



1st International Conference on Trends in Chemical, Energy, and Environmental Engineering ChemEEE-2024



19-21 February 2024



IIPE, Visakhapatnam



ChemEEE-2024 DETAILED SCHEDULE

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**Department of Chemical Engineering
Indian Institute of Petroleum and Engineering
Visakhapatnam**

International Conference on Trends in Chemical, Energy and Environmental Engineering, ChemEEE-2024, 19-21 February 2024

Indian Institute of Petroleum and Energy, Visakhapatnam

Venue: Greenpark Hotel, Waltair Main Road, Visakhapatnam - 530 002

<https://maps.app.goo.gl/8LL8goedNwTKZqnB7>

Overall Schedule

Day 1, 19 February

Time	Event
8:00 AM-9:30 AM	Registration
9:30 AM-10:15 AM	Inauguration
10:15 AM-10:45 AM	Tea break and photo session
10:45 AM-11:45 AM	Key-note talk: Prof. Suddhaswata Basu, IIT Delhi
11:45 AM-01:15 PM	Oral Presentation Session (OPS) - 1; Oral Presentation Session - 2
1:15 PM-2:15 P.M	Lunch
2:15 PM-2:45 PM	Key-note talk: Prof. Nageswara Rao Peela, IIT Guwahati
2:45 PM -3:15 PM	Key-note talk: Prof. Siva Mohan Reddy, IIT Roorkee
3 :15 PM- 3: 45 PM	Tea break and networking, Poster Presentation Session - 1
3:45 PM to 5:30 PM	Oral Presentation Session - 3; Oral Presentation Session - 4

Day 2, 20 February

Time	Event
8:30 A.M-9:30 A.M	Registration
9:30 A.M.-10:30 AM	Key-note talk: Prof. Ramesh Goel, University of Utah, Salt Lake City, USA
10:30 AM-11:00 AM	Tea break and networking
11:00 AM-1: 00 PM	Oral Presentation Session - 5; Oral presentation Session - 6
1:00 PM-2:00 PM	Lunch
2:00 PM-2:45 PM	Key-note talk: Prof. Tanmay Basak, IIT Madras
2:45 PM-3:15 PM	Key-note talk: Prof. Venkat Venkata Subramanian, Columbia University, USA
3 : 15 PM- 3:45 PM	Tea break and networking; Poster Presentation Session - 2
3:45 PM to 5:30 PM	Oral Presentation Session - 7; Oral Presentation Session - 8

7:30 PM - 9:30 PM

GALA DINNER

Day 3, 21 February

Time	Event
8:30 AM-9:30 AM	Registration
9:30 AM.-10:00 A.M	Key-note talk: Dr. Resmi Suresh, Shell India Private limited
10:30 A.M.-11:00 A.M	Tea break and networking
11:00 A.M.-1: 00 P.M	Oral Presentation Session - 9; Oral Presentation Session - 10
1:00 P.M.-2:00 P.M	Lunch
2:00 P.M-3 P.M.	Key-note talk: Dr. Sandeep Kulkarni, IIT Kharagpur
3 : 00 PM- 3:45 PM	Oral Presentation Session - 11; Oral Presentation Session - 12
3 :45 PM- 4:15 PM	Valedictory and Tea

