

# 7<sup>TH</sup> INTERNATIONAL CONFERENCE ON CHEMICAL ENGINEERING

20 - 21 December 2023  
BUET, Dhaka-1000, Bangladesh

## Technical Program ICChE 2023



**Organized by-**

Department of Chemical Engineering  
Bangladesh University of Engineering and Technology  
Dhaka, Bangladesh

# Online Plenary Session

**Day 1:** 19<sup>th</sup> December 2023

Time: 16:30-20:00

**Online Plenary Session**

**Session Chair:** Professor Dr. Md. Shahinoor Islam, Head, Department of Chemical Engineering, BUET, Dhaka, Bangladesh

Sl.	Speakers	Title
Plenary-01	Professor Joan Cordiner	Complex process modelling from synthesis of new molecules to improving safety and reliability in manufacturing and decommissioning and recycling – pse through products and process lifecycle
Plenary-02	Professor Rao Y. Surampalli	Climate Change: Impacts, Modeling, Mitigation and Adaptation
Plenary-03	Professor Rajagopalan Srinivasan	Engineering Human Operator's Performance in Chemical Plants through Cognitive Approaches

# Inaugural Ceremony

**Day 2:** 20<sup>th</sup> December 2023

Time: 08:00-11:00

**Inaugural Session**

**Venue:** Council Bhaban

**Session Chair:** Professor Dr. Iqbal M Mujtaba, Faculty of Engineering and Digital Technologies, University of Bradford, UK.

Welcome address by Chair and Co-Chair		
Plenary Lecture		
Sl.	Speaker	Title
Plenary- 04	Professor Rafiqul Gani	Chemical Engineering in the era of Computers, AI & Machine Learning
Address by Special Guest, Mohammad Mustafa Haider, Managing Director, Samuda Chemical Complex Ltd (SCCL) and Md. Rezaul Maksud Jahedi, Director General, Water Resources Planning Organization (WARPO)		
Address by Chief Guest, The honorable Vice Chancellor of BUET, Professor Dr. Satya Prasad Majumder		
Closing of Inaugural Session		

# Technical Session A

**Day 2:** 20<sup>th</sup> December 2023

**Time:** 11:20-12:40

**Session A**

**Venue:** ChE Room #104

**Topic:** Chemical Engineering-I

**Session Chair:** Dr. Salma Akhter

**Session Co-chair:** Dr. Kawnish Kirtania

Sl.	Authors	Title
3	Srimonta Roy, Md Aminur Rahman and Md. Aminul Islam	Towards greener recovery of valuable metals through selective electrolysis and water leaching from spent LCO batteries
28	Salma Fariha Khan, Rifat Abdullah, Mostofa Shoroar Shuvo, Md Shahadat Hossain and Abu Yousuf	Influence of pulping conditions on rice straw kraft pulp yield and screened rejects.
29	Farhana Nurjahan Ahmed and A.K.M.A. Quader	Thermal Hydrolysis of Urea for On-site Generation of Ammonia and Carbon Dioxide
57	Md. Shafiur Rahman, Jotirmoy Aich, Anik Hasan Badhon, Mehedi Hasan, Chaitanya Roy Chowdhury, Mursalinur Rahman and Mim Mashrur Ahmed	Design & Simulation of a Photobioreactor Targeting Carbon Capture in a Pressurized System

**Day 2:** 20<sup>th</sup> December 2023

Time: 11:20-12:40

**Session A****Venue:** ChE Seminar Room**Topic:** Environment-I**Session Chair:** Dr. Al-Nakib Chowdhury**Session Co-chair:** Dr. Mohammad Ismail

Sl.	Authors	Title
86	Olin Khan, Shohag Chandra Das, Mohammad Abbas Uddin and Sultana Bedoura	Enhanced Removal of Reactive Dye and Water Contaminants Using Modified Natural Adsorbents
25	Mehnaj Tabassum, Troyee Naha, Saria Chowdhury, Mustakim Moyeed, Ehsanur Rahman, Nafisa Islam and Shakhawat H. Firoz	Modification of waste newspaper raw material for wastewater remediation/dye removal applications
94	Debanjon Sarker, Hridoy Roy and Md. Shahinoor Islam	Tannery solid waste management: Generation trend and sustainable management techniques for commercialization
132	Nazmul Huda, Tasnim Ahmed, Mahmud Hussain Masum, Nafis Faruque, Md. Shahinoor Islam	The pollution of surface water resulting from unplanned urban landfill and its impact on the socio-environment: A case from Dhaka, Bangladesh

