

Dr.Syed Muhammad Bilal Kazmi

As a self-motivated individual with passion for learning, aiming to attain a position in a research organization, where my educational background and skills can be expanded and used to their full potential.



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WORK EXPERIENCE

Assistant Professor

Department of Chemical Engg,
NED University of Engg & Technology
13/2025 – Present Karachi, Pakistan

Teaching Associate & Visiting Lecturer

Department of Applied Chemistry,
University of Karachi
08/2018 – Present Karachi, Pakistan

Teaching courses relevant to chemical engineering (Process modelling & Simulation, Fluid Mechanics, Heat & Mass Transfer, Plant Design, Process control & instrumentation) to the students of Postgraduate and Graduate level.

Visiting Lecturer

Department of Petroleum Technology,
University of Karachi
10/2015 – Present Karachi, Pakistan

- Teaching courses relevant to Petroleum and petrochemical processing and Chemical Engineering (Petroleum chemistry, Petroleum refining, petrochemical refining, Fluid Mechanics, heat transfer

Operation Process Engineer

National Refinery Limited
10/2014 – 5/2015 Karachi, Pakistan

- Overviewing the operations of the Utilities and Fuel refinery
- Maintained day to day routine reports for the chemical dosing for water treatment
- Process simulation design of the boiler units for analyzing the computational aspects and design of the process

SKILLS

ASPEN PLUS

ASPEN HYSYS

ASPEN EDR

MATLAB

MS OFFICE
& VISIO

EDUCATION

Ph.D.

University of Karachi

08/2018 – 05/2023

Karachi, Pakistan

Research Area *Process system engineering*
Research Project

Ionic liquid-based acid gas removal units integration with biomethane and natural gas liquefaction process

M.E in Chemical Engineering

NED University of Engineering & Technology

2015 – 2017

Karachi, Pakistan

Research Area *Process system engineering*
Research Project

Simulation of the imidazolium-based ionic liquid for desulfurization of fuels

B.E in Chemical Engineering

NED University of Engineering & Technology

01/2010 – 01/2014

Karachi, Pakistan

Research Project

Designing of LPG Merox process treatment unit

International Certifications



Aspen Hysys Expert User Certified



Aspen Hysys, Aspen Exchnager and Design User Certified

Conference

- 2nd international conference on advance materials and process engineering AMPE-2017 at NEDUET (Oral presentation)
- TechXchange International Conference 2024 at QEA University Nawabshah (oral presentation)
- International Conference on The World Energy Storage Conference (WESC-2024), at Qatar (oral presentation)
- International conference on hydrogen production, university of sharjah (ICH2P 24) at sharjah (poster presentation)
- 4th international conference on advance material and process engineering at NEDUET , karachi (AMPE 24) (Oral presentation)

Publications

S#	TITLE OF PAPER/BOOK WITH BIBLIOGRAPHIC DETAILS	NAME OF JOURNAL	IMPACT FACTOR	Ranking	Date /year of publication
1.	Thermodynamic, exergy and exergo-environmental analysis of waste feedstock for the H2 production: A simulation study	Energy conversion and management X	7.2	Q1	17 th August 2025
2.	Exergo-Environment and Exergo-economic aspects of the blend of amines for carbon capture from natural gas https://doi.org/10.25259/JKSUS_91_2024	Journal of King Saud University	5.7	Q1	4 th June 2025
3.	Towards sustainable methanol production: energy, exergy, economics, and environmental evaluation of Thar coal gasification https://doi.org/10.1007/s10668-025-06451-6	Environment, Development and Sustainability		Q1	24 th June 2025
4.	Advancing algae-based Bioenergy: Techno-Economic assessment of hydrogen and biochar production from algal biomass https://doi.org/10.1016/j.biombioe.2025.108039	Biomass and Bioenergy (JCR listed)	5.7	Q1	3 rd June 2025
5.	4E's (Energy, Exergy, Environment, and Economic) Evaluation of Biogas Purification Integrated with CHP Using Amine & Ionic Liquids https://doi.org/10.1016/j.psep.2025.107282	Process safety and environmental protection (JCR Listed)	7.7	Q1	11 th May 2025
6.	Artificial Intelligence-Enhanced Solubility Predictions of Greenhouse Gases in Ionic Liquids: A Critical Assessment https://doi.org/10.1016/j.rineng.2024.103851	Results in Engineering (JCR Listed)	7.4	Q1	24 th Dec 2024
7.	Sustainability evaluation of C3MR natural gas liquefaction process: integrating life cycle analysis with energy, exergy, and economic aspects https://doi.org/10.1016/j.jiec.2024.05.041	Journal of Industrial and Engineering Chemistry (JCR listed)	5.8	Q1	21 st May 2024
8.	Techno economic analysis for advanced methods of green hydrogen production https://doi.org/10.1016/j.cogsc.2024.100939	Current Opinion in Green and Sustainable Chemistry	9.7	Q1	21 st May 2024

