



**International Conference
On
Petroleum, Hydrogen & Decarbonization
(ICPHD-2024)**



**"Sustainability through energy transition"
12-14th December 2024**

Organized

By



**Department of Petroleum Engineering,
Indian Institute of Technology (Indian School of Mines), Dhanbad**

Dhanbad - 826004

International Conference on Petroleum, Hydrogen & Decarbonization (ICPHD-2024)
Inauguration Session

Day 1 – Dec 12, 2024	
Venue: <i>GJLT</i> 09:30-11:00am	
<i>Time</i>	<i>Event</i>
9.30 am – 9:35 am	Welcome of dignitaries by presenting bouquets
9.35 am – 9:40 am	Lamp lighting by dignitaries
9:40 am – 9:45 am	Invocation song by <i>Manthan Music Club</i> , IIT(ISM), Dhanbad
9:45 am – 09:50 am	Inaugural address by <i>Prof. Keka Ojha</i> , Convener & Head of Department, Petroleum Engineering, IIT(ISM), Dhanbad
09:50 am – 09:55 am	Welcome address by <i>Prof. Sukumar Mishra</i> , Director, IIT(ISM), Dhanbad
9:55 am – 10:00 am	Release of Souvenirs by the dignitaries
10:00 am – 10:05 am	Message by <i>Shri Hardeep S. Puri</i> , Hon'ble Minister of Petroleum and Natural Gas, India
10:05 am – 10:15 am	Address by Guest of honor <i>Shri Saloma Yomdo</i> , Director (Exploration & Development), Oil India Limited
10:15 am – 10:25 am	Address by Guest of honor <i>Dr. Kaustav Nag</i> , Additional Director General (Exploration), Directorate General of Hydrocarbons (DGH)
10:25 am – 10:35 am	Address by Chief Guest <i>Dr. Pallavi Jain Govil</i> IAS, Director General, Directorate General of Hydrocarbons (DGH)
10:35 am – 10:40 am	Felicitation of Dignitaries
10:40 am – 10:45 am	Felicitation of Ex-Faculties
10:45 am – 10:48 am	Votes of thanks by <i>Prof. T. K. Naiya</i> , Organizing Secretary
10:48 am – 10:53 am	National Anthem
10:53 am – 11:00 am	Inauguration of Poster by the dignitaries
11:00 am – 11:30 am	High Tea Break

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Plenary Lectures

Session 01		Day 1, 12 th Dec 2024	Venue: GJLT
Session Chair	Prof. B P Pandey, Ex-Professor, ISM, Dhanbad		
PL-01 11:30-12:10pm	Dr. Kaustav Nag, Additional Director General (Exploration), DGH		
PL-02 12:15-12:55pm	Shri Saloma Yomdo, Director (Exploration & Development), Oil India		
PL-03 1:00-1:40pm	From CO ₂ Enhanced Oil Recovery to Carbon Storage: Migrating Oil Industry Experience to Decarbonization and Energy Transition Prof. Akhil Dutta Gupta, Professor, Petroleum Engineering, Texas A&M University		
Lunch Break (1:40-2:30)			

Keynote Lectures

Session 02		Day 1, 12 th Dec 2024	Venue: GJLT
Session Chair	Prof. Praveen Linga, National University of Singapore		
KL-01 02:30-02:50pm	Shri Aditya Johri, Asset Manager, CBM Bokaro, ONGC		
KL-02 02:55-03:15pm	Indian energy scenario with perspective of ONGC Shri Uday Paswan, Executive Director & Asset Manager Karaikal, ONGC		
Tea Break (03:20-03:45)			
Session 03		Day 1, 12 th Dec 2024	Venue: GJLT
Session Chair	Dr. Kaustav Nag, Additional Director General (Exploration), DGH		
KL-03 03:45-04:05pm	Unlocking Unstructured Data in the Oil and Gas Industry using Gen AI: Transforming Legacy Information into Strategic Assets with DataDrill Shri Tapas Baldia, Co-Founder of Braincrest IT Solution Private Limited.		
KL-04 04:10-04:30pm	Certainty among Uncertainties: Oil & Gas in Future Global Energy System Shri Jayant Malhotra, Management & Business Advisor, Manan Oilfield Services Pvt Ltd		
04:35-05:35	Panel Discussion		

Session 04		Day 2, 13 th Dec 2024	Venue: GJLT
Session Chair	Prof. Akhil Dutta Gupta, Professor, Petroleum Engineering, Texas A&M University		
KL-05 09:45-10.05am	Prospects for Seismicity-Permeability Linkages in Unconventional Reservoirs (online) Prof. Derek Elsworth, Professor, PennState University		
KL-06 10:10: -10:30am	Wrangling with Data and Model Uncertainty - Random Walk Across Multiple Subsurface Domains. (Recording & Online) Prof. Srikanta Mishra, Research Professor, Petroleum Engineering Texas A & M University		
KL-07 10:35-10:55am	Lower Carbon Technology – Promise, Challenges and Mitigation Shri Adwait Chawathe, Director of Subsurface (Chevron ENGINE)		
Tea Break: 11:00-11:15 am			
Session 05		Day 2, 13 th Dec 2024	Venue: GJLT
Session Chair	Prof. T Kumar, Adjunct Professor & Ex Director IIT (ISM), Dhanbad		
KL-08 11:15:11:35am	Challenges Of E&P Industry During the Energy Transition Phase Shri Samarendra Roychaudhary, Director - Strategy and Business Development at Selan Exploration Technology Limited		
KL-09 11:40-12:00 Noon	Petroleum Reservoir Management Dr. B P Pandey, Ex- Professor, ISM Dhanbad		
KL-10 12:05:12:25pm	Clathrate hydrates: A cool way to store carbon dioxide permanently. Prof. Praveen Linga, National University of Singapore		
KL-11 12:30-12:50pm	Residual Oil Saturation: - A critical parameter to formulate mature field development programme. Shri Shyamal Bhattacharya, Former Director Operations, ONGC Videsh Independent E		

