

# Imtiaz Hussain Kalwar

Assistant Professor

Pakistan Navy Engineering College

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## About

Dr. Imtiaz Hussain Kalwar is working as Assistant Professor in the Pakistan Navy Engineering College. Dr. Imtiaz Hussain Kalwar has a PhD in Vehicle Systems Dynamics And Control. Dr. Imtiaz Hussain Kalwar has published 43 research articles & conference papers having a citation count of 185, carried out 0 projects and filed 0 intellectual property.

## Qualifications

<b>PhD in Vehicle Systems Dynamics And Control</b> University of Salford , United Kingdom	2008 - 2012
<b>Post Grad Diploma in Telecom and Control</b> Mehran University of Engineering & Technology , Pakistan	2005 - 2006
<b>BE in Electronic</b> Mehran University of Engineering & Technology , Pakistan	2000 - 2004

## Experience

<b>Assistant Professor</b> Pakistan Navy Engineering College	2024- Present
<b>Assistant Professor</b> Pakistan Navy Engineering College	2021 - 2021
<b>Director QEC</b> DHA Suffa University , DHA Suffa University, Karachi	2019 - 2021
<b>HOD Electrical Engineering</b> DHA Suffa University , DHA Suffa University, Karachi	2018 - 2020
<b>Associate Professor</b> Department of Electrical Engineering, DHA Suffa University, , Department of Electrical Engineering, DHA Suffa University, Karachi	2017 - 2021
<b>Co-Director Institute of Information &amp; Communication Technologies</b> Mehran University of Engineering & Technology , Mehran University of Engineering & Technology, Jamshoro	2017 - 2017
<b>In charge HOD Department of Electronic Engineering</b> Mehran University of Engineering & Technology , Mehran University of Engineering & Technology, Jamshoro	2015 - 2015
<b>Associate Professor</b> Mehran University of Engineering & Technology (MUET)y , , Mehran University of Engineering & Technology (MUET), Jamshoro	2015 - 2017
<b>Assistant Professor</b> Mehran University of Engineering & Technology (MUET) , Mehran University of Engineering & Technology (MUET)Jamshoro	2012 - 2015
<b>Lecturer</b> Mehran University of Engineering & Technology (MUET) , Mehran University of Engineering & Technology (MUET), Jamshoro	2009 - 2012
<b>Lab-Lecturer</b> Mehran University of Engineering & Technology (MUET) , Mehran University of Engineering & Technology (MUET), Jamshoro	2004 - 2009

