

Muhammad Nouman Aslam Khan

Associate Professor
School of Chemical & Materials Engineering

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About

Dr. Muhammad Nouman Aslam Khan is working as Associate Professor in the School of Chemical & Materials Engineering. Dr. Muhammad Nouman Aslam Khan has a PhD in Mathematics. Dr. Muhammad Nouman Aslam Khan has published 27 research articles & conference papers having a citation count of 655, carried out 3 projects and filed 0 intellectual property.

Qualifications

PhD in Mathematics COMSATS Institute of Information Technology , Pakistan	2013 - 2018
MS in Mathematics COMSATS Institute of Information Technology , Pakistan	2007 - 2009
BS in Mathematics COMSATS Institute of Information Technology , Pakistan	2003 - 2007
F.Sc in Sciences FBISE, Islamabad , Pakistan	2001 - 2003
Matric (SSC) in Sciences FBISE, Islamabad , Pakistan	1999 - 2001

Experience

Associate Professor School of Chemical & Materials Engineering	2024- Present
Assistant Professor School of Chemical & Materials Engineering	2014 - 2024
Lecturer School of Chemical & Materials Engineering	2010 - 2014
Lecturer COMSATS Institute of Information Technology, Islamabad, Pakistan" , CIIT, Chak Shehzad, Islamabad, Pakistan	2010 - 2010

Research Projects

National Projects

Exploration of experimental and computational synergetic analysis of 2D nanomaterials based mixed matrix membranes for carbon capture	2023
Funding Agency: National University of Sciences and Technology Islamabad Pakistan	
Amount: PKR 1,000,000.00	
Status: Completed	
Integrated experimental & machine learning strategies to predict & optimize products from biomass/waste thermochemical conversion to bioenergy	2022
Funding Agency: Universiti Teknologi Malaysia	
Amount: PKR 2,563,677.00	
Status: Approved_inprocess	
The application of machine learning in the chemical recycling of plastic waste	2022
Funding Agency: Royal Society	
Amount: PKR 2,800,000.00	
Status: Approved_inprocess	

International Projects

Research Articles

Advanced Cellulose Triacetate-Based Mixed Matrix Membranes Enhanced by Bimetallic Ni-Cu-BTC MOFs for CO2/CH4 Separation	2025
Esha Asad Ayesha Raza Amna Safdar Muhammad Nouman Aslam Khan Humais Roafi	
Polymers , Volume 17(16), Article Number 2258	
Impact Factor: 4.900 Quartile: 1	
DOI: https://doi.org/10.3390/polym17162258	
Machine learning approach for photocatalysis: An experimentally validated case study of photocatalytic dye degradation	2025
Hassan ali Yasir Ali Hamza Ul Haq Ali Can Guler Milan Masar Muhammad Nouman Aslam Khan Michal Machovsky Vladimir Sedlarik Ivo Kuritka	
Journal of Environmental Management, Volume:386, Article Number 125683	
Impact Factor: 8.000 Quartile: 1	
DOI: https://doi.org/10.1016/j.jenvman.2025.125683	
Development and Evaluation of User-Friendly Modeled Approach for Sustainable Polymer Membranes for Advanced Hemodialysis	2025
Ahmed Khan Zaib Jahan Muhammad Ahsan Muhammad Bilal Khan Niazi Muhammad Nouman Aslam Khan Ahmed Sayed M. Metwally Farooq Sher	
Advanced Materials Interfaces , Volume:12, Issue:1, Article Number 2400435	
Impact Factor: 4.300 Quartile: 2	
DOI: https://doi.org/10.1002/admi.202400435	
Adsorption Capacity Prediction and Optimization of Electrospun Nanofiber Membranes for Estrogenic Hormone Removal Using Machine Learning Algorithms	2024
Hamza Ul Haq Muhammad Nouman Aslam Khan Jawad Gul Mukkaram Vladimír Sedlářík Muhammad Yasir	
Polymers for Advanced Technologies, Volume:35, Issue:11, Article Number:e6638	
Impact Factor: 3.1 Quartile: 2 Citations: 2	
DOI: https://doi.org/10.1002/pat.6638	
Approximation theorems for -nonexpansive mappings in convex metric spaces by three step iterations	2024
Muhammad Nouman Aslam Khan Maliha Rashid Amna Kalsoom Naeem Saleem Madeeha Manuel De La Sen	
Alexandria Engineering Journal , Volume 102, Pages 1-9	
Impact Factor: 6.200 Quartile: 1	
DOI: https://doi.org/10.1016/j.aej.2024.05.067	
Torrefied biomass quality prediction and optimization using machine learning algorithms	2024
Muhammad Hamza Naveed Jawad Gul Muhammad Nouman Aslam Khan Salman Raza Naqvi Libor Stepanec Imtiaz Ali	
Chemical Engineering Journal Advances , Volume 19, Article Number 100620	
Impact Factor: 5.500 Quartile: 1 Citations: 8	
DOI: https://doi.org/10.1016/j.ceja.2024.100620	