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	& P Consultant
Lunch Break: 01:00-02:30pm	
Session 06	Day 2, 13th Dec 2024
Session Chair	Venue: GJLT
	Shri Shyamal Bhattacharya , Former Director Operations, ONGC Videsh Independent E & P Consultant
KL-12 02:30-02:50pm	Emerging Gas Business in India Shri N K Mitra , Ex-COO(GSPC), Ex-Director Offshore (ONGC), Chief Advisor Mcdermott
KL-14 02:55-03:15pm	SmartWater Flooding: A Sustainable Water Flooding Process for Carbonates. (Online Mode) Shri Subhash Ayirala , Petroleum Engineering Consultant · Saudi Aramco
KL-15 03:20-03:40pm	DATA, AI and the Changing Paradigm Shri Anirban Bhattacharya , VP and Head of Practice Data & Analytics (EU, UK&I and MEA) at Tech Mahindra. Pune , India
KL-16 03:45-04:05pm	Reservoir Simulation Study of Bhaskar Field Shri Rakesh Godawat , AVP - Head G & G and Reservoir at SunPetro
Tea Break: 04:05-04:20pm	
Session 07	Day 2, 13th Dec 2024
Session Chair	Venue: GJLT
	Shri Samarendra Roychaudhary , Director - Strategy and Business Development at Selan Exploration Technology Limited
KL-17 04:20-04:40pm	Pore Scale Dynamics of Multiphase Flow in Porous Media Prof. Anugrah Singh , Professor, IIT Guwahati
KL-18 04:45-05:05pm	Petroleum, Hydrogen and Decarbonization - and what binds the three together Shri Shashank Shekhar Jha , Chief Executive Officer (CEO) & Whole-Time Director Artson
KL-19 05:10-05:30pm	Hydrogen Storage: Pioneering Pathways for a Sustainable Energy Transition Ms. Swati Gupta , CEO/Director, RARA Energy Consulting
05:30-06:00pm	Panel Discussion
Session 08	Day 3, 14th Dec 2024
Session Chair	Venue: GJLT
	Prof. Anugrah Singh , Professor, IIT Guwahati
KL-20 09:45-10.05am	Opportunities and Challenges in Energy Transition. (Online Mode) Prof. Mukul Sharma , Professor, Texas University
KL-21 10:10: -10:30am	Advancing CO ₂ -EOR and Carbon Sequestration: Experimental Techniques and Machine Learning Models for Solubility Prediction. (Online Mode) Prof. Prem K Bikkina , Associate Professor, Oklahoma State University
KL-22 10:35-10:55am	Enhanced Oil Recovery in Focus: Global Trends and Gulf Region Perspectives. (Online Mode) Prof. Meshal Algharaib , Associate Professor, Kuwait University
KL-23 11:00-11:20am	Energy Transition and Net zero in context of India Shri Amitabh Ranjan , Registrar (IIPA)
Tea Break: 11:20-11:35am	
Session 09	Day 3, 14th Dec 2024
Session Chair	Venue: GJLT
	Mr. Kallol Saha Director at Upstream and Low-Carbon M&A @ S&P Global
KL-24 11:40:12:00Noon	Shri Chitwan Garg , Division Geounit Manager Digital & Integration, India & Bangladesh, SLB
KL-25 12:00-12:20pm	Shri Omkar Nath Gyani Director (Operations), ONGC Videsh Limited.
KL-26 12:25:12:45pm	Shri Arunangshu Sarkar , Director (Strategy & Corporate Affairs), ONGC (Online Mode)
KL-27 12:45:01:05pm	Mitigating geomechanical risks during CO ₂ enhanced oil recovery Dr. Vikram Vishal , Professor, IIT Bombay
KL-28	Upstream Market in Transition: Strategies for Sustainable Growth and Financing Challenges

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01:05:01:15pm	Shri Kallol Saha, Director, Companies & Transactions S&P Global Commodity Insights Gurugram, India
Lunch Break: 01:00-02:30pm	
Valedictory 03:00-04:30pm	Venue: GJLT

