

Dr. Sikandar Almani

Assistant Professor

Department of Chemical Engineering,
Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

Mobile: +92 331 3804590 | sikander.almani@faculty.muett.edu.pk

[LinkedIn Profile](#), [Google Scholar](#), [ResearchGate](#)

PEC REGISTRATION: **CHEM-11165** (lifetime)

ORCID I.D: <https://orcid.org/0000-0002-9982-4960>

Co-Faculty Advisor American Chemical Society MUET Chapter: **33044263**

Invited Researcher GEPEA, France/ HEC Approved Supervisor/ HEC Master Trainer/UEPL Trainer



Professional Summary

An ambitious academician holds a PhD from Nantes Université, France and has sound knowledge in the Chemical/Process Engineering. Possesses 11+ years of experience and is deeply committed to teaching and research. Published 20+ articles having more than 150 citations. Potential reviewer of many key research journals, and Organized/attended many international/national conferences/workshops. Invited Researcher at IUT Saint Nazaire (Nantes Université, France), HEC Approved Supervisor & Master Trainer of FPDP, Facilitator of British Council Trainings and United Energy Pakistan Limited (UEPL) trainer. A resourceful, well-organized with excellent leadership and team-building record in Departmental/University activities.

Key Skills

- Commendable communication and delivery skills.
- Strong critical thinking ability with a problem-solving approach.
- Leadership, strategic planning, academic program management, and evaluation.

Academic Qualifications

2017 – 2021	Doctor of Philosophy (Ph.D.) in Process & Bioprocess Engineering from GEPEA Laboratoire, Nantes Université (UN), France. 🇫🇷 <i>Thesis Title: "Experimental and numerical study on hydrodynamics and gas-liquid mass transfer in a thin gap bubble column using a non-Newtonian liquid phase."</i>
2014 - 2016	Master of Engineering (M.E.) in Chemical Engineering, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan. 🇵🇰 <i>Thesis Title: "Computational Fluid Dynamics modelling of adsorption column for Arsenic (V) removal from groundwater."</i>
2009 -2013	Bachelor of Engineering (B.E.) in Chemical Engineering, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan. 🇵🇰 <i>Thesis Title: "Factors affecting operational accuracy of orifice metering for incompressible fluids."</i>

Achievements

					
01 Gold Medal For Faculty Top	01 Gold Medal For Best Graduate	01 Silver Medal For 1 st Position	Appreciation Shield From Pakistan Engg Council (PEC)	Certificate of MASTER TRAINER from Higher Education Commission (HEC)	Certificate of Invited Professor/Researcher Nantes Université, France

Accomplishments

- Invited twice as a **Foreign Professor/Researcher** by IUT de Saint Nazaire, Nantes Université and Laboratoire GEPEA for 19 days (14th Nov- 2nd Dec, 2022) & 16 days (5th - 20th June, 2023).
- Awarded the **HEC UESTP HRDi scholarship** to pursue PhD degree from GEPEA Laboratoire, Nantes Université (UN), France.
- 2nd Position in the '**Process Simulation Cup**' Organized by 12th European Congress of Chemical Engineering, Florence-Italy, 15-19 September 2019.
- Awarded funding by GEPEA Laboratoire for presenting the research paper at the **12th European Congress of Chemical Engineering**, Florence-Italy, 15-19 September 2019.
- Conducted Training of Delegations of **Kuwait Energy Basra Limited Program (KEBL), IRAQ** in three phases at **United Energy Pakistan Limited's (UEPL)** Naimat Field, Tando Adam held on 27-30 May, 12-15 August and 2-3 Dec 2023 respectively.
- **National Certified Reviewer (NCR)** of Module I,II & III from Sindh HEC 2024.
- **Master Trainer** by Higher Education Commission for the Faculty Professional Development Program held from 15th Nov to 15th January 2016 at Learning Innovation Division HEC, Islamabad
- **Certified MOS Microsoft Office Specialist** by Moving Minds in collaboration with Microsoft, Loyalist, AXELOS & PMA at Learning Innovation Division (LID), HEC Islamabad
- Earned **Best Social Action Project** for the "Low-Cost Corn Cob Water Filter" project in the SAP Exhibition organised by the British Council under **ACTIVE CITIZEN Program** in Islamabad, 2017.
- Earned **02 Gold and 01 Silver Medal** for securing the position of Top of Faculty, Best Graduate and 1st Position Holder in Bachelor in Engineering from Mehran UET, Pakistan.

Teaching Experience

Assistant Professor (BPS-19) **Sep 2017 – till date**
Department of Chemical Engineering, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

- Teaching many courses at undergraduate and postgraduate levels in the Department of Chemical Engineering at Mehran UET, Pakistan, i.e., Chemical Engineering Fluid Mechanics I & II, Computer Aided Drawing for Chemical Engineers, Simultaneous Heat & Mass Transfer, Industrial Management etc.
- Collaborated with faculty and top management to achieve high standards of teaching, research, and industrial linkages.
- Supervising Master's candidates and final-year undergraduate projects.

