

## Bilal Muhammad Khan

Associate Professor

Pakistan Navy Engineering College

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### About

Dr. Bilal Muhammad Khan is working as Associate Professor in the Pakistan Navy Engineering College. Dr. Bilal Muhammad Khan has a PhD in Wireless Networks. Dr. Bilal Muhammad Khan has published 59 research articles & conference papers having a citation count of 403, carried out 15 projects and filed 4 intellectual property.

### Qualifications

<b>PhD in Wireless Networks</b> University of Sussex , United Kingdom	2007 - 2011
<b>MS in Telecommunication</b> Sir Syed UET , Pakistan	2002 - 2006
<b>BS in electronic</b> Sir Syed UET , Pakistan	1998 - 2002

### Experience

<b>Associate Professor</b> Pakistan Navy Engineering College	2022- Present
<b>Assistant Professor</b> Pakistan Navy Engineering College	2013 - 2022
<b>Assistant Professor</b> Pakistan Navy Engineering College	2013 - 2013
<b>Teaching Fellow</b> University of Sussex , University of Sussex Brighton Falmer UK	2012 - 2012
<b>Tutor Engineering and Computer</b> International Study Centre (ISC), University of Sussex , University of Sussex UK	2012 - 2013
<b>Sessional Lecturer Electronics</b> City College Brighton and Hove, UK , City College Brighton and Hove UK	2011 - 2012
<b>Associate Tutor</b> University of Sussex ,UK , University of Sussex UK	2008 - 2013
<b>Assistant Professor</b> Sir Syed University of Engineering and Technology , Sir Syed University of Engineering and Technology	2002 - 2007

Awards

<b>Best Teacher Award</b> In recognition of delivering outstanding teaching and making a significant impact on student’s critical thinking and problem solving skills for the year 2020	2021
<b>Best Researcher Award</b> For State of the art research work in the field of Intelligent Systems and Flying Adhoc Networks	2021
<b>Best TECHER</b>	2020
<b>Best Innovator</b> For Designing Formula Electric Racing Car; Pakistan's First Electric Car	2017
<b>NUST High Achiever</b> For achieveing Best Paper Award	2017
<b>NUST High Achiever</b> For Representing Pakistan in Formula Electric SAE; Lincoln Nebraska	2017
<b>Best Researcher Award</b> For Outstanding Research and Development in the field of Next Generation Networks for the year 2016	2017
<b>Best Paper Award</b> Best Papeer Award in SCONEST 2016	2016
<b>Best Innovator Award</b> Awarded for Designing and Developing Pakistan’s First Formula Electric Racing Car (FERN) in the year 2015	2016
<b>Gold Medal</b> Securing Overall First Position in Undergraduet Program at Sir Syed University of Engineering and Technology	2002
<b>Best Researcher</b> Nominated for Best Researcher Awarded 2016 ; Yet to be recieved in Convocation of Fall 2017	
<b>Tamgha-e-Imtiaz</b> Nominated for Tamgha-e-Imtiaz from PNEC on desiging Formula Electric Racing CAR and representing NUST and Pakistan for the first time in Lincoln Nebraska USA	

Professional Memberships

PEC	Since 2002
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Research Projects

<b>National Projects</b>	
<b>Design and Development of Prototype for Hybrid Driver Safety and Monitoring System using Artifical</b> <b>Funding Agency:</b> National Grassroots ICT Research Initiative (NGIRI) 2024-24 <b>Amount:</b> PKR 64,307.00 <b>Status:</b> Completed	2024
<b>Lot Based Refrigerator Monitoring System</b> <b>Funding Agency:</b> National Grassroots ICT Research Initiative (NGIRI) 2024-24 <b>Amount:</b> PKR 86,195.00 <b>Status:</b> Completed	2025
<b>Battery Management System (BMS) Development and Testing</b> <b>Funding Agency:</b> PPL <b>Amount:</b> PKR 800,000.00 <b>Status:</b> Approved_inprocess	2025
<b>Vehicle Control Systems and Embedded Electronics Integration</b> <b>Funding Agency:</b> PCI Automotive <b>Amount:</b> PKR 1,000,000.00 <b>Status:</b> Approved_inprocess	2025
<b>Design and Development of Autonomous multi-terrain Environment Vehicle</b> <b>Funding Agency:</b> Samsung <b>Amount:</b> PKR 400,000.00 <b>Status:</b> Approved_inprocess	2024