Invited Talk

Venue: Department of Petroleum Engineering

Conference ID	Title & Authors
IL-01	Can India achieve Carbon Neutrality by 2070 Shri. Nitish Kumar , IFS
IL-02	Petroleum asphaltenes for future sustainability: Potential applications in Energy, Healthcare and Environment Prof Uttam Bhui , Professor, PDEU, Gandhinagar
IL-03	Restricting Increase in Water Production from a Well in Bhaskar Field – A Case Study on Successful Water Shut-Off Job by Secondary Cementation Shri. Shantanu Pandey , Senior Reservoir Engineer. Sun Petrochemicals Pvt. Ltd
IL-04	Evaluating the Impact of Sudden Water Loading on Well Performance: A Case Study on Well Revival by Hot Oil Circulation and Annular Communication Testing. Shri. Kartik Gupta , Senior Officer (Reservoir) · Petroleum Engineer Sun Petrochemicals Pvt. Ltd.
IL-05	Optimizing Frac Design in CBM Wells using results from Geomechanics and Mini Frac tests: A Case Study from Bokaro CBM Block Dileep Kumar , CGM (P), CBM Asset, ONGC
IL-06	Prof. Samarth Patwardhan , MIT-WPU
IL-07	Analysis of Hydro-fracturing of HPHT oil and gas well Shri N K Mitra , Ex-COO(GSPC), Ex-Director Offshore(ONGC), Chief Advisor Mcdermott
IL-08	Enhanced Oil Recovery in Matured Fields - Case Study of Baola and Modhera Fields Mr. Rakesh Godawat , AVP - Head G & G and Reservoir at Sun Petrochemicals Pvt. Ltd.

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Oral Presentation

Venue: Department of Petroleum Engineering

Session 01 (Venue: PET 03)	09:30-11:15am (Carbon Capture, Utilization and Storage (CCUS), Energy Transition and Net Zero Policy, Geothermal Energy)	Day 2, 13th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Prof. G P Karmakar , Ex-Professor, Petroleum Engineering Professor at Indian Institute of Technology, Kharagpur Prof. Vikas Mahto , Professor, IIT(ISM), Dhanbad	
IL-01	Can India achieve Carbon Neutrality by 2070 Shri. Nitish Kumar , IFS	
OP-01	Sensitivity Analysis of Grid Resolution Effects for Simulation of Geological CO ₂ Storage Shantnu Brajesh , Rock Flow Dynamics	
OP-02	Supercritical Carbon Dioxide Fracturing in Shale Reservoirs: A Sustainable Pathway for CCUS and Enhanced Hydrocarbon Recovery Aditya Mishra , PDEU, Gandhinagar, Gujarat	
OP-03	Modeling low saline carbonated water flooding for Enhanced Oil Recovery: Performance Evaluation. Shilpa Kulbhushan Nandwani , Principal investigator under DST Project	
OP-05	Intensifying CO ₂ and NH ₃ absorption using Stephen Morris column parametric optimization Shirsendu Banerjee , Kalinga Institute of Industrial Technology, Bhubaneswar, India	
OP-06	Significances of Contact Angle Dynamics at REV Scale on Storage Safety at Field Scale of a CO ₂ Sequestration System Vivek Ramalingam , PDEU, Gandhinagar	
OP-60	Geomechanical Risk Assessment for Carbon Sequestration in Subsurface Reservoirs Partha Pratim Mandal , IIT(ISM) Dhanbad.	

Session 02 (Venue: Conference Room)	09:30-11:15 am (Unconventional Hydrocarbon Resources, Energy Transition and Net Zero Policy, Hydrogen Production, Storage and Transportation)	Day 2, 13th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Prof. V P Sharma , Ex-Professor, IIT(ISM), Dhanbad Dr. Suman Paul , Professor & HOD, Presidency School of Engineering, Department of Petroleum Engineering	
OP-09	Synthesis, Characterization and Application of Graphene Oxide Grafted Polyacrylamide (GO-g-PAM) as a Novel Kinetic Hydrate Inhibitor for THF-hydrates System using Low-Temperature Differential Scanning Calorimetry Studies Argha Ojha , IIT(ISM) Dhanbad	
OP-10	Decarbonizing India's Thermal Power: Enhancing Efficiency with Transport Membrane Condenser (TMC) Technology. Ajay Kumar Singh , CSIR - CIMFR, Dhanbad	
OP-11	Synthesis of trimetallic nano-crystalline material for electrocatalytic water splitting to study hydrogen and oxygen evolution reactions Anuj Baghel , IIT Ropar	
OP-12	Hydrogen-Enriched Natural Gas in India: Opportunities for City Gas Distribution Networks Pallav , PDEU, Gandhinagar	
OP-13	Hydrogen Storage in Saline Aquifers: Insights of Interfacial tension (IFT) Anooja Sara Mathew , Deysarkar Centre of Excellence in Petroleum Engineering, IIT Kharagpur	
OP-14	State-of-Fracture Activation Modeling during CO ₂ Injection in Coalbed Methane Wells: A Correlational Study Abir Banerjee , ONGC	

