

Programme Schedule		
ASSET-2025		
International Conference on Advances in Sustainable Solutions for Energy Transitions		
January 2-4, 2025		
Venue: Conference Center, Indian Institute of Technology Guwahati		
Day 1		2 nd January 2025
08.00-9.30	Registration (Conference center foyer) and Breakfast (Food Pandal)	
9.30-10.00	Inauguration Venue: Conference Hall-2	
Plenary Lectures		Chair: Prof. A. K. Dalai Conference Hall-2
10.00-10.30	Plenary Talk -1	<i>Net-Negative Goals and Clean Energy Transition: The Role of Green Hydrogen in CO₂ Refineries and Biomass Valorization</i> , Prof. Ganapati D. Yadav, National Science Chair (ANRF/GOI), Emeritus Professor of Eminence, Former Vice Chancellor Institute of Chemical Technology, Mumbai
10.30-11.00	Plenary Talk -2	<i>Technology intervention in climate change perspective</i> , Prof. P. Mahanta, Director, NIT Meghalaya & Professor, Department of Mechanical Engineering, IIT Guwahati.
11.00-11.20	High Tea & Coffee (Food Pandal)	
Keynote Lectures		Chair: Prof. K Mohanty Conference Hall-2
11.25-11.45	KL-1	<i>Improved Utilization of Co-products from Biofuel Production: New Industrial Uses for a Sustainable Bio-refinery</i> by Prof. Amar K. Mohanty, University of Guelph, Canada.
11.45-11.47	Questions & Answers	
11.47-12.07	KL-2	<i>Extraction, Characterization, Blending, and Hydrotreating of Bio-crude oil from Hydrothermal Liquefaction of Agricultural Biomass</i> by Prof. Ajay K. Dalai, University of Saskatchewan, Saskatoon, Canada
12.07-12.09	Questions & Answers	

Technical Session		
SESSION-1A <i>Theme: Biomass, Biofuel, Biorefinery and Waste Management</i> Venue: Hall-1	SESSION-1B <i>Theme: Solar, Wind, Hydro, Hydrogen & Fuel Cells</i> Venue: Hall-2	SESSION-1C <i>Theme: Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility</i> Venue: Hall-3
Session 1A (Parallel, Hall 1): Biomass, Biofuel, Biorefinery and Waste Management		
Session Chairs	Prof. Amar Mohanty, and Prof. Pankaj Kalita	Venue: Hall-1
12.15-12.30	IL 1	Sustainable approaches for waste management involving bacterial biofilms in biodegradation of recalcitrant environmental pollutants <i>by Dr. Surajit Das, NIT Rourkela</i>
12.30-12.32	Questions & Answers	
12.32-12.47	IL 2	Sustainable Catalyst: Biofuel Production and Biofuel Precursor <i>by Dr. Pranjal Kalita, CIT Kokrajhar</i>
12.47-12.49	Questions & Answers	
13.00-14.00	Lunch (Food Pandal)	
Session 1A (Cont.) (Parallel, Hall 1): Biomass, Biofuel, Biorefinery and Waste Management		
Session Chairs	Prof. Amar Mohanty and Prof. Pankaj Kalita	Venue: Hall-1
14.00-14.10	ABS-005	Trisnehi Pradhan

		Redefining waste management approaches using marine bacterial consortium for heavy metal bioremediation
14.10-14.12	Questions & Answers	
14.12-14.22	ABS-012	Sharmily Chakraborty Mitigation of lead induced soil toxicity and plant growth promotion by phosphate solubilizing bacterium <i>Enterobacter hormaechei</i> KR2215
14.22-14.24	Questions & Answers	
14.24-14.34	ABS-019	Prasant Kumar Rout Isolation of cellulose from <i>Mentha</i> distilled waste and production of hydroxymethylfurfural A Biofuel precursor
14.34-14.36	Questions & Answers	
14.36-14.46	ABS-025	Manisha Pandey Selective Catalytic Hydrogenation of methyl oleate over Pd supported on V ₂ O ₅ an extension to soyabean oil and microalgal lipid (<i>D salina</i>) esters
14.46-14.48	Questions & Answers	
14.48-14.58	ABS-036	Praveen Kumar Catalyst effect on kinetics and reaction mechanisms of biomass pyrolysis
14.58-15.00	Questions & Answers	
15.00-15.10	ABS-037	Vikas Patel In situ immobilization of heavy metals using single step hydrothermal gasification of hyperaccumulator biomass for hydrogen production
15.10-15.12	Questions & Answers	
15.12-15.22	ABS-038	Deepti Dubey Volumetric reduction of simulated solid waste using graphite plasma arc technology and conceptual design of the system for trapping radioactive elements
15.22-15.24	Questions & Answers	
15.24-15.34	ABS-043	Divyanshi Sharma