Prediction of hydrogen yield from supercritical gasification process of sewage sludge using machine learning and particle swarm hybrid strategy <i>Muhammad Nouman Aslam Khan Zeeshan Ul Haq Hafeez Ullah Salman Raza Naqvi Usama Ahmed Muhammad Zaman Nor Aishah Saidina Amin</i> <i>International Journal of Hydrogen Energy</i> , Volume 54, 7 February 2024, Pages 512-525 Impact Factor: 7.139 Quartile: 1 Citations: 36 DOI: 10.1016/j.ijhydene.2023.01.033	2024
Aging prediction in single based propellants using hybrid strategy of machine learning and genetic algorithm <i>Faizan Khalid Muhammad Nouman Aslam Khan Muhammad Abdaal Ghani Nouman Ahmad Abdullah Khurram Sattar</i> <i>Chemometrics and Intelligent Laboratory Systems</i> , Volume 245, Article Number 105058 Impact Factor: 3.9 Quartile: 1 Citations: 7 DOI: https://doi.org/10.1016/j.chemolab.2023.105058	2024
Prediction of thermal diffusivity of volcanic rocks using machine learning and genetic algorithm hybrid strategy <i>Muhammad Nouman Aslam Khan Usman Ghafoor Abdullah Abdullah Zeeshan Ul Haq Hafeez Ullah Iftikhar Hussain Gul Asghari Maqsood</i> <i>International Journal of Thermal Sciences</i> , Volume 192, Part A, Article Number 108403 Impact Factor: 4.779 Quartile: 1 Citations: 6 DOI: https://doi.org/10.1016/j.ijthermalsci.2023.108403	2023
Thermal optimization of Li-ion battery pack using genetic algorithm integrated with machine learning, <i>Usman Ghafoor Muhammad Waqas Yaqub Muhammad Uzair Qureshi Muhammad Nouman Aslam Khan</i> <i>Thermal Science and Engineering Progress</i> , Volume 44, ID:102069, Pages:31 Impact Factor: 4.8 Quartile: 1 Citations: 11 DOI: 10.1016/j.tsep.2023.102069	2023
Optimization based comparative study of machine learning methods for the prediction of bio-oil produced from microalgae via pyrolysis <i>Hafeez Ullah Zeeshan Ul Haq Muhammad Nouman Aslam Khan Salman Raza Naqvi Muhammad Ahsan Jiawei Wang</i> <i>Journal of Analytical and Applied Pyrolysis</i> , Volume 170, ID:105879 Impact Factor: 6.437 Quartile: 1 Citations: 36 DOI: 10.1016/j.jaap.2023.105879	2023
Applications of machine learning in thermochemical conversion of biomass-A review <i>Muzammil Khan Salman Raza Naqvi Zahid Ullah Syed Ali Ammar Taqvi Muhammad Nouman Aslam Khan Wasif Farooq Muhammad Taqi Mehran Dagmar</i> <i>Juchelková Libor Štěpanec</i> <i>Fuel</i> , Volume 332, Part 1, Article Number 126055 Impact Factor: 8.035 Quartile: 1 Citations: 134 DOI: https://doi.org/10.1016/j.fuel.2022.126055	2023
Comparative study of machine learning methods integrated with genetic algorithm and particle swarm optimization for bio-char yield prediction <i>Zeeshan Ul Haq Hafeez Ullah Muhammad Nouman Aslam Khan Salman Raza Naqvi Abdul Ahad Nor Aishah Saidina Amin</i> <i>Bioresource Technology</i> , Volume 363, Article Number 128008 Impact Factor: 11.4 Quartile: 1 Citations: 54 DOI: https://doi.org/10.1016/j.biortech.2022.128008	2022
Hydrogen production optimization from sewage sludge supercritical gasification process using machine learning methods integrated with genetic algorithm <i>Zeeshan Ul Haq Hafeez Ullah Muhammad Nouman Aslam Khan Salman Raza Naqvi Muhammad Ahsan</i> <i>Chemical Engineering Research and Design</i> , Volume 184, Pages 614-626 Impact Factor: 4.119 Quartile: 2 Citations: 65 DOI: https://doi.org/10.1016/j.cherd.2022.06.020	2022
Artificial neural networks for the prediction of biochar yield: A comparative study of metaheuristic algorithms <i>Muzammil Khan Zahid Ullah Ondřej Mašek Salman Raza Naqvi Muhammad Nouman Aslam Khan</i> <i>Bioresouce Technology</i> , Volume 355, Article Number 127215 Impact Factor: 11.4 Quartile: 1 Citations: 93 DOI: https://doi.org/10.1016/j.biortech.2022.127215	2022
An integrated framework of data-driven, metaheuristic, and mechanistic modeling approach for biomass pyrolysis <i>Zahid Ullah Muzammil Khan Salman Raza Naqvi Muhammad Nouman Aslam Khan Wasif Farooq Muhammad Waqas Anjum Muhammad Waqas Yaqub</i>	2022