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Session 3 (Venue: RCC)	09:30-11:15 am (Pipeline and Transportation)	Day 2, 13 th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Dr. Samarth D. Patwardhan , Professor, MIT-WPU Dr. Rajiv Sharma , Professor, IIT Madras	
IL-02	Petroleum asphaltenes for future sustainability: Potential applications in Energy, Healthcare and Environment Prof Uttam Bhui , Professor, PDEU, Gandhinagar	
OP-77	Green synthesis of iron oxide nanoparticles and bio-based Gemini surfactant as PPD and flow improver of waxy crude oil Sampa Guin , IIT(ISM) Dhanbad	
OP-54	Assessment of optimal conditions for PIG travel in a single-phase transport pipeline Spruha Davale , MIT- WPU Pune	
OP-56	Mustard Oil Pentyl Ester (MOPE) as Environment-Friendly Pour Point Depressant for Flow Assurance of Indian Waxy Crude Oil Anushka Dutta , Heritage Institute of Technology, Kolkata	
OP-57	Nanocomposite-Based Pour Point Depressant (NPPD) for Improved Flow Assurance in Indian Waxy Crude Oils Shailesh Kumar , RGIPT, Jais	
OP-59	Dynamic Simulation of Pressure Surge in Subsea Pipelines: Impact of Liquid Hold-Up During Pigging Operations Neeraj Kumar , IPEOT, ONGC	
OP-61	Advancing Waxy Crude Oil Transportation with Nanocomposite Pour Point Depressants: Insights from Review and Experimental Studies Aviral Sharma , RGIPT, Jais	

TEA BREAK 11:15-11:30AM

Session 04 (Venue: PET 03)	11:30-01:00pm (Carbon Capture, Utilization and Storage (CCUS), Energy Transition and Net Zero Policy, Geothermal Energy)	Day 2, 13 th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Prof Uttam Bhui , Professor, PDEU, Gandhinagar Prof Arunkumar Samanta , Department of Chemical Engineering, Indian Institute of Technology (ISM) Dhanbad	
OP-07	Tuneable phase separation using amine-based solvent for post-combustion carbon dioxide capture: optimum composition and phase split ratio Sujit Yuvraj Pimple , IIT (BHU), Varanasi	
OP-08	Effect of organic acids and SiO ₂ nanoparticles on basalt wettability and CO ₂ storage capacity Duvvada Vamsikrishna , IIPe, Visakhapatnam	
OP-16	Development And Planning for Carbon Dioxide (Co ₂) Capture, Utilization, And Storage (Ccus) In Geothermal Reservoirs Swattik Sil	
OP-75	Enhancing CO ₂ Hydrate Formation Kinetics: Comparative Analysis of Tween 80 and SDS as Effective Promoter Baldeep Singh , UNIVERSITI TEKNOLOGI PETRONAS	
OP-76	Modeling CO ₂ Capture and Pipeline Transport for Subsurface Injection: An Integrated Surface System Design and Implementation Study Adib Mulla , Dr. Vishwanath Karad MIT- World Peace University	
OP-83	Effects of CO ₂ -Brine Interaction on Basalt's Geochemical and Elastic Properties: Insights from Acoustic Measurements and Geochemical Modeling Kaustubh Raj , IIT Roorkee	

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Session 05 (Venue: Conference Room)	11:30-01:00pm (Unconventional Hydrocarbon Resources, Energy Transition and Net Zero Policy, Hydrogen Production, Storage and Transportation)	Day 2, 13th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Mr. Rakesh Godawat, AVP - Head G & G and Reservoir at Sun Petrochemicals Pvt. Ltd. Shri. Nitish Kumar, IFS	
OP-15	Efficient CBM Extraction through U-Tube Gas Lift: A Novel Approach for Sustained and Enhanced CBM Production <i>Sameer Bakshi</i> , ONGC, CBM Bokaro	
OP-17	An Investigation into the Flocculation and Settling Behaviour of Coal Preparation Plant Tailings <i>Puja Hansdah</i> , O. P. Jindal University, Raigarh, Chhattisgarh	
OP-18	Impact of Combustion on the Multiscale Structure of Raniganj shale: An implication in Enhanced Gas Recovery <i>Divyanshoo Singh</i> , RGIPT, Jais	
OP-19	A method to evaluate opportunity of Infill wells in mature CBM field <i>Anand Raosaheb More</i> , MIT, Pune	
OP-20	Green Hydrogen: A Review on Recent Advancement in Production and Storage Techniques <i>Md Shadab Reza</i> , NIT, Sikkim	
OP-21	Thermodynamic Analysis of Methane and Carbon Dioxide Adsorption in Shale Reservoirs <i>Abhinav Anand</i> , IIT(ISM), Dhanbad	

Lunch BREAK 01:00-02:30PM

Session 06 (Venue: PET 03)	02:30-04:00pm (Drilling and Production Technologies)	Day 2, 13th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Prof. A K Pathak , Adjunct Professor, IIT(ISM), Dhanbad Prof. Sumit Kumar , Professor, IIT Guwahati	
IL-03	Restricting Increase in Water Production from a Well in Bhaskar Field – A Case Study on Successful Water Shut-Off Job by Secondary Cementation <i>Shantanu Pandey</i> , Senior Reservoir Engineer. Sun Petrochemicals Pvt. Ltd	
OP-28	Design and development of a computer aided design model for preliminary design of drilling fluid for HP/HT wells <i>Rajiv Sharma</i> , IIT Madras	
OP-23	Leveraging deeptech for drilling hazard prediction and mitigation <i>Sunil Kumar Khare</i> , UPES, Dehradun	
OP-22	High-Temperature Performance of Biodegradable Ester-Based Drilling Fluids: A Sustainable Approach for Deepwater Drilling. <i>Nemala Hema Durga Maheswari</i> , IIPe, Visakhapatnam	
OP-26	Development of Clay-free HPHT drilling fluid: Effect of Molecular Weight and Distribution <i>Sidharth Gautam</i> , RGIPT, Jais	
OP-27	Coconut Husk Biofiber Powder as a Sustainable Additive for Water-Based Drilling Fluid to Improve the Rheological and Filtration Properties <i>Achinta Bera</i> , PDEU, Gandhinagar	