**Day 2:** 20<sup>th</sup> December 2023

Time: 11:20-12:40

**Session A****Venue:** ChE Conference Room**Topic:** Biochemical-I**Session Chair:** Dr. M Ahsanul Islam**Session Co-chair:** Dr. Mohidus Samad Khan

Sl.	Authors	Title
10	Sadia Afrin, Md. Rezaul Hossain, Monir Uzzaman, Md Walid Hossain Talukder, Kaniz Fatema and Md. Iqbal Haider	Newspaper in food packaging and its toxicological impact on human health; An in-silico study
131	Joseph Maskery and M. Ahsanul Islam	A Bioinformatic Approach to the Bioprospecting of Plastic Waste Degrading Enzymes
58	Rakid Haque, Muhtasim Ittisaf and Shoeb Ahmed	Development and Characterization of Chitooligosaccharide based hydrogel for controlled drug release
103	Mohammad Nurur Rahman, Raisa Mumtaz, Runa Afroz Rintu, Raisul Islam Ayon and Abdul Gafur	A Study on the Effect of Adding Cellulose extracted from Water Hyacinth (Eichhorniacrassipes) in Starch-based Biodegradable Plastic Films for Packaging Applications

**Day 2:** 20<sup>th</sup> December 2023

Time: 11:20-12:40

**Session A****Venue:** ChE Computer Lab**Topic:** Simulation-I**Session Chair:** Professor Thokozani Majozi**Session Co-chair:** Dr. M. A. A. Shoukat Choudhury

Sl.	Authors	Title
34	Md. Mahmud Kamal Bhuiyan, Md. Abidur Rahmana and Md Tanvir Sowgath	Study of Heat Transfer Behavior Using Natural and Induced Draft in Habla Zigzag Kiln Using CFD
37	Md. Farhatul Abrar, Md. Sohel Rana, Sumaiya Fardouse Mimmi, Chayan Kumer Saha and Kawnish Kirtania	Computational Fluid Dynamics Simulation of a Natural Convection mixed-mode Solar Dryer using OpenFOAM
38	Rima Biswas	Molecular dynamics study on graphene as a nanostructured membrane for removal of sodium and cesium ions from aqueous solution
22	Md. Shafiur Rahman, Ahnaf Tahmid Shabab, Jotirmoy Aich and Md Shahadat Hossain	Industrial flue gas dehydration process model development and optimization in Aspen HYSYS

# Technical Session B

**Day 2:** 20<sup>th</sup> December 2023

Time: 14:15-17:00

**Session B**

**Venue: ChE Room # 104**

**Topic: Energy-I**

**Session Chair:** Dr. Ajay K. Dalai

**Session Co-chair:** Dr. Kazi Bayzid Kabir

Sl.	Authors	Title
KN#1	Engr. Khondkar Abdus Saleque	Energy Challenges for Incumbent Government of Bangladesh
127	Kyeongsoon Park and S.H. Kim	Oxide-Based Thermoelectric Materials for Power Generation
4	Md. Ehsan Ibn Solaiman, Abdullah Al Masud and. Ruhul Amin	Recycling and Optimization of Biodiesel Production from Waste Cooking Oil (WCO)
133	Tumpa Rani Sarker	Production of fuel gas and hydrochar from biomass pellets via hydrothermal gasification
104	Ummay Salma and Kazi Bayzid Kabir	Porous carbon from biomass through hydrothermal carbonization
36	Musfekur Rahman Dihan, Troyee Naha, S. M. Abu Nayeem and Kawnish Kirtania	A Case Study on Amin Bazar Landfill, Dhaka: Green House Gas Emission, Energy Recovery Potential and Leachate Contamination Risk Assessment
115	Mohammad Asadullah and Mahbub Rahman	Simulation of Fenchuganj Gas Field with Different Development Scenarios for Maximizing Recovery



**Day 2:** 20<sup>th</sup> December 2023

Time: 14:15-17:00

**Session B****Venue: ChE Seminar Room****Topic: Environment-II****Session Chair:** Dr. Shakhawat H. Firoz**Session Co-chair:** Dr. Mohidus Samad Khan

