

Muhammad Ali Khan

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About

Dr. Muhammad Ali Khan is working as Defence Faculty in the College of Electrical & Mechanical Engineering. Dr. Muhammad Ali Khan has a PhD in Design and Manufacturing Engineering. Dr. Muhammad Ali Khan has published 33 research articles & conference papers having a citation count of 450, carried out 0 projects and filed 0 intellectual property.

Qualifications

PhD in Design and Manufacturing Engineering NUST, Islamabad , Pakistan	2017 - 2020
MS in Manufacturing Engineering and Management NUST, Islamabad , Pakistan	2013 - 2016
BS in Mechanical Engineering NUST, Islamabad , Pakistan	2001 - 2005

Experience

Defence Faculty College of Electrical & Mechanical Engineering	2024- Present
Defence Faculty College of Electrical & Mechanical Engineering	2021 - 2021

Research Articles

Trade-off analysis of machinability of steel alloy AISI 304L using Taguchi-grey integrated approach <i>Faisal Abbas Muhammad Ali Khan Muhammad Iftikhar Faraz Syed Husain Imran Jaffery Sohail Akram Jana Petru Refka Ghodhbani Walid M. Shewakh</i> <i>Journal of Materials Research and Technology</i> , Volume 35, Pages 6929-6938 Impact Factor: 6.200 Quartile: 1 DOI: https://doi.org/10.1016/j.jmrt.2025.03.070	2025
Exploring the Weathering and Accelerated Environmental Aging of Wave-Transparent Reinforced Composites <i>Imran Haider Muhammad Ali Khan Shahid Aziz Syed Hussain Imran Jaffery Muhammad Iftikhar Faraz Iftikhar Hussain Gul Dong-Won Jung Taoufik Saidani</i> <i>Walid M. Shewakh</i> <i>Polymers</i> , Volume 17(3), Article Number 357 Impact Factor: 4.700 Quartile: 1 DOI: 10.3390/polym17030357	2025
Achieving sustainable machining of titanium grade 3 alloy through optimization using grey relational analysis (GRA) <i>Adnan Ahmad Muhammad Ali Khan Sohail Akram Muhammad Iftikhar Faraz Syed Husain Imran Jaffery Tahir Iqbal Jana Petru</i> <i>Results in Engineering</i> , Volume 23, Article Number 102355 Impact Factor: 6.000 Quartile: 1 Citations: 19 DOI: 10.1016/j.rineng.2024.102355	2024
Design and development of thermo-electromagnetic system for spinodal decompositions of FeCrCo alloys <i>Ali Haider Muhammad Ali Khan Syed Hussain Imran Jaffery Muhammad Iftikhar Faraz Mohammed Jameel Jana Petru Shaxnoza Saydaxmetova</i> <i>Journal of Materials Research and Technology</i> , Volume 32, Pages 1000-1010 Impact Factor: 6.200 Quartile: 1 DOI: https://doi.org/10.1016/j.jmrt.2024.07.161	2024