## Research Articles

<b>Hot wire thermopool cutting using CNC machine</b> <i>Shahzor Memon Imtiaz Hussain Abdul Hameed Memon Muhammad Shakir Halar Mustafa Sadiq ur Rehman</i> Mehran University Research Journal of Engineering and Technology, Volume 42(4), Pages 19-27 Impact Factor: 0.600   Quartile: 3	2023
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- DOI:** <https://doi.org/10.22581/muet1982.2304.2658>
- Deeplearning-based fault detection in railway wheelsets using time series analysis** 2023  
*Khurram Shaikh Imtiaz Hussain Bhawani Shankar Chowdhry*  
*Mehran University Research Journal of Engineering and Technology*, Volume 42(3), Pages 154-159  
**Impact Factor:** 0.6 | **Quartile:** 3  
**DOI:** <https://doi.org/10.22581/muet1982.2303.15>
- Embedded System Development for Detection of Railway Track Surface Deformation Using Contour Feature Algorithm** 2023  
*Tarique Rafique Memon Tayab Din Memon Imtiaz Hussain Bhawani Shankar Chowdhry*  
*Computers, Materials and Continua*, Volume 75(2), Article Number 2461-2477  
**Impact Factor:** 3.860 | **Quartile:** 2 | **Citations:** 4  
**DOI:** <https://doi.org/10.32604/cmc.2023.035413>
- FPGA Implementation of Extended Kalman Filter for Parameters Estimation of Railway Wheelset** 2022  
*Khakoo Mal Tayab Din Memon Imtiaz Hussain Bhawani Shankar Chowdhry*  
*Computers, Materials and Continua*, Volume 74(2), Pages 3351-3370  
**Impact Factor:** 3.860 | **Quartile:** 2 | **Citations:** 5  
**DOI:** [10.32604/cmc.2023.032940](https://doi.org/10.32604/cmc.2023.032940)
- Fault Detection and Identification Using Deep Learning Algorithms in Induction Motors** 2022  
*Majid Hussain Tayab Din Memon Imtiaz Hussain Zubair Ahmed Memon Dileep Kumar Soother*  
*Computer Modeling in Engineering & Sciences*, Vol.133, No.2,  
**Impact Factor:** 2.027 | **Quartile:** 2 | **Citations:** 25  
**DOI:** [10.32604/cmcs.2022.020583](https://doi.org/10.32604/cmcs.2022.020583)
- Modern Condition Monitoring Systems for Railway Wheel set Dynamics: Performance Analysis and Limitations of Existing Techniques** 2022  
*Khakoo Mal Imtiaz Hussain Tayab Din Memon Dileep Kumar Soother Bhawani Shankar Chowdhry*  
*Sir Syed University Research Journal of Engineering and Technology*, Volume 12, No. 1, Pages 31-41  
**Impact Factor:** N/A  
**DOI:** <https://doi.org/10.33317/ssurj.419>
- Model Based Indirect Conicity Estimation Technique for Solid Axle Railway Wheelset** 2021  
*Erum Saba Imtiaz Hussain Mukhtiar Ali Unar*  
*Mehran University Research Journal of Engineering and Technology*, Volume 40, No. 4, Pages 753-760  
**Impact Factor:** 0  
**DOI:** <http://dx.doi.org/10.22581/muet1982.2104.06>
- Fuzzy Logic-Based Identification of Railway Wheelset Conicity Using Multiple Model Approach** 2021  
*Erum Saba Imtiaz Hussain Kalwar Mukhtiar Ali Unar Abdul Latif Memon Nasrullah Pirzada*  
*Sustainability*, Volume 13(18), Article Number 10249  
**Impact Factor:** 3.251 | **Quartile:** 2 | **Citations:** 6  
**DOI:** <https://doi.org/10.3390/su131810249>
- Stator winding fault detection and classification in three-phase induction motor** 2021  
*Imtiaz Hussain Majid Hussain Dileep Kumar Soother Tayab Din Memon Zubair Ahmed Memon Kashif Nisar Bhawani Shankar Chowdhry*  
*Intelligent Automation & Soft Computing*, Volume 29, No.3, Pages 869-883  
**Impact Factor:** 1.647 | **Quartile:** 3 | **Citations:** 24  
**DOI:** [10.32604/iasc.2021.017790](https://doi.org/10.32604/iasc.2021.017790)
- A novel method based on UNET for bearing fault diagnosis** 2021  
*Imtiaz Hussain Dileep Kumar Soother Tanweer Hussain Bhawani Shankar Chowdhry Sanaullah Mehran Ujjan Tayab Din Memon*  
*CMC-Computers, Materials & Continua*, Volume 69, No.1, Pages 393-408  
**Impact Factor:** 3.772 | **Quartile:** 2 | **Citations:** 12  
**DOI:** [10.32604/cmc.2021.014941](https://doi.org/10.32604/cmc.2021.014941)
- The Importance of Feature Processing in Deep-Learning-Based Condition Monitoring of Motors** 2021  
*Dileep Kumar Soother Jawaid Daudpoto Nicholas R. Harris Majid Hussain Sanaullah Mehran Imtiaz Hussain Tayab Din Memon*  
*Mathematical Problems in Engineering*, Volume 2021, Article ID 9927151, 23 pages  
**Impact Factor:** 1.430 | **Quartile:** 3 | **Citations:** 17  
**DOI:** <https://doi.org/10.1155/2021/9927151>
- A New Estimation of Nonlinear Contact Forces of Railway Vehicle** 2021  
*Imtiaz Hussain Kalwar Khakoo Mal Khurram Shaikh Tayab Din Memon Bhawani Shankar Chowdhry Kashif Nisar Manoj Gupta*

*Intelligent Automation and Soft Computing*, Volume 28, No.3, Pages 823-841

**Impact Factor:** 1.647 | **Quartile:** 3 | **Citations:** 10

**DOI:** 10.32604/iasc.2021.016990

**Signal Based Indirect Wheel Profile Estimation Technique for Solid Axle Railway Wheelset** 2021

*Khurram Shaikh Imtiaz Hussain Khakoo Mal Bhawani Shankar Chowdhry*

*Mehran University Research Journal of Engineering and Technology*, Volume 40, No. 2, Pages 443-449

