



3rd International Conference on Petroleum, Hydrogen, and Decarbonization



ICPHD 2025

7-9 Nov, 2025

Organized by

Department of Petroleum Engineering and Geoengineering

Rajiv Gandhi Institute of Petroleum Technology, Jais

Event Schedule (tentative)

Day 1 - 7th Nov 2025		
8:15-9:00 AM	Registrations (<i>Venue: Near Vivekanad Sabhagar</i>)	
Inaugural Session (<i>Venue: Vivekanad Sabhagar</i>)		
9:00-10:15 AM	Introductory address by Dr. Tushar Sharma (<i>Convenor, ICPHD</i>)	
	Lighting of the Lamp by Dignitaries followed by Saraswati Vandana	
	Welcome address by Prof. Satish K. Sinha (<i>Chairperson, ICPHD</i>)	
	Inaugural address by Patron Prof. Harish Hirani (<i>Director, RGIPT</i>)	
	Address by Guest of Honor, Prof. Shalivahan (<i>Director, IIPE</i>)	
	Inaugural address by Chief Guest, Dr. Kaustav Nag (<i>ADG, DGH India</i>)	
	Unveiling of the ICPHD Abstract Book	
	Vote of thanks by Prof. Alok K. Singh (<i>Convenor, ICPHD</i>)	
10:15-10:45 AM	High Tea	
Plenary Session (<i>Venue: Vivekanad Sabhagar</i>)		
10:45-1:15 PM	PL1	Dr. Kaustav Nag , Additional Director General, DGH India <i>Unlocking the India's Hydrocarbon Sector for Energy Security</i>
	PL2	Prof. Shalivahan , Director, IIPE Visakhapatnam <i>Geophysical and Petrophysical Signatures of Serpentinization: Unlocking India's Natural Hydrogen Potential</i>
	PL3	Prof. M. Rajeev Manohar , Honorary Director, Centre of Advanced Studies, ONGC <i>Liquid Crystals and Its Applications</i>
	PL4	Dr. Satyam Priyadarshy , CEO & Founder, Reignite Future, USA <i>Digital Transformation of the Oil and Gas Industry is a must in this era of Industrial Revolution 5.0+</i>
1:30-2:30 PM	Lunch (<i>Venue: Near Guest Hostel</i>)	