Detailed Schedule			
February 19, 2024			
OPS -1 (11:45 AM-01:15 PM) - February 19, 2024, Chancery			
Chair: Prof. Nageswara Rao Peela, IIT Guwahati, Co-chair: Prof. Sridhar Palla, IIPE Visakhapatnam			
Carbon Capture, Utilization and Sequestration			
S.No.	Paper ID	Title	Authors
1	21	Sustainable Production of Bio-crude Oil via Hydrous Pyrolysis of Microbial Biomass coupled with Effective Wastewater Treatment	G. Goswami, B.B. Makut, D. Das
2	70	Experimental and Machine Learning Model of Solubility of CO ₂ in Aqueous 1-MPZ Solution for Post-combustion CO ₂ Capture	Sukanta Kumar Dash , Vaibhav Vamjaa, Chetna Shuks
3	110	Thermal degradation of waste plastic to fuel oil using pyrolytic reactor and performance testing in engine	Girish N. Desai, Jagadish H. Patil
4	128	Modeling of intensification process of CO ₂ capture in monoethanolamine (MEA) solution using Rotating Packed Bed	Chetna Shukla, Poonam Mishra, Sukanta Dash
5	131	Uncertainty Quantification and Probabilistic Prediction Studies for Decarbonization of CO ₂ Foam Flooding EOR Process with Hydrogen	N.S.V. Dinesh, P. Sivasankar
6	136	Microalgae Cultivation coupled with CO ₂ capture and biomass valorization	R. Sathish, Nilotpala Pradhan, Nabin Kumar Dhal, Kaustubha Mohanty
7	26	A form Stable Composite of Magnetized Nanoparticle Modified Microencapsulated Phase Change Material (MEPCM) for Solar Thermal Energy Management	Aiswarya V,Hima P
8	215	Development of Ru-based catalysts for the CO ₂ reduction: Power to Gas process	Venkata D. B. C. Dasireddy, Karen Wilson and Adam F. Lee
9	90	A computational study on the effect of design parameters of dense medium cyclone to treat coal	Teja Reddy Vakamalla
OPS - 2 (11:45 AM - 01:15 PM) - February 19, 2024, Consulate			
Chair: Dr. K. S. Rajmohan, NIT Warangal, Co-chair: Prof. Ravi Kumar Sonwani, IIPE Visakhapatnam			
Environmental Pollution Control - I			
S.No.	Paper ID	Title	Authors
1	42	Adsorptive Removal of As (III) and As (V) in Groundwater Indian Ilmenite	Vishnu Manirethan
2	56	Delignification of rice straw by alkali treatment to abate environment pollution: Process optimization using Taguchi design	P Kalpana, K Monika, S Sharanya, K Santhosh, V John, P Anand
3	60	Efficient Photocatalytic Degradation of Textile Dye Wastewater Using Zinc-Metal Organic Frameworks: A Sustainable Approach	Minu Kumari, Ch. Ch Gupta, S Palla
4	66	A novel PSF modified ZIF-67@[BMIM]Cl mixed matrix membranes for CO ₂ /CH ₄ gas separation	Ajay Gawali, Surendra Sasikumar Jampa, Manish Kumar Sinha,
5	71	Implementation of low-cost tubular ceramic membrane for the treatment of dairy wastewater	Aditi Brahma, Leesa Chowlu, Shivam Basumatary, Disha Daimary, Chiranjib Das and Ashim Kumar Basumatary
6	85	Photocatalytic degradation of azithromycin using nanocellulosic composites	Abhijit Saha And Swambabu Varanasi
7	96	Treatment of pharmaceutical compound contaminated wastewater using hydrodynamic cavitation process	Vinit Deshmukh, Dr. Kulbhushan Samal, Abhay Kumar, Dr. Rashmi Ranjan Sahoo