Lecturer (BPS-18) **Apr 2014 – Sep 2017**
Department of Chemical Engineering, Mehran UET, Jamshoro, Sindh, Pakistan.

Lecturer (Contract) **Apr 2013 – Apr 2014**
Department of Chemical Engineering, Mehran UET, Jamshoro, Sindh, Pakistan

Research Assistant (R.A) **Jan 2013 – Apr 2013**
Department of Chemical Engineering, Mehran UET, Jamshoro, Sindh, Pakistan

Management and Administrative Experience

Focal Person/Coordinator/ Secretary/Advisor/ Member of numerous administrative committees.

Focal Person, Student Financial Aid Office (SFAO), Mehran UET- From 08/12/2023 to date

Interactions with scholarship donors, conducting scholarship meetings/interviews, and taking care of the scholarships, Financial Assistance & Aid for the poor and deprived students of Mehran UET.

Deputy Focal Person, Student Financial Aid Office (SFAO), Mehran UET- From 21/09/2023 to 07/12/2023

Working as a deputy focal person for taking care of the scholarships, Financial Assistance & aid for the poor and deprived students of Mehran UET.

Co-Faculty Advisor, American Chemical Society (ACS) MUET Chapter

Work includes taking care of funding opportunities, successful organisation of the events for the academic year, conducting the election of the executive body and writing the ACS annual report since 2022.

Coordinator, Industrial Liaison & Internships, Department of Chemical Engineering, MUET

Coordinator, Industrial Liaison & Internships from 2021 onwards at the Department of Chemical Engineering, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

General Secretary, Mehran University Chemical Engineers' Society (MUCES)

General Secretary, Mehran University Chemical Engineers' Society from 2020 onwards at Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

Membership Coordinator, Mehran University Alumni Association (MUAA)

Membership Coordinator, Mehran University Alumni Association (MUAA) for two years.

Academic Services & Contributions

Secretary/Coordinator/Examiner/Reviewer/ Member of various academic committees.

HEC Approved Supervisor from January 2022

Department of Chemical Engineering, Mehran University of Engineering & Technology, Jamshoro.

Thesis Examiner

Serving as a Master's and undergraduate thesis examiner for several renowned universities (NED, QUEST, DUET, SAU Tandojam) in Pakistan.

Co-Secretary, National Curriculum Review Committee (NCRC) for Chemical Engineering Technology

Member, National Curriculum Review Committee for Chemical Engineering Technology Programs at National Technology Council (NTC).

Research Journal Reviewer

Reviewer for the renowned journals: Chemical Engineering Science, Functional Composites and Structures, Chemical Engineering Research & Design (ChERD), International Journal of Renewable Energy Research, Journal of The Electrochemical Society.

HEC Master Trainer at Mehran University to conduct training for newly recruited faculty.

Master Trainer at Mehran University to conduct training for newly recruited faculty from 2016 till today at Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

Member, Outcome-Based Education (OBE) & SAR System

Preparing, assisting, and reviewing departmental rubrics, evaluation procedures and templates to produce well-equipped chemical engineering graduates at Mehran UET, Jamshoro, Sindh, Pakistan.

United Energy Pakistan Limited (UEPL) Trainer

Trainer of Delegations of Kuwait Energy Basra Limited Program (KEBL), IRAQ at United Energy Pakistan Limited's (UEPL) Naimat Field, Tando Adam.

Facilitator, Active Citizen Training from British Council

Facilitator, Active Citizen Training and have cascaded the training at Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan. Also Participated in the Social Action Project (SAP) organized by the British Council in Islamabad.

Member, Curriculum Committee of Masters in Process Systems Engineering

Served as a member to formulate the curriculum of the Masters in Process Systems Engineering to be offered by the Department of Chemical Engineering.

Member, Academia Industry Linkage (AILC) Committee

To facilitate meetings between academia and industry representatives, preparation of the agenda of meeting and meeting minutes.

Secretary, Process Simulation & Modelling Research Group at Mehran UET

Secretary, Process Simulation & Modelling Research Group from 2021 onwards at the Department of Chemical Engineering, Mehran University of Engineering and Technology, Jamshoro, Sindh, Pakistan.

Interdepartmental SAR Evaluator QEC, MUET

Evaluator of Self Assessment Reports of Masters and PhD programs of different departments under the direction of QEC, MUET.

Research Experience

Separation processes, gas-liquid contactors, Hydrodynamics, gas-liquid mass transfer, Experimental Fluid Mechanics, Computational Fluid Dynamics, Mathematical modelling, Electrocatalysts etc.