		Fabrication and Characterization of Insulation Panel made by using waste from Foot Wear Industry and Rubber Tyre
15.34-15.36	Questions & Answers	
15.36-15.46	ABS-224	Siddhartha Kumar Gohain Biomass Briquetting: A brief review of current status and SWOT analysis
15.46-15.48	Questions & Answers	
15.48-15.58	ABS-058	Poorvika Kulshrestha A novel Multi Copper Oxidase from Micrococcus sp IITD 107 useful for Polypropylene and Polyethylene degradation
15.58-16.00	Questions & Answers	
16.00-16.20	Tea and Coffee	
16.25-17.15	Talk on Publishing a Research Paper by Prof. U K Saha, IIT Guwahati The Complete Workflow	
17.15-18.30	Poster Session and Evaluation	
19.45-21.30	Dinner	
<i>Session 1B (Parallel, Hall 2): Solar, Wind, Hydro, Hydrogen & Fuel Cells</i>		
	Session Chairs	<i>Dr. R. Anandalakshmi and Dr. Ajay Singh</i> Venue: Hall-2
12.15-12.30	IL 3	MPP Estimation a PV Array under different environmental conditions by Prof. Sisir Kumar Nayak, IIT Guwahati
12.30-12.32	Questions & Answers	
12.32-12.47	IL 4	Design & Development of Solar-driven Hydrogen Energy Systems by Dr. Satya Sekhar Bhogilla, IIT Jammu
12.47-12.49	Questions & Answers	

13.00-14.00	Lunch	
	<i>Session 1B (Cont.) (Parallel, Hall 2): Solar, Wind, Hydro, Hydrogen & Fuel Cells</i>	
	Session Chairs	<i>Dr. R. Anandalakshmi and Dr. Ajay Singh</i> Venue: Hall-2
14.00-14.10	ABS-027	Dhanjita Medhi Variable Pitch Vertical Axis Wind Turbine Torque Improvement with Predefined Pitch Angle at Low Tip Speed Ratio
14.10-14.12	Questions & Answers	
14.12-14.22	ABS-028	Ayushi singh A targeted approach to fabricate and test PEM electrolyzer for enhanced efficiency
14.22-14.24	Questions & Answers	
14.24-14.34	ABS-030	Naveen T K Hour Ahead Multivariate Forecasting of Global Horizontal Irradiance using Advanced Deep Learning Techniques
14.34-14.36	Questions & Answers	
14.36-14.46	ABS-031	Deepak Kumar Rathour Quantification of Energy Efficiency from VortexInduced Vibration of Two Circular Cylinders Mounted on a Cantilever Beam
14.46-14.48	Questions & Answers	
14.48-14.58	ABS-052	Madhusmita Ray Designing fuel cell flow path for improved power performance
14.58-15.00	Questions & Answers	
15.00-15.10	ABS-064	Rajeev Gyani

		Performance and degradation analysis of 11000Wp Solar Photovoltaic Plant after 10 years of operation under real outdoor conditions
15.10-15.12	Questions & Answers	
15.12-15.22	ABS-078	Goutam Khankari An Opportunity for Harnessing Hydro Electric Power from Condenser Cooling Water system Using Surface Hydro Kinetic Turbine with without Adjustable Blade in Thermal Power Plant
15.22-15.24	Questions & Answers	
15.24-15.34	ABS-089	Mandar Patunkar Performance Analysis of Single PEM Fuel Cell with MEA of 5cm ²
15.34-15.36	Questions & Answers	
15.36-15.46	ABS-101	Bhanudas Takale Design Development and Thermal Testing of Inhouse Fabricated Mixed mode Active Type Solar Dryer
15.46-15.48	Questions & Answers	
15.48-15.58	ABS-112	SAKTI PRASANNA MUDULI Analysis of Capacitance Voltage Measurement for Majority carrier depth profiling of phosphorus doped Si nanowire
15.58-16.00	Questions & Answers	
16.00-16.20	Tea and Coffee	
16.25-17.15	Talk on Publishing a Research Paper by Prof. U K Saha, IIT Guwahati The Complete Workflow	
17.15-18.30	Poster Session and Evaluation	
19.45-21.30	Dinner	
	<i>Session 1C (Parallel, Hall 3): Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility</i>	

	Session Chairs	<i>Prof. Karuna Kalita and Dr. Swati Sharma</i>	Venue: Hall-3
12.15-12.30	IL 5	Cascade Latent Heat Storage System for Solar Thermal Applications by <i>Dr. K. Ravi Kumar, IIT Delhi</i>	
12.30-12.32	Questions & Answers		
12.32-12.47	IL 6	Hydrogen production and energy storage by <i>Prof. N R Peela, IIT Guwahati</i>	
12.47-12.49	Questions & Answers		
13.00-14.00	Lunch		
	<i>Session 1C (Cont.) (Parallel, Hall 3): Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility</i>		
	Session Chairs	<i>Prof. Karuna Kalita and Dr. Swati Sharma</i>	Venue: Hall-3
14.00-14.10	ABS-016	Debanjan Mukherjee Technical and economic feasibility of solar and wind hybrid adiabatic compressed air energy storage system for 20% of the electricity demand of 2028 to 2030 in India	
14.10-14.12	Questions & Answers		
14.12-14.22	ABS-026	Archana Hota PVDF BCZT composite film based self-charging flexible symmetric piezoelectric supercapacitor for wearable electronics	
14.22-14.24	Questions & Answers		
14.24-14.34	ABS-047	Kalpana Kawathekar Significance of E Rickshaw as Intermittent Public Transport Supporting Major Public Transport Accessibility in Nagpur Metropolitan City	
14.34-14.36	Questions & Answers		
14.36-14.46	ABS-051	Mononita Das	