<b>Formula Electric Racing NUST (FERN)</b> <b>Funding Agency:</b> PSO <b>Amount:</b> PKR 1,900,000.00 <b>Status:</b> Approved_inprocess	2022
<b>Design and Prototyping of High Energy Density Electrical Machine for Gearbox Free Powertrain of Electric Vehicle</b> <b>Funding Agency:</b> HEC <b>Amount:</b> PKR 10,143,000.00 <b>Status:</b> Approved_inprocess	2022
<b>Autonomous Firefighting Drone</b> <b>Funding Agency:</b> IGNITE <b>Amount:</b> PKR N/A <b>Status:</b> Completed	2021
<b>Design and Development of Electric Racing Car</b> <b>Funding Agency:</b> HV Systems <b>Amount:</b> PKR 1,000,000.00 <b>Status:</b> Approved_inprocess	2022
<b>Design and Development of 3 x Liter Sprayer Systems for Drones</b> <b>Funding Agency:</b> SUPARCO <b>Amount:</b> PKR 300,000.00 <b>Status:</b> Completed	2022
<b>Design and Development of Formula Style Electric Racing Car</b> <b>Funding Agency:</b> FSAE UK competition <b>Amount:</b> PKR 1,000,000.00 <b>Status:</b> Approved_inprocess	2021
<b>Development of Advanced Metering Infrastructure and Customer Side Systems</b> <b>Funding Agency:</b> USAID <b>Amount:</b> PKR 2,892,000.00 <b>Status:</b> Completed	2017

### International Projects

<b>Design and Development of Autonomous Electric Vehicle Power Train</b> <b>Funding Agency:</b> TESLA International <b>Amount:</b> PKR 1,500,000.00 <b>Status:</b> Approved_inprocess	2022
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## Industry Projects

### National Projects

<b>AI-based Electrical Relay Placement and Fault Diagnosis</b> <b>Client:</b> Indus Motors <b>Amount:</b> PKR 800,000.00 <b>Status:</b> Approved_inprocess	2024
<b>Automated Visual Inspection System using Image Processing for Detection of Refrigerator Accessories</b> <b>Client:</b> Private Industry <b>Amount:</b> PKR 1,860,000.00 <b>Status:</b> Approved_inprocess	2021

