

SCHEMCON-2021

22nd – 23rd October, 2021

Venue: Hotel Rajhans Regent (near ISBT Bus Stand)

Department of Chemical Engineering, Maulana Azad National Institute of Technology Bhopal
&
Department of Chemical Engineering, Indian Institute of Science, Education & Research, Bhopal

DAY 1: 22nd October, 2021

Inauguration Ceremony Link for live streaming: https://youtu.be/aNa9rH5AQik		
12:05 pm-12:10 pm	Welcome Address by Organizing Secretary (Dr. S. Suresh)	
12:10 pm-12:15 pm	Inauguration and Diya Lighting	
12:15 pm-12:25 pm	Introductory speech by Prof. M. K.Jha, President, IChE	
12:25 pm-12:30 pm	Speech by Mr. Praveen Saxena, Vice President, Students Chapter Affairs, IChE	
12:30 pm-12:35 pm	Speech by Prof. N. Bala Subharamanian, Vice President, Regional Centre Affairs, IChE	
12:35 pm-12:40 pm	Speech by Dr. Avijit Ghosh, Honorary Secretary, IChE	
12:40 pm-12:45 pm	Speech by Prof. N. S. Raghuwanshi, Director MANIT Bhopal	
12:45 pm-12:50 pm	Speech by Dr. Manoj K. Tripathi, Head, Chemical Engineering Department, IISER Bhopal	
12:50 pm-12:55 pm	Releasing of Souvenir/ Conference proceedings	
12:55 pm -1:15 pm	Speech by Chief Guest Honorable MP Sadhvi Pragya Thakur ji	
1:15 pm -1:35 pm	Speech by Guest of Honour Rameswar Sharma ji	
1:35 pm-1:40 pm	Vote of Thanks by the Organizing Secretary (Dr. Sankar Chakma)	
9.15 -9.30 am	Industry Expert Talk by Er. Arun Kumar, Blast Carboblocks (Google meet link: https://meet.google.com/avn-oyqs-rdb)	
Parallel Session 1A: Separation Process		
Chairpersons:	Dr. Vijay Kumar Bulasara, MANIT Bhopal Dr. Ardhendu Sekhar Giri, IISER Bhopal	
S. No.	09.30 - 11.30 am	Presentation by students (~12 papers), Duration: 10 min including Q&A
1	schem/21/014	Forward osmosis aided concentration of sucrose from sugarcane juice using hydrophilized polyamide membrane
2	schem/21/015	Pesticide residue analysis in vegetable and fruit samples using ultra high

		performance liquid chromatography – high resolution mass spectrometry
3	schem/21/016	Improving Flow Assurance of Waxy Crude Oil with the help of Fruit Extract
4	schem/21/018	Extraction of nicotine sulphate from sample of cigarettes
5	schem/21/028	Treatment of Industrial Waste Water by Advanced Oxidation Processes
6	schem/21/056	Removal of Contaminants from Water Using Magnetic Nanoparticles
7	schem/21/049	Study of minimum fluidization velocity in gas solid fluidized bed
8	schem/21/092	Waste plastic to pyrolyzed oil
9	schem/21/103	Study of Adsorption Potentiality of Bio-Adsorbents for removal of Dyes: Review
10	schem/21/025	Application of artificial intelligence in smart grid stability prediction election
11	schem/21/120	Thermal degradation kinetics of constructional packaging plastic waste using isoconversional model

Parallel Session 1B: Process Modeling and Simulation

Chairpersons:		Dr. Arijit Das, VNIT Nagpur Er. Arun Kumar, Blast Carboblocks
SI No.	09.30 - 11.30 am	Presentation by students (~12 papers), Duration: 10 min including Q&A
1	schem/21/023	Computational Approach for Drug Development Against SARS-CoV-2 Using Phytochemicals
2	schem/21/026	IMC Based PID Controller Design for First Order System with and without Time Delay (Case Study: Steam Heated Mixing Tank)
3	schem/21/038	Esterification of n-Butanol with Acetic Acid using Homogeneous Catalyst
4	schem/21/045	Investigation and Simulation of fluid flow in a microfluidic T-junction device using Open FOAM
5	schem/21/047	Study of Gas-Solid fluidised bed using CFD : 2D & 3D
6	schem/21/083	Load frequency control of multi-source system with wind penetration using hybrid optimization technique
7	schem/21/094	Inedible Plant: A Good Source of Environment Friendly Fuel.
8	schem/21/096	Digital Sustainable Engineering: Will Abate Air Pollution?
9	schem/21/097	Recent Advancements in Waste Management of Ethylene-Vinyl Acetate (EVA)
10	schem/21/104	Novel Materials And Catalysts In Industrial Application - A Review
11	schem/21/105	Optimization of Ducting Network Design using CFD

Tea Break: 11:30 am – 12:00 pm

Lunch Break: 1:40 PM – 3:00 PM

Parallel Session 2A: Environmental Engineering

Chairpersons:

**Dr. S Sakthivel, Tata Engineers service
Dr. Rupak Kishor, MANIT Bhopal**

S. No. 3:00 - 4:30 pm Presentation by delegates (~9 papers), Duration: 10 min including Q&A

1	schem/21/005	Pyrolysis Kinetics of Multilayer Plastic Waste and Process assessment to Fuel Conversion
2	schem/21/006	Review on E-Waste and its harmful effects on Environment
3	Schem/21/030	Effective PSMS - A solution for safer environment
4	schem/21/049	Study of minimum fluidization velocity in gas solid fluidized bed
5	schem/21/052	Impact of polluted water source in the rural area with reference from Indore district.
6	schem/21/090	Environmental Impact Assessment of a Thermal Power Plant and Its Remedial Measures
7	schem/21/098	Alternative's Of Single Use Plastic
8	schem/21/073	Value Added Products from Captured CO ₂ – A Review
9	schem/21/074	Nuclear Power as a Source of Sustainable Energy
10	schem/21/108	Effect of split angle on hydrodynamics of flow through ventilator splitter

Parallel Session 2B:Recent Trends in Chemical Engineering

Chairpersons:

**Dr. Selvaraju Narayanasamy IIT Guwahati
Dr. Sunder lal Pal, MANIT Bhopal**

S No 3.00 - 4.30 pm Presentation by delegates (~9 papers), Duration: 10 min including Q&A

1	schem/21/001	Review on Metal Oxide catalysts for water splitting applications
2	schem/21/008	Microplastics

3	schem/21/019	Natural Convection Cooling of a Thermal Flask
4	schem/21/021	Application of copolymer in petroleum industry for flow assurance
5	schem/21/057	Prediction of H ₂ S Solubility in Ionic Liquids Using Machine Learning Methods
6	schem/21/032	Facile Construction of a WS ₂ /CdS Heterostructures for Visible-light Photoelectrochemical Photoanode
7	schem/21/069	Synthesis of Alkyd Resins From Polyethylene Terephthalate
8	schem/21/053	A review on banana peel as an effective weapon for paper industry
9	schem/21/068	Bio Diesel Synthesis from Micro Algae: Process Development Studies
10	schem/21/110	Nuclear Energy

Parallel Session 2C: M. P. Chary Award

Chairpersons:		Prof. Kaustubha Mohanty, IIT Guwahati Prof. Mithilesh K. Jha, NIT Jalandhar (President, IChE) Dr. Avijit Ghosh, HIT Kolkata (Honorary Secretary, IChE)
S No	3.00 - 4.00 pm	Presentation by researchers selected for MP Chary Award Duration: 12 min presentation + 3 min Q&A
1	Anupam Mukherjee	Development of a Skid mounted Wastewater Recycling Unit (100 L/h) for Mechanized Sewage Cleaning System: A "Make in India" Initiative
2	Khantesh Agrawal	Ultra-low Pt loaded Nanostructured Thin Film Electrodes for PEM Fuel Cell Vehicle Application
5:30 pm - 7:00 pm		IChE Annual Meeting

End of Day - 1

DAY 2: 23rd October 2021

Parallel Session 3A: Wastewater Treatment		
Chairpersons:		Dr. Ardhendu Sekhar Giri, IISER Bhopal Dr. Bharat Modhera, MANIT Bhopal
S No.	9:00 - 10.30 am	Presentation by delegates (~9 papers), Duration: 10 min including Q&A
1	schem/21/022	Treatment of Rice Gruel Wastewater Using a Microbial Fuel Cell Incorporated with Sulfonated Polysulfone Membrane

2	schem/21/027	Industrial wastewater technology
3	schem/21/036	Analysis of Apartment Water Supply, Sewage Treatment and Rainwater Harvesting
4	schem/21/040	Role of adsorbent in heavy metal removal-a review
5	schem/21/060	Study on the Effect of Magnetic Field on the Electrolysis of Water
6	schem/21/054	Clean And Effective industrial wastewater treatment methods
7	schem/21/067	Intensification of Temperature Swing Adsorption
8	schem/21/076	Industrial wastewater treatment technology
9	schem/21/124	Isolation and purification of cellulases from psychrotolerant yeast: A Review

Parallel Session 3B: Nanotechnology, Composites and Waste Management

Chairpersons:		Dr. Sumit Dhawane, MANIT Bhopal Dr. Venkateswar Rao Dugyala , IISER Bhopal
S No	9:00 - 10.30 am	Presentation by delegates (~9 papers), Duration: 10 min including Q&A
1	schem/21/111	Dielectric properties of bast fibre composites
2	schem/21/112	Rheological Properties of Bast Fibre Composites
3	schem/21/113	A Study on the Recent Advances in the Synthesis Route of Graphene Nanomaterial
4	schem/21/114	Thermal stability of polymer composites reinforced with bast fibers
5	schem/21/116	Waste Derived Magnetic Nanoparticles and Its Characteristic Behaviors in Oil Separation
6	schem/21/117	Evaluation of Performance and Combustion of DI Diesel Engine using Blended Waste Packaging Plastic Pyrolysis Oil
7	schem/21/118	Waste Derived Porous Superhydrophobic Carbon Nanomaterials for Photo-thermal Degradation and Desalination
8	schem/21/119	Mechanistic Investigation in Ultrasound-Assisted Enzymatic Degradation of Pharmaceuticals
9	schem/21/122	Selective targeting and delivery of mitocurcumin to lung cancer cells using nanoparticles cloaked with cell membrane-derived nanovesicles
10	schem/21/125	Starch-based biopolymers as potential carriers for food-grade nanoemulsions