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Session 07 (Venue: Conference Room)	02:30-04:00pm (Unconventional Hydrocarbon Resources, Energy Transition and Net Zero Policy, Hydrogen Production, Storage and Transportation)	Day 2, 13 th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Mr. Kallol Saha Director at Upstream and Low-Carbon M&A @ S&P Global Mohammed Masood (DGM), OVL	
OP-78	A Single-Stage Optimization Solution Of Green Hydrogen Production From Crop Residue <i>Abhishek Sanyal, Pramita Sen</i> ; Heritage Institute of Technology, Kolkata & Tapas Kumar Mondal; IIT(ISM), Dhanbad	
OP-79	Prospects of Decarbonizing Water Flooding, Chemical and Gas EOR Processes by energy transition with hydrogen Using Life Cycle Assessment <i>N.S.V. Dinesh</i> , IIPE, Visakhapatnam	
OP-82	Underground hydrogen storage: impact of geochemical reactions and microbial activities <i>Chiradip Bagchi</i> , MIT Pune	
OP-84	Development of a One-Dimensional Geomechanical Model for Evaluating Hydrogen Storage Feasibility in the Onshore Perth Basin, Western Australia <i>Pradeep Shukla</i> , IIT(ISM) Dhanbad	
OP-86	Review of Drilling Fluids for Hydrate Formations <i>Niharika Padmanabhuni</i> , IIT(ISM), Dhanbad	
OP-88	Transforming Agro-Waste into Energy via Gasification: A Step Towards Sustainability <i>Arti Sahu</i> , CIMFR	

Session 08 (Venue: RCC)	02:30-04:00pm (Unconventional Hydrocarbon Resources, Energy Transition and Net Zero Policy, Hydrogen Production, Storage and Transportation)	Day 2, 13 th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Shri Gaurav Dubey, OVL Dr. GP Karmakar, Ex Professor, IIT Kharagpur	
OP-53	Reconstruction of Lithology Profile in Absence of Formation Cuttings and LWD in an Overpressured Sequence: A Fit for Purpose Approach <i>Pratap Nair</i> , C2C Upstream Consulting Private Limited	
OP-67	A workflow to evaluate opportunity of closely spaced Infill wells in unconventional mature Coal Bed Methane (CBM) fields <i>Anand Raosaheb More</i>	
OP-58	Enhancing Lithology Discrimination in Prestack Inversion: A Lithology-Specific Inversion Approach Using Well Log Data <i>Sarvind Ram</i> , ONGC	
OP-69	Numerical Simulation Model: Comparing the Applicability of ASP Flooding and CO2 Flooding for Northeast Indian Oilfields <i>Vishal Dhar</i> , IIT, Guwahati	
OP-71	Spontaneous imbibition in layered porous media <i>Akshit Agarwal</i> , IIT Delhi	
OP-85	Data-Driven Well Log Predictions: Utilizing Machine Learning to Improve Accuracy <i>Subhakant Bhokta</i> , RGIPT	
OP-89	Synthetic Fuels: An alternative Substitute for Petroleum <i>Pavan kumar Gupta</i> , CIMFR	

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TEA BREAK 04:00-04:15 PM

Session 09 (Venue: PET 03)	04:15-05:30pm (Drilling and Production Technologies)	Day 2, 13th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Mr. Pratap Nair, C2C Upstream Consulting Private Limited Shri Rajib Sarmah (GM-Chemical), OIL India Limited	
IL-04	Evaluating the Impact of Sudden Water Loading on Well Performance: A Case Study on Well Revival by Hot Oil Circulation and Annular Communication Testing. Shri. Kartik Gupta , Senior Officer (Reservoir) · Petroleum Engineer Sun Petrochemicals Pvt. Ltd.	
OP-30	Design and Evaluation of a Sustainable Low Cost High-Density Work Over Fluid (LCHDF) for Challenging Reservoirs Umesh Kumar, ONGC	
OP-31	Improving Cement Integrity in HP/HT Wells by Using Silica nanoparticles in Oil Well Cement Slurry. Alok Kumar Chaudhari , RGIPT, Jais	
OP-32	Natural surfactant as Flow improver of Petroleum Crudes: Insights through experimental study Maradana Amulya , PDEU, Gandhinagar	
OP-33	Development of High-Performance Oil-Based Muds for HPHT Wells Using a Novel Surfactant Arin Kumar , RGIPT, Jais	
OP-25	Evaluating the Impact of Sudden Water Loading on Well Performance: A Case Study on Well Revival by Hot Oil Circulation and Annular Communication Testing Shantanu Pandey , Sun Petrochemicals Pvt. Ltd.	
OP-29	Some ideas and studies on ‘Self-Healing Cement SHC)’ for HP/HT wells Rajiv Sharma , IIT Madras	