### International Projects

## Research Articles

<b>Pilot Allocation in Multi-Cell MIMO Systems Based on Missing Data Imputation</b> <i>Bushra Shaikh Pere Garau Burguera Hanan Al-Tous Bilal Muhammad Khan Markku Juntti Olav Tirkkonen</i> <i>IEEE Access</i> , Volume:13, Page:123764-123782 <b>Impact Factor:</b> 3.600   <b>Quartile:</b> 2 <b>DOI:</b> 10.1109/ACCESS.2025.3586582	2025
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<b>Offline Reinforcement Learning Based Optimal Backoff Policy Selection for WSNs Using DQN: A Data-Driven Approach for Coexistence Management in the Unlicensed Spectrum</b> <i>Ayesha Hasan Bilal Muhammad Khan</i> <i>IEEE Internet of Things Journal</i> , Volume: 12, Issue: 14, Pages 28975-28985 <b>Impact Factor: 8.900   Quartile: 1</b> <b>DOI: 10.1109/JIOT.2025.3567886</b>	2025
<b>Advancing Energy Integration: Renewable Sources, Ancillary Services, and Stability</b> <i>Asif Gulraiz Sajjad Zaidi Bilal Muhammad Khan</i> <i>PLoS One</i> , Volume: 20(6), Article Number: e0324812, Pages:49 <b>Impact Factor: 2.900   Quartile: 1</b> <b>DOI: <a href="https://doi.org/10.1371/journal.pone.0324812">https://doi.org/10.1371/journal.pone.0324812</a></b>	2025
<b>Area-Time Efficient Pipelined Number Theoretic Transform for CRYSTALS-Kyber</b> <i>Ayesha Waris Bilal Muhammad Khan Arshad Aziz</i> <i>PLOS ONE</i> , Volume 20(5), Article Number e0323224 <b>Impact Factor: 2.900   Quartile: 1</b> <b>DOI: <a href="https://doi.org/10.1371/journal.pone.0323224">https://doi.org/10.1371/journal.pone.0323224</a></b>	2025
<b>Optimization of Satellite-based Communication Links</b> <i>Bilal Muhammad Khan Muhammad Raheel</i> <i>PLoS One</i> , Volume: 20(4), Article Number:e0315388, Pages: 26 <b>Impact Factor: 2.9   Quartile: 1</b> <b>DOI: <a href="https://doi.org/10.1371/journal.pone.0315388">https://doi.org/10.1371/journal.pone.0315388</a></b>	2025
<b>Model predictive controller based design for energy optimization of the hybrid shipboard microgrids</b> <i>Farooq Alam Sajjad Zaidi Arsalan Rehmat Bilal Muhammad Khan</i> <i>Ocean Engineering</i> , Volume 323, Article Number 120545 <b>Impact Factor: 4.600   Quartile: 1   Citations: 1</b> <b>DOI: <a href="https://doi.org/10.1016/j.oceaneng.2025.120545">https://doi.org/10.1016/j.oceaneng.2025.120545</a></b>	2025
<b>A cost-effective load side management solution based on power line carrier communication i-PLCC</b> <i>Maria Ashraf Abdul Rafay Khan Sajjad Zaidi Asif Gulraiz Bilal Muhammad Khan</i> <i>PLoS ONE</i> , Volume: 19(11), Article Number: e0311313, Pages:22 <b>Impact Factor: 2.900   Quartile: 1   Citations: 1</b> <b>DOI: 10.1371/journal.pone.0311313</b>	2024
<b>Elderly care and health monitoring using smart healthcare technology: An improved routing scheme for wireless body area networks</b> <i>Muhammad Hassan Tom Kelsey Bilal Muhammad Khan</i> <i>IET Wireless Sensor Systems</i> , Pages 1-9 <b>Impact Factor: 1.500   Quartile: 3   Citations: 1</b> <b>DOI: <a href="https://doi.org/10.1049/wss2.12097">https://doi.org/10.1049/wss2.12097</a></b>	2024
<b>Performance enhancement of short-term wind speed forecasting model using Realtime data</b> <i>Maria Ashraf Bushra Raza Maryam Arshad Bilal Muhammad Khan Sajjad Zaidi</i> <i>PLoS One</i> , Volume 19(5), Article Number e0302664 <b>Impact Factor: 2.9   Quartile: 1   Citations: 2</b> <b>DOI: 10.1371/journal.pone.0302664</b>	2024
<b>Low profile high gain RHCP antenna for L-Band and S-Band using rectangular ring metasurface with backlobe suppression</b> <i>Bilal Muhammad Khan Tariq Mairj Sundas Farooq Khan</i> <i>Plos One</i> , Volume 19(2), Article Number e0297957 <b>Impact Factor: 2.9   Quartile: 1   Citations: 3</b> <b>DOI: 10.1371/journal.pone.0297957</b>	2024
<b>Seamless Connections: Harnessing Machine Learning for MAC Optimization in Home Area Networks</b> <i>Bilal Muhammad Khan Muhammad Bilal Kadri</i> <i>Electronics</i> , Volume 12(19), Article Number 4082 <b>Impact Factor: 2.9   Quartile: 2   Citations: 1</b> <b>DOI: <a href="https://doi.org/10.3390/electronics12194082">doi.org/10.3390/electronics12194082</a></b>	2023
<b>Optimal designing of grid-connected microgrid systems for residential and commercial applications in Pakistan</b>	2023