A. Invited Researcher/Professor at I.U.T Saint Nazaire, Nantes Université, France

1. Invited as a **Foreign Professor/Researcher** by IUT de Saint Nazaire, Nantes Université and Laboratoire GEPEA UMR CNRS 6144 for 16 days from **5th June- 20th June 2023**.
2. Invited as a **Foreign Professor/Researcher** by IUT de Saint Nazaire, Nantes Université and Laboratoire GEPEA UMR CNRS 6144 for 19 days from **14th Nov- 2nd Dec 2022**.

B. Research/ Academic Grants

Co-Faculty Advisor ACS

1. American Chemical Society DEIR Grant (750 Dollars) to organise **1st Chemical Engineering Expo 2023**.
2. American Chemical Society DEIR Grant (750 Dollars) to organise **International Women's Day 2024**.
3. American Chemical Society DEIR Grant (750 Dollars) to organise **Chem Summer Camp 2024**.

PI of Funded Project

4. **Pakistan Engineering Council Final Year Design Project (FYDP) Funding, Fund** of PKR. 1,00,000/- for the Design and Fabrication of an indigenous Confined Bubble Column for Investigating Single Bubble Rise in non-Newtonian liquids for the year 2023.

C. Publications/Research Articles

1. **Almani, Sikandar**, Walid Blel, Emilie Gadoin, and Caroline Gentric. "CFD simulation of isolated bubbles rising in Newtonian or non-Newtonian fluids inside a thin-gap bubble column." Chemical Engineering Research and Design (2024). (Impact Factor 3.7, W Category), DOI: <https://doi.org/10.1016/j.cherd.2024.12.030>
2. **Almani, Sikandar**, Walid Blel, Emilie Gadoin, and Caroline Gentric. "Global characterization of hydrodynamics and gas-liquid mass transfer in a thin-gap bubble column in presence of Newtonian or non-Newtonian liquid phase." Chemical Engineering Science 282 (2023): 119291. (Impact Factor: 4.435, W Category), DOI: <https://doi.org/10.1016/j.ces.2023.119291>
3. Asim, Muhammad, **Sikandar Almani**, Imran Nazir Unar, Masroor Abro, Salman Siddiqui, Khadija Qureshi, Zulfiqar Ali Solangi, and Shakeel Ahmed Soomro. "Isolated bubble ascent in a non-Newtonian media inside an infinite bubble column: a CFD study." Brazilian Journal of Chemical Engineering (2023): 1-12. (Impact Factor 1.523, X Category), DOI: <https://doi.org/10.1007/s43153-023-00393-0>
4. Rehman, Anees U., Imran Nazir Unar, Masroor Abro, Khadija Qureshi, **Sikandar Almani**, and Abdul Sattar Jatoti. "Numerical Simulations of Gasification of Low-Grade Coal and Lignocellulosic Biomasses in Two-Stage Multi-Opposite Burner Gasifier." Processes 11, no. 12 (2023): 3451. (Impact Factor 3.181, W Category), DOI: <https://doi.org/10.3390/pr11123451>
5. **Almani, Sikandar**, Khadija Qureshi, Kashif Ali Abro, Masroor Abro, and Imran Nazir Unar. "Parametric study of adsorption column for arsenic removal on the basis of numerical simulations." Waves in Random and Complex Media (2022): 1-17. (Impact Factor 3.563, X Category), DOI: <https://doi.org/10.1080/17455030.2022.2122630>
6. **Almani, Sikandar**, Walid Blel, Emilie Gadoin, and Caroline Gentric. "Investigation of single bubbles rising in Newtonian and non-Newtonian fluids inside a thin-gap bubble column intended for microalgae cultivation." Chemical Engineering Research and Design 167 (2021): 218-230. (Impact Factor 3.950, W Category), DOI: <https://doi.org/10.1016/j.cherd.2021.01.010>
7. Kumar, Raj, Anand Parkash, **Sikandar Almani**, Muhammad Yousuf Jat Baloch, Rizwan Khan, and Suhail Ahmed Soomro. "Synthesis of porous cobalt oxide nanosheets: highly sensitive sensors for the detection of hydrazine." Functional Composites and Structures 4, no. 3 (2022): 035002. (Impact Factor 3.785, X Category), DOI: <https://doi.org/10.1088/2631-6331/ac8595>
8. **Almani, Sikandar**. "Experimental and numerical study of the hydrodynamics and gas-liquid mass transfer in a thin gap bubble column in presence of Newtonian or non-Newtonian liquid phase." PhD diss., Nantes, 2021. <https://archive.bu.univ-nantes.fr/pollux/show/show?id=21bbd4bb-e788-4f09-bc6b-28198a6c1d9e>
9. Parkash, Anand, Nizamuddin Solangi, Sorath Solangi, **Sikandar Almani**, and Suhail Ahmed Soomro. "Synthesis of porous carbon-supported copper-based electrocatalysts derived from IRMOF: a non-noble metal electrocatalyst with optimized active sites for the oxygen evolution reaction." Journal of The Electrochemical Society 169, no. 5 (2022): 054504. (Impact Factor 4.205, W Category), DOI: <https://doi.org/10.1149/1945-7111/ac6985>
10. Saeed, Syed Tauseef, Kashif Ali Abro, and **Sikandar Almani**. "Role of single slip assumption on the viscoelastic liquid subject to non-integer differentiable operators." Mathematical Methods in the Applied Sciences 44, no. 7 (2021): 6005-6020. (Impact Factor 2.983, W Category), DOI: <https://doi.org/10.1002/mma.7164>