		The Critical Role of Al ₂ O ₃ BaTiO ₃ and ZrO ₂ Nanoceramic Fillers in PVDF HFP based Composite Polymer Electrolytes for High Performance Lithium Metal Batteries
14.46-14.48	Questions & Answers	
14.48-14.58	ABS-065	Bhaskar Patel Experimental assessment of cost effective highly reliable phase change material for low temperature applications
14.58-15.00	Questions & Answers	
15.00-15.10	ABS-068	Vinay Patel Advanced Thermal Characterization of Rubitherm RT35 Melting Dynamics in a Horizontally Configured Energy Storage System with Eccentric Linear Heat Source
15.10-15.12	Questions & Answers	
15.12-15.22	ABS-095	Dipankar Hazarika Biopolymer derived Quasi solid Electrolytes Comprising of Ionically crosslinked Chitosan Hydrogels for Applications in EDLCs
15.22-15.24	Questions & Answers	
15.24-15.34	ABS-102	Kuntal Ghosh LLZO Incorporated Duo polymer based Composite Electrolyte Boosting Critical Current Density and Long-term Stability for Solid State Metal Batteries
15.34-15.36	Questions & Answers	
15.36-15.46	ABS-105	Ashwani Maurya alpha MoO ₃ rods as electrode materials synthesis characterization and their energy storage performance
15.46-15.48	Questions & Answers	
15.48-15.58	ABS-111	Dipendu Sarkar Constructing Interfacial Bond Modulated Direct Z Scheme Heterostructure by Enwrapping Cu ₂ SnS ₃ Quantum Dots on BiOCl Nanosheets for Efficient Photocatalytic H ₂ Generation
15.58-16.00	Questions & Answers	
16.00-16.20	Tea and Coffee	

16.25-17.15	Talk on Publishing a Research Paper by Prof. U K Saha, IIT Guwahati The Complete Workflow	
17.15-18.30	Poster Session and Evaluation	
19.45-21.30	Dinner	
DAY 2 3rd January 2025		
8.00-9.15	Breakfast and Registration	
Keynote Lectures	Chair: Prof. A. K. Dalai	Conference Hall-2
09.15-09.35	KL-3	<i>Industrial decarbonization for energy transitions</i> by Prof. Santanu Bandopadhyay , IIT Bombay, India
09.35-09.37	Questions & Answers	
09.37-09.57	KL-4	<i>Advanced Biocarbons from Sustainable Resources and their Lightweight and Flame Retardant Polymer Composite Materials for EV Parts to Boost Decarbonization and a Move for Net Zero Transition</i> by Prof. Manjusri Misra , University of Guelph, Canada
09.57-09.59	Questions & Answers	
Technical Sessions		
SESSION-2A <i>Theme: Biomass, Biofuel, Biorefinery and Waste Management</i> Venue: Hall-1	SESSION-2B <i>Theme: Solar, Wind, Hydro, Hydrogen & Fuel Cells</i> Venue: Hall-2	SESSION-2C <i>Theme: Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility</i> Venue: Hall-3
Session 2A (Parallel, Hall 1): Biomass, Biofuel, Biorefinery and Waste Management		
Session Chairs	Prof. N R Peela and Dr. Tumpa Sarker	Venue: Hall-1

10.05-10.20	IL 7	Synthesis and Characterization of Micro-Mesoporous Zeolite H-BEA for Eco-Friendly Biomass Conversion to Value-Added Chemicals by <i>Dr. Kalpana Maheria, SVNIT Surat, India</i>	
10.20-10.22	Questions & Answers		
10.22-10.37	IL 8	Renovating Food Waste into Clean Energy: A Sustainable Biogas Production Initiative for Universities by <i>Dr. Garima Srivastava, Department of Bioscience & Biotechnology, Banasthali Vidyapith, Banasthal, India</i>	
10.37-10.39	Questions & Answers		
10.39-10.54	IL 9	Effect of Synthesis Parameters on Fabrication of PVDF-Co-PTFE Membranes for Ethanol-Water Separation Using Vacuum Membrane Distillation by <i>Prof. S. P. Chaurasia, MNIT Jaipur, India</i>	
10.54-10.56	Questions & Answers		
10.56-11.10	Tea and Coffee		
	<i>Session 2A (Cont.) (Parallel, Hall 1): Biomass, Biofuel, Biorefinery and Waste Management</i>		
	Session Chairs	<i>Prof. N R Peela and Dr. Tumpa Sarker</i>	Venue: Hall-1
11.15-11.25	ABS-059	Archana V Isolation and characterization of microorganisms capable of polyethylene and polypropylene degradation	
11.25-11.27	Questions & Answers		
11.27-11.37	ABS-075	Aasma Tadvi A Novel Approach to Pretreat Lignocellulosic Materials Using Surfactant Foam	
11.37-11.39	Questions & Answers		
11.39-11.49	ABS-081	RABINDRA KANGSHA BANIK Acid alkali leaching of torrefied rice husk for improvement of fuel properties	
11.49-11.51	Questions & Answers		
11.51-12.01	ABS-084	Charu Dube	