<p><i>Syeda Sakina Zaidi Sajjad Zaidi Bilal Muhammad Khan Lubna Moin</i>  <i>Heliyon</i> , Volume 9, Issue 7, Article Number e17990</p> <p><b>Impact Factor:</b> 3.400   <b>Quartile:</b> 1   <b>Citations:</b> 10  <b>DOI:</b> doi.org/10.1016/j.heliyon.2023.e17990</p>		
<p><b>Design and implementation of a peer-to-peer energy trading scheme in multi-microgrid network with photovoltaics and wind energy</b></p> <p><i>Syed Sajjad Haider Zaidi Bilal Muhammad Khan Muhammad Ehjaz Muhammad Iqbal</i>  <i>Journal of Energy Systems</i> , Volume 7, Issue 2, Pages 158-172</p> <p><b>Impact Factor:</b> N/A   <b>Citations:</b> 4  <b>DOI:</b> doi.org/10.30521/jes.1042333</p>		2023
<p><b>Deep learning aided wireless interference identification for coexistence management in the ISM bands</b></p> <p><i>Bilal Muhammad Khan Ayesha Hasan</i>  <i>Wireless Networks</i> , Pages 1-21</p> <p><b>Impact Factor:</b> 3.0   <b>Quartile:</b> 2   <b>Citations:</b> 5  <b>DOI:</b> doi.org/10.1007/s11276-023-03389-3</p>		2023
<p><b>Performance Analysis of Raspberry Pi 3 IP PBX Based on Asterisk</b></p> <p><i>Bilal Muhammad Khan Syed Muhammad Fahad Rabia Bilal Ali Hanzala Khan</i>  <i>Electronics</i> , Volume 11(20), Article Number 3313</p> <p><b>Impact Factor:</b> 2.690   <b>Quartile:</b> 3   <b>Citations:</b> 4  <b>DOI:</b> 10.3390/electronics11203313</p>		2022
<p><b>Coexistence Management in Wireless Networks- A survey</b></p> <p><i>Ayesha Hasan Bilal Muhammad Khan</i>  <i>IEEE Access</i> , Volume 10, Pages 38600-38624</p> <p><b>Impact Factor:</b> 3.367   <b>Quartile:</b> 2   <b>Citations:</b> 10  <b>DOI:</b> 10.1109/ACCESS.2022.3165223</p>		2022
<p><b>Seismic Facies Segmentation Using Ensemble of Convolutional Neural Networks</b></p> <p><i>Bilal Muhammad Khan Bilal Abid Butt Rashida Ali Memon</i>  <i>Wireless Communications and Mobile Computing</i> , Volume 2022, Article ID 7762543, 13 pages</p> <p><b>Impact Factor:</b> 2.336   <b>Quartile:</b> 3   <b>Citations:</b> 16  <b>DOI:</b> https://doi.org/10.1155/2022/7762543</p>		2022
<p><b>A Novel Scheme for P2P Energy Trading Considering Energy Congestion in Microgrid</b></p> <p><i>Muhammad Ehjaz Muhammad Iqbal Sajjad Haider Zaidi Bilal Muhammad Khan</i>  <i>IEEE Access</i> , Volume 9, Pages 147649-147664</p> <p><b>Impact Factor:</b> 3.367   <b>Quartile:</b> 2   <b>Citations:</b> 10  <b>DOI:</b> 10.1109/ACCESS.2021.3124792</p>		2021
<p><b>Design and Implementation of a Robust Convolutional Neural Network-Based Traffic Matrix Estimator for Cloud Networks</b></p> <p><i>Sameer H. Qazi Bilal Muhammad Khan Rashida Ali Memon</i>  <i>Wireless Communications and Mobile Computing</i> , Volume 2021, Article ID 1039613, 11 pages</p> <p><b>Impact Factor:</b> 2.146   <b>Quartile:</b> 3   <b>Citations:</b> 10  <b>DOI:</b> 10.1155/2021/1039613</p>		2021
<p><b>Adaptive just-noticeable difference profile for image hashing</b></p> <p><i>Bilal Muhammad Khan Muhammad Farhan Khan Syed Muhammad Monir Imran Naseem</i>  <i>Computers &amp; Electrical Engineering</i> , Volume 90, Article Number 106967</p> <p><b>Impact Factor:</b> 4.152   <b>Quartile:</b> 2   <b>Citations:</b> 3  <b>DOI:</b> https://doi.org/10.1016/j.compeleceng.2020.106967</p>		2021
<p><b>Multibillion packet lookup for next generation networks</b></p> <p><i>Bilal Muhammad Khan Muhammad Fahad Rabia Bilal Rupert C.D. Young Cory Beard Syed Sajjad Haider Zaidi</i>  <i>Computers &amp; Electrical Engineering</i> , Volume 84, Article Number 106612</p> <p><b>Impact Factor:</b> 3.818   <b>Quartile:</b> 2   <b>Citations:</b> 1  <b>DOI:</b> https://doi.org/10.1016/j.compeleceng.2020.106612</p>		2020
<p><b>Fuzzy-TOPSIS based Cluster Head selection in mobile wireless sensor networks</b></p> <p><i>Bilal Muhammad Khan Rabia Bilal Rupert Young</i>  <i>Journal of Electrical Systems and Information Technology</i> , Journal of EleVolume 5, Issue 3, Pages 928-943</p> <p><b>Impact Factor:</b> -</p>		2018