Day 1 - 7th Nov 2025						
Technical Sessions (Oral)						
2:30-4:30 PM	Session 1: Petroleum Production Operations Venue: ABI-LR1		Session 2: Energy Integration and Transition Venue: ABI-LR2		Session 3: Petroleum Geoscience Venue: ABI-LR3	
	Session Chair	Prof. V.C. Srivastava, IIT Roorkee KL1: Desulfurization of Gas Oil using Extractive Systems	Session Chair	Mr. Navin Kaul, GM, BHEL Jagdishpur KL2: Relevance of Emerging Technologies in Sustainability	Session Chair	Mr. Vinay Babu, Lead Geoscientist, Baker Hughes KL4: Convergence - Petroleum, Hydrogen and Decarbonisation
	Session Co-chair	Dr. Sushanta Sahoo, RGIPT Jais	Session Co-chair	Shri. Jyoti Prasad Rout, Head of Operations & BD, BFI KL3: Integrated Energy Exploration: The Next Frontier	Session Co-chair	Dr. Hemant K Singh, RGIPT Jais
	OP1: Deepali Chhatwani	Optimizing Sucker Rod Pump Fault Diagnosis: A Comparative Study of Darknet-53 and ShuffleNet with ECOC Classifiers	OP5: Ujjawal Pandey	Enabling Decarbonization Beyond Technology: Evidence on Communication and Adoption Pathways for Global Sustainability	OP9: Gyan Prakash Tripathi	Integrated FTIR, XRD, and N2 Adsorption Study of Shales: Insights into Specific Surface Area and Gas Adsorption Capacity
	OP2: Mahesh Kulkarni	Treatment of production water containing EOR polymer (HPAM) using aluminum free coagulants – A case study from western fields in India	OP6: Kunal Ravindra Gajbhiye	Experimental Investigation of Hydrogen-Natural Gas Blending for Clean Energy Transition	OP10: Manish Kumar Srivastava	Spectroscopic Evaluation of Coal Wettability: A Robust Alternative to Contact Angle Measurement
	OP3: Khushi Ray	Impact of elevated temperature on fracture conductivity and stability of resin-coated proppant packs in hydraulically fractured wells	OP7: Prabodh Kumar	COMSOL-Based Design of Adsorbed Biogas System	OP11: Pareekshit G Hcgde	Capturing Phase Behaviour with Anisotropic Distribution in Deep-Seated Hydrocarbon Reservoirs
	OP4: Arnav Pandey	Optimization of Cashew Nut Shell Liquid as a Bio-Based Flow Improver for Heavy Crude Oil Using Response Surface Methodology	OP8: Kelvey P.	Geophysical Approaches for Subsurface Characterization of Geothermal Provinces in Gujarat, India	OP12: Priyanshu Baidya	3D Seismic Volume Denoising Using Advanced Deep Learning Techniques
4:30-5:30 PM	Tea Break & Technical Sessions (Poster Presentations PP 1-12) (Venue: near Vivekanand Sabhagar)					
Panel Discussion (Venue: Vivekanand Sabhagar)						
Panel: Accelerating Energy Technologies and their Movement in India						
5:30-6:30 PM	Moderator: Mr. Arun Singhal, Founder & Chief Editor, DEW Journal • Prof. Harish Hirani, Director RGIPT • Dr. Satyam Priyadarshy, CEO & Founder, Reignite Future USA • Dr. Kaustav Nag, ADG, DGH India • Mr. Navin Kaul, GM, BHEL Jagdishpur • Prof. Shalivahan, Director IIPE • Mr. Vinay Babu, Lead Geoscientist, Baker Hughes					
7:00-8:00 PM	Cultural Program (Venue: Vivekanand Sabhagar)					
8:00-9:30 PM	Gala Dinner (Venue: near Guest Hostel)					
Day 2 - 8th Nov 2025						
8:00-9:00 AM	Breakfast (venue: near Guest Hostel)					
Plenary Session (Venue: Vivekanad Sabhagar)						
9:00-11:10 PM	Morning Address by Convenor					
	PL5	Dr. James Sheng, TTU, USA	Challenges in producing clean energy			
	PL6	Prof. Stefan Iglauer, Director, Centre for Sustainable Energy & Resource, ECU Australia	Gold and Orange Hydrogen and CO ₂ Mineralisation			
	PL7	Prof. Vikram Vishal, IIT Bombay	Petroleum Sector in an Era of De-carbonization			
	PL8	Mr. Ravi Prakash, Executive Director, HAL Korwa	Relevance of De-carbonization Technologies in Aerospace Sector			
11:10-11:30 AM	PL9	Dr. Khairul A. Mustapha , University of Malaya, Malaysia	Carbon capture and utilisation via mineral carbonation in Malaysian mafic rock formation and concrete			
	Tea Break					
Technical Sessions (Oral Presentations)						
11:30-1:30 PM	Session 4: Flow Assurance Venue: ABI-LR1		Session 5: Efficient Drilling and Completion Technologies Venue: ABI-LR2		Session 6: Geophysics and Geotechnical Engineering Venue: ABI-LR4	
	Session Chair	Prof. Vikas Mahto, IIT(ISM) Dhanbad KL5: Application of Nanotechnology in Water and Gas Shut-off Job: Status and Challenges	Session Chair	Shri. A.K. Mishra, CE (CMTG.), IDT-ONGC KL6: Cementation against Highly Permeable Water Bearing Zone for Better for Zonal Isolation	Session Chair	Prof. Arindham Basu, IIT Kharagpur KL7: Problems and promises of performing index tests in characterizing rock materials
	Session Co-chair	Dr. Naveen Mani Tripathi, RGIPT Jais	Session Co-chair	Dr. Sidharth Gautam, RGIPT Jais	Session Co-chair	Dr. Sandip K. Roy, Geoscience Consultant KL8: Perspectives of Hydrocarbon exploration in the Indian deepwater basins.
	OP14: Bikash Kumar Das	Nanocomposite of Hydrophobically Engineered Natural Clay Nanomaterial and Modified EVA Copolymers for Flow Assurance of Crude Oil	OP19: Issa Arwani	Development and Evaluation of Eco-Friendly Nanocomposite Additives for Enhanced Performance of Water-Based Drilling Fluids in HPHT Reservoirs	OP24: Yashovardhan Gupta	Development of a customized QI based algorithm for Carbonate Reservoir Characterization towards hydrocarbon exploration in Salwati Basin, West Papua
	OP15: Rajiv Choudhary	Investigation of a Zwitterionic Surfactant and Ultrasonication-assisted Emulsion Formulation for Heavy Crude Oil Transportation	OP20: Varsha Pichikala	High-Temperature Crosslinked Guar-Xanthan Biopolymer Gel System for HPHT Drilling Fluid Stability	OP25: Karthik H S	AI-Driven Seismic Interpretation: Unveiling Faults and Their Structural Attributes
	OP16: Shailendra Singh	Synthesis and Performance Evaluation of EVA/modified Silica Nanocomposite as an Effective PPD for Indian Waxy Crude Oils	OP21: Saurya Nayak	Geomechanics-Guided Completion Fluid Design for Shale Gas Reservoirs	OP26: Tignangshu Das	Hybrid ML & DL Approaches for Estimating Petrophysical Properties from Inverted Volumes and Seismic Attributes