<p>Enhanced accuracy with Segmentation of Colorectal Polyp using NanoNetB, and Conditional Random Field Test-Time Augmentation</p> <p><i>Muhammad Sajjad Hussain Umer Asgher Sajid Nisar Vladimir Socha Arslan Shaukat Jinhui Wang Tian Feng Rehan Zafar Paracha Muhammad Ali Khan</i></p> <p><i>Frontiers in Robotics and AI</i> , Volume 11, Article Number 1387491</p> <p>Impact Factor: 2.900 Quartile: 2</p> <p>DOI: https://doi.org/10.3389/frobt.2024.1387491</p>	2024
<p>Environmental aging of reinforced polymer composite radome: reliability and performance investigation</p> <p><i>Imran Haider Iftikhar Hussain Gul Shahid Aziz Muhammad Iftikhar Faraz Muhammad Ali Khan Syed Hussain Imran Jaffery Dong-Won Jung</i></p> <p><i>Frontiers in Materials</i> , Volume: 11, Pages: 13</p> <p>Impact Factor: 2.6 Quartile: 3 Citations: 3</p> <p>DOI: https://doi.org/10.3389/fmats.2024.1427541</p>	2024
<p>Sustainability Assessment of Machining Al 6061-T6 Using Taguchi-Grey Relation Integrated Approach</p> <p><i>Sajid Raza Zaidi Shahid Ikramullah Butt Muhammad Ali Khan Muhammad Iftikhar Faraz Syed Husain Imran Jaffery Jana Petru</i></p> <p><i>Heliyon</i> , Volume: 10, Issue: 13 , ID: e33726</p> <p>Impact Factor: 3.400 Quartile: 1 Citations: 7</p> <p>DOI: 10.1016/j.heliyon.2024.e33726</p>	2024
<p>Effects of machining parameters, ultrasonic vibrations and cooling conditions on cutting forces and tool wear in meso scale ultrasonic vibrations assisted end-milling (UVAEM) of Ti–6Al–4V under dry, flooded, MQL and cryogenic environments – A statistical analysis</p> <p><i>Adil Rauf Muhammad Ali Khan Syed Husain Imran Jaffery Shahid Ikram Ullah Butt</i></p> <p><i>Journal of Materials Research and Technology</i>, Volume 30, Pages 8287-8303</p> <p>Impact Factor: 6.200 Quartile: 1 Citations: 21</p> <p>DOI: https://doi.org/10.1016/j.jmrt.2024.05.202</p>	2024
<p>Parametric Analysis of Tool Wear, Surface Roughness and Energy Consumption During Turning of Inconel 718 under dry, wet and MQL conditions</p> <p><i>M Zeeshan Siddique Muhammad Iftikhar Faraz Shahid Ikram Ullah Butt Rehan Khan Jana Petru Syed Husain Imran Jaffery Muhammad Ali Khan Abdul Malik Tahir</i></p> <p><i>Machines</i> , Volume 11, Issue 11 Article Number 1008</p> <p>Impact Factor: 2.6 Quartile: 2 Citations: 17</p> <p>DOI: https://doi.org/10.3390/machines11111008</p>	2023
<p>Investigation of Dielectric, Mechanical, and Thermal Properties of Epoxy Composites Embedded with Quartz Fibers</p> <p><i>Imran Haider Iftikhar Hussain Gul Muhammad Iftikhar Faraz Shahid Aziz Syed Hussain Imran Jaffery Muhammad Ali Khan Dong-Won Jung</i></p> <p><i>Polymers</i> , Volume 15(20), Article Number 4133</p> <p>Impact Factor: 5.0 Quartile: 1 Citations: 10</p> <p>DOI: https://doi.org/10.3390/polym15204133</p>	2023
<p>Toward clean manufacturing: an analysis and validation of a modified Johnson–Cook material model for low and high-speed orthogonal machining of low-carbon aluminum alloy (Al 6061-T6)</p> <p><i>Sohail Akram Syed Husain Imran Jaffery Zahid Anwar Mushtaq Khan Muhammad Ali Khan</i></p> <p><i>International Journal of Advanced Manufacturing Technology</i>, Pages 1-14</p> <p>Impact Factor: 3.4 Quartile: 2 Citations: 2</p> <p>DOI: 10.1007/s00170-023-12367-0</p>	2023
<p>Multi-Objective Optimization of Micro-Milling Titanium Alloy Ti-3Al-2.5V (Grade 9) using Taguchi-Grey Relation Integrated Approach</p> <p><i>Muhammad Ayyaz Khan Syed Hussain Imran Jaffery Muhammad Ali Khan Sachhal Mufti Muhammad Iftikhar Faraz</i></p> <p><i>Metals</i> , Volume 13, Issue 8, Article Number 1373</p> <p>Impact Factor: 2.9 Quartile: 2 Citations: 8</p> <p>DOI: https://doi.org/10.3390/met13081373</p>	2023
<p>Machinability analysis of Ti-6Al-4V under cryogenic condition</p> <p><i>Muhammad Ali Khan Syed Hussain Imran Jaffery Mushtaq Khan Mansoor Alruqi</i></p> <p><i>Journal of Materials Research and Technology</i>, Volume 25</p> <p>Impact Factor: 6.267 Quartile: 1 Citations: 21</p> <p>DOI: https://doi.org/10.1016/j.jmrt.2023.06.022</p>	2023
<p>Evaluation of specific cutting energy, tool wear, and surface roughness in dry turning of titanium grade 3 alloy</p>	2023

Adnan Ahmad Sohail Akram Syed Husain Imran Jaffery Muhammad Ali Khan
International Journal of Advanced Manufacturing Technology, Volume 127, Pages1263-1274
Impact Factor: 3.563 | **Quartile:** 2 | **Citations:** 12
DOI: <https://doi.org/10.1007/s00170-023-11580-1>

Assessment of sustainability of machining Ti-6Al-4V under cryogenic condition using energy map approach 2023

Muhammad Ali Khan Syed Hussain Imran Jaffery Mushtaq Khan
Engineering Science and Technology, an International Journal, Volume 41, Article Number 101357
Impact Factor: 5.155 | **Quartile:** 1 | **Citations:** 17
DOI: <https://doi.org/10.1016/j.jestch.2023.101357>