DOI: 10.1016/j.jesit.2016.12.004

**Adhoc Protocol to Enhance Wireless Network Performance**

2017

Bilal Muhammad Khan Rabia Bilal

*International Journal of Applied Engineering Research*, Volume 12, Number 12, Pages 3270-3274

**Impact Factor:** 0

**DOI:** -

**A feasibility study of wireless Sussex MK4 system for electrical impedance mammography**

2017

Rabia Bilal Bilal Muhammad Khan Rupert Young Chris Chatwin

*International Journal of Applied Engineering Research*, ISSN:0973-4562, Vol.12 (12), Pages 3275-3281, 2017, NULL

**Impact Factor:** 0

**XLICI Protocol for High QoS in Industrial Wireless Network**

2017

Humaira Abdul Salam Bilal Muhammad Khan

*Wireless Personal Communications*, Volume 95, Issue 3, Pages 3057-3075

**Impact Factor:** 1.2 | **Quartile:** 4 | **Citations:** 1

**DOI:** <https://doi.org/10.1007/s11277-017-3984-y>

**Analysis of Mobility Models and Routing Schemes for Flying Ad-Hoc Networks (FANETS)**

2017

Rabia Bilal Muhammad Khan

*International Journal of Applied Engineering Research*, NULL

**Impact Factor:** 0

**DOI:** <https://www.semanticscholar.org/paper/Analysis-of-Mobility-Models-and-Routing-Schemes-for-Bilal-Khan/5301bb6053617f659d55ca8f1df5da3266080daf>

**A reliable, delay bounded and less complex communication protocol for multicluster FANETS**

2017

Wajiya Zafar Bilal Muhammad Khan

*Digital Communications and Networks*, Volume 3, Issue 1, Pages 30-38

**Impact Factor:** - | **Citations:** 79

**DOI:** <https://doi.org/10.1016/j.dcan.2016.06.001>

**A wearable ultra-wideband antenna for wireless body area networks**

2016

Kinza Shafique Bilal Ahmad Khawaja Munir Ahmad Tarar Bilal Muhammad Khan Muhammad Mustaqim Ali Raza

*Microwave and Optical Technology Letters*, Volume 58, Issue 7, page 1710-1715

**Impact Factor:** 0.731 | **Quartile:** 4 | **Citations:** 33

**DOI:** DOI:10.1002/mop.29888

**Spectrum sensing in satellite cognitive radios: Blind signal detection technique**

2016

Bilal Muhammad Khan Muhammad Mustaqim Khawaja Bilal Ahmed Mahmood Syed Shabeeh-Ul-Husnain