8	220	<i>Silicon Dioxide Decorated Cellulose Acetate Mixed Matrix Membranes for Efficient Removal of Safranin-O from Aqueous Solutions</i>	<i>Suvarna Pankaj Dhongade, Malkapuram Surya Teja, Murali Mohan Seepana, Shirish Hari Sonawane</i>
9	61	<i>CFD Investigation on Microdroplet Formation in a Non-Newtonian Fluid Using a Co-flow Microfluidic Device</i>	<i>Manohar Jammula, Somasekhara Goud Sontti</i>
10	195	<i>Design of advanced control strategies for enhanced nutrient removal in a biological wastewater treatment in the presence of carbon dosages</i>	<i>Indranil Dey, Seshagiri Rao Ambati, Abdul Gaffar Sheik</i>
11	216	<i>Thin-Film Nanocomposite Membranes for Wastewater Treatment</i>	<i>Noel Jacob Kaleekkal</i>
OPS - 3 (3:45 PM - 5:30 PM) - February 19, 2024, Chancery			
Chair: Prof. Nitin Padhiyar, IIT Gandhinagar, Co-chair: Prof. Sridhar Palla, IPE Visakhapatnam			
Process Control			
S.No.	Paper ID	Title	Authors
1	28	<i>Tuning of PID Controllers For Pure Integrating And Unstable Time Delay Systems.</i>	<i>Hemalatha Sarisa, Padmasree Ravi.</i>
2	49	<i>Resilient PID Controller Design for Power Systems Amid Communication Delay and Cyber Threats: A Process Control Approach</i>	<i>Akash Kumar Deep, G. Lloyds Raja And Gagan Deep Meena</i>
3	59	<i>Estimating the Parameters of SOPTD system using Relay feedback method</i>	<i>D.Kishore Devarapalli; Martina Joicy Dondapati; Sai Lakshmi Maipala; Ramesh C Panda</i>
4	166	<i>Design of Cascaded Fractional Order PID (FOPID) Temperature controller for Shell and Tube Heat Exchanger</i>	<i>Srinivasarao Divi, D. Kishore And Hanumanthu Jenne</i>
5	64	<i>Recurrent Neural Network Based Modelling and Control of a Bioreactor for Ethanol Production</i>	<i>N. Rajaseskhar, P. Venkatesh, T.K. Radhakrishnan, N. Samsudeen</i>
6	76	<i>Generalized Optimal Decoupled Control technique for Stable, Unstable and Integrating Chemical Plants with Delay and Inverse Response</i>	<i>Deepak Kumar And G. Lloyds Raja</i>
7	169	<i>Enhanced Robust Multivariable Centralized PI Controller for Activated Sludge Processes</i>	<i>Sanjith S. Anchan, Chinta Sankar Rao</i>
8	17	<i>Assessment of Enabling Factors for Green Manufacturing in Indian Automotive Sector</i>	<i>Pranav Gupte, G.P. Shukla</i>
9	192	<i>Integrating SINDy, Kalman Filtering, Object Tracking and MPC in the MIMO Ball-in-Tube Experiment</i>	<i>P.R. Dasari , F. Garcia , O. Dogru, B. Huang</i>
OPS - 4 (3:45 PM - 5:30 PM) - February 19, 2024, Consulate			
Environmental Biotechnology			
Chair: Prof. Hari Mahalingam, NIT Surathkal, Co-chair: Dr. Sundari Ramji, BITS Goa			
S.No.	Paper ID	Title	Authors
1	11	<i>Simultaneous refinery wastewater treatment and value-addition using the hydrocarbonoclastic oleaginous bacterium Rhodococcus opacus as a biological chassis</i>	<i>Kannan Pakshirajan</i>
2	116	<i>Isolation of potential microbes for the biodegradation of Congo red dye</i>	<i>Alankriti Singh, Seshagiri Rao Ambati, Ravi Kumar Sonwani</i>
3	122	<i>The potential of isolated strains in the production of biosurfactant using waste as a substrate and its application in MEOR</i>	<i>Shalini Prajapati, Pankaj Tiwari, Lalit Mohan Pandey</i>
4	139	<i>Biodegradation and detoxification study of Atrazine by bacterial consortium in a recirculating packed-bed biofilm reactor and Toxicity assessment</i>	<i>Bhanu Pratap, Himanshu Tiwari, Ram Sharan Singh</i>

5	155	<i>Sustainable approach for Canthaxanthin production by fermentation of Rice straw derived Glucose</i>	<i>Devendra Pratap Singh, M. Krishania</i>
6	205	<i>Novel Bioreactor Approach: Bubble Column Adsorption of Textile Dyes with Microbe-Immobilized Carbon</i>	<i>Vamshi Krishna, Rajmohan K S</i>
7	210	<i>Efficacy of Tamarind shell powder for the biosorption of Toluidine Blue (TB) Dye: Characterization, Equilibrium studies, kinetics, Thermodynamics"</i>	<i>Ch. A. I. Raju, Sainareesh, Sanjay, Saketh</i>
8	185	<i>Preparation of nano cellulose from lignocellulosic biomass and its application</i>	<i>Puttala Allika, Yerraju Shruthi, Dr. Kalpana P, I. Balakrishna</i>
9	38	<i>Bioremediation Strategies of Petroleum Sludge for Environmental Sustainability</i>	<i>Ramesh Kumar Ekka, Aishwarya Sahu, Kashinath Barik, Ipsita Dipamitra Behera</i>
10	218	<i>Inflating the lipogenesis activity in green microalgae, using Myo-inositol molecule for possible application in Insitu-transesterification</i>	<i>Muttu Pandian.P, M.Perumalsamy</i>