Session 10 (Venue: Conference Room)	04:15-05:30pm (Drilling and Production Technologies)	Day 2, 13th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Prof. A K Pathak, Adjunct Professor, IIT(ISM), Dhanbad Shri Gaurav Ranjan, EE OVL	
IL-05	Optimizing Frac Design in CBM Wells using results from Geomechanics and Mini Frac tests: A Case Study from Bokaro CBM Block Dileep Kumar , CGM (P), CBM Asset, ONGC	
OP-34	Challenges and Opportunities in Well Completion and Production of Hydrogen Gas Anish Gupta, Qatar Energy LNG and IIT (ISM)	
OP-35	An improved static filtration loss model using classical filtration theory for water-based drilling fluids to predict mud cake properties Apoorv Tandon, IIT (ISM) Dhanbad	
OP-36	A Case study on Fuel Gas Optimization: Pioneering Carbon Footprint Reduction in IDBH and Heater Treater Systems through Innovative use of Three-Phase Separator and Heat Exchanger Solutions T. Balakrishna, IPEOT, ONGC Ltd.	
OP-37	Optimization of Value-Added Product (VAP) Estimation and Material Balance in the Indian Western Offshore Gas Processing Plant: A Case Study Priyanka Dogra, IPEOT, ONGC Ltd.	
OP-55	Redefine Modern Approach For HSE Management System – Uttitishthat Jagrat Prapya Varannibhodhat Arshil A Khan , IOCL	

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Session 11 (Venue: PET 03)	09:30-11:00am (Enhanced Oil Recovery)	Day 3, 14 th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Prof. Chandan Guria , Professor, IIT(ISM), Dhanbad Shri Kartik Gupta , Senior Officer (Reservoir), Petroleum Engineer Sun Petrochemicals Pvt. Ltd.	
IL-06	Prof. Samarth Patwardhan, MIT-WPU	
OP-38	Experimental Investigation of a Novel Nanocomposite Preformed Particle Gel for Water Shutoff Treatment in Heterogeneous Reservoirs Yugal Kishor Pandit, Abhishek Pratap Singh , IIT(ISM), Dhanbad	
OP-39	Enhancing Oil Recovery Using Zinc Oxide Nanoparticles, Surfactants, and Polymers: A Synergistic Approach for Improved Efficiency Nagur vali shaik , IIPE, Visakhapatnam	
OP-41	Application of Pulse Plasma Technology in Improving the Flowability of Fluids Through Limestone Rock Samples Raghavendra Maddirala , IIPE, Visakhapatnam.	
OP-42	Investigation of the effect of viscoelasticity for likely viscous polymers in enhanced oil recovery Anil , RGIPT, Jais	
OP-43	Novel nanoemulsion of CeO ₂ -impregnated biochar for enhanced oil recovery: A sustainable solution for improved efficiency Vartika Verma , IIT BHU	

Session 12 (Venue: Conference Room)	09:30-11:00am (Data Analytics and Artificial Intelligence in Energy Industry & Others)	Day 3, 14 th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Shri Ajay Kumar Singh , CSIR - CIMFR, Dhanbad Prof. Rajkiran , Assistant Professor, IIT(ISM) Dhanbad	
IL-07	Analysis of Hydro-fracturing of HPHT oil and gas well Shri N K Mitra , Ex-COO(GSPC), Ex-Director Offshore (ONGC), Chief Advisor Mcdermott	
OP-66	Unlocking Unstructured Data in the Oil and Gas Industry using Gen AI: Transforming Legacy Information on into Strategic Assets with DataDrill Tapas Baldia , Braincrest IT Solution Pvt. Ltd	
OP-68	Multivariate production forecasting via deep-learning approach Bineet Kumar Tripathi , IIT Guwahati	
OP-70	Well Production Forecast: Application of Deep - learning Models and its comparison with statistical method Nishant Singh , IIT(ISM), Dhanbad	
OP-72	Pore-scale petroleum migration analysis with machine learning Indrajeet Kumar , IIT, Guwahati	
OP-73	Machine Learning augmented CO ₂ -Crude oil MMP and IFT prediction at reservoir condition Sumit Kumar , IIT Guwahati	
OP-74	Data-Driven Modelling of Cluster-Based Prediction of Permeability: Enhanced Approach Using Integration of Unsupervised Machine Learning with Random Forest Vikram Kumar , IIT(ISM) Dhanbad	