Sl.	Authors	Title
KN#2	Animesh Dutta	From Waste to Wealth: An Integrated, Tunable, and Circular Economy Approach for Biowastes Valorization
65	Md Ridwan Mahfuz, Mohammad Yousran Fargab, Nafisa Islam, Nirupam Aich and Shoeb Ahmed	Assessment of Microplastic Pollution in The Buriganga River: Quantification, Identification, and Size Analysis
32	Mustafa Md Wasif, Abir Mahmud, Hridoy Roy, Md. Abdul Gafur and Md Shahinoor Islam	Development of a novel TiO <sub>2</sub> doped Moringa Oleifera leaves biochar catalyst for remediation of Ciprofloxacin from aqueous solution
60	Jakir Hossen, Abu Hasnat Sajib and Easir A Khan	Adsorption and Thermodynamics of Phenol Removal Using Activated Carbon from Sawdust
66	Mahmudur Rahman, Sabirul Khan Priyo and Iftheker Ahmed Khan	Gold Recovery from E-Waste Using Aqua Regia: A Sustainable Approach for E-Waste Management in Bangladesh
11	Sagar Das Gupta, Masum Ahmed and Md Akhtarul Islam	Competitive Adsorption of Crystal Violet and Safranin Dyes on Black Tea Waste

**Day 2:** 20<sup>th</sup> December 2023

Time: 14:15-17:00

**Session B****Venue:** ChE Conference Room**Topic:** Biochemical-II

**Session Chair:** Dr. Syed Faiyaz Hossainy  
**Session Co-chair:** Dr. Nafisa Islam

Sl.	Authors	Title
KN#3	M. Ahsanul Islam	Designing and Engineering of Cellular Metabolism for a Sustainable Future
24	Troyee Naha, Mehnaj Tabassum and Dr. Nafisa Islam	Bioactive Films for Food Spoilage Prevention and Colorimetric Detection
26	Md. Jakaria Hossain, Tashfiqul Islam, Shohel Arman, Zareen Rashid Choudhury, Faiaj Mahmud and Md. Salatul Islam Mozumder	Diversity and Enhancement of Mixed-Culture Polyhydroxyalkanoate Producing Organism
55	Faiaj Mahmud, Md. Salatul Islam Mozumder, Shohel Arman, Zareen Rashid Choudhury and Salwa Binte Kamal	Role of nitrogen source and its concentration to enhance algae-based lipid production
107	Nibedita Deb, Md. Zahangir Alam, Tawfikur Rahman, Mohammed Saedi Jami and Mariatul Fadzillah Bt. Mansor	Enzymatic Hydrolysis for Methane Production from hydrolysate Food Waste
99	Abdullah Bin Murad, Syed Readwan Ahmed, Azhar Uddin Shehab, Abu Yousuf and Salma Akhter	A study on the effect of temperature and micro-nutrients in biogas production by dry anaerobic digestion of municipal solid waste

**Day 2:** 20<sup>th</sup> December 2023

Time: 14:15-17:00

**Session B****Venue:** ChE Computer Lab**Topic:** Safety**Session Chair:** Dr. Iqbal M Mujtaba**Session Co-chair:** Mohammad Hafizur Rahman P Eng

Sl.	Authors	Title
KN#4	Syeda Sultana Razia	Safety, Security and Sustainability Objectives for Chemical Industry: Synergies and Optimizations
72	Mohaiminooon Islam, Kutubujjaman Kazol and Sultana Razia Syeda	Risk Assessment of Gas Pipeline in South Dhaka City.
78	Md. Enamul Haque and Easir A. Khan	Unveiling the Tragic BM Depot Container Explosion: A Comprehensive Analysis of a Hazardous Chemical Accident in Bangladesh
96	Faisal Ahmed and Easir Arafat Khan	Process Safety Management Perspective in the Context of Bangladesh
109	Mehnaz Tabassum, Md. Azmain Ishraque and Easir Arafat Khan	Risk Potential of pipeline gas leaks in Dhaka City: Causes, Consequences, and Mitigation Strategies.
126	Asif Iqbal and Easir A Khan	DAP Ammonia Tank Explosion: A Comprehensive Analysis of a Process Safety Incident and Lesson Learned
17	Md. Jakaria Hossain, Tashfiqul Islam, Md. Shah Faisal, Masum Ahmed, Ahnaf Tahmid Shabab and Md. Salatul Islam Mozumder	Development of Process Control Techniques and Piping & Instrumentation Diagram for Industrial Production of Polyhydroxyalkanoates (PHAs)