Poster Presentation Session - I (3:15 Pm - 3:45 Pm) - February 19, 2024

Chancery And Tea Area

S.No.	Paper ID	Title	Authors
1	68	<i>Synthesis of super hydrophobic Lotus leaf-like surface- A review.</i>	<i>Lakshmi. S. And Dr. Y. K. Suneetha</i>
2	77	<i>Studying the impact of Tween 80 on the mechanism of bioremediation of Methylene blue dye by Bacillus cereus strains</i>	<i>Sanchali Bose,P. Senthil Kumar</i>
3	80	<i>A Novel Approach on Analysis of Rice Husk-Derived Biochar for Photocatalytic Decomposition of Congo Red Dye</i>	<i>M K Raveena, Sumalatha Boddu</i>
4	83	<i>A Review on Recent Nanomaterials Advancements in Medicine</i>	<i>Jyoti Ranjan Patra, Paresh Posan Prusty,Minakshi Padhy</i>
5	89	<i>Heterogeneous Photocatalysis in the Photocatalytic Degradation of Pharmaceuticals and Organic Contaminants - A Review</i>	<i>Ratikanta Sethy, Kesharaj Banchhor, Minakshi Padhy</i>
6	111	<i>Enzymatic hydrolysis of chitin for oligomer production.</i>	<i>Vaishnavi Sudarsan Perumbully And Dr. Y. K. Suneetha</i>
7	120	<i>Revolutionizing Drug Delivery: Nanotechnology and Targeted Therapies</i>	<i>Paresh Posan Prusty, Jyoti Ranjan Patra, Minakshi Padhy</i>
8	123	<i>Extraction of lycopene from tomato using waste cooking oil</i>	<i>Siddharth Arvind Singh, Dr. Ayantika Sett</i>
9	126	<i>Exceptional and optimal ultrafiltration performance of PSF/ZIF-8-PEI UF membrane in removing Humic Acid from wastewater using Response Surface Methodology</i>	<i>Sapna Gawali, Snigdha Khuntia, Manish Kumar Sinha, Surendra Sasikumar Jampa</i>
10	81	<i>Unraveling the Significance of Drug Delivery: Computational Insights into the Interaction between 5-Fluorouracil and Zeolitic imidazolate Framework (ZIF-8)</i>	<i>Gumma Jayasri Dr. Sridhar Palla Dr. Hemanth Kumar</i>
11	181	<i>Biotechnological strategies for Nitrous oxide Emission Reduction in Agriculture</i>	<i>Vaisnavi Pandey</i>

February 20, 2024

OPS - 5 (11:00 Am - 01:00pm) - February 20, 2024.Consulate

Environmental Pollution Control – II

Chair: Prof. Ramesh Goel, University of Utah, Salt Lake City, USA, **Co-chair:** Prof. Krishnasri Kurada, IPE Visakhapatnam

S.No.	Paper ID	Title	Authors
1	8	<i>Comparative analysis of Stability in various bioreactors with time delay</i>	<i>Kavirayani Srikanth</i>

