

Muhammad Daud (Ph.D)

Associate Professor

Department of Chemical Engineering
University of Engineering & Technology (UET),
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Education Background

Post Doctorate Chemical Engineering - KFUPM, KSA

Oct. 2022 – Aug. 2023

1. **Project:** Development of ionic liquid modified layered double hydroxide for water remediation.
2. **Project:** Development of ionic liquid modified layered double hydroxide for flame retardancy of polystyrene polymer (Funded by ARAMCO).
3. **Project:** Extraction of basil seed powders and its application as an additive in water-based drilling fluids.

PhD Chemical Engineering - KFUPM, KSA

Jan. 2012 – Dec. 2016

PhD Title: Effect of nanofillers on the production and properties of LLDPE using in-situ polymerization.

1. **Project:** Development of novel graphene-layered double hydroxide hybrid supported metallocene catalyst for ethylene polymerization.
2. **Project:** In situ polymerization of ethylene-graphene nanocomposites, funded by Deanship of research KFUPM, Project no. IN131037.

Master's Chemical Engineering – UET Peshawar, Pakistan

Jan. 2008 – June. 2010

MSc Title: Development of coal bracket for energy application

Bachelor's Chemical Engineering (Gold Medalist)

Oct 2003 – Nov 2007

University of Engineering and Technology Peshawar, Khyber Pakhtunkhwa, Pakistan

Honours and Awards

- ❖ The Best PhD Student Award Session 2015/16 (SAS-AIChE)
- ❖ University Gold Medal (UET Peshawar, Pakistan)

Employment Status

Associate Professor, Dept. of Chemical Engineering, UET Peshawar
Assistant Professor, Dept. of Chemical Engineering, UET Peshawar
Lecturer, Dept. of Chemical Engineering, UET Peshawar, Pakistan
Postdoctoral Fellow, Dept. of Chemical Eng. KFUPM, KSA
Lecturer-B, Dept. of Chemical Eng. KFUPM, KSA

Feb. 2022 – Till to date
Oct. 2018 – Feb. 2022
Dec. 2007 – Oct. 2018
Oct. 2022 – Aug. 2023
Jan. 2012 – Dec. 2016

University Practical Experience

Taught Graduate Course

- ChE-5626 Advance Advanced Transport Phenomena (Core Course)
- ChE-5621 Process Dynamics and Control (Core Course)
- ChE-5698 Special Topics to Chemical Engineering Nanomaterials (Elective)
- ChE-5608 Polymer Engineering (Elective)

Undergraduate Research & Teaching | University of Eng. and Tech. Peshawar Pakistan

- ChE-204 Fluid Mechanics-I: Teaching to 3rd Semester Students
- ChE-206 Mass Transfer: Teaching to 4th Semester Students
- ChE-320 Technical Report Writing & Presentation Skills: Teaching to 5th Semester Students
- ChE-427 Transport Phenomena: Teaching to 8th Semester Students
- Supervise the Final Year Projects (FYP) of the undergraduate students and provide technical and research directions.

Additional Responsibilities | University of Eng. and Tech. Peshawar Pakistan

FYP Coordinator | University of Eng. and Tech. Peshawar Pakistan

Sep. 2021 – Aug. 2022

- Responsible to make FYP groups.
- Scheduling FYP bimonthly project presentation
- Manage FYP final viva and students project evaluation.

Office of Research, Innovation & Commercialization (ORIC) | University of Eng. and Tech. Peshawar Pakistan

Manager (R&D)

Sep. 2017 – Sep. 2020

- Evaluate research projects submitted via ORIC to different funding agencies.
- Gathering yearly data for different research outputs and funded received by the university via ORIC Performa writeup.
- Assist ORIC office in arranging workshops & Seminars for awareness.

University Syndicate Member (Lecturer cadre) | University of Eng. and Tech. Peshawar Pakistan

May. 2017 – Oct 2018



- Working and handling of the entire university lecturer cadre issues and presenting them at the syndicate platform.
- Recording the observations on the minutes of the syndicate meeting for any ambiguity


Projects

- **UNICEF Pakistan Project as Co-PI (PKR 22,515,870):** Research Project Title "AI/IoT/Graphene based kit and app development for fast detection of E. coli in drinking water" in collaboration with Centre for Intelligent Systems and Networks Research (CISNR). Time duration (18 months) 2022-23.