# Poster Session

**Day 2:** 20<sup>th</sup> December 2023

Time: 14:00-15:30

**Poster Session**

Sl.	Authors	Title
7	Sk. Ismath Ara Jahan, Rajesh Kumar Chanda and Biplob Kumar Biswas	Investigation of performance of a dual-chamber microbial fuel cell at varying pH
14	Masum Ahmed, Sagar Das Gupta and Dr Md Akhtarul Islam	Competitive Adsorption of Crystal Violet and Methylene Blue on Black Tea Waste.
21	Mahdia Mahmud, Fahim Rahman, Nafisa Islam, Maliha Mehjabin and Mayesha Marzia	Fabrication of Marine Collagen Peptide Microparticles as A Novel Immobilization Matrix of A Protease Enzyme (Protamex®)
23	Jarin Anan Ridika	Water Quality Assessment In Different Areas Of Khulna City In Bangladesh
30	Md. Rajiur Rahaman, Sharmin Sultanani Dipti, Mohammad Mahfuz Elahi and Md. Anwarul Karim	Reducing Cost and Chemical Consumption by Using Liquid Poly-Aluminium Chloride (PAC) as a Coagulant Agent for Wastewater Treatment in Ceramic Industries
31	Md. Julkor Nayin, Sk Fahim Tahmid Boni, Sheikh Safi Hassan and Tahmid Al Refat	A Thorough Feasibility Study on Extraction of Cellulose Powder and Detection of Cellulose from Eichhornia crassipes: Opportunities and Challenges in the Context of Bangladesh.
44	Md Nahid Sarker, Md Abdullah Al Kafi and Dr. Md. Tanvir Sowgath	Simulation and Experimental Study of Waste Cooking Oil to Biodiesel Production and Energy Analysis

47	Sharmin Akter, Masfia Jahan, A. M. Sarwaruddin Chowdhury, Zinia Nasreen and Md. Arif Hossain	Anti-Microbial Activity of Copper Modified Viscose Rayon from Jute
48	Masfia Jahan, Romana Nasrin, Abu Bokor Siddique, Zinia Nasreen and Md. Arif Hossain	Preparation and Characterization of Fish Scale powder of Hilsa Fish ( <i>Tenulosa ilisha</i> ) Available in Bangladesh
53	Toriqul Islam, Md. Riad Al Rabbi Abir, Md. Abdulla Al Mahmud and Sadia Rahman	Sustainable Conversion of Food Waste using Aspen Hysys: A case study on Biogas Production of 85 m <sup>3</sup> /day in Textile Industry
90	Md. Numaer Tahnun, Eyamin Hossen and Md. Shahinoor Islam	Recent Water Quality Assessment of Buriganga and Turag River
92	Maisa Rahman, Pabitra Chandra Das and Ritika Mahmuda	A review on the Prospects of Mango Waste for Processing of Value-added Biomaterials: A Bio-Circular-Green (BCG) Economy Concept
95	Foysal Mahmud, Hridoy Roy and Md. Shahinoor Islam	Microplastic sampling, processing and characterization: challenges and future recommendations
113	Rezaul Hoque, Mahbub Rahman and Shahin Alom	A Study on Lubricating Oil Adulteration in Bangladesh
122	Md. Sanowar Hossain, Fairuz Wasima, Md. Sharul Islam Khan Shawon and Sanjoy Paul	Techno-econo-environmental feasibility analysis of hydrogen energy production by gasification of food waste in Rajshahi City, Bangladesh

# Plenary Session

**Day 3:** 21<sup>st</sup> December 2023

Time: 9:00-11:00

**Plenary session**

**Venue: Council Bhaban**

**Session Chair:** Professor Dr. Rafiqul Gani, CEO, PSE for SPEED, Denmark-Thailand

Sl.	Speakers	Title
Plenary- 05	Professor Thokozani Majozi	A Process Integration Approach to CO <sub>2</sub> Emissions Reduction and Resources Conservation: Two Recent Developments
Plenary- 06	Dr Seyed Soheil Mansouri	Next Generation Biomanufacturing: A cell-process-product integrated view