11. Rashdi, Sayed Yaseen, Tayyab Naveed, Noor Sanbhal, **Sikandar Almani**, Peng Lin, and Wang Wei. "Lyocell fabric dyed with natural dye extracted from marigold flower using metallic salts." Autex Research Journal 20, no. 3 (2020): 352-358. (Impact Factor 1.18, X Category), DOI: <https://doi.org/10.2478/aut-2019-0033>
12. Abro, Kashif Ali, Irfan Ali Abro, **Sikandar Almani**, and Ilyas Khan. "On the thermal analysis of magnetohydrodynamic Jeffery fluid via modern non integer order derivative." Journal of King Saud University-Science 31, no. 4 (2019): 973-979. (Impact Factor 4.228, W Category), DOI: <https://doi.org/10.1016/j.jksus.2018.07.012>
13. Hadia, Shoaib, Saba Naz, Aijaz Panhwar, Abdul Rauf Khaskheli, Ahmed Raza Sidhu, Fahad Jibrán Siyal, Sarfaraz Ahmed Mahesar, Huseyin Kara, Hamide Filiz Ayyildiz, Aftab Ahmed Kandhro, Junaid Raza, and **Sikandar Almani** "Review on Health Concern: Trans Fatty Acids and Hydrogenation Process: Review: Trans Fatty Acids Impact on Human Health" Published in Pakistan Journal of Scientific and Industrial Research, Volume 67, Issue 1, March 2024, Pages 91-102. DOI: <https://v2.pjsir.org/index.php/biological-sciences/article/view/3060>
14. Unar, Imran Nazir, **Sikandar Almani**, Pardeep Kumar Gianchandani, Imran Ali, Khalil ur Rehman, and Ghulamullah Maitlo and Kashif Hussain Mangi. "Investigations of Kinetic Characteristics for Co-combustion of Coal with Waste Tyres through Thermogravimetric Analysis (TGA)." Journal of Applied and Emerging Sciences 12, no. 2 (2022): 131-137. DOI: <http://dx.doi.org/10.36785/jaes.122552>
15. Samoo, F., G. M. Mastoi, A. Kandhro, A. R. Abbasi, A. Panhwar, Y. Khan, and S. Almani. "Determination Of The Heavy Metals And Proximate Analysis From Vegetables In Hyderabad, Sindh." Pakistan Journal of Science 74, no. 1 (2022). DOI: <http://paas-pk.com/SubPages/Journal/Dashboard.aspx?fcso=2&menuid=1006&JID=324>
16. Soomro, S. A., K. Chen, N. Leghari, N. R. Makange, M. Peter, K. Yousaf, A. Panhwar, **S. Almani**, and Z. A. Soomro. "Effect of moisture on physico-engineering properties of two husked and de-husked Chinese rice varieties." International Agricultural Engineering Journal 30, no. 2 (2021): 67-74.
17. Ghassan Zahid, Sania Begum, **Sikandar Almani**, Sahir Hameed Khattak, Rajesh Kumar Soothar and Shakeel Ahmed Soomro "Utilization of SSR Markers to identify Slow Rusting Genes in Spring Wheat (Triticum Aestivum L.)" Published in Pakistan Journal of Agricultural Research, 2021. DOI: <https://dx.doi.org/10.17582/journal.pjar/2022/35.1.85.92>
18. Abdul Qudoos, **Sikandar Almani**, Kashif Hussain Mangi, Memoona Hafeez and Syed Farman Ali Shah "Fabrication and preliminary assessment of fixed adsorption column for Arsenic (As) removal using local rice husk" Published in Quaid-E-Awam University Research Journal of Engineering, Science & Technology, Nawabshah, Vol.18, No.1, PP.1-10, July-Dec 2020. DOI: <https://doi.org/10.52584/QRJ.1802.03>
19. Shakeel Ahmed Soomro, **Sikandar Almani**, Lal Bux, Khalil Ahmed Ibupoto, Muhammad Sohail Memon, Farman Ali Chandio, Shakeel Hussain Chattha, Zaheer Ahmed Khan, Zubair Ahmed Soomro, Babar Mustafa Ansari and Kunjie Chen "Mathematical modelling and optimization of physical properties of paddy as influenced by drying" Published in Pakistan Journal of Agricultural Research, 2020. DOI: <https://dx.doi.org/10.17582/journal.pjar/2021/34.2.337.345>
20. **Sikandar Almani**, Masroor Abro, Kashif Hussain Mangi, Imran Nazir Unar, Abdul Basit Qazi, Naveed Ali Koondhar and Abdul Samee Memon "Factors affecting operational accuracy of orifice metering for incompressible fluids" Published in Quaid-E-Awam University Research Journal of Engineering, Science & Technology, Nawabshah, Vol.18, No.1, PP.1-10, Jan-Jun 2020. DOI: <http://publications.quest.edu.pk/ojs-3.1.1-4/index.php/qrj/article/view/175>