2	69	Anoxygenic phototrophic bacteria that power microbial fuel cells	Mahidhara Ganesh
3	97	Removal of rhodamine B dye from wastewater using carbon nano onions	Diwakar Patel, Kumud Malika Tripathi, Ravi Kumar Sonwani
4	104	Shaping of Cu-BTC MOF for CO ₂ /CH ₄ , CO ₂ /N ₂ gas mixture separation	Narendra Singh, Suman Dalakoti, Swapnil Divekar, Soumen Das Gupta , Aarti
5	115	Mitigating Environmental Pollution: Sulfur Dioxide Emissions Control with a Dry Flue Gas Desulphurization System	Manoj Kumar Thakur And Sreenivas Jayanti
6	125	Microwave pyrolysis of ethanol treated Spirulina and Ficus Benghalensis for biofuel synthesis - A Comparative Study	Modi Musalaiah, Pulipati King, Jampana Vishnu Varma, Veluru Sridevi, Husam Talib Hamzah, Hemanth Kumar Tanneru
7	140	Metal Cation Exchange of NaY Zeolite for Methane and Nitrogen Gas Separation	Anjali Sharma, Umesh Kumar, Aarti
8	153	Advancing Trace Metal Elimination for Enhanced Potable Water Quality by Electrocoagulation	Satish Kumar, Piyal Mondal, M. K. Purkait
9	214	Degradation Of Ciprofloxacin Antibiotic By Photocatalytic Concrete Composites Under Solar Light	Dara Kiran And Hari Mahalingam
10	151	Optimizing Oil-Water Transportation: Insights from Droplet Flow Dynamics in Pipelines	Shubham Lanjewar, Sundari Ramji
OPS - 6 (11:00 AM - 01:00 PM) - February 20, 2024, Chancery			
CCUS & Green Technologies			
Chair: Prof. Tanmay Basak, IIT Madras, Co-chair: Prof. Ravikiran Mandapaka, IPE Visakhapatnam			
S.No.	Paper ID	Title	Authors
1	142	Kinetic evaluation of methane tri-reforming over Ru-promoted Co/MgO-Al ₂ O ₃ supported catalyst	D. Phanindra L. Kumar Kasina, Mohd. Belal Haider, Neelam Naidu Botcha, V. V. D. N. Prasad and Prasenjit Mondal
2	160	Utilization of CO ₂ for Methane Production in Underground Coalbed Seams by Biomethanation Process	P. Sivasankar
3	175	Evaluation of the adsorption characteristics of Zeolitic imidazolate framework for carbon capture from flue gas	Iradat Hussain Mafat and Sridhar Palla
4	5	Optimization of spherical and axial reactors for the hydrogen production	Nitin Padhiyar and Md Zafar Ahmed
5	178	Green Nanotechnology - A Solution For Wastes	Himanshu Bansal , Prachi Kurhade
6	184	Performance analysis of Tandem Solar Cell with CsxFA1-xPb (1yBrzCl1-y-z)3 based perovskite as Top cell and Si as bottom cell through SCAPS 1D	Nitin Kumar, Roshan George Padayatty, Midhun S Nair
7	196	Performance analysis of hydrogen-pongamia biodiesel run dual fuel engine at varying engine load and compression ratio	Chunchula Rajesh Babu, Uriti Srinivas M K Patro , Sukanta Roy , Bhaskor Jyoti Bora , Prabhakar Sharma, Sunil S
8	212	Biohydrogen Production: Transition to a Circular Bioeconomy	Vaishnavi Srinivasagopal, Raghu Raja Pandiyan.K, A.Venu Vinod
9	99	Fabrication of Sulphonated Poly(ether ketone) Membranes for Enhanced Proton Exchange in Fuel Cells	H. Asati, A. Mohanty, S. Ranjan, K. Tripathi, R. Mondal

10	179	Testing Nagkeshar Biodiesel with TiO ₂ Nanoparticles to Improve Diesel Engine Efficiency and Emissions	Akshay Jain, Bhaskor Jyoti Bora, Rakesh Kumar, Prabhakar Sharma
11	204	Development of an Eco-Friendly, Sustainable 3D Printed Composite Material for Energy Saving Applications	K.Ramanaiah, G.Durga Devi, A.V.Ratna Prasad, K.Hemachandra Reddy
12	224	Enhancing CO ₂ /CH ₄ Separation Efficiency: Fabrication and Characterization of Ionic Liquid-Enhanced Ion Gel Membranes	Tushar Patil, Swapnil Dharaskar, Surendra Sasi kumar Jampa, Manish kumar Sinha, Mika Sillanpaa, Chang Yoo, Thummalapalli Chandra Sekhara Manikyam Gupta

OPS - 7 (3:45 PM - 5:30 PM) - February 20, 2024, Consulate

Waste Management and Environmental Pollution Control

Chair: Prof. Siva Mohan Reddy, IIT Roorkee, **Co-chair:** Prof. Raka Mondal, IPE Visakhapatnam

