Low Cost Sustainable and Efficient Electro-Catalyst and Proton Exchange Membrane for Electrolyser Assembly for Producing Green Hydrogen <i>Shiv Kumar Maurya, Shweta Kumbhar, Mahuya De, Chandan Das</i>
<b>PP-05</b>	Rheology of Hydrolyzed Polyacrylamide (HPAM)-Layered Double Hydroxide (LDH) Nano-Composite for Enhanced Oil Recovery <i>Sunil Kumar, Amarjit Pandey, Abhijit Kakati</i>
<b>PP-06</b>	Characterization of Jackfruit Peel for Biomass Gasification <i>Sonam Kardam, Shabina Khanam</i>
<b>PP-07</b>	Enhanced Oil Recovery using Iron Oxide Nanoparticles Coupled with Low Salinity Waterflooding in a Part of Hapjan Oil Field of Upper Assam Basin <i>Uttaron Goswami, Nayan Medhi</i>
<b>PP-08</b>	Exploring the Energy-Efficient Possibility of a Highly-Correlated Compound of Vanadium-Dioxide and its Potential Applications <i>Ashutosh Kumar, Vijay Raj Singh</i>
<b>PP-09</b>	A Simplified Scalable Fabrication Approach for Optofluidic Microreactors in Photocatalytic Hydrogen Production <i>Ameer Suhail M, D Pamu, Nageswara Rao Peela</i>
<b>PP-10</b>	Synchronized Redox Pairs in Metal Oxide/Hydroxide Chemical Analogues for an Efficient Oxygen Evolution Reaction <i>Nitul Kalita, Alpana Sahu, Sourav Bhowmick, Mohammad Qureshi</i>
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<b>PP-13</b>	Underground Hydrogen Storage: Geological Sites and Influencing Parameters <i>Chiradip Bagchi, Samarth D. Patwardhan</i>
<b>PP-14</b>	Ultrasound Assisted Separation of Heavy Oil from Soil Contaminated <i>G V Jayachandran, T.Sivasankar</i>
<b>PP-15</b>	In Silico Investigation of Molybdenum Oxide as a Potential Catalyst for Electrochemical Oxygen Evolution <i>Ankit Kumar Verma, Ananth Govind Rajan</i>
<b>PP-16</b>	Nanoparticle-Aided Biosurfactant Flooding in the Application of Enhanced Oil Recovery: Emulsification, Interfacial Tension, and Wettability Alteration Characteristics <i>Anurag Mishra, Pankaj Tiwari, Lalit M. Pandey</i>
<b>PP-17</b>	Molecular Doping Approach towards the Photoabsorption Enhancement of g-C <sub>3</sub> N <sub>4</sub> Analogues for Efficient Photocatalytic Water Splitting to Produce Clean H <sub>2</sub> <i>Soumalya Bhowmik, Parameswar Krishnan Iyer</i>
<b>PP-18</b>	Techno-Economic Comparison of Combustor Integrated Steam Reforming and Sorption Enhanced Chemical Looping Steam Reforming of Methanol <i>Musaddique Mahfuz Ahmed, Rajesh Kumar Upadhyay, and Pankaj Tiwari</i>
<b>PP-19</b>	Isolation and Screening of Biosurfactant Producing Strains from Oil Refinery Sludge and its Applicability in MEOR <i>Shilpa Nandi, Pankaj Tiwari, Lalit M. Pandey</i>

<b>PP-20</b>	Energy Economic Study of Microencapsulated Phase Change Material (PCM) Embedded Building Wall <i>V. Chakradhar, Sini Kushwah, Srinivasarao Naik B</i>
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<b>PP-33</b>	Chemically Treated Plant-Based Adsorbents in Oil Spill Remediation – A Comparative Study <i>Ipsita Deka, Prasenjit Talukdar</i>
<b>PP-34</b>	Enhancing Crude Oil Flow in Challenging Climates: Innovative Nanoparticle Pour Point Depressant for Waxy Crude Oil of North-East India <i>Gaurav Himanta Khaklari, Prasenjit Talukdar</i>
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<b>PP-42</b>	Performance Analysis of Electrical Submersible Pumps under Variable Operating Conditions <i>Hari Sreenivasan, Devansh Gajjar, Aastha Maurya, Amr-Gazem, Shanker Krishna</i>
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