21. Khadija Qureshi, **Sikandar Almani**, Zulfiqar Ali Solangi, Zulfiqar Ali Bhatti and Inam Bhatti "Modified Hematite iron for removing Arsenic (v) from water" Published in Sindh Univ. Res. Jour. (Science Series) Vol.46 (1), 83-86, (2014), <http://dx.doi.org/https://sujo-old.usindh.edu.pk/index.php/SURI/article/view/1829>
22. Khadija Qureshi, Kashif Hussain Mangi, Zulfiqar Ali Solangi, Zulfiqar Ali Bhatti, Mukhtiar Ali and **Sikandar Almani**, "Development of Indigenous Iron-Coated Pottery Granules for Arsenic (V) Removal from Groundwater" , Quaid-E-Awam University Research Journal of Engineering, Science & Technology, Nawabshah.: Vol 18 No 2 (2020): Vol. 18, No. 2, JUL-DEC, 2020, <https://doi.org/10.52584/QRJ.1802.18>
23. Aziza Aftab, Imran Nazir Unar, Hidayatullah Mahar, **Sikandar Almani**, Sadiq Hussain and Muhammad Siddique "Modeling of refrigeration-based hydrocarbon dew point control plant", Published in Science International, 28(4), 3603-3608, 2016

Under Review:

1. Amir, Muhammad, Qasim Ali, **Sikandar Almani** and Kashif Ali, "Thermal Aspects and Slippage of Newtonian Heating for Magnetized and Fractionalized Viscous Fluid", International Journal of Thermofluids (Impact Factor 8.93, X Category)

D. Conference Publications

International (Europe & UAE)

1. "Thin gap bubble column with a non-Newtonian liquid phase: Study of the hydrodynamics and gas-liquid mass transfer" As 1st Author, Presented at the **12th European Congress of Chemical Engineering, Florence-Italy, 15-19 September 2019.**
2. "Experimental and numerical study of the hydrodynamics of an isolated bubble in non-Newtonian liquid phase in a thin gap bubble column" As 1st Author, Presented at **SFGP, Congress de Nantes-France, 15-17 October 2019.**
3. "Application of thin-gap bubble columns at high volumetric productivity in microalgae cultivation: study of the influence of confinement on hydrodynamics and gas-liquid mass transfer" **MELISSA CONFERENCE 2022 (8-10 November 2022) at Toulouse, France.**
4. "Parametric study of adsorption column for arsenic removal on the basis of numerical simulations" As 2nd Author, Presented at **ACS Middle East and Africa (MEA) Regional Conference: Chemistry for Future Sustainable Societies, NYU, UAE (3rd – 8th February 2024).**

National (Pakistan)

1. "Isolated Bubble Ascent in a non-Newtonian Media inside an Infinite Bubble Column: A CFD Study" Muhammad Asim, Salman Siddiqui, Sikandar Almani, Masroor Abro, Presented at the 6th International Conference on Sustainability in Process Industry (SPI), 19-20 October 2022.
2. "Experimental Study of Physicochemical Properties of Aqueous Salt of Threonine Blended with Mono-ethanolamine Used as a Solvent for CO₂ Capture" Faiz Ahmed, M Shuaib Shaikh, Sikandar Almani, Presented at the 6th International Conference on Sustainability in Process Industry (SPI), 19-20 October 2022.
3. "Porous Effects on Analytical Solutions of Maxwell Fluid" As of 2nd Author, Presented at 1st International Conference on Chemical Engineering @ MUET, Jamshoro January 14-16, 2016.
4. "Computational Modeling for Arsenic Removal from Ground Water" As 1st Author, Presented at 1st International Conference on Advanced Materials & Processing @ MUET, Jamshoro January 28th Feb-2nd March 2016.

5. "Comparative Study of Tangential and Spiral hydro-cyclone through CFD" As 1st Author, Presented at 1st International Conference on Chemical Engineering @ MUET, January 14-16, 2016.
6. "Effect Analysis of Change of Bevel Angle on Orifice Flow Metering in Process Industries" As 1st Author, Presented at CEMP Conference of Emerging Material and Processes @ NUST, Islamabad August 2013.