S.No.	Paper ID	Title	Authors
1	20	Advancements In Industrial Waste Management And Navigating Environmental Sustainability Through Innovative Technologies	Sri Charan; Pola Naga Deepika; Naina V Sajeev
2	98	Circular Economy Approach for Sustainable Synthesis of Calcium Oxide from Scaling Waste from Water Heating Electric Geyser: An Adsorbent for Efficient Fluoride Removal	Vartika Verma, Yogesh C Sharma
3	183	Waste Ashoka Leafs Carbon Exhibits Exceptional Capabilities as a Microwave Absorber in Modern High-Frequency Environments	Neetu Kumar, Bijoy Kumar Kuanr
4	191	Optimization of Cu-Zn-Zr Catalyst for Sustainable Methanol Production from Carbon dioxide -An experimental investigation	Ansab N P, Himabindu M, Charlie Oommen
5	211	Eggshell-derived Bioplastics: Nurturing Sustainability from Shell to Shelf	Prasanna Redapangu, Vamsi Krishna Muvva, Alekhya P, Naga Prapurna P.V., Rajmohan Soundararajan
6	197	Estimation of performance for ammonia run dual fuel diesel engine at varying operating parameters	Uriti Srinivas M K Patro, Chunchula Rajesh Babu, Sukanta Roy, Bhaskor Jyoti Bora, Prabhakar Sharma, Sunil S
7	198	Green synthesis of silver(Ag) doped zinc oxide nanoparticles and its adsorptive studies on removal of methylene blue dye	K.M.N.Chandrika, Y.Bhavani, Prof.N.Chitti babu, K.Manaswini, G.Jyothee pallavi
8	213	Utilizing Low-Cost Ionic Liquids for effective pre-treatment of lignocellulosic Biomass Mixtures	Sanyam Jain, Shushil Kumar, Hari Mahalingam and Sathyanarayana N. Gummadi
9	37	Performance of the teetered bed separator for beneficiation of Indian iron ore fines	Biswakant Pradhan, Sumanta Mohanta, Ipsita Dipamitra Behera, Satyabrata Mohanta

OPS - 8 (3:45 PM - 5:30 PM) - February 20, 2024, Chancery

Nano and Composite Materials

Chair: Dr. Venkata D .B .C Dasireddy, Griffith University, Australia, **Co-chair:** Prof. Dipankar Pal, IPE Visakhapatnam

S.No.	Paper ID	Title	Authors
1	73	Synthesis of n-type semiconductor Molybdenum Diselenide for the application of visible-light photocatalytic degradation and water-splitting	Shubham Raj, Amar Nath Samanta