*Microwave and Optical Technology Letters*, Volume 58, Issue 6, pages 1377-1384

**Impact Factor:** 0.731 | **Quartile:** 4 | **Citations:** 3

**DOI:** DOI:10.1002/mop.29812

**Flying Ad-Hoc Networks: Technological and Social Implications**

2016

Wajiya Zafar Bilal Muhammad Khan

*IEEE Technology and Society Magazine*, Volume:35, Issue:2, Pages 67-74

**Impact Factor:** 0.943 | **Quartile:** 4 | **Citations:** 135

**DOI:** DOI:10.1109/MTS.2016.2554418

**IWSN - Standards, Challenges and Future**

2016

Humaira Abdus Salam Bilal Muhammad Khan

*IEEE Potentials*, Volume:35, Issue:2, Pages 9-16

**Impact Factor:** - | **Citations:** 29

**DOI:** 10.1109/MPOT.2015.2422931

**Use of wireless system in healthcare for developing countries**

2016

Humaira Abdus Salam Bilal Muhammad Khan

*Digital Communications and Networks*, Volume 2, Issue 1, Pages 35-46

**Impact Factor:** - | **Citations:** 17

**DOI:** 10.1016/j.dcan.2015.11.001

**Collision Free Mobility Adaptive (CFMA) MAC for Wireless Sensor Networks**

2013

Bilal Muhammad Khan falah ali

*Telecommunication Systems*, Volume 52, Issue 4, Pages 2459-2474

<b>Impact Factor: 1.161   Quartile: 2   Citations: 17</b> <b>DOI: 10.1007/s11235-011-9566-5</b>	
<b>A High Capacity Low Latency Guaranteed Time Slot Allocation Scheme for IEEE 802.15.4</b> <i>Bilal Muhammad Khan Rabia Bilal Rabia Bilal</i> <i>Sensor Letters</i> , Volume 10, Issue 8, Pages 1847-1854, Special Issue SI <b>Impact Factor: 0.517   Quartile: 4</b> <b>DOI: 10.1166/sl.2012.2602</b>	2012
<b>Conference Proceedings</b>	
<b>Disaster Resilient Cellular Network: Challenges and Requirements</b> <i>Bilal Muhammad Khan SUNYA SUHAIL FAROOQI</i> <i>IEEE International Conference on Innovations in Computer Science</i> , res.country(177,) <b>Citations: N/A</b> <b>DOI: 10.1109/ICONICS64289.2024.10824472</b>	2024
<b>Unified Butterfly for NTT in Post-Quantum Cryptography Algorithm CRYSTALS-Kyber</b> <i>Ayesha Waris Arshad Aziz Bilal Muhammad Khan</i> <i>2024 4th International Conference on Innovations in Computer Science (ICONICS)</i> , res.country(177,) <b>Citations: N/A</b> <b>DOI: 10.1109/ICONICS64289.2024.10824499</b>	2024
<b>Feasibility Study of Circularly Polarized, Low Profile, Metasurface enhanced Antenna Array for SATCOM</b> <i>Sundas Farooq Khan Bilal Muhammad Khan Tariq Mairj</i> <i>IEEE International Symposium on Phased Array Systems and Technologies</i> , res.country(233,) <b>Citations: N/A</b> <b>DOI: Accepted 10.1371/journal.pone.0297957</b>	2024
<b>Pilot Assignment based on AoA Information using Channel Charting in Massive MIMO Systems</b> <i>Bushra Sheikh Pere Garau Burguer Hanan Al-Tous Markku Juntti Bilal Muhammad Khan Olav Tirkkonen</i> <i>IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)</i> , res.country(109,) <b>Citations: N/A</b> <b>DOI: 10.1109/SPAWC60668.2024.10694164</b>	2024
<b>Channel Charting Based Pilot Allocation in MIMO Systems</b> <i>Bilal Muhammad Khan Bushra Shaikh Pere Garau Burguera Hanan Al-Tous Markku Juntti Olav Tirkkonen</i> <i>2024 IEEE 35th International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC)</i> , res.country(68,) <b>Citations: N/A</b> <b>DOI: 10.1109/PIMRC59610.2024.10817455</b>	2024
<b>Railway Track Joints and Fasteners Fault Detection using Principal Component Analysis</b> <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,) <b>Citations: N/A</b> <b>DOI: 10.1109/ICRAI57502.2023.10089579</b>	2023
<b>Estimating State of Charge and State of Health of Electrified Vehicle Battery by Data Driven Approach: Machine Learning</b> <i>Shaffa ali Memon Ali Hamza Sajjad Zaidi Bilal Muhammad Khan</i> <i>ICETECC 2022 - International Conference on Emerging Technologies in Electronics, Computing and Communication</i> , res.country(177,) <b>Citations: N/A</b> <b>DOI: 10.1109/ICETECC56662.2022.10069969</b>	2022
<b>Wind's Data Analysis for its Accurate Prediction in Smart Grid Systems</b> <i>Maria Ashraf Asif Gulraiz Sajjad Zaidi Bilal Muhammad Khan Farhana Ashraf</i> <i>Proceedings of 3rd International Conference on Latest Trends in Electrical Engineering and Computing Technologies, INTELLECT 2022</i> , res.country(177,) <b>Citations: N/A</b> <b>DOI: 10.1109/INTELLECT55495.2022.9969399</b>	2022
<b>IoT Based Monitoring for Work efficiency Calculation of a Metal Fabrication Plant</b> <i>Dure Shahwar Syed Sajjad Haider Zaidi Bilal Muhammad Khan</i> <i>5th International Electrical Engineering Conference</i> , res.country(177,) <b>Citations: N/A</b>	2020

**DOI:** [https://ieec.neduet.edu.pk/2020/call\\_for\\_papers\\_2020.html](https://ieec.neduet.edu.pk/2020/call_for_papers_2020.html)

