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 2017 - 2020
NUST, Islamabad , Pakistan

MS in Manufacturing Engineering and Management 2013 - 2016
NUST, Islamabad , Pakistan

BS in Mechanical Engineering 2001 - 2005
NUST, Islamabad , Pakistan

Experience

Defence Faculty 2024- Present
College of Electrical & Mechanical Engineering

Defence Faculty 2021 - 2021
College of Electrical & Mechanical Engineering

Research Articles

Trade-off analysis of machinability of steel alloy AISI 304L using Taguchi-grey integrated approach 2025
Faisal Abbas Muhammad Ali Khan Muhammad Iftikhar Faraz Syed Husain Imran Jaffery Sohail Akram Jana Petru Refka Ghodhbani Walid M. Shewakh
Journal of Materials Research and Technology, Volume 35, Pages 6929-6938
Impact Factor: 6.200 | **Quartile:** 1
DOI: https://doi.org/10.1016/j.jmrt.2025.03.070

Exploring the Weathering and Accelerated Environmental Aging of Wave-Transparent Reinforced Composites 2025
Imran Haider Muhammad Ali Khan Shahid Aziz Syed Hussain Imran Jaffery Muhammad Iftikhar Faraz Iftikhar Hussain Gul Dong-Won Jung Taoufik Saidani Walid M. Shewakh
Polymers , Volume 17(3), Article Number 357
Impact Factor: 4.700 | **Quartile:** 1
DOI: 10.3390/polym17030357

Achieving sustainable machining of titanium grade 3 alloy through optimization using grey relational analysis (GRA) 2024
Adnan Ahmad Muhammad Ali Khan Sohail Akram Muhammad Iftikhar Faraz Syed Husain Imran Jaffery Tahir Iqbal Jana Petru
Results in Engineering, Volume 23, Article Number 102355
Impact Factor: 6.000 | **Quartile:** 1 | **Citations:** 19
DOI: 10.1016/j.rineng.2024.102355

Design and development of thermo-electromagnetic system for spinodal decompositions of FeCrCo alloys 2024
Ali Haider Muhammad Ali Khan Syed Hussain Imran Jaffery Muhammad Iftikhar Faraz Mohammed Jameel Jana Petru Shaxnoza Saydaxmetova
Journal of Materials Research and Technology, Volume 32, Pages 1000-1010
Impact Factor: 6.200 | **Quartile:** 1
DOI: https://doi.org/10.1016/j.jmrt.2024.07.161

Enhanced accuracy with Segmentation of Colorectal Polyp using NanoNetB, and Conditional Random Field Test-Time Augmentation 2024

Muhammad Sajjad Hussain Umer Asgher Sajid Nisar Vladimir Socha Arslan Shaukat Jinhui Wang Tian Feng Rehan Zafar Paracha Muhammad Ali Khan

Frontiers in Robotics and AI , Volume 11, Article Number 1387491

Impact Factor: 2.900 | **Quartile:** 2

DOI: https://doi.org/10.3389/frobt.2024.1387491

Environmental aging of reinforced polymer composite radome: reliability and performance investigation 2024

Imran Haider iftikhar Hussain Gul Shahid Aziz Muhammad Iftikhar Faraz Muhammad Ali Khan Syed Hussain Imran Jaffery Dong-Won Jung

Frontiers in Materials , Volume: 11, Pages: 13

Impact Factor: 2.6 | **Quartile:** 3 | **Citations:** 3

DOI: https://doi.org/10.3389/fmats.2024.1427541

Sustainability Assessment of Machining Al 6061-T6 Using Taguchi-Grey Relation Integrated Approach 2024

Sajid Raza Zaidi Shahid Ikramullah Butt Muhammad Ali Khan Muhammad Iftikhar Faraz Syed Husain Imran Jaffery Jana Petru

Heliyon , Volume: 10, Issue: 13 , ID: e33726

Impact Factor: 3.400 | **Quartile:** 1 | **Citations:** 7

DOI: 10.1016/j.heliyon.2024.e33726

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 2024

Adil Rauf Muhammad Ali Khan Syed Husain Imran Jaffery Shahid Ikram Ullah Butt

Journal of Materials Research and Technology, Volume 30, Pages 8287-8303

Impact Factor: 6.200 | **Quartile:** 1 | **Citations:** 21

DOI: https://doi.org/10.1016/j.jmrt.2024.05.202

Parametric Analysis of Tool Wear, Surface Roughness and Energy Consumption During Turning of Inconel 718 under dry, wet and MQL conditions 2023

M Zeeshan Siddique Muhammad Iftikhar Faraz Shahid Ikram Ullah Butt Rehan Khan Jana Petru Syed Husain Imran Jaffery Muhammad Ali Khan Abdul Malik Tahir

Machines , Volume 11, Issue 11 Article Number 1008

Impact Factor: 2.6 | **Quartile:** 2 | **Citations:** 17

DOI: https://doi.org/10.3390/machines11111008

Investigation of Dielectric, Mechanical, and Thermal Properties of Epoxy Composites Embedded with Quartz Fibers 2023

Imran Haider Iftikhar Hussain Gul Muhammad Iftikhar Faraz Shahid Aziz Syed Hussain Imran Jaffery Muhammad Ali Khan Dong-Won Jung

Polymers , Volume 15(20), Article Number 4133

Impact Factor: 5.0 | **Quartile:** 1 | **Citations:** 10

DOI: https://doi.org/10.3390/polym15204133

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) 2023

Sohail Akram Syed Husain Imran Jaffery Zahid Anwar Mushtaq Khan Muhammad Ali Khan