Hamad AlMohamadi Fares Almomani
Process Safety and Environmental Protection , Volume 162, Pages 337-345
Impact Factor: 6.158 | **Quartile:** 1 | **Citations:** 42
DOI: <https://doi.org/10.1016/j.psep.2022.04.013>

Process modeling and simulation of ethylene oxide production by implementing pinch and cost analysis 2022

Muhammad Mubashir Muhammad Ahsan Iftikhar Ahmad Muhammad Nouman Aslam Khan
Ain Shams Engineering Journal, Volume 13, Issue 3, Pages 101585 (1-9)
Impact Factor: 3.180 | **Quartile:** 2 | **Citations:** 8
DOI: <https://doi.org/10.1016/j.asej.2021.09.012>

Process Modeling, Optimization and Cost Analysis of a Sulfur Recovery Unit by Applying Pinch Analysis on the Claus Process in a Gas Processing Plant 2021

Muhammad Arslan Zahid Muhammad Ahsan Iftikhar Ahmad Muhammad Nouman Aslam Khan
Mathematics , Volume 10, Issues 1, Article Number 88
Impact Factor: 2.592 | **Quartile:** 1 | **Citations:** 13
DOI: <https://doi.org/10.3390/math10010088>

Coincidence point of L-fuzzy sets endowed with graph 2018

Akbar Azam Muhammad Nouman Aslam Khan Nayyar Mehmood Stojan Radenovic Tatjana Došenovic
Revista de la Real Academia de Ciencias Exactas Fisicas y Naturales. Serie A. Matematicas , Volume 112, Issue 4, Pages 915–931
Impact Factor: 1.028 | **Quartile:** 2 | **Citations:** 4
DOI: 10.1007/s13398-017-0398-3