9.	State-of-the-Art Review of Biomass Gasification: Raw to Energy Generation https://doi.org/10.1002/cben.202400003	ChemBioEng Reviews (JCR listed)	6.8	Q1	9 th April 2024
10.	Towards Greener approach: Techno-Economic Insights into Formaldehyde Bio-Production from a Hybrid Pine and Mustard Biomass Combination https://doi.org/10.1016/j.psep.2024.04.037	Process safety and environmental protection (JCR Listed)	7.7	Q1	8 th April 2024
11.	Towards a sustainable future: Bio-hydrogen production from food waste for clean energy generation https://doi.org/10.1016/j.psep.2024.01.045	Process safety and environmental protection (JCR Listed)	7.7	Q1	13 th January 2024
12.	Thermodynamic evaluation of mixed refrigerant selection in Dual mixed refrigerant NG liquefaction process with respect to 3E's (Energy, Exergy, Economics) https://doi.org/10.1016/j.energy.2023.128409	Energy (JCR listed)	8.8	Q1	11 th July 2023
13.	Techno-economic assessment of sunflower husk pellets treated with waste glycerol for the Bio- Hydrogen production– A Simulation-based case study https://doi.org/10.1016/j.fuel.2023.128635	FUEL (JCR listed)	7.1	Q1	4 th may 2023
14.	State-of-the-art review on steel decarbonization technologies based on process system engineering perspective https://doi.org/10.1016/j.fuel.2023.128459	FUEL (JCR listed)	7.1	Q1	17 th April 2023
15.	Techno-economic sustainability assessment of Bio- Hydrogen production based on hybrid blend of biomass: A simulation study https://doi.org/10.1016/j.fuel.2023.128458	FUEL(JCR listed)	7.1	Q1	17 th April 2023
16.	Exergy-based sustainability analysis of biogas upgrading using a hybrid solvent (imidazolium based ionic liquid and aqueous monodiethanolamine) https://doi.org/10.18331/BRJ2023.10.1.3	Biofuel research journal	9.1	Q1	1 st March 2023
17.	Energy, Exergy, Economic, Environment, Exergo- Environment based Assessment of Amine-based Hybrid Solvents for Natural Gas Sweetening https://doi.org/10.1016/j.chemosphere.2022.137426	Chemosphere (JCR listed)	-	Q1	27 th November 2022
18.	Tetracyanoborate anion–based ionic liquid for natural gas sweetening and DMR-LNG process: Energy, Exergy, Environment, Exergo-environment, and Economic perspectives https://doi.org/10.1016/j.seppur.2022.122242	Separation and purification technology (JCR listed)	9	Q1	28 th September 2022
19.	Exergy, Advance Exergy and Exergo-Environmental based assessment of alkanolamine- and piperazine- based solvents for natural gas purification https://doi.org/10.1016/j.chemosphere.2022.136001	Chemosphere (JCR listed)	-	Q1	17 th August 2022

Book Chapters

S.no	Name of Book	Name of Chapter	Publisher	Status
1.	Handbook of Hydrogen Production and Applications / Vol. 3: Hydrogen Purification and Separation	Hydrogen purification by ionic liquids and deep eutectic solvents	CRC Press/Taylor & Francis	online
2.		Economic assessments and environmental challenges of hydrogen separation and purification technologies		online
3.	Advances in Natural Gas: Formation, Processing, and Applications. Volume 7: Natural Gas Products and Uses .	Case studies on natural gas conversion units https://doi.org/10.1016/B978-0-443-19227-2.00020-4	Elsevier	Online
4.		Economic assessments and cost analysis of natural gas utilization as an energy production source https://doi.org/10.1016/B978-0-443-19227-2.00018-6		Online