Research Publications

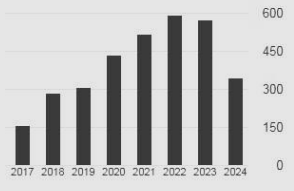
Google Scholar

Muhammad Daud  


Other names 





Associate Professor (Chemical Engineering) [UET Peshawar](#)
Verified email at uetpeshawar.edu.pk - [Homepage](#)
Nanomaterials Water treatment Energy storage

	All	Since 2019
Citations	3343	2760
h-index	17	17
i10-index	24	22



TITLE	CITED BY	YEAR
<input type="checkbox"/> Potential of Capparis decidua plant and eggshell composite adsorbent for effective removal of anionic dyes from aqueous medium G Mujtaba, A Hai, MUH Shah, A Ullah, Y Anwar, F Shah, M Daud, ... Environmental Research 247, 118279		2024
<input type="checkbox"/> A holistic approach to embracing the United Nation's Sustainable Development Goal (SDG-6) towards water security in Pakistan G Mujtaba, MUH Shah, A Hai, M Daud, M Hayat Journal of Water Process Engineering 57, 104691	15	2024
<input type="checkbox"/> Recent advancement in ionic liquid modified layered double hydroxide (IL-LDH): Progress, challenges, and future prospects S Ahmad, MB Wazir, M Daud, CK Cheng, MUH Shah, MA Al-Harathi Inorganic Chemistry Communications, 111591	1	2023
<input type="checkbox"/> Simultaneous adsorption of methylene blue and amoxicillin by starch-impregnated MgAl layered double hydroxide: Parametric optimization, isothermal studies and thermo-kinetic ... G Mujtaba, A Ullah, D Khattak, MUH Shah, M Daud, S Ahmad, A Hai, ... Environmental Research 235, 116610	14	2023
<input type="checkbox"/> In-situ polymerization method for producing a polyethylene nanocomposite MA Al-Harathi, M Daud US Patent 11,753,509	2	2023

Co-authors 

-  Mamdouh A. Al-Harathi
Professor of Chemical Engineeri... >
-  Farrukh Shehzad
Lecturer King Fahd University of ... >
-  Abdul Hai
Khalifa University of Science & T... >
-  Umer mehmood
UET Lahore >

1. G Mujtaba, MUH Shah, A Hai, **M Daud**, M Hayat “A holistic approach to embracing the United Nation's Sustainable Development Goal (SDG-6) towards water security in Pakistan” **Journal of Water Process Engineering Impact factor (2024) (7.00)**
2. MA Al-Harathi, **M Daud** “In-situ polymerization method for producing a polyethylene nanocomposite” **US Patent 11,753,509 (2023)**
3. S Ahmad, MB Wazir, **M Daud**, CK Cheng, MUH Shah, MA Al-Harathi “Recent advancement in ionic liquid modified layered double hydroxide (IL-LDH): Progress, challenges, and future prospects” **Inorganic Chemistry Communications (2023) Impact factor (3.92)**
4. G Mujtaba, A Ullah, D Khattak, MUH Shah, **M Daud**, S Ahmad, A Hai, F Ahmed, T Alshahrani, F Banat “Simultaneous adsorption of methylene blue and amoxicillin by starch-impregnated MgAl layered double hydroxide: Parametric optimization, isothermal studies and thermo-kinetic analysis” **Environmental Research (2023) Impact Factor (8.3)**

5. MB Wazir, M Daud, S Safeer, F Almarzooqi, A Qurashi
“Review on 2D Molybdenum Diselenide (MoSe₂) and Its Hybrids for Green Hydrogen (H₂)
Generation Applications” *ACS OMEGA (2022) Impact Factor (4.132)*
6. MB Wazir, M Daud, M Younas, M Rezakazemi “Application of Membrane Contactor Technology
for Post- combustion Carbon Dioxide (CO₂) Capture” *BOOK CHAPTER (2022), WILEY- VCH
GmbH: Membrane Contactor Technology: Water Treatment, Food Processing, Gas Separation, and
Carbon Capture*
7. A Hai, G Bharath, I Ali, M Daud, I Othman, K Rambabu, MA Haija, F Banat “Pyrolysis of date
seeds loaded with layered double hydroxide: Kinetics, thermodynamics, and pyrolytic gas
properties” *Energy Conversion and Management (2022) Impact Factor (11.533)*
8. A Hai, G Bharath, M Daud, K Rambabu, I Ali, SW Hasan, PL Show, F Banat “Valorization of
groundnut shell via pyrolysis: Product distribution, thermodynamic analysis, kinetic estimation, and
artificial neural network modeling” *Chemosphere (2021) Impact Factor (8.943)*
9. MB Wazir, M Daud, F Ali, MA Al-Harhi “Dendrimer assisted dye-removal: A critical review of
adsorption and catalytic degradation for wastewater treatment” *Journal of Molecular Liquids
(2020) Impact Factor (6.633)*
10. M Younas, M Rezakazemi, M Daud, MB Wazir, S Ahmad, N Ullah, Inamuddin, S Ramakrishna
“Recent progress and remaining challenges in post-combustion CO₂ capture using Metal-Organic
Frameworks (MOFs)” *Progress in Energy and Combustion Science (2020) Impact Factor (35.339)*
11. TS Kazeem, M Zubair, M Daud, MA Al-Harhi “Enhanced Removal of Eriochrome Black T Using
Graphene/NiMgAl-Layered Hydroxides: Isotherm, Kinetic, and Thermodynamic Studies” *Arabian
Journal for Science and Engineering (2020) Impact Factor (2.807)*
12. TS Kazeem, M Zubair, M Daud, ND Mu’azu, MA Al-Harhi “Graphene/ternary layered double
hydroxide composites: Efficient removal of anionic dye from aqueous phase”
Korean Journal of Chemical Engineering (2019) Impact Factor (3.146)