Statistical Analysis of Surface Roughness, Burr Formation and Tool Wear in High Speed Micro Milling of Inconel 600 Alloy under Cryogenic, Wet and Dry Conditions 2022

Amjad Baig Syed Husain Imran Jaffery Muhammad Ali Khan Mansoor Alruqi
Micromachines , Volume 14(1), Article Number 13
Impact Factor: 3.523 | **Quartile:** 2 | **Citations:** 21
DOI: [10.3390/mi14010013](https://doi.org/10.3390/mi14010013)

Multi-Objective Optimization of Process Parameters during Micro-Milling of Nickel-Based Alloy Inconel 718 Using Taguchi-Grey Relation Integrated Approach 2022

Muhammad Sheheryar Muhammad Ali Khan Syed Hussain Imran Jaffery Rehan Khan Muhammad Nasir Mansoor Alruqi
Materials , Volume 15, Issue 23, Article Number 8296
Impact Factor: 3.748 | **Quartile:** 1 | **Citations:** 18
DOI: <https://doi.org/10.3390/ma15238296>

Statistical Analysis of Machining Parameters on Burr Formation, Surface Roughness and Energy Consumption during Milling of Aluminium Alloy Al 6061-T6 2022

Najam ul Qadir Sajid Raza Zaidi Syed Hussain Imran Jaffery Muhammad Ali Khan Mushtaq Khan Jana Petru
Materials , Volume 15(22), Article Number 8065
Impact Factor: 3.748 | **Quartile:** 1 | **Citations:** 15
DOI: [10.3390/ma15228065](https://doi.org/10.3390/ma15228065)

A Comprehensive Review on Investigation of Sediment Erosion of Pelton Wheel Turbine 2022

Sati Ullah Muhammad Rehan Khan Tariq Talha Muhammad Nasir Muhammad Ali Khan Aurang Zaib
Pakistan Journal of Engineering and Technology, Volume 5, Number 2, Pages 152-162
Impact Factor: 0
DOI: <https://doi.org/10.51846/vol5iss2pp152-162>

Effect of Ni and Co nanoparticle-doped flux on microstructure of SAC305 solder matrix 2022

Muhammad Nasir A.S.M.A .Haseeb Saif Wakeel Muhammad Ali Khan M. M. Quazi Niaz Bahadur Khan Arslan Ahmed Manzoore Elahi M. Soudagar
Journal of Materials Science: Materials in Electronics, Volume 33, Issue 25, Pages 20106-20120
Impact Factor: 2.8 | **Quartile:** 2 | **Citations:** 16
DOI: <https://doi.org/10.1007/s10854-022-08827-0>

Performance Prediction of Erosive Wear of Steel for Two-Phase Flow in an Inverse U-Bend 2022

Saifur Rahman Muhammad Rehan Khan Usama Muhammad Niazi Stanislaw Legutko Muhammad Ali Khan Bilal Anjum Jana Petru Jiří Hajnýš Muhammad Irfan
Materials , Volume 15(16), Article Number 5558
Impact Factor: 3.748 | **Quartile:** 1 | **Citations:** 7
DOI: <https://doi.org/10.3390/ma15165558>

Comparative analysis of tool wear progression of dry and cryogenic turning of titanium alloy Ti-6Al-4V under low, moderate and high tool wear conditions 2022

Muhammad Ali Khan Syed Hussain Imran Jaffery Aamer Ahmed Baqai Mushtaq Khan
International Journal of Advanced Manufacturing Technology, Volume:121, Issue:1-2, Page:1269-1287
Impact Factor: 3.226 | **Quartile:** 2 | **Citations:** 20
DOI: <https://doi.org/10.1007/s00170-022-09196-y>

Numerical and experimental investigation of the effect of process parameters on sheet deformation during the electromagnetic forming of AA6061-T6 alloy 2020

Mushtaq Khan Syed Hussain Imran Jaffery Zarak Khan Muhammad Younas Kamran S. Afaq Muhammad Ali Khan
Mechanical Sciences , Volume 11, Pages 329–347
Impact Factor: 1.086 | **Quartile:** 4 | **Citations:** 9
DOI: <https://doi.org/10.5194/ms-11-329-2020>