International Journal of Advanced Manufacturing Technology, Pages 1-14

Impact Factor: 3.4 | **Quartile:** 2 | **Citations:** 2

DOI: 10.1007/s00170-023-12367-0

Multi-Objective Optimization of Micro-Milling Titanium Alloy Ti-3Al-2.5V (Grade 9) using Taguchi-Grey Relation Integrated Approach 2023

Muhammad Ayyaz Khan Syed Hussain Imran Jaffery Muhammad Ali Khan Sachhal Mufti Muhammad Iftikhar Faraz

Metals , Volume 13, Issue 8, Article Number 1373

Impact Factor: 2.9 | **Quartile:** 2 | **Citations:** 8

DOI: https://doi.org/10.3390/met13081373

Machinability analysis of Ti-6Al-4V under cryogenic condition 2023

Muhammad Ali Khan Syed Hussain Imran Jaffery Mushtaq Khan Mansoor Alruqi

Journal of Materials Research and Technology, Volume 25

Impact Factor: 6.267 | **Quartile:** 1 | **Citations:** 21

DOI: https://doi.org/10.1016/j.jmrt.2023.06.022

Evaluation of specific cutting energy, tool wear, and surface roughness in dry turning of titanium grade 3 alloy 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

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

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 Hajnyš 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) 2020

Syed Husain Imran Jaffery Muhammad Younas Shahid I Butt Riaz Ahmad Muhammad Ali Khan Mushtaq Khan Salman Sagheer Warsi

The International Journal of Advanced Manufacturing Technology, Volume 106, Issue 7-8, Pages 3897-3911

Impact Factor: 3.226 | **Quartile:** 2 | **Citations:** 77

DOI: 10.1007/s00170-019-04913-6

Statistical analysis of energy consumption, tool wear and surface roughness in machining of Titanium alloy (Ti-6Al-4V) under dry, wet and cryogenic conditions 2019

Muhammad Ali Khan Syed Husain Imran Jaffery Mushtaq Khan Muhammad Younas Shahid Ikramullah Butt Riaz Ahmad Salman Sagheer Warsi

Mechanical Sciences , Volume 10, Pages 561-573

Impact Factor: 1.015 | **Quartile:** 4 | **Citations:** 46

DOI: 10.5194/ms-10-561-2019

Multi-objective optimization for sustainable turning Ti6Al4V alloy using grey relational analysis (GRA) based on analytic hierarchy process (AHP) 2019

Muhammad Younas Syed Husain Imran Jaffery Mushtaq Khan Muhammad Ali Khan Riaz Ahmad Aamir Mubashar Liaqat Ali

International Journal of Advanced Manufacturing Technology, 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

Conference Proceedings

Numerical Study of Gas-Sand Two-Phase Flow Erosion in a Standard 90◦ Elbow † 2023

Nauman Khan Muhammad Rehan Khan Sati Ullah Tariq Talha Muhammad Ali Khan Zubair Sajid

Third International Conference on Advances in Mechanical Engineering 2023 (ICAME-23), Islamabad, Pakistan,, res.country(177,)

Citations: N/A

DOI: 10.3390/engproc2023045028

Erosion of pipe bends for multiphase flow: An Overview 2023

Muhammad Abdullah Muhammad Rehan Khan Uzair Khaleeq uz Zaman Bilal Anjum Muhammad Ali Khan Abdur Rehman Mazhar

2023 6th International Conference on Energy Conservation and Efficiency (ICECE), res.country(177,)

Citations: N/A

DOI: 10.1109/ICECE58062.2023.10092492

Surface analysis of conversion coating of ASTM A 516 2022

Muhammad Ali Khan Aqueel Shah Adeel Yusuf Salman Nisar

11th International Conference on Through-life Engineering Services – TESConf2022, res.country(231,)

Citations: N/A

DOI: https://dspace.lib.cranfield.ac.uk/handle/1826/18680

Specific cutting energy analysis of turning Ti-6Al-4V under dry, wet and cryogenic conditions 2022

Muhammad Ali Khan Syed Hussain Imran Jaffery Aamer Ahmed Baqai Mushtaq Khan

11th International Conference on Through-life Engineering Services – TESConf2022, res.country(231,)

Citations: N/A

DOI: https://dspace.lib.cranfield.ac.uk/handle/1826/18659

Sustainability Analysis of Turning Aerospace Alloy Ti-6Al-4V under Dry, Wet and Cryogenic Conditions 2020

Muhammad Ali Khan Syed Hussain Imran Jaffery Mushtaq Khan Riaz Ahmad

2020 IEEE 11th International Conference on Mechanical and Intelligent Manufacturing Technologies, ICMIMT 2020, res.country(247,)

Citations: N/A

DOI: 10.1109/ICMIMT49010.2020.9041160

Analysis of surface treatment of ASTM A516 Grade 70 using Salt spray method 2019

Muhammad Ali Khan Aqueel Shah Syed Hussain Imran Jaffery Mushtaq Khan

IOP Conference Series: Materials Science and Engineering, res.country(233,)

Citations: N/A

DOI: 10.1088/1757-899X/689/1/012008

Wear and surface roughness analysis of machining of Ti-6Al4V under dry, wet and cryogenic conditions 2019

Muhammad Ali Khan Syed Hussain Imran Jaffery Mushtaq Khan Shahid Ikramullah Butt

2019 6th International Conference on Mechanical, Materials and Manufacturing, res.country(233,)

Citations: N/A

DOI: 10.1088/1757-899X/689/1/012006