13. MB Wazir, **M Daud**, N Ullah, A Hai, A Muhammad, M Younas, M Rezakazemi “Synergistic properties of molybdenum disulfide (MoS₂) with electro-active materials for high-performance supercapacitors” *International Journal of Hydrogen Energy (2019) Impact Factor (7.139)*
14. **M Daud**, A Hai, F Banat, MB Wazir, M Habib, G Bharath, MA Al-Harhi “A review on the recent advances, challenges and future aspect of layered double hydroxides (LDH)–Containing hybrids as promising adsorbents for dyes removal” *Journal of Molecular Liquids (2019) Impact Factor (6.633)*
15. **M Daud**, F Shehzad, MA Al-Harhi “Metallocene-Catalyzed Copolymerization of Ethylene and 1-Hexene in the Presence of Graphene/MgAl LDH Nanofiller: Effect on the Activity, SCB, and Thermal Stability” *Arabian Journal for Science and Engineering (2018) Impact Factor (2.807)*
16. U Mehmood, A Al-Ahmed, M Afzaal, FA Al-Sulaiman, **M Daud** “Recent progress and remaining challenges in organometallic halides based perovskite solar cells” *Renewable and Sustainable Energy Reviews (2017) Impact Factor (16.799)*
17. M Zubair, **M Daud**, G McKay, F Shehzad, MA Al-Harhi “Recent progress in layered double hydroxides (LDH)-containing hybrids as adsorbents for water remediation” *Applied Clay Science (2017) Impact Factor (5.907)*
18. M Zubair, N Jarrah, MS Manzar, M Al-Harhi, **M Daud**, ND Mu’azu, SA Haladu “Adsorption of eriochrome black T from aqueous phase on MgAl-, CoAl-and NiFe-calcined layered double hydroxides: Kinetic, equilibrium and thermodynamic studies” *Journal of Molecular Liquids (2017) Impact Factor (6.633)*
19. M Sajid, C Basheer, **M Daud**, A Alsharaa “Evaluation of layered double hydroxide/graphene hybrid as a sorbent in membrane-protected stir-bar supported micro-solid-phase extraction for determination of organochlorine pesticides in urine samples” *Journal of Chromatography A (2017) Impact Factor (4.601)*

20. **M Daud**, F Shehzad, MA Al- Harthi “Crystallization behaviour and lamellar thickness distribution of metallocene- catalyzed polymer: Effect of 1- alkene comonomer and branch length” *The Canadian Journal of Chemical Engineering (2017) Impact Factor (2.50)*
21. **M Daud**, MS Kamal, F Shehzad, MA Al-Harthi “Graphene/Layered Double Hydroxides Nanocomposites: A Review of Recent Progress in Synthesis and Applications” *Carbon (2016) Impact Factor (11.307)*
22. F Shehzad, **M Daud**, MA Al-Harthi “Synthesis, characterization and crystallization kinetics of nanocomposites prepared by in situ polymerization of ethylene and graphene” *Journal of Thermal Analysis and Calorimetry (2016) Impact Factor (4.755)*
23. U Mehmood, IA Hussein, **M Daud** “New 1, 3, 4-Oxadiazole Based Photosensitizers for Dye Sensitized Solar Cells (DSSCs)” *International Journal of Photoenergy (2015) Impact Factor (2.535)*
24. M Sajid, AN Kawde, **M Daud** “Designs, formats and applications of lateral flow assay: A literature review” *Journal of Saudi Chemical Society (2015) Impact Factor (4.712)*
25. U Mehmood, IA Hussein, **M Daud**, S Ahmed, K Harrabi “Theoretical study of benzene/thiophene based photosensitizers for dye sensitized solar cells (DSSCs)” *Dyes and Pigments (2015) Impact Factor (5.122)*
26. **M Daud**, F Shehzad, MA Al-Harthi “Non-isothermal crystallization kinetics of LLDPE prepared by in situ polymerization in the presence of nano titania” *Polymer Bulletin (2015) Impact Factor (2.843)*
27. M Sajid, M Ilyas, C Basheer, M Tariq, **M Daud**, N Baig, F Shehzad “Impact of nanoparticles on human and environment: review of toxicity factors, exposures, control strategies, and future prospects” *Environmental Science and Pollution Research (2015) Impact Factor (5.190)*

International Journal Reviewer

- Applied Clay Science
- Carbon
- Molecules
- Polymer Bulletin

References

- Prof. Mamdouh A. Al-Harhi, PhD: mamdouh@kfupm.edu.sa,
Dean, College of Chemicals and Materials,
King Fahd University of Petroleum & Minerals (KFUPM) KSA