E. Research in Postgraduate/ Undergraduate Students

Postgraduate Students

Master Students graduated under Supervision/Co-supervision

1. **Mr. Abdallah HAYDAR (GEPEA-INP ENSAT (France) - Université Libanaise (Lebanon))**
Internship of the final year of bioengineering health-Food engineering (06 months): "Global characterization of hydrodynamics, mixing and gas-liquid mass transfer in a confined bubble column (Photobioreactor) in the presence of a non-Newtonian liquid phase".
2. **Engr Muhammad Idress Memon (20S ME-CH-10)** "Investigation into CO₂ capture performance of different frothing agents through process simulation."
3. **Engr Faiz Ahmed Abro (21-ME-CH04)** "Carbon Dioxide Capture Using Aqueous Amino Acid based Solvent: Experimental Studies & Neural Network Modeling."
4. **Engr Fawad Soomro (19En&S20)** "Evaluation of Conversion process of Syngas to Synthetic Natural Gas (SNG) through Simulations."

Undergraduate Students

Bachelor student groups graduated under Supervision/Co-supervision

1. Comparative study of Tangential and Spiral Inlets of Hydro-Cyclone through CFD.
2. CFD simulation & optimization of orifice flow metering using various orifice plates.
3. Modelling of Refrigeration-Based Hydrocarbon Dew Point Control Plant.
4. A Comparative Study on Boiler Emissions of Different Process Industries.
5. CFD simulation for investigation of bed behaviour of fixed & fluidized bed.
6. Experimental and numerical study of hydrodynamic drag for various shear-thinning liquids.
7. Numerical Study on Bubble Dynamics in Non-Newtonian Liquid Phase in an Infinite Bubble Column.
8. CFD Modeling of Oil Leakage Localization.
9. To investigate the single bubble ascent in a newly designed and fabricated Thin Gap bubble column.
10. Single bubble ascent in 2 mm thin gap bubble column: CFD Study
11. Numerical Investigation of a microfluidic splitter.

Bachelor student groups under Supervision/Co-supervision (In progress)

1. To investigate Gas holdup, BSD and Mixing time in a newly fabricated bubble column.
2. To investigate Gas-Liquid Mass transfer inside a newly fabricated bubble column.

Other Projects:

1. Dismantle and economical evaluation of screw air compressors at **Colgate Palmolive Plant**.
2. Designing and cost estimation of fish protein concentrate (FPC) a semi-commercial plant into the commercial plant at the **Pakistan Council of Scientific and Industrial Research (PCSIR, Karachi)**.

G. Professional Affiliations

- Co-Faculty Advisor, American Chemical Society MUET Chapter Pakistan
- Registered Engineer, Pakistan Engineering Council (PEC) CHEM/11165
- Member, Pak-France Alumni Network
- General Secretary, Mehran University Chemical Engineers' Society (MUCES)
- Regular Member (33044263)- American Chemical Society (ACS)
- Member of the French Society of Chemical Engineering (SFGP) (2017- to date)
- Membership Coordinator, Mehran University Alumni Association (2015-2017)
- Facilitator-British Council ACTIVE CITIZEN Program

Software & Computer Skills

- Ansys Fluent (CFD)
- Dantec Dynamics Studio (Advanced) (Shadowgraphy and Particle image velocimetry (PIV))
- Image J software for image processing
- Tec plot 360 (Post processing)
- DCS Control on Process Parameters
- Microsoft Office

Seminar/Webinar/Training/Workshop/Certification/Awards/Sheild of Appreciation

1. Completion certificate of **1st National Certified Reviewer (NCR)** of Module I,II & III from Sindh HEC 2024.
2. Completion certificates of **Foreign Professor/Researcher** by Nantes Université and Laboratoire GEPEA UMR CNRS 6144 for 19 days (14th Nov- 2nd Dec, 2022) & 16 days (5th - 20th June, 2023).
3. Participation Certificate of attending & presenting paper at the ACS Regional MEA Conference held in Abu Dhabi, UAE from 5-7 February 2024.
4. Attended the **Counsellors' Engagement Session** organised by the British Council on 28th October 2023 at Indus Hotel Hyderabad.
5. Participated as an Elevator Day Judge of COHORT 6 of Jamshoro LANCHPAD organised by the National Expansion Plan of NICs.
6. Appreciation Sheild for organizing the 1st MUET Chemical EXPO as EXPO Secretary held on 20th September 2023.
7. Appreciation Sheild for being the Session Secretary of the technical session in 1st International Conference on Women Development in Engineering Science & Technology (1st WDEST),03-05 October 2023.
8. Certificate of completion of a training course "**ACS Author Lab**" by ACS Center for Scientific Communication on 18th Nov 2022.
9. Certificate of Attendance of one-day workshop on "**Empowering knowledge on ethical publishing: Mastering the art of identifying predatory, fake and cloned journals**" by ELSEVIER, 08 June 2022.
10. Certificate of completion of a course "**Mastering Ansys CFD (Level 2): Duration 14.5 hours**" by Udemy, 05 May 2022.
11. Membership Certificate of **American Chemical Society** as **Co-Advisor ACS MUET Chapter**, 2022.
12. Certificate of Participation in a one-day seminar on "**Art of Freelancing**" organized by Mehran University of Engineering and Technology, Jamshoro on 18th March 2022.
13. Certificate of Participation in one day on "**What About our Future**" & "**Virtual Screening on Climate Change**" jointly organized by Sustainable Development Goals and QS World Merit on 21st December 2021.
14. Representation of the PhD work at "**GDR TRANSINTER**" organized by Centre CNRS Paul Langevin, Aussois, France, 16-18 December 2019.
15. Participation in the workshop on '**Recent advances in bubble columns**' jointly organized by SFGP and the European Federation of Chemical Engineering (EFCE), Paris France, 05 November 2019.
16. Participation Certificate on presenting the paper in **SFGP, Congress de Nantes-France**, 15-17 October 2019.
17. Participation Certificate on presenting the paper at the **12th European Congress of Chemical Engineering**, Florence-Italy, 15-19 September 2019.
18. 2nd Position in the '**Process Simulation Cup**' Organized by 12th European Congress of Chemical Engineering, Florence-Italy, 15-19 September 2019.
19. Coordinator of MUET SAP at **ILM Possible & National SAP Exhibition** Organized by British Council Pakistan on 12-13th May 2017 at Marriot Hotel Islamabad.
20. Author Certificate in "**1st International Conference on Advanced Materials & Processing**" held on 28th Feb-02nd March 2017 at Mehran UET Pakistan.
21. Participation Certificate of **Full Day Workshop on Outcome Based Education and Accreditation System** (as per PEC's Accreditation Manual 2014) on 5th May 2016 at ORIC Mehran UET.