**Impact Factor:** 0

**DOI:** <http://dx.doi.org/10.22581/muet1982.2102.18>

**Multiple faults detection and identification of three phase induction motor using advanced signal processing techniques** 2020

*Majid Hussain Rana Rizwan Ahmed Imtiaz Hussain Tayab Din Memon*

*3C Tecnología*, Pages 93-117

**Impact Factor:** N/A

**DOI:** <https://doi.org/10.17993/3ctecno.2020.specialissue6.93-117>

**Indirect Identification of Varying Conicity Levels of Wheel Tread Using Convolutional Neural Networks** 2020

*Khuram Shaikh Sanaullah Mehran Ujjan Imtiaz Hussain Bhawani Shankar Chowdhry*

*International Journal of Advanced Science and Technology*, Volume 29, No. 7, Pages 2537-2547

**Impact Factor:** N/A

**DOI:** <http://sersc.org/journals/index.php/IJAST/article/view/18026>

**Extended Kalman filter for estimation of contact forces at wheel-rail interface** 2020

*Khakoo Mal Imtiaz Hussain Bhawani Shankar Chowdhry Tayab Din Memon*

*3C Tecnología. Glosas de innovación aplicadas a la pyme*, Pages 279-301

**Impact Factor:** N/A

**DOI:** <http://doi.org/10.17993/3ctecno.2020.specialissue5.279-301>

**Fuzzy Logic based Anti-Slip Control of Commuter Train with FPGA Implementation** 2020

*Fozia Hajano Farzana Rauf Abro Tayab Din Memon Imtiaz Hussain Burhan Aslam Arain*

*International Journal of Advanced Computer Science and Applications*, Volume 11, No. 4, Pages 293-300

**Impact Factor:** N/A | **Citations:** 2

**DOI:** <http://dx.doi.org/10.14569/IJACSA.2020.0110440>

**Adhesion level identification in wheel-rail contact using deep neural networks** 2020

*Sanaullah Mehran Ujjan Imtiaz Hussain Bhawani Shankar Chowdhry Tayab Din Memon Dileep Kumar Soother*

*3C Tecnología*, Volume 2020, Pages 217-231

**Impact Factor:** N/A

**DOI:** <http://doi.org/10.17993/3ctecno.2020.specialissue5.217-231>

**Real Time Identification of Railway Track Surface Faults using Canny Edge Detector and 2D Discrete Wavelet Transform** 2020

*Ali Akbar Shah Bhawani S. Chowdhry Tayab D. Memon Imtiaz Hussain J. Andrew Ware*

*Annals of Emerging Technologies in Computing*, Volume 4, No. 2, Pages 53-60

**Impact Factor:** N/A

**DOI:** <http://aetic.theiaer.org/archive/v4/v4n2/p5.html>

**Design and Analysis of Single-Bit Ternary Matched Filter** 2019

*Abeer Chang Tayab Din Memon Zahir M. Hussain Bhawani Shankar Chowdhry Imtiaz Hussain Kalwar*

*Wireless Personal Communications*, Volume 106, Pages 1915-1929

**Impact Factor:** 1.061 | **Quartile:** 4 | **Citations:** 4

**DOI:** <https://doi.org/10.1007/s11277-018-5729-y>

**FPGA based on-line fault diagnostic of induction motors using electrical signature analysis** 2019

*E. Karim Tayab Din Memon Imtiaz Hussain*

*International Journal of Information Technology*, Volume 11, Pages 165-169

**Impact Factor:** N/A | **Citations:** 15

**DOI:** 10.1007/s41870-018-0238-5

**FPGA based Synthesize of PSO Algorithm and its Area-Performance Analysis** 2018

*Bharat Lal Harijan Farrukh Shaikh Burhan Aslam Arain Tayab Din Memon Imtiaz Hussain*

*International Journal of Advanced Computer Science and Applications*, Volume 9(6), Pages 270-275