Multi-objective optimization of turning titanium-based alloy Ti-6Al-4V under dry, wet, and cryogenic conditions using gray relational analysis (GRA) <i>Syed Husain Imran Jaffery Muhammad Younas Shahid I Butt Riaz Ahmad Muhammad Ali Khan Mushtaq Khan Salman Sagheer Warsi</i> <i>The International Journal of Advanced Manufacturing Technology</i> , Volume 106, Issue 7-8, Pages 3897-3911 Impact Factor: 3.226 Quartile: 2 Citations: 77 DOI: 10.1007/s00170-019-04913-6	2020
Statistical analysis of energy consumption, tool wear and surface roughness in machining of Titanium alloy (Ti-6Al-4V) under dry, wet and cryogenic conditions <i>Muhammad Ali Khan Syed Husain Imran Jaffery Mushtaq Khan Muhammad Younas Shahid Ikramullah Butt Riaz Ahmad Salman Sagheer Warsi</i> <i>Mechanical Sciences</i> , Volume 10, Pages 561-573 Impact Factor: 1.015 Quartile: 4 Citations: 46 DOI: 10.5194/ms-10-561-2019	2019
Multi-objective optimization for sustainable turning Ti6Al4V alloy using grey relational analysis (GRA) based on analytic hierarchy process (AHP) <i>Muhammad Younas Syed Husain Imran Jaffery Mushtaq Khan Muhammad Ali Khan Riaz Ahmad Aamir Mubashar Liaqat Ali</i> <i>International Journal of Advanced Manufacturing Technology</i> , Volume 105, Issue 1-4, Pages 1175-1188 Impact Factor: 2.633 Quartile: 2 Citations: 84 DOI: https://doi.org/10.1007/s00170-019-04299-5	2019
Conference Proceedings	
Numerical Study of Gas-Sand Two-Phase Flow Erosion in a Standard 90° Elbow † <i>Nauman Khan Muhammad Rehan Khan Sati Ullah Tariq Talha Muhammad Ali Khan Zubair Sajid</i> <i>Third International Conference on Advances in Mechanical Engineering 2023 (ICAME-23), Islamabad, Pakistan,, res.country(177,)</i> Citations: N/A DOI: 10.3390/engproc2023045028	2023
Erosion of pipe bends for multiphase flow: An Overview <i>Muhammad Abdullah Muhammad Rehan Khan Uzair Khaleeq uz Zaman Bilal Anjum Muhammad Ali Khan Abdur Rehman Mazhar</i> <i>2023 6th International Conference on Energy Conservation and Efficiency (ICECE), res.country(177,)</i> Citations: N/A DOI: 10.1109/ICECE58062.2023.10092492	2023
Surface analysis of conversion coating of ASTM A 516 <i>Muhammad Ali Khan Aqueel Shah Adeel Yusuf Salman Nisar</i> <i>11th International Conference on Through-life Engineering Services – TESConf2022, res.country(231,)</i> Citations: N/A DOI: https://dspace.lib.cranfield.ac.uk/handle/1826/18680	2022
Specific cutting energy analysis of turning Ti-6Al-4V under dry, wet and cryogenic conditions <i>Muhammad Ali Khan Syed Hussain Imran Jaffery Aamer Ahmed Baqai Mushtaq Khan</i> <i>11th International Conference on Through-life Engineering Services – TESConf2022, res.country(231,)</i> Citations: N/A DOI: https://dspace.lib.cranfield.ac.uk/handle/1826/18659	2022
Sustainability Analysis of Turning Aerospace Alloy Ti-6Al-4V under Dry, Wet and Cryogenic Conditions <i>Muhammad Ali Khan Syed Hussain Imran Jaffery Mushtaq Khan Riaz Ahmad</i> <i>2020 IEEE 11th International Conference on Mechanical and Intelligent Manufacturing Technologies, ICMIMT 2020, res.country(247,)</i> Citations: N/A DOI: 10.1109/ICMIMT49010.2020.9041160	2020
Analysis of surface treatment of ASTM A516 Grade 70 using Salt spray method <i>Muhammad Ali Khan Aqueel Shah Syed Hussain Imran Jaffery Mushtaq Khan</i> <i>IOP Conference Series: Materials Science and Engineering</i> , res.country(233,) Citations: N/A DOI: 10.1088/1757-899X/689/1/012008	2019
Wear and surface roughness analysis of machining of Ti-6Al4V under dry, wet and cryogenic conditions <i>Muhammad Ali Khan Syed Hussain Imran Jaffery Mushtaq Khan Shahid Ikramullah Butt</i> <i>2019 6th International Conference on Mechanical, Materials and Manufacturing</i> , res.country(233,) Citations: N/A DOI: 10.1088/1757-899X/689/1/012006	2019