

# Tariq Mairaj

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## About

Dr. Tariq Mairaj is working as Defence Faculty in the Pakistan Navy Engineering College. Dr. Tariq Mairaj has published 31 research articles & conference papers having a citation count of 222, carried out 5 projects and filed 0 intellectual property.

## Qualifications

## Experience

<b>Defence Faculty</b> Pakistan Navy Engineering College	2022- Present
<b>Defence Faculty</b> Pakistan Navy Engineering College	2012 - 2022

## Research Projects

### National Projects

<b>Algorithm Development &amp; Improved RF Front end for Global Navigation Satellite System's (GNSS) Signals Augmentation</b> Funding Agency: M/s TRAMIC, PAK Amount: PKR 44,227,000.00 Status: Approved_inprocess	2023
<b>Prediction of Remaining Useful Life (RUL) of Aerial Bundled Cables (ABC) in Coastal Areas</b> Funding Agency: IGNITE Amount: PKR 9,392,460.00 Status: Approved_inprocess	2017
<b>Prototype Development of Electronic Gas Flow Meter</b> Funding Agency: NUST Amount: PKR 300,000.00 Status: Approved_inprocess	2019
<b>Development of Flaw Diagnosis / Dimensioning /Prognostics Algorithms for the Improvement of In-country Aerospace nondestructive Testing (NTD) Capabilities</b> Funding Agency: IGNITE Amount: PKR 10,000,000.00 Status: Completed	2013
<b>Structural Health Monitoring of Bridge Structures using Wireless Sensor Networks</b> Funding Agency: HEC Amount: PKR 7,465,000.00 Status: Completed	2015