2	124	Green synthesis and Characterization of antifungal Broccoli copper Nano particles and its Antifungal activity	Ramya Goli , Kondapalli Vineela, Jyothi Sravani Vegesna, Kaveri Gosu, Chandana Thummaneni , Meena Vangalapati
3	144	Immobilization of Pd/fe Bimetallic Nanoparticle on aerobic granules: Biosynthesis, characterization, and batch removal Studies	Divya P And Mrudula P
4	150	Green Synthesis of Aloe vera-Mediated Zinc Oxide Nanoparticles: Their Characterization and Enhanced Oil Recovery Applications	Raj Nigam , Biswajit Pati , Vartika Verma
5	207	Templated gCNNCl: A Solar-Powered Champion for Organic Dye Degradation	Rajmohan Soundararajan; Ramkishore Kumar Dhora
6	209	Transforming Waste into Valuables: Harnessing Plant and Waste-Derived Nanomaterials for Agricultural Progress	Kalyan Sai, Dhanush, Prasanna R. Redapangu
7	84	Development of polylactic acid/poly(3-hydroxybutyrate) blend films via solution casting route and their characterization	Vishnu Vardhan, K , Kumari, S. V. G, And Pugazhenth, G.
8	161	A Study on Alkali Treatment Influence on Sorghum (Jowar) Fiber Reinforced Epoxy Composites	Venkata Saikumar Reddy Ravipati, Mohana Krishnudu Doni, Lakshmana Rao Jeeru And Venkateshwar Reddy Pathapalli
9	67	Electrical conduction and Dielectric relaxation properties of EVA/BiGdO3 composites	Minakshi Padhy
10	202	Green synthesis of Titanium Dioxide nanoparticles and its adsorptive studies on removal of Crystal Violet dye	M.Venkatesh ,K.Manaswini, N.Chitti Babu
11	93	Design and synthesis of S-scheme ZnMn2O4/ZIF-67 heterostructure for Improved Photocatalytic CO2 reduction	Radhapada Manna, Amar Nath Samanta
Poster Presentation Session - II (3:15 PM - 3:45 PM) - February 20, 2024			
Chancery and Tea area			
S.No.	Paper ID	Title	Authors
1	135	Study of Dissociation Constant (pKa) for Amines Used in Post Combustion CO2 Capture through Titrimetric Method and Effect of Titrant	Mehul Darji, Sukanta Kumar Dash, Kalisadhan Mukherjee
2	141	Hydrochar based nanomaterial for pharmaceutical pollutant in aqueous medium	Madhu Kumari, Mrudula Pulimi
3	148	Exploring Groundwater Quality Index in the Vicinity of Coal Mines in India: A Critical Review	Guntakala Venkatanaga Chandra, Pranab Kumar Ghosh
4	152	Biodiesel Green Synthesis: Waste Eggshell-Derived CaO - Al2O3 Catalysts for Transformation of Waste Cooking Oil	Tanmay Akash , Juttiga Durga Sandeep , Yogesh Chandra Sharma , Kumud Malika Tripathi
5	159	Microscopic Theoretical study of Monolayer h-BN on the Ni (111) Surface: a Potential System for Spintronics Applications	Sidhanta Sahoo, Sivabrata Sahu, G.C. Rout
6	162	Physical Solubility and Diffusivity of N2O and CO2 in Aqueous Solution of 1-Methylpiperazine	Vaibhav Vamja; Sukanta K Dash; Rajib Bandyopadhyay
7	163	Band energy dispersion and tunneling conductance of monolayer insulating Boron Nitride: A minimal tight-binding model study	J Lavanya, Sivabrata Sahu, G.C. Rout
8	177	Hydrogen: A Comprehensive Review on Production, Infrastructure, and Transition to a Hydrogen Economy	Himanshu Bansal , Prachi Kurhade , Mothukuri Kavya , Shruthi S Rao

9	182	Microalgae Revolution: A Sustainable Path to Carbon Capture and 3rd generation Biofuel Production	Meniswani Rout, Shivam Kumar
10	200	Adsorptive studies on removal of rhodamine B using synthesized zno-Np's	E Sony, Kolluru Sree Manaswini, N. Chitti Babu
11	201	Development of Bio-Packaging Material from Waste Cooking Oil using Bacillus subtilis	Mrunal R. Phadke, Sumukh Malvankar, Ganatej Kolamkar
February 21, 2024			
OPS -9 (11:00 AM - 01:00 PM) - February 21, 2024, Consulate			
Process Modelling and Simulation			
Chair: Dr. Chinta Sankar Rao, NIT Surathkal, Co-chair: Prof. Balla Mounika, IPE Visakhapatnam			
S.No.	Paper ID	Title	Authors
1	7	Understanding the transport mechanism of lithium ions in lignin added PVA-based eutectogel: A Molecular Dynamics Study	Aradhana Thombre, Rontu Das, Debashis Kundu
2	10	Molecular Dynamic Simulations of Thiol-Norbornene Crosslinked Polyvinyl Alcohol Hydrogel	Rontu Das, Debashis Kundu
3	121	Enhancing solar dryer performance through computational fluid dynamics in forced convection conditions	Bhirendra Kumar, Sewan Das Patle, Satish Kumar Dewangan
4	154	Numerical analysis on the transport of TiO ₂ nanoparticles in fractured porous media	Jino Lawrence, Berlin Mohanadhas, Natarajan Narayanan, Vanav Kumar Alagarsamy, Vasudevan Mangottri
5	13	Deep Eutectic Solvent Screening and its Interactions Study with Asphaltene on Porous Rock Surface (calcite) using DFT	Mazharuddin Quazi, Debashis Kundu
6	158	Design and Comparative analysis of Controllers for Solid Oxide Fuel Cells	Srinivasarao Divi, Srinu Konkipudi, Hanumanthu Jenne
7	102	Air Pollution Source Apportionment of Navi Mumbai Using Cmb & Pmf Model	Shraddha Gaikwad, Vikas Varekar
OPS -10 (11:00 AM - 01:00 PM) - February 21, 2024, Chancery			
Artificial Intelligence & Machine Learning			
Chair: Dr. Resmi Suresh, Shell India Pvt. Ltd., Co-chair: Dr. G. Lloyds Raja, NIT Patna			
S.No.	Paper ID	Title	Authors
1	193	Attention-based recurrent neural networks for multistep forecasting and proactive temperature control in vanadium redox flow battery systems	Shahzeb Tariq, ChangKyoo Yoo, Seshagiri Rao Ambati
2	167	Machine Learning Prediction of Pyro-product yields from Microwave Assisted Pyrolysis of Plastic Waste	Ramesh Potnuri, Maheswata Lenka, Chinta Sankar Rao
3	19	Estimation of Polymer Product Properties Using Data Science	Sangireddy Venkata Bhargava Sai Reddy, Tarun Kumar Gopalayyagari
4	172	Artificial Neural Network-Enhanced EMMS Drag Model for Efficient Simulation of Gas-Solid Fluidized Bed	Kushagra Singh, Mahesh Nadda, Ashutosh Yadav
5	25	Deep Reinforcement Learning-Based PID Control of an Autocatalytic Reaction with Deactivation in a Nonlinear CSTR	Raju Yerolla, Suhailam P, Chandra Shekar Besta
6	118	Adversarial Machine Learning Models for Anomaly Detectors in Process Systems	Shaik Abdul Kalam, Venkata Reddy Palleti