22. Certificate of **Master Trainer** by Higher Education Commission for the Faculty Professional Development Program held from 15th Nov to 15th January 2016 at Learning Innovation Division HEC, Islamabad.
23. Completion certificate of **5 days workshop on MOS Microsoft Office Specialist** conducted by Moving Minds in collaboration with Microsoft, Loyalist, AXELOS & Project Management Institute at Learning Innovation Division (LID), Higher Education Commission H-8 Islamabad
24. Presented paper in 4th International Conference on **“Energy, Environment & Sustainable Development** on 1-3 Nov 2016 at MUET.
25. Certificate of Participation in organizing Three Days Training Workshop on **“High-Performance Liquid Chromatography”** from Oct.13-15, 2016 at the Department of Chemical Engineering, MUET.
26. Certificate of Participation in organizing Three Days Training Workshop on **“Bio & Food processing in Chemical Engineering”** from Sep.22-24, 2016 at MUET.
27. Certificate of **1st International Conference on Chemical Engineering (CCE 2016)** held from Jan.14-16, 2016 at MUET.
28. Certificate of One Day Seminar on **“Mineral Resources Utilization for Sustainable Economic Development”** at M. Dawood Hall-MUET (Jan 20-2016).
29. Certificate of Participation in **“2nd Future Leaders Conference-Hyderabad”** held on 07-09 Oct. 2015 at Indus Hotel Hyderabad
30. Participation Certificate in **Indigenous On-Campus Training (IOT)** jointly Organized by the Higher Education Commission & Mehran UET from March 24-28, 2015.
31. Certificate of Appreciation for four days training workshop on **“Analytical Techniques used in Chemical Engineering”** from Oct.28-31,2015 at the Department of Chemical Engineering, MUET.
32. Certificate of Recognition for **BIG EVENT Pakistan** Event held at Jamshoro (Feb 18-2015 to April 11-2015).
33. Certificate of **ACTIVE CITIZEN** Training of Facilitators held at MUSTD, Mehran UET under the program of the British Council (Aug 31-2015 to Sept 04-2015).
34. Certificate of Completion for participation in the 8th workshop on **“Developing Industry Driven Technologies”** held on 23rd Feb 2015.
35. Certificate of completion of 02 Days training program on **“Microsoft Excel (Advanced)”** from Dynamic Training Solution (Oct 31-Nov 01-2015).
36. Eight Days Course on **“Computational Fluid Dynamics”** on ANSYS FLUENT 6.3.26 and GAMBIT 2.2 Software, 26-02-2013.
37. Certificate on **“CPD Framework for Professional Development of Engineers of 0.5 CPD Point”** held on 23 January 2013 at MUET Jamshoro.
38. Seminar on **“Scope of Metallurgy & Materials Engg: in Various Industries”** MMAC Project.
39. Inter-Departmental Project Competition **NEX 11 (National Engineering Exhibition)** in collaboration with HEC.
40. Participation Certificate of **Conference on Emerging Materials and Processes (CEMP)** 22-14 Aug-2013 at NUST, Islamabad.
41. Participation Certificate of **“Energy Audit Tools and Techniques”** by ENERCON, Islamabad at MUET. On April, 11-2013.
42. Certificate of **1st International Coal Conference (ICC 2013)** held from Nov.07-09, 2013 at MUET.
43. One Day Seminar on **“Process Safety Parameters and Instrumentation”** MUET, June 2013.
44. One-day workshop on **“Public Speaking, Communication Skills & Leadership Qualities”**
45. 2nd International Conference on **“Energy, Environment & Sustainable Development”** a DelPHE Project on 27-29 Feb 2012.at MUET.
46. Participated in a seminar on **“Introduction to CAD/CAM/CAE Software”** Organized by ASME MUET Chapter, 04 Sept 2012.
47. One Day Seminar on **“Process Safety and Environment”** on 2nd November 2012 at MUET.
48. Certificate of Achievement for completing the **“Executive Package of MS Office”** from PACE Centre Qasimabad on 29th September 2021.
49. Professional training course on **“Introduction to HYSYS”** organized by Chemical Engineering Department MUET Jamshoro on 28 March-07 April 2011.