		Development of chemically durable borosilicate glass wasteform for immobilisation of high-level waste
12.01-12.03	Questions & Answers	
12.03-12.13	ABS-057	UMESH UMESH Deciphering Interaction of Phytochemical molecules with Carboxymethyl Cellulase (CMCase) Using Computational Approach
12.13-12.15	Questions & Answers	
12.15-12.25	ABS-093	KALAIYARASAN S Characterization Biomass Combustion Using Single Pellet Experiments and Mitigation of Ash Related-Challenges
12.25-12.27	Questions & Answers	
12.27-12.37	ABS-094	MD MODASSIR KHAN Production of Hydrogen By The Application of Biomass: A Review
12.37-12.39	Questions & Answers	
12.39-12.49	ABS-106	Aparupa Thakuria Arsenic (As) adsorption studies on functionalized cellulose through molecular dynamic simulation (MDS)
12.49-12.51	Questions & Answers	
13.00-14.00	Lunch (Food Pandal)	
	<i>Session 2B (Parallel, Hall 2): Solar, Wind, Hydro, Hydrogen & Fuel Cells</i>	
	Session Chairs	<i>Prof. Santanu Bandopadhyay and Dr. Satya Sekhar Bhogilla</i> Venue: Hall-2
10.05-10.20	IL 10	<i>Photosynthetic Microbial Fuel Cell: A Bio-inspired System for Generating Green Energy and Developing Sensors by Prof. Pranab Goswami, Department of Biosciences and Bioengineering, IIT Guwahati</i>

10.20-10.22	Questions & Answers		
10.22-10.37	IL 11	PV deployment to match summer demand in hotter climates by <i>Dr. Shilpi Shital, Renewable and Sustainable Energy Research Center, Technology Innovation Institute (TII), UAE</i>	
10.37-10.39	Questions & Answers		
10.39-10.54	IL 12	Harnessing Wind Power for Sustainable Energy Generation: A Vertical Axis Wind Turbine Perspective by <i>Prof. Niranjana Sahoo, Department of Mechanical Engineering, IIT Guwahati</i>	
10.54-10.56	Questions & Answers		
10.56-11.10	Tea and Coffee		
	<i>Session 2B (Cont.) (Parallel, Hall 2): Solar, Wind, Hydro, Hydrogen & Fuel Cells</i>		
	Session Chairs	<i>Prof. Santanu Bandopadhyay and Dr. Satya Sekhar Bhogilla</i>	Venue: Hall-2
11.15-11.25	ABS-129	Nikhil N Rao Enabling the Formation of Active NiOOH Species by in situ Electrochemical Activation of Urea Electrooxidation Pre Catalysts	
11.25-11.27	Questions & Answers		
11.27-11.37	ABS-131	Shivam Singh Chauhan Environmental safe mobile solar distillation unit for extraction of essential oil from aromatic crops A sustainable technology	
11.37-11.39	Questions & Answers		
11.39-11.49	ABS-133	Shubham Jaiswal Flow and heat transfer analyses in a U tube for tubular receiver design	
11.49-11.51	Questions & Answers		
11.51-12.01	ABS-138	Ashwani Kumar Energy Harvesting from Fluid Flow via Rotary Conversion of Flexible Foil Induced Fluttering	
12.01-12.03	Questions & Answers		
12.03-12.13	ABS-141	Siddharth Shukla Insights into the piezoresistive behaviour of woven gas diffusion layers under uniaxial compression	

12.13-12.15	Questions & Answers	
12.15-12.25	ABS-142	K Ravi Kumar Solar radiation forecasting using optimized extreme gradient boosting algorithm
12.25-12.27	Questions & Answers	
12.27-12.37	ABS-143	Abhijeet Abhijeet Numerical simulation of vortex induced vibration of two rigidly coupled elliptical cylinders in an inline arrangement
12.37-12.39	Questions & Answers	
12.39-12.49	ABS-151	AVINASH G SHAHABADI Optimization of Helical Hydrokinetic Turbine via Supervised Learning Technique
12.49-12.51	Questions & Answers	
13.00-14.00	Lunch (Food Pandal)	
	<i>Session 2C (Parallel, Hall 3): Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility</i>	
	Session Chairs	<i>Prof. Manjusri Misra and Dr. E S N Raju</i> Venue: Hall-3
10.05-10.20	IL 13	Laser-patterned carbon for flexible energy generation and storage devices <i>by Dr. Swati Sharma, IIT Mandi</i>
10.20-10.22	Questions & Answers	
10.22-10.37	IL 14	Introduction to Electric Vehicles <i>by Prof. Karuna Kalita, IIT Guwahati</i>
10.37-10.39	Questions & Answers	
10.39-10.54	IL 15	Harvesting Light: The AgriPV Evolution, <i>by Dr. Gurleen Kaur, Solar & Technology Specialist, International Solar Alliance.</i>
10.54-10.56	Questions & Answers	
10.56-11.10	Tea and Coffee	
	<i>Session 2C (Cont.) (Parallel, Hall 3): Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility</i>	

	Session Chairs	<i>Prof. Manjusri Misra and Dr. E S N Raju</i>	Venue: Hall-3
11.15-11.25	ABS-114	Jil Rose Perutil Catalytic Engineering of Bismuth Vanadate Cerium Vanadate Composite to Yield a Bifunctional Photocatalyst for Simultaneous Energy Generation and Pollutant Degradation	
11.25-11.27	Questions & Answers		
11.27-11.37	ABS-126	Taraknath Das Metal hydride based composite material (catalyst and metal hydride) for onboard hydrogen generation and storage	
11.37-11.39	Questions & Answers		
11.39-11.49	ABS-128	Aditi Kshirsagar Spatio temporal analysis of green spaces for energy conservation case study of Pune	
11.49-11.51	Questions & Answers		
11.51-12.01	ABS-135	BRISTISNATA KASHYAP Improvement of electrochemical performances of Zr(IV) doped sodium manganese oxide as cathode material for sodium ion battery	
12.01-12.03	Questions & Answers		
12.03-12.13	ABS-139	Jeet Brahma Thermoelectric conversion potential of 1D van der Waals AlPS4 atomic chain structures	
12.13-12.15	Questions & Answers		
12.15-12.25	ABS-145	TARUN PRATAP SINGH Enhancing Performance of Nanofiber based Triboelectric Nanogenerators with Metal Oxides for Innovative Applications	
12.25-12.27	Questions & Answers		
12.27-12.37	ABS-159	Brijesh Meena Beneficiation of Microcrystalline Graphite Using Evaporation Assisted Film Flotation	
12.37-12.39	Questions & Answers		