### International Projects

## Research Articles

<b>Particle Filter-Based Fault Prognosis of Live XLPE Insulated Aerial Bundled Cables Installed at Coastal Regions Using Historical Infrared Thermography Data</b> Moez Ul Hassan Tariq Mairaj Waleed Bin Yousuf Syed Aqueel shah Journal of Nondestructive Evaluation, Volume 44, Article Number 23 Impact Factor: 2.600   Quartile: 2 DOI: <a href="https://doi.org/10.1007/s10921-024-01152-y">https://doi.org/10.1007/s10921-024-01152-y</a>	2025
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<b>Degradation prognostics of aerial bundled cables based on multi-sensor data fusion</b> Moez Ul Hassan Tariq Mairaj Taimoor Zafar Waleed Bin Yousuf Syed Aqueel shah <i>Nondestructive Testing and Evaluation</i> , Pages:19 <b>Impact Factor:</b> 2.6   <b>Quartile:</b> 2   <b>Citations:</b> 6 <b>DOI:</b> 10.1080/10589759.2024.2323703	2024
<b>Low profile high gain RHCP antenna for L-Band and S-Band using rectangular ring metasurface with backlobe suppression</b> Bilal Muhammad Khan Tariq Mairj Sundas Farooq Khan <i>Plos One</i> , Volume 19(2), Article Number e0297957 <b>Impact Factor:</b> 2.9   <b>Quartile:</b> 1   <b>Citations:</b> 3 <b>DOI:</b> 10.1371/journal.pone.0297957	2024
<b>Remaining Useful Life Prediction of Aerial Bundled Cables in Coastal Areas Using Thermal and Corrosion Degradation Models</b> Waleed Bin Yousuf Tariq Mairaj Khan Syed Muhammad Talha Tariq Moez Ul Hassan Syed Aqueel shah <i>IEEE Transactions on Power Delivery</i> , Volume: 37, Issue: 4, Page(s): 2543-2550 <b>Impact Factor:</b> 4.131   <b>Quartile:</b> 1   <b>Citations:</b> 10 <b>DOI:</b> 10.1109/TPWRD.2021.3112081	2022
<b>A phase-shifterless experimental scheme for power combination of two magnetrons utilizing a single RF power amplifier</b> Muhammad Atayyab Shahid Tariq Mairaj Muhammad Qamar-Ul-Hassan Muhammad Waseem Khaliq Syed Wahab Zarin Muhammad Mubashar Ashraf <i>Microwave and Optical Technology Letters</i> , Volume 64, Issue 7, Pages 1192-1196 <b>Impact Factor:</b> 1.311   <b>Quartile:</b> 4   <b>Citations:</b> 2 <b>DOI:</b> <a href="https://doi.org/10.1002/mop.33269">https://doi.org/10.1002/mop.33269</a>	2022
<b>Radiomics Based Bayesian Inversion Method for Prediction of Cancer and Pathological Stage</b> Hina Shakir Tariq Mairaj Haroon Rasheed Yiming Deng <i>IEEE Journal of Translational Engineering in Health and Medicine</i> , Volume 9, Article Number 4300208 <b>Impact Factor:</b> 2.890   <b>Quartile:</b> 3   <b>Citations:</b> 8 <b>DOI:</b> 10.1109/JTEHM.2021.3108390	2021
<b>Degradation Rate Prediction of Bridges Using Historical Vibration Data</b> Syed Humair Ali Tariq Mairaj Muhammad Atayyab Shahid Waleed bin Yousuf <i>Journal of Testing and Evaluation</i> , Volume 50, Issue 1, Pages 1-17 <b>Impact Factor:</b> 1.333   <b>Quartile:</b> 3   <b>Citations:</b> 1 <b>DOI:</b> 10.1520/JTE20200666	2021
<b>Evaluation of Heat Treatment Effect on the Tensile Strength of Mild Steel Welded Joints Using Ultrasonic Testing</b> Syed Aqueel shah Abid Shah Ghazanfar Ali Tariq Mairaj Rasool Khan Muhammad Imran Salman Nisar <i>Russian Journal of Nondestructive Testing</i> , Volume 57, No. 6, Pages 455-464 <b>Impact Factor:</b> 0.674   <b>Quartile:</b> 4   <b>Citations:</b> 3 <b>DOI:</b> <a href="https://doi.org/10.1134/S1061830921060024">https://doi.org/10.1134/S1061830921060024</a>	2021
<b>Assessment and Characterization of Welded Mild Steel (E-6013) Using Ultrasonic Testing and Hilbert Huang Transform</b> M. Ghazanfar Ali Muhammad Imran Salman Nisar Abid Shah Ayesha Khalid Tariq Mairaj Rasool Khan Syed Aqueel shah <i>Russian Journal of Nondestructive Testing</i> , Volume 57, No. 5, Pages 401-407 <b>Impact Factor:</b> 0.674   <b>Quartile:</b> 4   <b>Citations:</b> 3 <b>DOI:</b> 10.1134/S106183092105003X	2021
<b>Degradation assessment of in-service aerial bundled cables in coastal areas leading to prognosis using infrared thermography</b> Moez ul Hassan Syed Talha Tariq Tariq Mairaj Sumayya Abbas Muhammad Atayyab Shahid Faisal Amir <i>IET Generation, Transmission and Distribution</i> , Volume 15, Issue 8, Pages 1348-1356 <b>Impact Factor:</b> 2.503   <b>Quartile:</b> 3   <b>Citations:</b> 6 <b>DOI:</b> 10.1049/gtd2.12106	2021
<b>Aero structure damage growth prediction using age-based state transition models.</b> Waleed Bin Yousuf Tariq Mairaj Rasool Khan Syed Aqueel shah Waleed Bin Yousuf <i>Engineering Failure Analysis</i> , Volume 122, Article Number 105186 <b>Impact Factor:</b> 3.634   <b>Quartile:</b> 2   <b>Citations:</b> 5 <b>DOI:</b> <a href="https://doi.org/10.1016/j.engfailanal.2020.105186">https://doi.org/10.1016/j.engfailanal.2020.105186</a>	2021