Coincidence of Multivalued Mappings on Metric Spaces with a Graph 2017

Muhammad Nouman Aslam Khan Akbar Azam Ljubićsa D.R. Koćcinac
Filomat , Volume 31, Issue 14, Pages: 4543-4554
Impact Factor: 0.635 | **Quartile:** 3 | **Citations:** 2
DOI: 10.2298/FIL1714543K

Coincidence Points of a Sequence of Multivalued Mappings in Metric Space with a Graph 2017

Muhammad Nouman Aslam Khan Akbar Azam Nayyar Mehmood
Mathematics , Volume: 5 Issue: 2, Article Number: 30
Impact Factor: N/A | **Citations:** 2
DOI: 10.3390/math5020030

On Minimal Fuzzy Ideals of Semigroups 2013

Madad Khan Feng Feng Muhammad Nouman Aslam Khan
Journal of Mathematics , Volume 2013, Article ID 475190, 5 pages
Impact Factor: N/A | **Citations:** 2
DOI: <http://dx.doi.org/10.1155/2013/475190>

Fuzzy Abel Grassmann's Groupoids 2010

Muhammad Nouman Aslam Khan Madad Khan
Advances in Fuzzy Mathematics , Advances in Fuzzy Mathematics, volume 3, published 2010
Impact Factor: 0
DOI: <https://www.ripublication.com/afm.htm>

On Anti Fuzzy Ideals in Left Almost Semigroups 2010

Madad Khan Faisal Iqbal Muhammad Nouman Aslam Khan
Journal of Mathematics Research , Vol. 2, No. 3; August 2010
Impact Factor: N/A
DOI: <http://www.ccsenet.org/journal/index.php/jmr/about>

Conference Proceedings

Cascade Forward Neural Network for The Prediction of Pyrolytic Gas Yield 2022

Salman Raza Naqvi Muhammad Nouman Aslam Khan Nor Aishah Saidina Amin
International Conference on Water, Energy, and Environment for Sustainability (IC-WEES) 2022, res.country(177,)
Citations: N/A
DOI: Nil

Editorial Activities

Bioresource Technology Reviewed Papers for Journals Impact Factor: 9.7	2025
Bioresource Technology Reviewed Papers for Journals Impact Factor: 9.7	2025
Bioresource Technology Reviewed Papers for Journals Impact Factor: 9.7	2025
Biomass Conversion and Biorefinery Reviewed Papers for Journals Impact Factor: 3.5	2025
Journal of Renewable and Sustainable Energy Reviewed Papers for Journals Impact Factor: 1.9	2025
Algal Research Reviewed Papers for Journals Impact Factor: 4.6	2024
International Journal of Environmental Research Reviewed Papers for Journals Impact Factor: 2.6	2024
Bioresource Technology Reviewed Papers for Journals Impact Factor: 9.7	2024
Journal of Energy Storage Reviewed Papers for Journals Impact Factor: 9.4	2024
Automation in Construction Reviewed Papers for Journals Impact Factor: 10.3	2024
Bioresource Technology Reviewed Papers for Journals Impact Factor: 11.4	2024
Renewable Energy Reviewed Papers for Journals Impact Factor: 8.7	2024
Journal of Building Engineering Reviewed Papers for Journals Impact Factor: 6.4	2023
Journal of Environmental Chemical Engineering Reviewed Papers for Journals Impact Factor: 7.7	2023
Bioresource Technology Reviewed Papers for Journals Impact Factor: 11.889	2023
Bioresource Technology Reviewed Papers for Journals Impact Factor: 11.4	2023
Bioresource Technology Reviewed Papers for Journals Impact Factor: 11.889	2022

Trainings

Aging Studies of Energetic Materials (Propellant and Explosive)

2024

Partner: Defense/Strategic Organization

Duration: 15-Jan-2024 to 19-Jan-2024