13.00-14.00		Lunch (Food Pandal)	
Keynote Lectures		Chair: Prof. S. P. Chaurasia	Conference Hall-2
14.00-14.20	KL-5	<i>Extraction of high-value compounds from Kappaphycus alvarezii utilising supercritical CO2 and subcritical water by Prof. S. N. Naik, Centre for Rural Development and Technology, Indian Institute of Technology Delhi.</i>	
14.20-14.22	Questions & Answers		
14.22-14.42	KL-6	<i>Hydrothermal liquefaction: A holistic approach to produce transport fuel by Dr. Tumpa Sarker, Bangladesh Agricultural University, Bangladesh.</i>	
14.42-14.44	Questions & Answers		
Technical Sessions			
SESSION-3A <i>Theme: Biomass, Biofuel, Biorefinery and Waste Management</i> Venue: Hall-1		SESSION-3B <i>Theme: Solar, Wind, Hydro, Hydrogen & Fuel Cells</i> Venue: Hall-2	SESSION-3C <i>Theme: Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility</i> Venue: Hall-3
Session 3A (Parallel, Hall 1): Biomass, Biofuel, Biorefinery and Waste Management			
	Session Chairs	Prof. Rupam Kataki and Dr. Kalpana Maheria	Venue: Hall-1
14.50-15.00	ABS-108	Ayush Dave Hydrothermal disposal of Tetra Pak waste using metal effluents to produce biofuels	
15.00-15.02	Questions & Answers		
15.02-15.12	ABS-110	AVINASH ANAND Biohydrogen synthesis from food waste hydrolysate +optimization using Response surface methodology (RSM) and artificial neural network (ANN)	
15.12-15.14	Questions & Answers		

15.14-15.24	ABS-130	Aashlesha Chekkala Thermodynamic and Life Cycle Assessment of Thermodynamic Cycles for Waste Heat Recovery from Flue Gases
15.24-15.26	Questions & Answers	
15.26-15.36	ABS-137	Ashma Parween Pyrolysis of sewage sludge with potassium acetate to improve phosphorus recovery
15.36-15.38	Questions & Answers	
15.38-15.48	ABS-146	Shayaram Basumatary Biogas upgradation through fixed bed adsorption column using sugarcane baggage based biochar
15.48-15.50	Questions & Answers	
15.50-16.00	ABS-154	Debasis Das Pyrolytic Biochar from Rubber Wood: A Sustainable Approach to Improve Soil Water Retention in Indian Agriculture
16.00-16.02	Questions & Answers	
16.02-16.12	ABS-171	Kakali Borah Valorising Agroindustrial Waste Bioethanol Production from Delignified Spent Passion Fruit Rind Residue
16.12-16.14	Questions & Answers	
16.14-16.24	ABS-174	Aparna Rani Seal Biodiesel production using green synthesized nanocatalyst
16.24-16.26	Questions & Answers	
16.30-17.00	Tea and Coffee	
17.00-18.30	Poster Session and Evaluation	
19.45-21.30	Gala Dinner	
	<i>Session 3B (Parallel, Hall 2): Solar, Wind, Hydro, Hydrogen & Fuel Cells</i>	
	Session Chairs	<i>Prof. Sisir Nayak and Dr. Kuldeep Kumar</i>
		Venue: Hall-2

14.50-15.00	ABS-156	Vipin Uniyal Effects of Flow rate Rotational speed and Load on the Power Output of Archimedes Screw Turbines for Ultra Low Head Remote Power Generation
15.00-15.02	Questions & Answers	
15.02-15.12	ABS-158	ABHISHEK PARIDA Design and experimental study on a dual stage metal hydride based hydrogen compressor tragetting pressure upto 300 bar
15.12-15.14	Questions & Answers	
15.14-15.24	ABS-162	Prashanth Kumar Sanjeevaiah A Statistical and Experimental approach Optimize the Parameters of an Undershot Water Wheel through Artificial Neural Network and Response Surface Methodology
15.24-15.26	Questions & Answers	
15.26-15.36	ABS-165	Soumalya Bhowmik Molecular Doping Approach Towards the Photoabsorption Enhancement of gC3N4 Analogues for Efficient Photocatalytic Water Splitting to Produce Clean H2
15.36-15.38	Questions & Answers	
15.38-15.48	ABS-167	Shubham Kumar Mishra / Priyanshu Ghosh Sustainable Solar Based Cogeneration System for Rural Communities: Electrification and Cold Storage Solutions
15.48-15.50	Questions & Answers	
15.50-16.00	ABS-170	Mohammad Uzair Green Hydrogen Production through PEM Electrolyzer Integrated with a Polygeneration Cycle A Life Cycle Perspective
16.00-16.02	Questions & Answers	
16.30-17.00	Tea and Coffee	
17.00-18.30	Poster Session and Evaluation	
19.45-21.30	Gala Dinner	