<b>Novel FBP based sparse-view CT reconstruction scheme using self-shaping spatial filter based morphological operations and scaled reprojections</b> <i>Tariq Mairaj Syed Muhammad Umar Talha Waleed Bin Yousuf</i> <i>Biomedical Signal Processing and Control</i> , Volume 64, Article Number 102323 <b>Impact Factor:</b> 5.076   <b>Quartile:</b> 2   <b>Citations:</b> 2 <b>DOI:</b> <a href="https://doi.org/10.1016/j.bspc.2020.102323">https://doi.org/10.1016/j.bspc.2020.102323</a>	2021
<b>Region-Based Segmentation and Wiener Pilot-Based Novel Amoeba Denoising Scheme for CT Imaging</b> <i>Syed Muhammad Umar Talha Tariq Mairaj Rasool Khan Waleed Bin Yousuf Jawwad Ali Zahed Syed Muhammad Umar Talha Waleed Bin Yousuf Jawwad Ali Zahed</i> <i>Scanning</i> , Volume 2020, Article ID 6172046, 12 pages <b>Impact Factor:</b> 1.932   <b>Quartile:</b> 3   <b>Citations:</b> 4 <b>DOI:</b> <a href="https://doi.org/10.1155/2020/6172046">https://doi.org/10.1155/2020/6172046</a>	2020
<b>Prognosis study of live aerial bundled cables in coastal areas using historical super-heterodyne ultrasonic listening data</b> <i>Tariq Mairaj Rasool Khan Taimoor Zafar Anzar Alam Waleed Bin Yousuf Muhammad Atayyab Shahid Fuzail Hashmi</i> <i>Electrical Power Systems Research</i> , Volume 189, Article Number 106591 <b>Impact Factor:</b> 3.414   <b>Quartile:</b> 2   <b>Citations:</b> 6 <b>DOI:</b> <a href="https://doi.org/10.1016/j.epsr.2020.106591">https://doi.org/10.1016/j.epsr.2020.106591</a>	2020
<b>Novel Multifrequency Eddy Current NDT Signal Inversion Scheme for Aerostructures</b> <i>Omer Zia Siddiqui Tariq Mairaj Rasool Khan</i> <i>Journal of Testing and Evaluation</i> , Volume 48, Issue 4, <b>Impact Factor:</b> 1.264   <b>Quartile:</b> 3   <b>Citations:</b> 1 <b>DOI:</b> <a href="https://doi.org/10.1520/JTE20170289">https://doi.org/10.1520/JTE20170289</a>	2020
<b>Radiomic feature selection for lung cancer classifiers</b> <i>Tariq Mairaj Rasool Khan Hina Shakir Haroon Rasheed</i> <i>Journal of Intelligent &amp; Fuzzy Systems</i> , Volume 39, Issue 10, Pages 5847-5855 <b>Impact Factor:</b> 0   <b>Citations:</b> 9 <b>DOI:</b> 10.3233/JIFS-179672	2020
<b>Novel Health Diagnostics schemes analyzing corona discharge of operational Aerial Bundled Cables in coastal regions</b> <i>Muhammad Atayyab Shahid Tariq Mairaj Rasool Khan Taimoor Zafar Fuzail Hashmi Faisal Amir</i> <i>IEEE Transactions on Power Delivery</i> , 1-1 <b>Impact Factor:</b> 4.131   <b>Quartile:</b> 1   <b>Citations:</b> 11 <b>DOI:</b> 10.1109/TPWRD.2020.2974751	2020
<b>Radiomics based likelihood functions for cancer diagnosis</b> <i>Hina Shakir Yiming Deng Haroon Rasheed Tariq Mairaj Rasool Khan Hina Shakir Yiming Deng Haroon Rasheed</i> <i>Scientific Reports</i> , Volume 9, Article Number 9501 <b>Impact Factor:</b> 3.998   <b>Quartile:</b> 1   <b>Citations:</b> 27 <b>DOI:</b> DOI: 10.1038/s41598-019-45053-x	2019
<b>Auxiliary Particle Filter-Based Multisensor Data Fusion for Quantification of Corrosion in Aerostructures</b> <i>Syed Taufeeq Ahmad Tariq Mairaj Rasool Khan Waleed Bin Yousuf</i> <i>Journal of Testing and Evaluation</i> , Volume 49, <b>Impact Factor:</b> 0.877   <b>Quartile:</b> 4   <b>Citations:</b> 4 <b>DOI:</b> <a href="https://doi.org/10.1520/JTE20180705">https://doi.org/10.1520/JTE20180705</a>	2019
<b>Wireless Sensor Network-Based Structural Health Monitoring of Bridges Using Advanced Signal Processing Techniques</b> <i>Syed Humair Ali Tariq Mairaj Rasool Khan Murad Abdullah Muhammad Zaid</i> <i>Journal of Testing and Evaluation</i> , - <b>Impact Factor:</b> 0.877   <b>Quartile:</b> 4   <b>Citations:</b> 5 <b>DOI:</b> 10.1520/JTE20180849	2019
<b>Comparison of different life distribution schemes for prediction of crack propagation in an aircraft wing</b> <i>Moez-ul-Hassan Fabiha Danish Waleed Bin Yousuf Tariq Mairaj Rasool Khan</i> <i>Engineering Failure Analysis</i> , Volume 96, Pages 241-254 <b>Impact Factor:</b> 2.203   <b>Quartile:</b> 2   <b>Citations:</b> 15 <b>DOI:</b> <a href="https://doi.org/10.1016/j.engfailanal.2018.10.010">https://doi.org/10.1016/j.engfailanal.2018.10.010</a>	2019