Parallel Session 3C: Nanotechnology

Chairpersons:		Dr. Mahesh Ijjada, IISER Bhopal Dr. Rajeev Parmar, MANIT, Bhopal
S No.	9:00 - 10.30 pm	Presentation by delegates (~9 papers), Duration: 10 min including Q&A

1	schem/21/004	Investigation of the structural, mechanical and thermal properties of polyvinyl alcohol-polyaniline films doped with zinc oxide nanoparticles
2	schem/21/012	Role of nanotechnology in drug delivery to brain
3	schem/21/031	Green Nanotechnology: An investigation to endorse sustainability
4	schem/21/034	Does shift to Electric Vehicles reduce Carbon Footprint? A Case Study: Tata Nexon versus Tata Nexon EV
5	schem/21/095	Nanotech Heart attack detector
6	schem/21/011	Stripping Voltammetric Sensing of Lead Ions (Pb+2) in Water using a bare Gold Electrode
7	schem/21/037	Kinetic Investigation of Ultrasound Assisted Oxidative Desulfurization of Dibenzothiophene Using Phase Transfer Agent
8	schem/21/078	Estimation of thermophysical properties and critical properties of Natural Deep Eutectic Solvents (NADES).
9	schem/21/051	Experimental Investigation of fluidization of particles in a solid gas fluidized bed.
10	schem/21/106	Experimental study on the presence of nano & micro particles in disposable face masks and their effect on the environment

Tea Break: 10:30 am – 10:50 am

Parallel Session 4A: Energy and Environment

Chairpersons:		Dr. N. Balasubramaniam, Anna University Dr. Gaurav Dwivedi, MANIT Bhopal
10:50 am- 12:30 pm		Presentation by delegates (~10 papers), Duration: 10 min including Q&A
1	schem/21/002	Assessing India's clean energy position and progress toward sustainable development post-Covid-19
2	schem/21/013	Fuel Cell Electric Vehicles runs on 100 percent solar energy (Thermo Chemical Water Splitting)
3	schem/21/042	Zero Liquid Discharge Method in Pharmaceutical Industries
4	schem/21/043	Biodiesel production from Chlorella Minutissima algae oil using sodium silicate as a heterogeneous catalyst employing thermal and microwave assisted transesterification process
5	schem/21/055	Alternative Energy And Storage: 2021 to 2025
6	schem/21/064	Renewable energy resources: potential, estimation, utilization and limitations.
7	schem/21/071	Process Intensification of extraction of Azadirachtin from Neem seeds
8	schem/21/091	Conversion of Plastic Waste to Fuel: Economical Technique for Waste Reduction and Energy Recovery

9	schem/21/082	Current status of fuel and Energy in India
10	schem/21/041	Zero waste to green fuel: Use of rice bran as a reactant source as well as catalyst source for esterification reaction
11	schem/21/058	State-of-Art on Prevailing Water Qualities of Lakes in Bhopal, Madhya Pradesh
Parallel Session 4B: Biochemical Engineering		
Chairpersons:		Dr. Shashikant Yadav, NIT Jalandhar Dr. V. Subramaih, MNIT Jaipur
S No	10:50 am- 12:30 pm	Presentation by delegates (~10 papers), Duration: 10 min including Q&A
1	schem/21/003	Design of fixed dome digester for production of biogas from organic waste
2	schem/21/033	Diverse aspects for analyzing of different CO2 capture technology- A short review
3	schem/21/044	Transesterification of Rice bran oil using calcined sodium silicate
4	schem/21/070	Comparative analysis of Batch reactor and Tubular Coil Reactor for Biodiesel production
5	schem/21/081	Continuous Pharmaceutical Manufacturing (CPM) as an approach towards sustainability: A case study in the Indian context
6	schem/21/085	Development of a low cost in vitro system for Growing of carnivorous plants
7	schem/21/099	Hydro-distillation method for extraction of essential oils and aroma
8	schem/21/102	Adsorption of heavy metals from waste water using low cost adsorbents.
9	schem/21/050	Landfill leachate- it's treatment, management and electricity generation.
10	schem/21/089	Review on biodiesel production on used cooking oil
12:30 pm - 12.50 pm		Industry Expert Talk by Er. Dhawal Saxena (Google meet link: https://meet.google.com/qkb-krbf-zyk)
Lunch Break: 12:50 pm - 2:00 pm		
2:00 pm - 2.30 pm		Feedback and Valedictory Function (Link for live streaming: https://youtu.be/aNa9rH5AQik)
End of Day - 2		