	Session 3C (Parallel, Hall 3): Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility		
	Session Chairs	Dr. Saket Verma and Dr. K Ravi Kumar	Venue: Hall-3
14.50-15.00	ABS-168	Khushboo Modgil Study of policies framed by the Government of India to achieve its Net Zero target by 2070	
15.00-15.02	Questions & Answers		
15.02-15.12	ABS-179	Harshit Pandey Potassium poly heptazine amide as a novel binder for Lithiumion battery	
15.12-15.14	Questions & Answers		
15.14-15.24	ABS-204	Siddhartha Siddhartha A Whale Hunting Optimization Approach for Strategic Electric Vehicle Charging Station Deployment	
15.24-15.26	Questions & Answers		
15.26-15.36	ABS-208	Siddhi Internet of Things (IoT) Based Battery Monitoring System for Active Battery Management System	
15.36-15.38	Questions & Answers		
15.38-15.48	ABS-239	Srishti Agarwal Self-assembled bagasse-derived activated Carbon and MoS ₂ nanocomposite electrode for solid-state supercapacitors	
15.48-15.50	Questions & Answers		
16.30-17.00	Tea and Coffee		
17.00-18.30	Poster Session and Evaluation		
19.45-21.30	Gala Dinner		
		DAY 3	4th January 2025
8.30-9.15	Breakfast		
Keynote Lectures		Chair: Prof. Vaibhav V Goud	Conference Hall-2

09.15-09.35	KL- 7	<i>Blockchain Principles: A Sustainable Biofuture Perspective</i> by Prof. Janusz A. Koziński , Department of Chemical Engineering, Lakehead University, Canada	
09.35-09.37	Questions & Answers		
09.37-09.57	KL-8	<i>Novel Biomass based Catalytic Processes for Green Hydrogen Generation: A Review</i> by Dr. Ritesh Mittal , Assistant General Manager, Engineers India Limited, R&D complex Gurugram, India	
09.57-09.59	Questions & Answers		
Technical Sessions			
SESSION-4A <i>Theme: Biomass, Biofuel, Biorefinery and Waste Management</i> Venue: Hall-1		SESSION-4B <i>Theme: Solar, Wind, Hydro, Hydrogen & Fuel Cells</i> Venue: Hall-3	
Session 4A (Parallel, Hall 1): Biomass, Biofuel, Biorefinery and Waste Management			
	Session Chairs	Prof. S P Chaurasia and Dr. Pranjal Kalita	Venue: Hall-1
10.05-10.15	IL 16	Leveraging Biochar for Sustainable Environmental Solutions, by <i>Prof. Rupam Kataki, Tezpur University, India.</i>	
10.15-10.17	Questions & Answers		
10.17-10.27	ABS-176	APARNA B MOHAN Experimental Evaluation of the Combined Effects of Coffee Husk and its Biochar in Composting	
10.27-10.29	Questions & Answers		
10.29-10.39	ABS-182	Nabanita Ghosh Exploring the scalability of biogenic magnetized nanocatalyst towards biodiesel production	
10.39-10.41	Questions & Answers		
10.41-10.51	ABS-199	ANJALI AWASTHI Preparation and characterization of TiO ₂ immobilized biochar for treatment of single and binary mixture of dyes	
10.51-10.53	Questions & Answers		
10.53-11.03	ABS-201	Pravin Suryawanshi	

		Techno-economic analysis of hydrodynamic cavitation intensified cleaner production of catalytic fatty acid methyl ester (Biodiesel) from Thumba seed oil (Citrullus Colocynthis)
11.03-11.05	Questions & Answers	
11.05-11.15	ABS-207	Srinithya Ravinuthala Effect of Magnetic Field on Low Cost Flexible 3D Porous Aerogel Electrodes for Microbial Electrosynthesis
11.15-11.17	Questions & Answers	
11.17-11.27	ABS-214	Rashmi Baruah Utilizing Symbiosis to Scavenge Oxygen in the Anodic Chamber of a Photosynthetic Microbial Fuel Cell for Generation of Electricity
11.27-11.29	Questions & Answers	
11.29-11.39	ABS-087	Nikhil GN Anaerobic biorefinery for valorization of food waste and environmental sustainability
11.39-11.41	Questions & Answers	
11.41-11.51	ABS-261	BARUN KUMAR NANDI Numerical Modelling of Co-Combustion of Segun Leaves and Segun Leaves Char with High Ash Indian Coal
11.51-11.53	Questions & Answers	
11.53-12.03	ABS-297	Sneha Singh Valorising Rice Husk Waste into Activated Carbon: Influence of Loading Ratios via Acetic Acid Activation and Double Crucible Method
12.03-12.05	Questions & Answers	
12.00-12.15	Tea and Coffee	
	<i>Session 4B (Parallel, Hall 3): Solar, Wind, Hydro, Hydrogen & Fuel Cells</i>	
	Session Chairs	<i>Dr. Farrukh Khalid and Dr. Gurleen Kaur</i>
		Venue: Hall-3