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Session 13 (Venue: RCC)	09:30-11:00 (Enhanced Oil Recovery)	Day 3, 14 th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Dr. Kuladip Sarma (Chief Chemist), OIL India Limited Dr. Siddharth Gautam, Assistant Professor, RGIPT, Amethi	
OP-87	Recovery of asphaltene from heavy oil separated from contaminated soil in assistance with ultrasound G V Jayachandran, NIT ,Thiruchirapalli	
OP-50	Synergistic Interactions Between SiO ₂ Nanoparticles and CAPB Surfactant: Advancing Foam Stabilization Mechanisms Dadi Naga Ramesh, IIT(ISM) Dhanbad	
OP-51	Application of Brassica Juncea-Derived Biodegradable Surfactant in Enhanced Oil Recovery: A Sustainable Approach Lavisha Jangid, IIT(ISM) Dhanbad	
OP-52	Enhancing PHPA-Based Hydrogels with Optimized Silica Nanoparticles for Effective Water Shut-Off in High-Temperature Reservoirs Milan Mandal, IIT(ISM) Dhanbad	
OP-80	Physicochemical Analysis of Surfactant-Alumina Nanoparticle-Polymer Stabilized Nanofluids for Enhanced Oil Recovery Applications Tanmay Akash, IPE, Visakhapatnam	

Session 14 (Venue: PET 03)	11:15-01:00pm (Enhanced Oil Recovery)	Day 3, 14 th Dec 2024
Conference ID	Title & Authors	
Session Chair & Co-Chair	Dr. Ajay Mandal, FRSC, Professor & Former HoD, IIT (ISM), Dhanbad Dr. Suman Paul, Professor & HOD, Presidency School of Engineering, Department of Petroleum Engineering	
IL-08	Enhanced Oil Recovery in Matured Fields - Case Study of Baola and Modhera Fields Mr. Rakesh Godawat, AVP - Head G & G and Reservoir at Sun Petrochemicals Pvt. Ltd.	
OP-44	Synergistic Effects of Nanofluids in Enhanced Oil Recovery: A Comparative Study of SiO ₂ Nanoparticles, Graphene Oxide Nanosheets, and Carbon Dots Dinesh Joshi, IIT (Bombay), Mumbai.	
OP-45	Nanoparticle-Stabilized Foam for Enhanced Oil Recovery: Mechanistic Insights from High-Pressure Visualization Experiments Jinesh Machale, Memorial University of Newfoundland, Canada.	
OP-46	A Study on Resource-Efficient EOR Techniques using Low Saline Water Flooding in Depleted Reservoir of Upper Assam Basin Dr Kuladip Sarma, Oil India Limited.	
OP-47	Impact of Salinity and pH on Interfacial Tension Reduction and Rheological Properties of Surfactant-Crude Oil Systems for Optimized EOR Stuti Dubey, IIT Guwahati.	

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OP-48	A new era in EOR technology unfolds with bio-based zwitterionic surfactants, combining high performance with eco-friendly benefits <i>Tithi Shaw</i> , IIT(ISM) Dhanbad.
OP-49	Chemical Dose optimization of surfactant-polymer flooding for enhanced oil recovery <i>Makwana Megh Pareshbhai</i> , PDEU, Gandhinagar

Session 15 (Venue: Conference Room)	11:30-01:00pm (Data Analytics and Artificial Intelligence in Energy Industry & Others) Day 3, 14th Dec 2024
Conference ID	Title & Authors
Session Chair & Co-Chair	Prof. Vikash Mahto , Professor, IIT(ISM), Dhanbad Prof. Chandan Sahu , Assistant Professor, IIT(ISM) Dhanbad
OP-62	Estimation of Permeability Using Petrophysical Analysis and Machine Learning Techniques: Validation with Core Data – A Case Study of the Assam Basin <i>Goutam Kumar</i> , IIT(ISM), Dhanbad
OP-63	Design and Fabrication of Superhydrophobic Metal-Polymer Composite Structures via 3D Printing Techniques <i>Sapan Kumar Pandit</i> , Curtin University, Perth, Australia
OP-64	ROLE OF AI\ML IN DRILLING FLUID DESIGN & ANALYSIS: A MINI-REVIEW <i>Davninder Singh</i> , IIPE, Visakhapatnam
OP-65	Optimizing Artificial Lift Performance Using Data Analytics <i>Arjun Guglani</i> , Scolomin Group.
OP-04	Geochemical Analysis of Shale Gas Reservoirs for Assessing Long-Term Effects of Supercritical CO ₂ Storage Systems: Simulation Studies <i>Niranjan Bhore</i> , Dr Vishwanath Karad's World Peace University