50. Certificate of Participation in 2nd Interdepartmental Paper Presentation Contest organized by Industrial Students Organization, MUET in collaboration with Insitute of Industrial Engineers (IIE), USA.
51. International Conference on “Sustainable Water Management” a DelPHE Project Sept 2010.
52. Participated in “Energy, Environment & Sustainable Development for Growing Economics” May 04-06, 2009.
53. Academic Achievement Award on **Fabrication & Designing Paper Chromatogram** (Oct.05-2011)

Industrial Internship Experience

• Colgate Palmolive Limited, Kotri	(30 days)
• PCSIR Labs Complex (KLC), Karachi	(30 days)
• Clariant Pakistan Limited, Jamshoro	(45 days)
• Seri Sugar Mills Limited, Tando Muhammad Khan	(15 days)
• United Refrigeration Industry (Dawlance), Hyderabad	(15 days)
• Mehran Sugar Mills Ltd, Tando Allahyar	(15 days)
• Unicol Distillery Pvt Ltd, Mirpurkhas	(15 days)

Extra-Curricular Activities

-
- Organizing Team member for MUET JOB FAIR 2024 (27th January 2024)
 - Convener Stage Committee, International Women's Day 2024 (8th March 2024)
 - EXPO Secretary, 1st MUET Chemical Engineering EXPO 2023.
 - Organizing Team member for MUET ALUMNI CONVENTION 2023.
 - Session Secretary of the technical session in 1st International WD-EST 2023.
 - La Mer XXL Project Exhibition and Laboratory Showcasing (29 June to 10 July 2019)-France
 - Executive Director Protocol & Registrations TEDxMUET at Mehran University (2022-2023)
 - Member Organizing Committee “The Big Event MUET” at Mehran University (2015-2022)
 - Teacher coordinator for “MUET-Model United Nation” at Mehran University (2015-2024)
 - Teacher coordinator for “MUET-Sports Week” at Mehran University (2015-2022)
 - Teacher coordinator for “MUET-Gala” at Mehran University (2015-2022)

Pakistan Engineering Council (PEC) CPD Courses

1. Hands-on Training on Data Management & Statistical Analysis Using SPSS	Sept 07, 2022	0.5 CPD
2. Modern Storage Technology	Sept 07, 2022	0.5 CPD
3. Advanced Sowing Techniques	Sept 02, 2022	0.5 CPD
4. Renewable and Non-renewable technologies	Aug 10, 2022	0.5 CPD
5. Public Policy: Concepts, Issues & Challenges-Engineer’s Perspective	July 26, 2022	1.0 CPD
6. Chemical Management System	July 23, 2022	1.0 CPD
7. Personal Branding and Career Choices for Engineers	July 05, 2022	1.0 CPD
8. Employers hire on attitude than any other skills	June 29, 2022	1.0 CPD
9. Introduction to Industry 4.0 Technologies	June 25, 2022	1.0 CPD
10. Industrial Wastewater Treatment & Recycling Technologies	June 22, 2022	1.0 CPD
11. Risk Assessment and Management	May 28, 2022	1.0 CPD
12. Digital Transformation and Impact of IOT on Education, Industry, Health Sector, and Society Towards Creating Job Opportunities	May 27, 2022	1.0 CPD
13. Time and Stress Management Find your Balance	May 23, 2022	1.0 CPD
14. Elevate Your Leadership Skills to Take Organization to Next Level.	April 07, 2022	1.0 CPD

15. Digital Transformation	Jan 13, 2022	0.5 CPD
16. 3 rd International Conference on Chemical Engineering (ICCE-2021)	Sept 22-23,2021	1.0 CPD
17. Leadership and Engineering: A Dichotomy or Misunderstanding	June 19, 2021	0.5 CPD
18. Awareness on PEC Initiative on Innovation and Entrepreneurship	June 11, 2021	0.5 CPD
19. Self-Discovery with Talent Management Achieving Excellence in Your Professional Career.	May 07, 2021	0.5 CPD
20. Entrepreneurship & Basic supervision of construction projects	Mar 16, 2016	1.0 CPD
21. CPD Framework for Professional Development of Engineers	Jan 23, 2013	0.5 CPD
Total Credit Hours:		16.5 CPD