09.45-09.55	ABS-172	Akshini More Design and Simulation of a Metal Hydride Reactor for Providing Constant Flow of Hydrogen Required for the Fuel Cell
09.55-09.57	Questions & Answers	
09.57-10.07	ABS-196	FARDIN RAFIQUE Synthesis Structural Characterization and Application of ZnS GO Heterostructures for Photochemical Electrochemical and Photoelectrochemical Hydrogen Evolution
10.07-10.09	Questions & Answers	
10.09-10.19	ABS-211	Roma Agrahari Insight of Multi Modular Microbial Fuel Cell operated in Continuous mode using cow dung enriched exoelectrogens
10.19-10.21	Questions & Answers	
10.21-10.31	ABS-216	Himasri Das Performance Evaluation of Droop Control and Virtual Synchronous Machine Control for Grid Forming Converters in Renewable Dominated Microgrids
10.31-10.33	Questions & Answers	
10.33-10.43	ABS-220	Sushant Bawne Effect of Injector Hole Variation on the Performance of Hydrogen Powered Single Cylinder Engines Using Numerical Simulation
10.43-10.45	Questions & Answers	
10.45-10.55	ABS-231	Shivam Tyagi A correlation between the interfacial charge transfer and reusability of a MoSe ₂ /activated biocarbon heterostructure for wastewater treatment
10.55-10.57	Questions & Answers	
10.57-11.07	ABS-273	Lomas Rishi Catalyst Design and Optimization for Methane to Hydrogen Conversion using FeCo on Al ₂ O ₃
11.07-11.09	Questions & Answers	
11.09-11.19	ABS-305	Mohit Kumar

	Nickel based single atom electrocatalyst for catalysing water splitting reaction to produce green Hydrogen
11.19-11.21	Questions & Answers
11.45-12.15	Tea and Coffee
12-15-13.00	Valedictory Session and Closure of the Programme and Vote of Thanks (Hall 2)
13.00-14.00	Lunch (Food Pandal)
14.00-14.30	Distribution of Certificates and Receipts (Registration desk)

Poster ID	Poster Title	
	Theme: Biomass, Biofuels, Biorefinery & Waste Management	
	Date: 2nd & 3rd January, 2025 and Time: 17.15-18.30	
	Session Chairs	<i>Prof. Arun Goyal and Dr. Pranjal Kalita</i>
ABS-013	Faizan Hussain Ocimum distilled biomass waste for the production of biofuel precursors via biopolymer isolation and enzymatic depolymerization	
ABS-023	Akanksha Rai High performance polyhexahydrotriazine (PHT) thermoset for the synthesis of furanics	
ABS-039	Moirangthem Dingku Singh Geopolymerization An approach towards utilization of toxic biomedical waste ash as a construction material	
ABS-045 (I)	Udaya Bhaskar Reddy Ragula	

	Synergistic Effect of Solgel Synthesized Nickel Cobalt Catalyst under Dry Reformation Conditions for Enhanced Conversion of Biogas to Biohydrogen	
ABS-045 (II)	Udaya Bhaskar Reddy Ragula Effect of Temperature on Product Profiles of Pyrolysis of Nerium Oleander	
ABS-046	Bhavesh Thakur From Waste to Wearable Converting Polyester Bottles into High Performance Nanofibre Face Masks for Sustainable Waste Management	
ABS-047	Kalpana Kawathekar Assessing Academic Campus Solid Waste Management in the Light of Sustainable Practices to Lower Green House Gas Emissions	
ABS-057	UMESH UMESH Life Cycle Assesment (LCA) and Environmental Aspects of Bioethanol Synthesis for Bioenergy A Critical Review	
ABS-078	Goutam Khankari Development and Utilization of NonTorrefied Biomass Pellets with Mill Rejects in the Existing Ball & Tube Mill Based Coal Power Plants A Novel Approach towards Circular Economy	
ABS-080	Nijara Das Effective Conversion of Biomass Derived 5Hydroxymethylfurfural to Highly Value Added Chemicals	
ABS-103	SURAJIT PRADHAN Response surface methodology (RSM) approach towards environmentally benign biodiesel production from waste frying oil (WFO) using SrO@ZnO heterogeneous nanocatalyst	
	Session Chairs	Prof. V S Moholkar and Dr Meena Khwairakpam
ABS-124	Shailendra Yadav Assessment and comparison of various microalgae for bio oil production	
ABS-132	SUDEM BORGAYARY Areca nut husk A green and an efficient catalyst in the fuel sector	
ABS-167	Shubham Kumar Mishra Biomass-Based Cogeneration System for Rural Grid Extension and Post-Harvest Drying: A Case Study	

ABS-180	AKSHAY KUMAR Alkali NaOH pretreatment of mixed lignocellulosic biomass for efficient delignification
ABS-191	Rabiya Sultana The influence of microbial communities on electrical power generation within a double-chambered microbial fuel cell
ABS-217	Bhargav Rajbangshi A review on hydrothermal liquefaction process of biomass
ABS-222	Akash Paul Techo Economic Analysis of Syngas Production from Sanitary Waste through CO ₂ Co Gasification
ABS-227	Trilokesh Swargiary A Comprehensive Study on Mesoporous Materials for Biofuel Applications
ABS-310	Pooja Dalal Nanomaterial as a future approach: Biofuel/Bioenergy production
ABS-309	Vaishali Dixit Biomethane Production from Food Waste: A Sustainable Approach to Waste Valorisation and Renewable Energy Generation
ABS-251	PRIYABRAT MOHAPATRA Dye adsorption from industrial waste water over Carbon Nano Onions (CNOs)@TiO ₂ composites
ABS-308	Sumit Dhali Biogenic Silica from Diatoms: Transforming Silica-Rich Wastewater into a Resource for Heavy Metal Remediation
	Theme: Solar, Wind, Hydro, Hydrogen & Fuel Cells
	Date: 2nd & 3rd January, 2025 and Time: 17.15-18.30
	Session Chairs <i>Prof. Pratima Agarwal and Dr. A. D. Nannaware</i>
ABS-014	Dimbalita Deka Design Simulation and Fabrication of Solar Refrigerator using Peltier Module