# Technical Session C

**Day 3:** 21<sup>st</sup> December 2023

Time: 11:20-13:00

**Session C**

**Venue:** ChE Room # 104

**Topic:** Chemical Engineering-II

**Session Chair:** Dr. Debasish Kuila  
**Session Co-chair:** Dr. Kazi Tasnim Mimmi

Sl.	Authors	Title
91	Sakibul Ahsan, Mahmood Ullah and Dr. Kazi Bayzid Kabir	Kinetic study on isothermal pyrolysis of coal at a high heating rate by thermogravimetric analysis
79	Md Salim Miah, Alison MacMillan and Saphwan Al-Assaf	An investigation of hydrocolloids film forming ability on a vertically rotating disc
105	Assame Arnob and Kazi Bayzid Kabir	Hydrothermal carbonization kinetics of biomass and its pseudo-components
121	Salma Khan, Rifat Abdullah, Mostofa Shoroar Shuvo, Deepak Kumar, Md Shahadat Hossain and Abu Yousuf	Influence of pulping conditions on rice straw kraft pulp yield and screened rejects
130	Dr. M M A Quader	Forestation: Miyawaki and Daisugi Technique - Solution of Fibre Crisis in Paper Sector"

**Day 3:** 21<sup>st</sup> December 2023

Time: 11:20-13:00

**Session C****Venue: ChE Seminar Room****Topic: Environment-III****Session Chair:** Dr. Animesh Dutta**Session Co-chair:** Dr. Biplob Kumar Biswas

Sl.	Authors	Title
20	Toslim Jahid, Anik Karmokar, Biplob Kumar Biswas and Rajesh Chanda	Cauliflower ( <i>Brassica oleracea</i> ) waste-derived biochar as adsorbent for hexavalent chromium removal from wastewater: preparation, characterization, and performance study
35	Musfekur Rahman Dihan, Arif Ul Siddique Nihal, Md. Intesar Farhan Labib and M. A. A. Shoukat Choudhury	Transboundary Air Pollution in Bangladesh: Impact of Post Harvest Crop Residue Burning in Rural Indo-Gangetic Plains.
67	Zulkar Nyene Bhuyan, Sadman Islam and Sultana Razia Syeda	Study of Fugitive Emission in the Petroleum Processing Industry
73	Salwa Binte Kamal, Rahatun Akter, Shohel Arman, Zareen Rashid Choudhury, Faij Mahmud and Dr Md. Salatul Islam Mozumder	Green-house gas emission from a granular sludge nitrification-denitrification process
95	Foysal Mahmud, Hridoy Roy and Md. Shahinoor Islam	Microplastic sampling, processing and characterization: challenges and future recommendations



**Day 3:** 21<sup>st</sup> December 2023

Time: 11:20-13:00

**Session C****Venue: ChE Conference Room****Topic: Materials-I****Session Chair:** Dr. Bishnu Acharya**Session Co-chair:** Dr. Fahmida Gulshan

Sl.	Authors	Title
118	Tarazul Hossain and Dr. Muhammad Hasanuzzaman	Characterization of Heat Insulating Ceramic Fiber Raw Material for Insulation
112	Tarazul Hossain and Dr. Muhammad Hasanuzzaman	Instrumental Characterization of Poya Fish Headstone Material for the Study of Sundarban Area Environment
5	Sahed Mahmud, Md. Tanvir Hossain, Acme Barua, Mohshina Binte Mansur and Mohammad Salman Haque	Evaluation of the Impact of the Eggshell Filler on the Mechanical Properties and Biodegradability of Hybrid Composites.
61	Mohammad Galib, Utsha Das, Sovendo Talapatra, Md Jannatul Ferdous Anik, Samiya Rahman Mim and Md Muktadir Billah	Effect of Process Parameters and Substrate Material on Opto-Structural Properties of CuO Thin Film Prepared Following Sol-gel Spin Coating Technique
70	Fuhad Hasan, Sumit Ghosh, Abdullah Al Masud and Nahid Sanzida	Detection of Hydrogen peroxide as a Potential ROS with Gold Nanoparticles and Copper (II) Chloride Catalyst