**Impact Factor:** N/A | **Citations:** 3

**DOI:** 10.14569/IJACSA.2018.090639

<p><b>Time domain System Identification of Longitudinal Dynamics of Single Rotor Model Helicopter using SIDPAC</b></p> <p><i>Arbab Nighat Khizer Imtiaz Hussain Wanod Kumar</i>  <i>Mehran University Research Journal of Engineering and Technology</i>, Volume 34, No.1, Pages 75-81</p> <p><b>Impact Factor:</b> 0  <b>DOI:</b> <a href="http://publications.muet.edu.pk/article_detail_abstract.php?p_id=1012">http://publications.muet.edu.pk/article_detail_abstract.php?p_id=1012</a></p>	2015
<p><b>Introducing Dual Suspension System in Road Vehicles</b></p> <p><i>Imtiaz Hussain Jawaid Daudpoto Ali Asghar</i>  <i>Mehran University Research Journal of Engineering and Technology</i>, Volume 32, No. 2, Pages 239-244</p> <p><b>Impact Factor:</b> 0  <b>DOI:</b> <a href="http://publications.muet.edu.pk/article_detail_abstract.php?p_id=763">http://publications.muet.edu.pk/article_detail_abstract.php?p_id=763</a></p>	2013
<p><b>Modeling of Static Characteristics of Switched Reluctance Motor</b></p> <p><i>Ali Asghar Memon Imtiaz Hussain Jawaid Daudpoto</i>  <i>Mehran University Research Journal of Engineering and Technology</i>, Volume 32, No. 1, Pages 141-146</p> <p><b>Impact Factor:</b> N/A  <b>DOI:</b> <a href="http://publications.muet.edu.pk/article_detail_abstract.php?p_id=744">http://publications.muet.edu.pk/article_detail_abstract.php?p_id=744</a></p>	2013
<p><b>Estimation of wheel–rail contact conditions and adhesion using the multiple model approach</b></p> <p><i>Imtiaz Hussain Kalwar T.X. Mei R.T. Ritchings</i>  <i>Vehicle System Dynamics</i> , Volume 51, No.1, Pages 32–53</p> <p><b>Impact Factor:</b> 0.872   <b>Quartile:</b> 3   <b>Citations:</b> 46  <b>DOI:</b> <a href="https://doi.org/10.1080/00423114.2012.708759">https://doi.org/10.1080/00423114.2012.708759</a></p>	2013
<p><b>Identification of Wheel-Rail Contact Condition Using Multi- Kalman Filtering Approach</b></p> <p><i>Imtiaz Hussain Ali Asghar Memon Bhawani Shankar Chowdhry</i>  <i>Mehran University Research Journal of Engineering and Technology</i>, Volume 31, No. 4, Pages 799-806</p> <p><b>Impact Factor:</b> N/A  <b>DOI:</b> <a href="http://publications.muet.edu.pk/article_detail_abstract.php?p_id=714">http://publications.muet.edu.pk/article_detail_abstract.php?p_id=714</a></p>	2012
<p><b>Conference Proceedings</b></p> <hr/>	
<p><b>Railway Track Joints and Fasteners Fault Detection using Principal Component Analysis</b></p> <p><i>Muhammad Owais Imtiaz Hussain Gul Shahzad Bilal Muhammad Khan</i>  <i>2023 International Conference on Robotics and Automation in Industry (ICRAI)</i>, res.country(177,)</p> <p><b>Citations:</b> N/A  <b>DOI:</b> 10.1109/ICRAI57502.2023.10089579</p>	2023
<p><b>Unsupervised detection of rail surface defects and rail-head anomalies using Auto-encoder</b></p> <p><i>Anas Bin Iftikhar Muhammad Zakir Shaikh Sanaullah Mehran Tanweer Hussain Imtiaz Hussain Bhawani Shankar Chowdhry</i>  <i>2022 Global Conference on Wireless and Optical Technologies (GCWOT)</i>, res.country(68,)</p> <p><b>Citations:</b> N/A  <b>DOI:</b> 10.1109/GCWOT53057.2022.9772891</p>	2022
<p><b>Design and Development of IoT Based Aeroponics Growbox</b></p> <p><i>Maaz Ahmed Aliza Farrukh Meshal Iqbal Ayesha Jameel Shah Imtiaz Hussain Asad Kamran</i>  <i>2021 International Conference on Computing, Electronic and Electrical Engineering (ICE Cube)</i>, res.country(177,)</p> <p><b>Citations:</b> N/A  <b>DOI:</b> 10.1109/ICECube53880.2021.9628248</p>	2021
<p><b>Development of Specialized IoT Cloud Platform for Railway Track Condition Monitoring</b></p> <p><i>Tarique Rafique Memon Tayab Din Memon Bhawani Shankar Chowdhry Imtiaz Hussain Khakoo Mal</i>  <i>International Conference on Robotics and Automation in Industry (ICRAI)</i>, res.country(177,)</p> <p><b>Citations:</b> N/A  <b>DOI:</b> 10.1109/ICRAI54018.2021.9651411</p>	2021
<p><b>Health Monitoring of Three-Phase Induction Motor Using Current and Vibration Signature Analysis</b></p> <p><i>Muhammad Sarfraz Moiz Shazaib Shamim Muhammad Abdullah Hamdan Khan Imtiaz Hussain Anas Bin Iftikhar Tayab Din Memon</i>  <i>2019 International Conference on Robotics and Automation in Industry (ICRAI)</i>, res.country(177,)</p> <p><b>Citations:</b> N/A  <b>DOI:</b> 10.1109/ICRAI47710.2019.8967356</p>	2019
<p><b>Development of predictive maintenance strategy for minimizing the operational disruptions in wind turbines</b></p>	2018