7	194	Explainable machine learning techniques for effluent quality prediction in sewage treatment units	Chandra Sainadh Srungavarapu and Seshagiri Rao Ambati
8	164	Exploring the Impact of Torrefaction Temperature: Machine Learning Predictions in Biomass Energy	Raghavendra R, Movva Chandrika, Mathangi Haswanth, Chinta Sankar Rao
9	199	Development of Robust Moving Window Maximum Likelihood Estimator based on Hybrid Machine Learning Algorithm	Nandana Sabu, Kirti Sharma, Jayaram Valluru
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2	129	Isolation, Screening and Construction of a Microbial Consortium from Formation Water and its applicability for MEOR	Shilpa Nandi, Lalit M. Pandey and Pankaj Tiwari
3	168	Tight-binding model study of Electronic band structure and tunnelling conductance of hexagonal bilayer Boron nitride	Sivabrata Sahu, Rashmi Rout, G. C. Rout
4	108	Construction of a consortium to evaluate its potential in biosurfactant production and crude oil degradation	Smrity Sonbhadra, Lalit M. Pandey
5	165	Removal of the Brominated Flame Retardants from Waste Printed Circuit Board using Organic Solvent prior to Pyrolysis	Bibari Boro, Pankaj Tiwari
6	78	Insights into Biomass Gasification: A Statistical Analysis	Deepanshu Awasthi, Arghya Datta, Tapas Kumar Patra, Nikhil Gakkhar, Amrit Pal Toor
7	147	Design of Modified Concrete Mix by Using GGBS, Steel Fibre and Recycled Aggregate	Makrand Tichkule, Dr. Vikas Varekar
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1	106	Effect of Alkali Biosurfactant Nanofluid on Interfacial Tension, Contact Angle in an Oil-Water Systems	Anurag Mishra, Pankaj tiwari, Lalit mohan pandey
2	109	Exploring the molecular mechanism of vasicine derivatives for breast cancer through network pharmacology and In-silico studies	Komal Andarghiske, Bhanukiran Kancharla , Rasha Ksirri, Siva Hemalatha
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4	75	<i>Phytochemical Constituents, Cytotoxic evaluation and molecular docking Analysis of methanol extract of root of Gloriosa superba Linn: A Lead for Anticancer Drug Development</i>	<i>Manjunatha B.K, Sreenivasa Rao Amaraneni</i>
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