**Day 3:** 21<sup>st</sup> December 2023

Time: 11:20-13:00

**Session C**

**Venue:** ChE Computer Lab

**Topic:** Petroleum and Petrochemicals

**Session Chair:** Dr. Ijaz Hossain

**Session Co-chair:** Dr. Mohammed Mahbubur Rahman

Sl.	Authors	Title
33	Chinemerem Obi, Kaushik Manikonda, Rashid Hasan and Mohammad Rahman	Mitigating blowouts in offshore wells by modeling gas kick dissolution in drilling fluids
88	Partha Saha, Jabir Chowdhury and Ms Alam	Effect of Bismuth Ferrite (BiFeO <sub>3</sub> ) Nanoparticles on Rheological and Mechanical Properties of Class G Oil Well Cement
100	Mohammad Islam Miah, Abrar Bin Enayet and Mafruha Akhter Ovi	Ann-Based Model Development and Prediction of Rock Permeability
114	Marufur Rahman and Mahbub Rahman	Design of a Vapor Recovery Unit for a Condensate Fractionation Plant to Minimize Hydrocarbon Vapor Loss
110	Uchhwas Banik, Md. Nurul Huda, Mohammad Shah Jamal and Mohammad Ismail	Bio-fuel from Waste Plastics via Pyrolysis: Process Optimization and Product Characterizations

# Technical Session D

**Day 3:** 21<sup>st</sup> December 2023

Time: 14:20-16:45

**Session D**

**Venue:** ChE Room # 104

**Topic:** Chemical Engineering-III

**Session Chair:** Dr. Kyeongsoon Park  
**Session Co-chair:** Dr. Syeda Sultana Razia

Sl.	Authors	Title
KN#5	Dr. Debasish Kuila	Fischer-Tropsch Synthesis to Fuels and Chemicals in 3D Printed SS Microreactors
123	Md. Sanowar Hossain, Sanjoy Paul and Sadman Soumik Nuhash	Upgradation of Co-pyrolytic oil through fractional and normal distillation
40	Dr. Muhammad Rabiul Alam and Nasifa Akter	Innovation equation of Green Jute Plant is the emerging of science and technology in the development of Paper, Jute & Textile (PJT) sectors
87	Zareen Rashid Choudhury, Dr Md. Salatul Islam Mozumder, Md Mohibul Alam, Shohel Arman, Faiaj Mahmud and Salwa Binte Kamal	Polyhydroxyalkanoate production from municipal waste material
59	Shohel Arman, Dr Md. Salatul Islam Mozumder, Md Mohibul Alam, Zareen Rashid Choudhury, Faiaj Mahmud and Salwa Binte Kamal	Possibility of polyhydroxyalkanoates (PHAs) production using nitrate as an electron acceptor
69	Md. Mehedi Hasan Zibon, Md. Sohag Torofder and Shuvashish Mondal	Exploring the Characterizations of Gelatin-Agar Bioplastics: An Eco Friendly Alternative for Conventional Plastics
129	Dr. M M A Quader	'Karnaphuli Paper Mills Ltd.' Investigation of 70-years life history, Challenges and Opportunities

**Day 3:** 21<sup>st</sup> December 2023

Time: 14:20-16:45

**Session D****Venue:** ChE Seminar Room**Topic:** Materials-II**Session Chair:** Dr. Jibon Poddar**Session Co-chair:** Dr. Muhammad Hasanuzzaman

Sl.	Authors	Title
KN#6	Dr. Bishnu Acharya	Study of hybrid cellulose nanocrystals in polymeric nanocomposites for developing functional film materials
63	Md Jannatul Ferdous Anik, Oishy Roy and Md Muktadir Billah	Effect of Solvent on PL Spectra for Defect Analysis of CuO Nanoparticles
27	Kazi Araf Sayeed, A.K.M. Abirul Haque and Md. Iqbal Hossain	Synthesis and Characterization of Psyllium Husk Grafted Copolymers for the Application as Bio-adsorbent of Heavy Metals
124	Md. Khairul Islam, Shamima Akhter Urmi and Joyen Uddin	Study of the Morphological, Electrical and Optical Properties of Ca <sub>4</sub> SrCu <sub>3</sub> Ti <sub>4</sub> O <sub>12</sub> Ceramic.
125	Md Shamim Alam, Keya Chowdhury, Rad Mosharrof Mim, Khondaker Afrina Hoque, Dr.Chanchal Kumar Roy and Al-Nakib Chowdhury	Facile Synthesis of Shape-Based Conductive Polyaniline for Capacitive Deionization of Heavy Metals
81	Samiya Rahman Mim, Sudipta Mondal, Moniruzzaman Jamal and Md Muktadir Billah	Synthesis of ZnO Nanoparticles by Co-Precipitation Method: Effect of Washing on the Purity of the Nanoparticles
128	Manzila Islam Tuheen and Jincheng Du	Understanding the Structural Features of Lanthanum Containing Phosphate and Aluminophosphate Glasses using Molecular Dynamics Simulations