ABS-034	JATIN PATEL A Comprehensive Review of Solar Agri Food Dryers integrated with Thermal Energy Storage
ABS-040	Milan Kumar Mandal Effect of exposed area on Dye Sensitized Solar Cell (DSSC) performance
ABS-050	Abhishek Dutta A Study on Land Suitability for Solar Power Plants in Jorhat District Assam India using GIS AHP and Multi Criteria Decision Technique
ABS-072	Vandana Nagal Next Generation Photovoltaics Transparent Top Electrode and Buffer layer in Bifacial Perovskite Solar Cells
ABS-085	Sasank Patnaik Application and advantage of novel hybrid technology in manufacturing of Small Hydro Turbine
ABS-096 (I)	Adarsh Parasuram Savonius Turbines with Endplates A review
ABS-096 (II)	Adarsh Parasuram Savonius Hydrokinetic to Harness Energy from Marine Currents
ABS-104	Arup Dutta A self-powered voltage booster for enhancing the voltage output of sediment microbial fuel cells
ABS-125	Nishat Khan p block based NRR electrocatalyst for highly selective ammonia synthesis
ABS-131	Raviranjana Kumar Integrating renewable energy solutions for effective carbon dioxide reduction pathways to a sustainable future
	Session Chairs <i>Dr. E S N Raju and Dr Shilpi Shital</i>
ABS-148	Dilip Kumar Heat flux Enhancement in Metal Halide Solar Simulators via Secondary Reflector based on Optical Arc Source Model
ABS-152	Safia Tageldin Abdalla Mohammed Nour Techno economic and Environmental Analysis of Hybrid Energy Systems for Rural Areas A Case Study in Sudan
ABS-170	Mohammad Uzair

	Techno Economic Analysis of Green Hydrogen Production towards a Net Zero University Campus	
ABS-209	Syed Mohammad Hasan Bin Tarique Sensorless Field Oriented Control of Variable Speed Wind Turbine Generators Using Slide Mode Observer for Maximum Power Tracking	
ABS-210	Jajjala Kashyap Performance Assessment of Forecasting Models for Renewable Energy and Demand Prediction	
ABS-212	Sandeep Yadav Phase Change Materials in Solar PV Thermal Management A Review of Applications and Performance	
ABS-219	Dipankar Gupta Exploring Liquid Ammonia as a Carbon Neutral Fuel Combustion Characteristics Challenges and Future Directions in Engine Applications	
ABS-225	Aniket Mishra Modelling and Optimizing Machine Tool Operations for Sustainable Manufacturing: A Petri Net Approach to Carbon Emission Reduction	
ABS-235	Akanksha Choubey Boosting performance of inverted alfa-FAPI perovskite solar cells from redissolution of pure phase bulk crystal powder	
ABS-258	RAKESH SUTHAR Machine Learning and Organic Solar Cell: A Growing Synergy	
ABS-262	Hemraj Dahiya Optimizing Charge Transfer in Ternary Organic Solar Cells for Low Energy Loss and High Efficiency	
ABS-263	ANURUDDHA MISHRA Electrical behaviour of Ni/NiO core shell nanoparticle dispersed in PVA matrix	
	Theme: Energy - Materials, Storage, Transmission, Distribution & Policies, e-Mobility	
	Date: 2nd & 3rd January, 2025 and Time: 17.15-18.30	
	Session Chairs	<i>Dr Ajay Singh and Dr. Farrukh Khalid</i>

ABS-022	Akhilesh Singh Pumped thermal energy storage system for clean energy applications
ABS-067	Srishti Kashyap Room temperature magnetoelectric behavior in photoferroic CoSbSI chalcogenide system
ABS-069	Kalyani Proadhan Transparent Concrete Using Glass Sphere in Roof Slab
ABS-113	Rahul Singh Solid state Synthesis of Titanium Carbonitride via Metastable Precursor for Energy Storage Applications
ABS-115	Divya Singh Synthesis of WSe ₂ @PANI nanocomposite for Asymmetric Supercapacitor Device Application
ABS-116	Himani Saini Micro Nanostructured Co ₃ O ₄ as an Anode for Lithium ion Batteries
ABS-117	ABHISHEK K Electrochemical modelling and numerical investigation of Lithium ion cell with double layer composite phase change material (CPCM) and finned heat sink
ABS-149	Vijay Chauhan Investigation of heat generation and temperature evolution for cylindrical cells under drive cycle operation: a combined approach through experiment and simulation
ABS-152	Safia Tageldin Abdalla Mohammed Nour An Investigation on Feed in Tariff to Promote Private Investment in Renewable Energy in Sudan
ABS-205	Manish Kumar Overcoming Obstacles Renewables Powered System Application to EV Charging System An Overview
ABS-215	Shivani Sangwan Tailoring Dielectric and Mechanical Characteristics of PVDF Based Flexible Nanocomposites with Ta ₂ O ₅ Reinforcement
ABS-228	SHARAD SINGH JADAUN Enhancing Stability in Solid-State Lithium Batteries: The Role of Metallic Interlayers in Preventing Dendrite Growth
ABS-252	Fatma Parween Zn(II) Coordination Polymer-Based Hetero-Composites for Asymmetric Supercapacitor Applications