<b>Postweld Heat Treatment Characterization of Mild Steel (E6013) Welded Areas Using Wavelet Transform of Ultrasonic Testing Signals</b> <i>Saeed Khalid Tariq Mairaj Rasool Khan Amna Maqsood Saad A. Warraich</i> <i>Journal of Testing and Evaluation</i> , Volume:46, Issue:5, Pages: 2274-2280 <b>Impact Factor:</b> 0.711   <b>Quartile:</b> 4   <b>Citations:</b> 3 <b>DOI:</b> DOI:10.1520/JTE20160315	2018
<b>3-D segmentation of lung nodules using hybrid level sets</b> <i>Hina Shakir Tariq Mairaj Rasool Khan Haroon Rasheed</i> <i>Computers in Biology and Medicine</i> , Vol.96, Pages 214-226 <b>Impact Factor:</b> 2.286   <b>Quartile:</b> 2   <b>Citations:</b> 20 <b>DOI:</b> doi:10.1016/j.combiomed.2018.03.015	2018
<b>Effect of carbon fiber winding layer on torsional characteristics of filament wound composite shafts</b> <i>Mateen Tariq Salman Nisar Syed Aqueel shah Tariq Mairaj Sohaib Akbar Muhammad Ali Khan Sohaib Zia Khan</i> <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , NULL <b>Impact Factor:</b> 1.743   <b>Quartile:</b> 3   <b>Citations:</b> 15 <b>DOI:</b> https://link.springer.com/article/10.1007/s40430-018-1099-3	2018
<b>Determinants of Overhauling Failures: Evidence from OEM Intensive Maritime Capital Projects</b> <i>Muhammad Imran Nadeem Kureshi Tariq Mairaj Salman Nisar Syed Aqueel shah</i> <i>Industrial Engineering &amp; Management</i> , Volume 7, Issue 3, Pages 1-8 <b>Impact Factor:</b> 0 <b>DOI:</b> 10.4172/2169-0316.1000260	2018
<b>Practical Implementation and Analytical Evaluation of Ad-hoc Networking Projects to Build a MANET based Collaborative System</b> <i>Ashfaq Ahmad Malik Athar Mahboob Tariq Mairaj Rasool Khan</i> <i>Ad-Hoc and Sensor Wireless Networks</i> , Vol. 38, Issue 1-4, Pages 227-261 <b>Impact Factor:</b> 0.753   <b>Quartile:</b> 4 <b>DOI:</b> -	2017
<b>Response of Gaussian-modulated guided wave in aluminum: An analytical, numerical, and experimental study</b> <i>Sohaib Zia Khan Muhammad Ali Khan Muhammad Tariq Kamran A Khan Tariq Mairaj Rasool Khan Taha Ali</i> <i>Proceedings of the Institution of Mechanical Engineers Part C-Journal of Mechanical Engineering Science</i> , Volume: 231, Issue: 16, Pages: 3057-3065, Special Issue: SI <b>Impact Factor:</b> 0.996   <b>Quartile:</b> 4   <b>Citations:</b> 5 <b>DOI:</b> DOI:10.1177/0954406216681594	2017
<b>Prognostic Algorithms for Flaw Growth Prediction in an Aircraft Wing</b> <i>Waleed Bin Yousuf Tariq Mairaj Rasool Khan Taha Ali</i> <i>IEEE Transactions on Reliability</i> , Volume: 66, Issue: 2, Pages: 478-486 <b>Impact Factor:</b> 2.79   <b>Quartile:</b> 1   <b>Citations:</b> 25 <b>DOI:</b> DOI:10.1109/TR.2017.2676722	2017
<b>Assessment of material properties of AISI 316L stainless steel using non-destructive testing</b> <i>Sohaib Zia Khan Tariq M. Khan Yasir F. Joya Muhammad A. Khan Sarah Ahmed Syed Aqueel shah Sohaib Zia Khan Yasir F. Joya Muhammad A. Khan Sarah Ahmed</i> <i>Nondestructive Testing and Evaluation</i> , Volume 31. Issue 4. Pages 360-370 <b>Impact Factor:</b> 0.804   <b>Quartile:</b> 3   <b>Citations:</b> 23 <b>DOI:</b> 10.1080/10589759.2015.1121265	2016
<b>Evaluation of OLSR Protocol Implementations using Analytical Hierarchical Process (AHP)</b> <i>Ashfaq Ahmad Malik Tariq Mairaj Rasool Khan Athar Mahboob</i> <i>International Journal of Advanced Computer Science and Applications</i> , Volume: 7, Issue:11, Pages 338-344 <b>Impact Factor:</b> - <b>DOI:</b> -	2016

Feasibility Study of Circularly Polarized, Low Profile, Metasurface enhanced Antenna Array for SATCOM

2024

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