**Day 3:** 21<sup>st</sup> December 2023

Time: 14:20-16:45

**Session D****Venue:** ChE Conference Room**Topic:** Biochemical-III**Session Chair:** Dr. Tarik Arafat**Session Co-chair:** Dr. Jahid Ferdous

Sl.	Authors	Title
KN#7	Dr. Syed Faiyaz Hossainy	Bioengineering application that are rooted into Chemical engineering principles
68	Khalid Hasan Raby, Md Fahim Ahmed and Shoeb Ahmed	Hypoglycemic Effect of Phytochemicals on Artificially Diabetes Induced Mice
6	Khondoker Kabbyo Shariar and Nafisa Islam	Study of Chitosan- CMC composite for potential nasal insulin delivery
75	Md Masruk Aulia, M. S. I. Masum, Nishat Tasnim, Asif Hasan Ridoy and Farha Susan Mou	Efficacy Study of Vaporized Hydrogen Peroxide (VHP) Sterilizer for Decontamination of Pharmaceutical Cleanroom Under Different Dependencies
83	Kishan Nandi, Mimisha Nishat Mati, Abed Hasan Rabbi, Dr. Zayed Bin Zakir Shawon and Fahmida Sultana	An in-vitro study of iron oxide nanoparticles and antibiotics against pathogenic bacteria.
41	Ahaduzzaman Nahid, Md Shahadat Hossain and Sk Asifur Rahman	Blood group detection using Image Processing Techniques in Matlab

**Day 3:** 21<sup>st</sup> December 2023

Time: 14:20-16:45

**Session D****Venue:** ChE Computer Lab**Topic:** Simulation-II**Session Chair:** Dr. Seyed Soheil Mansouri**Session Co-chair:** Dr. Tanvir Sowgath

Sl.	Authors	Title
KN#8	Dr. M. A. A. Shoukat Choudhury	Data Analytics - a powerful tool for process industries.
106	Acuman S'Phesihle Mkhulumeli Gcabashe and Thokozani Majozi	On Optimisation of Water and Energy in Multipurpose Batch Processes with a Membrane Distillation Model
108	David Kazengura and Thokozani Majozi	A Process Systems Approach on the Optimization of Water and Power Networks
19	Md. Shah Faisal, Md. Jakaria Hossain, Masum Ahmed, Rayhan Hossen, Mirajul Islam and Md. Shafiur Rahman	Design, Analysis and Implementation of Robotic Arm Model with Co-ordination System Based Object Detection, Sensitive Hand Grip and Color Sorting with Low Cost Microcontroller
50	Md. Nur Islam Sarker Nayan, M.S.I. Masum, Anjan K Tula and Ahaduzzaman Nahid	Simulation and Optimization of Extractive Distillation Process with Mixed-solvents as Separating Agent
102	Mohammad Nurur Rahman, Md. Mehedi Hasan and Md. Jahidul Islam Faisal	Syngas Production from Sawdust Via Biomass Gasification: A Simulation Using Aspen Plus Software
97	Bimol Nath Roy, Abir Podder, S. M. Jahangir and M. A. A. Shoukat Choudhury	Dynamic Modelling of Pesticide Residues in Plants

# Closing Ceremony

**Day 3:** 21<sup>st</sup> December 2023

Time: 17:00-19:00

**Closing Session**

**Venue: Council Bhaban**

**Session Chair:** Professor Dr. Mohammad Tamim, Dean, Faculty of Chemical and Materials, Engineering.

Sl.	Speaker	Title
Plenary- 07	Professor Dr. Ajay K. Dalai	Clean Fuels Production from Biomass using Supercritical Water Liquefaction and Gasification Technologies
Award Giving Ceremony		
Synopsis of Conference		
Address by Chief Guest, Professor Dr. Abdul Jabbar Khan, Pro-Vice Chancellor, BUET		
Vote of Thanks by Professor, Dr. Md. Shahinoor Islam, Co-Chair, ICChE, 2023		
Grand Dinner		