Poster Presentations
Venue: GJLT corridor

Poster Session 01	11:30-01:00pm (Carbon Capture, Utilization and Storage (CCUS), Energy Transition and Net Zero Policy, Geothermal Energy, Hydrogen Production, Storage and Transportation, Unconventional Hydrocarbon Resources, Energy Transition and Net Zero Policy)	Day 1, 12th Dec 2024
Conference ID	Title & Authors	
PP-13	The role of sediment in kinetics of Gas Hydrate formation and CO ₂ -CH ₄ exchange method. <i>Sweta Saini</i> , IIT(ISM), Dhanbad	
PP-16	Modeling carbon storage, CO ₂ sequestration in saline aquifer with CMG <i>Medisetti Naveen Kumar Raja</i> , IIT(ISM), Dhanbad	
PP-23	Evaluating Open-Source vs Commercial Reservoir Simulators: Implications for CO ₂ Storage Efficiency in CCS <i>Vishal Chauhan</i> , Dr. Vishwanath Karad MIT World Peace University	
PP-24	Carbon Capture Storage and Utilization <i>Ravi Prakash Mishra</i> , IIT(ISM), Dhanbad	
PP-04	Efficient Hydrogen Storage in Rock Salt Cavern: A Dynamic, Provisional Solution Powered by Renewable Energy <i>Mohd Saif</i> , <i>IIT(ISM)</i> , Dhanbad	
PP-17	Analyzing the Effects of Different Cushion Gases on Hydrogen Storage in Porous Medium <i>Muhammad Fazil Jaffar Ali</i> , Dr. Vishwanath Karad MIT World Peace University, Pune.	
PP-18	Enhancing rheological properties and proppant carrying capacity of foam as a fracturing fluid for shale gas reservoirs <i>Kollapu Manuismwarya</i> , IIT(ISM), Dhanbad	
PP-19	A Critical review on the development of foam fracturing fluid for deep shale gas reservoirs <i>Kevin Nsolloh Lichinga</i> , IIT(ISM), Dhanbad	
PP-21	Green hydrogen economy: Overcoming challenges in scaling and sustainable strategic opportunities <i>Rijak Kaur Sarla</i> , IIPE, Visakhapatnam.	
PP-25	Exploring potentials of Natural Gas Hydrates in Methane Extraction and Carbon Dioxide Sequestration <i>Ayush Yadav</i> , IIT(ISM), Dhanbad	
PP-27	Enhancement of CBM Recovery by Wettability Reversal using Surfactants <i>Sameer</i> , IIT(ISM), Dhanbad	

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Poster Session 02	03:30-05:00pm Day 1, 12th Dec 2024 (Drilling and Production Technologies, HSE in Oil and Gas Industry, Others, Geomechanics & Hydraulic Fracturing, G & G Exploration)
Conference ID	Title & Authors
PP-08	A Computational Fluid Dynamics Approach to Optimize Borehole Cleaning Performance <i>Aniket Kumar Singh</i> , RGIPT, Jais
PP-09	Evaluation of Eco-Friendly Lost Circulation Materials <i>Ritansh Prabha</i> , RGIPT, Jais
PP-10	Characterization of Viscoelastic Properties of Polymer-Based Completion Fluids for Enhanced Well Stability and Performance <i>Twanika Attri</i> , RGIPT, Jais.
PP-15	A Study on the Impact of Base Salt on Performance of Brine Based Completion Fluid <i>Janmajay Singh Rajput</i> , RGIPT, Jais
PP-26	Development of Organic Additives to Enhance Drilling Fluid Performance by Reducing Filtrate Loss and Achieving Optimal Mud Cake Thickness <i>Mulasa Vaibhava Sai</i> , IIT(ISM), Dhanbad
PP-28	An Interactive Drilling Rig Model to Enhance Safety Awareness and Educational Training <i>Ankit Pandey</i> , Parul University
PP-29	A Review of Wellbore Stability in Coal Beds: Technological Improvements and Challenges <i>Nachiket Jape</i> , IIT(ISM), Dhanbad
PP-32	Dynamic Permeability Modelling for CBM Reservoirs: Integrating Fracture Propagation and Stress Coupling <i>Wrick Ghosh</i> , IIT(ISM) Dhanbad.

Poster Session 03	11:30-01:00pm Day 2, 13th Dec 2024 (Enhanced Oil Recovery, Data Analytics and Artificial Intelligence in Energy Industry, Others)
Conference ID	Title & Authors
PP-05	Comparative Analysis of Water Flooding and Natural Depletion: A Reservoir Simulation Approach <i>Rohan Patil</i> , IIT(ISM), Dhanbad
PP-06	Polymer Gels For Profile Modification Job In Hydrocarbon Bearing Reservoirs <i>Progya Sen</i> , RGIPT, Jais
PP-11	Preparation, Characterization, and evaluation of preformed particle gels using a synthesized cross-linker for high-temperature oil reservoir. <i>Manish Kumar, Kumar Vikram Bhushan</i> , IIT(ISM), Dhanbad
PP-20	A review of Recent advancements in CO2 mobility management for Enhanced oil recovery <i>Anas Azeem</i> , RGIPT, Jais
PP-22	Green Synthesis of Aloe vera-Mediated Zinc Oxide Nanoparticles: Their Characterization and Enhanced Oil Recovery Applications <i>Raj Nigam</i> , IIPE, Visakhapatnam
PP-03	An Amalgamation of Clustering and Random Forest model for Generating Synthetic Shear Wave Velocity Logs: A Volve field case study <i>Vikram Kumar</i> , IIT (ISM) Dhanbad
PP-12	Enhancing Crude Oil Flow Assurance through Nanoparticle-Driven Wax Mitigation: A Study on Silica and Alumina Nanoparticle Integration with Pour Point Depressants <i>Ashmit Bagchi</i> , MIT World Peace University
PP-14	Wastewater Management in Oil Industry Using Recycling Methods <i>Aman Deshmukh</i> , MIT- World Peace University

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PP-30	The Digital Oilfield: Leveraging Data Analytics and Technology Integration to Tackle Industry Challenges Ahaan Shaw , IIT (ISM) Dhanbad
PP-31	Using machine learning approaches for the shear wave velocity prediction from well logs Sathish Kumar M , IIT (ISM) Dhanbad