	OP17: Kaynat Khan	Amino Functionalized V2O5 Nano-Belt-Based Magnetically Recoverable Demulsifier for Low Temperature Crude Oil-Water Separation	OP22: Apoorv Tandon	Predicting Mud-cake behavior and filtrate invasion in water-based drilling fluids using a viscoelastic approach	OP27: Abdul Muttalib	Pore Pressure and Rock Failure Evaluation through Geomechanical Modeling: A Case Study of the Smeaheia Reservoir
	OP18: Janmajay Singh Rajput	Application of methyl ester derived from non-edible vegetable oil in oil industry	OP23: Tushar Sharma	Development of Customized Single-Step Nanofluid on Assessing and Preventing Swelling during Cementing against Shale of Different Depth and Morphology	OP28: Krishna Kumar Yadav	Attribute analysis for detection of underground utility by Ground Penetration Radar (GPR)
1:30-2:30 PM	Lunch (Venue: near Guest Hostel)					
Technical Sessions (Oral Presentations)						
2:30-4:30 PM	Session 7: Digitalization and Optimization of Oil & Gas Field operations Venue: AB1-LR1		Session 8: Unconventional Energy Resources Venue: AB1-LR2		Session 9: Decarbonisation and Global Sustainability Venue: AB1-LR4	
	Session Chair	Dr. Naveen Velmurugan, Founder & CEO, Virgil Dynamics Paris KL9: From Soft Rocks to Hard Realities: Drilling into the Next Energy Frontier	Session Chair	Dr. Himangshu Kakati, IIPE Vizag KL10: Methane Recovery From Hydrate Reservoirs	Session Chair	Dr. Himanshu Sharma , IIT Kanpur KL11: Low Cost Adsorbents for CO2 Capturing
	Session Co-chair	Dr. Vivek Kumar, RGIPT Jais	Session Co-chair	Dr. Siddhant Kumar Prasad, RGIPT Jais	Session Co-chair	Dr. Arvind Singh, RGIPT Jais
	OP29: Aastha Bathija	Enhancing Sucker Rod Pump Fault Diagnosis: A Comparative Study of Inception V3 and Xception Architectures Utilizing ECOC Classifiers	OP34: Satendra Kumar Gupta	Geochemical and Petrographical investigation of Jalipa lignite (Barmer Basin) to understand the sustainable and clean utilization potential.	OP39: Nanda Kishore	Production of Syngas with Negligible or Without CO2 from Waste Biomass by Modified Pyrolytic Approach
	OP30: Princy Bajaj	Comparative Evaluation of AlexNet and GoogLeNet for Automated Diagnostics of Sucker Rod Pump Dynamometer Cards	OP35: Arpan Pan	Fluid Substitution Modelling of Unconventional Shale Reservoir to identify shale resource potential in the Damodar River Valley Basin, India	OP40: Khumujam Jeffry Singh	Characterising fault zone heterogeneity in deep saline aquifer for CO2 sequestration
	OP31: Ayush raj	Cross-Industrial PdM: Leveraging Steel Plant Vibration Analysis for Upstream Petroleum Asset Reliability	OP36: Souvik Patra	Characterization of Hot Dry Rock (HDR) Geothermal Reservoir using Rock Physics Modelling	OP41: Saheli Ghosh Dastidar	Experimental Investigation of Geochemical Interactions between Supercritical CO2 and Shale
	OP32: Anurag Sharma	Real-Time Multiphase Flow Simulation in Porous Media using Hybrid PINNs	OP37: Megha Chowdhury	Thermal Maturity Controls on the Srength, Porosity, and Hydrocarbon Potential of Indian Shales	OP42: Punnam Pradeep Reddy	Mineral Carbonation in Deccan Basalts: Geochemical and Geomechanical Attributes
	OP33: Subhakant Bhokta	Post-Failure Healing of Borehole Cavities: A Simulation Approach to Reduce Instability Depth and Angle Using Optimized Mud Injection in Vertical and Deviated Wells	OP38: Avinash Shukla	Investigation Into Additives for Enhanced Gas Hydrate Formation Kinetics: Relevant for CO2 Sequestration in Marine Gas Hydrate Deposits	OP43: Raghavendra Maddirala	An Artificial Neural Network Approach for Predicting CO2-EOR and Storage Performance in a Mature Oil Reservoir
4:30-4:45 PM	Tea Break					
Technical Sessions (Oral Presentations)						
4:45-6:30 PM	Session 10: Hydrogen: Production, Storage, Transportation and Utilization Venue: AB1-LR1		Session 11: Improved or Enhanced Oil Recovery (IOR/EOR) & Reservoir Engineering and Technologies Venue: AB1-LR2		Session 12: Health, Safety, Environment (HSE), and Social Responsibility Venue: AB1-LR4	
	Session Chair:	Prof. Nanda Kishore, IIT Guwahati KL12: Relevance of De-carbonization Technologies in Aerospace Sector Valorization of Natural Biomass Waste and Synthetic Polymer Waste by Thermochemical Conversion	Session Chair	Dr. Achinta Bera, PDEU Gandhinagar KL13: Comparative Study of Nanoparticles and Quantum Dots for Enhanced Oil Recovery – A Perspective Review	Session Chair:	Dr. Rajat Jain , IIPE Visakhapatnam KL14: Formation Damage: A critical challenge to optimal well performance
	Session Co-chair	Dr. Karan Malik, RGIPT Jais	Session Co-chair	Dr. Amit Kumar, RGIPT Jais	Session Co-chair	Dr. Piyush Sarkar, RGIPT Jais
	OP44: Padmini Pujapanda	Development of a Geological cross-section based on the depositional history and structural configurations towards identification of the potential Natural Hydrogen resources in Andaman, India	OP47: Pankaj Deshmukh	Reservoir Sectorization and Numerical Aquifer Design Using Well-Level Production Data Analysis in CBM Fields	OP50: Akansha Pathak	Polyaniline-Graphene Functionalized Polyester for High-Performance Ammonia Sensing
	OP45: Devendra Singh	High-Performance Sulfur-Doped Nickel-Polymer Electrodes for Water and Seawater Splitting	OP48: Shreyansh Gupta	Physics-Informed UNet Surrogate for CO2 Geological Storage: Fast Darcy Pressure and Residual Trapping with Uncertainty Quantification	OP51: Vankala Jai Sphoorthi	Eco-friendly Oil Spill Remediation Using Melamine-based Polyurethane Sponge Coated with Beeswax
	OP46: Dhritideb Karmakar	Development of Deep water Sedimentary Model based on Geophysical Data Interpretation towards Hydrogen Exploration in the Andaman Basin	OP49: Moka Santhosh Kumar	Factors Affecting CO2 Solubility in Water: The Role of Surfactant	OP52: Suraj Kumar	Eco-Friendly CO2 Sequestration through Hydrate Formation in Clay-Dominated Marine Systems
7:00- 9:00 PM	Dinner (Venue: near Guest Hostel)					