- Shoukat Ali Chandar Kumar Imtiaz Hussain Shubash Kumar*  
 2018 International Conference on Computing, Mathematics and Engineering Technologies (iCoMET), res.country(177,)  
**Citations:** N/A  
**DOI:** 10.1109/ICOMET.2018.8346392
- Design and simulation of anti-lock braking system based on electromagnetic damping phenomena** 2017  
*Irfanullah khan Imtiaz Hussain M. Zaigham Abbas Shah*  
 International Conference on Latest trends in Electrical Engineering and Computing Technologies (INTELLECT), res.country(177,)  
**Citations:** N/A  
**DOI:** 10.1109/INTELLECT42085.2017
- Design and analysis of linear phase FIR filter in FPGA using PSO algorithm** 2017  
*Fazia Shaikh Imtiaz Hussain Tayab Din Memon Shoaib Sheikh*  
 2017 6th Mediterranean Conference on Embedded Computing (MECO), res.country(139,)  
**Citations:** N/A  
**DOI:** 10.1109/MECO.2017.7977216
- SWL Algorithms Optimization Using Alternative Adder Module in FPGA** 2017  
*Tayab D. Memon Shaji Farooq Baig Marvi Deshi Imtiaz Hussain*  
 2017 6th Mediterranean Conference on Embedded Computing (MECO) , res.country(139,)  
**Citations:** N/A  
**DOI:** 10.1109/MECO.2017.7977125
- FPGA based performance analysis of multiplier policies for FIR filter** 2016  
*Aneela Pathan Tayab Din Memon Sharmeen Keerio Imtiaz Hussain*  
 2016 International Conference on Advances in Electrical, Electronic and Systems Engineering (ICAEES), res.country(157,)  
**Citations:** N/A  
**DOI:** 10.1109/ICAEES.2016.7888001
- Prototype for localization of multiple fire detecting mobile robots in a dynamic environment** 2016  
*Sanobar Farheen Memon Imtiaz Hussain Ian Grout Elfed Lewis Yasmeen Naz Panhwar*  
 2016 3rd International Conference on Computing for Sustainable Global Development (INDIACom), res.country(104,)  
**Citations:** N/A  
**DOI:** Nil
- Assessment of Fault Tolerance for Actively Controlled Railway Wheelset** 2012  
*Mohammad Mirzapour T X Mei Imtiaz Hussain*  
 2012 UKACC International Conference on Control, res.country(231,)  
**Citations:** N/A  
**DOI:** 10.1109/CONTROL.2012.6334703
- Real Time Estimation of the Wheel-Rail Contact Conditions using Multi-Kalman Filtering and Fuzzy Logic** 2012  
*Imtiaz Hussain T X Mei M. Mirzapour*  
 International Conference on Control 2012, res.country(231,)  
**Citations:** N/A  
**DOI:** 10.1109/CONTROL.2012.6334713
- Multi Kalman filtering approach for estimation of wheel-rail contact conditions** 2010  
*Imtiaz Hussain T X Mei*  
 UKACC International Conference on Control 2010 , res.country(231,)  
**Citations:** N/A  
**DOI:** 10.1049/ic.2010.0326
- Detection of wheel-rail conditions for improved traction control** 2010  
*T X Mei Imtiaz Hussain*  
 IET Conference on Railway Traction Systems (RTS 2010), res.country(231,)  
**Citations:** N/A  
**DOI:** 10.1049/ic.2010.0036

## Editorial Activities

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### Journal of Vibration and Control

2023

Reviewed Papers for Journals

**Impact Factor:** 2.63

2022

Reviewed Papers for Journals

**Impact Factor:** N/A