Day 3 - 9th Nov 2025	
8:00-9:00 AM	Breakfast (venue: near Guest Hostel)
Startup Conclave (Venue: Vivekanad Sabhagar)	
9:00-11:00 AM	Morning address by Organizing Secretary
	•Dr. Naveen Velmurugan, Founder & CEO, Virgil Dynamics
	•Mr. Gaurav Upadhyay, Sr. Manager Climate Consulting, PRESPL
	•Mr. Ronak Mistry, Director-R&D, Greenovate Solutions Pvt. Ltd.
	•Dr. Mahesh Kulkarni, R&D Head, SNF
11:00-11:15 AM	High Tea
Panel Discussion (Venue: Vivekanad Sabhagar)	
11:30 AM-12:15 PM	Panel: Why Startups Are the Need of the Hour in the Oil and Gas Industry today
	Moderator: Mr. Arun Singhal, Founder & Chief Editor, DEW Journal
	•Dr. Naveen Velmurugan, Founder & CEO, Virgil Dynamics
	•Mr. Gaurav Upadhyay, Sr. Manager Climate Consulting, PRESPL
	•Mr. Ronak Mistry, Director-R&D, Greenovate Solutions Pvt. Ltd.
	•Dr. Mahesh Kulkarni, R&D Head, SNF
Valedictory Session (Venue: Vivekanad Sabhagar)	
12:20-1:15 PM	Address by Organizing Secretary
	Closing address by Patron, Prof. Harish Hirani (Director, RGIPT)
	Declaration of Awards
	Address by Chief Guest, Shri Radhey Lal, Joint Director, Department of Science And Technology, Govt. of Uttar Pradesh
	Vote of thanks by Convenor
1:15-2:30 PM	Lunch



Organised By

Department of Petroleum Engineering and Geoengineering

Rajiv Gandhi Institute of Petroleum Technology, Jais, India

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