**Transient Fault Analysis using nonlinear state space model of Synchronous Generator**

2020

*Bilal Muhammad Khan Muhammad Suleman Syed Sajjad Haider Zaidi Noman Memon*

*5th International Electrical Engineering Conference , res.country(177,)*

**Citations:** N/A

**DOI:** [https://ieec.neduet.edu.pk/2020/index\\_2020.html](https://ieec.neduet.edu.pk/2020/index_2020.html)

**Brain Computer Interface Implementation on Cognitive States**

2020

*Samiya Khaliq Zamra Sultan Zeeshan Rizvi Munnaza Iqbal Usama Bin Zaheer Syed Huzaif Shah Shahrukh Zia Bilal Hussain Shah Bilal Muhammad Khan Sajjad Haider Zaidi*

*2020 3rd International Conference on Computing, Mathematics and Engineering Technologies (iCoMET), res.country(177,)*

**Citations:** N/A

**DOI:** 10.1109/iCoMET48670.2020.9074097

**Comparative Throughput Analysis of Wireless EEG Network Based on IEEE 802.11 IEEE 802.15.4**

2018

*Sajjad Zaidi Muhammad Khizar Abbas Muhammad Ghazaal Bilal Muhammad Khan*

*2018 3rd International Conference on Emerging Trends in Engineering, Sciences and Technology, ICEEST 2018 res.country(177,)*

**Citations:** N/A

**DOI:** 10.1109/ICEEST.2018.8643312

**Mobility adaptive energy efficient and low latency MAC for wireless sensor networks**

2011

*Bilal Muhammad Khan Falah*

*2011 Fifth International Conference on Next Generation Mobile Applications, Services and Technologies, res.country(231,)*

**Citations:** N/A

**DOI:** 10.1109/NGMAST.2011.46

**Mobility Adaptive CSMA/CA MAC for Wireless Sensor Networks**

2011

*Bilal Muhammad Khan Falah*

*ICCSA 2011 , res.country(68,)*

**Citations:** N/A

**DOI:** 10.1007/978-3-642-21928-3

**Improved backoff algorithm for IEEE 802.15.4 wireless sensor networks**

2010

*Bilal Muhammad Khan Falah Elias Stipidis*

*2010 IFIP Wireless Days , res.country(109,)*

**Citations:** N/A

**DOI:** 10.1109/WD.2010.5657714



- Predictive Analysis of Modulation Classification and Adaptive Modulator for Next Generation Networks** 2024  
*Bilal Muhammad Khan Rabia Bilal*  
In: *Book on Spectrum and Power Allocation in Cognitive Radio Systems*, Chapter 12, Pages 162-187  
**Citations:** 1  
**DOI:** 10.4018/979-8-3693-2893-4.ch012
- Wireless Interference Identification in 5G Smart Networks** 2024  
*Bilal Muhammad Khan Rabia Bilal*  
In: *5G and Fiber Optics Security Technologies for Smart Grid Cyber Defense*, Chapter: 16, Pages:27  
**Citations:** N/A  
**DOI:** 10.4018/979-8-3693-2786-9.ch016
- A hybrid wireless electroencephalography network based on the IEEE 802.11 and IEEE 802.15.4 standards 819** 2019  
*Rabia Bilal Bilal Muhammad Khan*  
In: *Bioelectronics and Medical Devices, 1st Edition*, Chapter 32, Pages 818-832  
**Citations:** 1  
**DOI:** 10.1016/B978-0-08-102420-1.00039-X
- Software-Defined Networks (SDN): A Survey** 2019  
*Rabia Bilal Bilal Muhammad Khan*  
In: *Handbook of Research on Cloud Computing and Big Data Applications in IoT*, 1st Edition, Chapter 23, Pages 516-536  
**Citations:** N/A  
**DOI:** 10.4018/978-1-5225-8407-0
- Wireless Internet Offloading Techniques: Based on 802.21 Medium Access Control** 2018  
*Bilal Muhammad Khan Rabia Bilal*  
In: *Advanced Wireless Sensing Techniques for 5G Networks*, 1st Edition, Chapter 16, Pages No 267-282  
**Citations:** N/A  
**DOI:** 10.1201/9781351021746
- Cross-layer scheme for meeting qos requirements of flying ad-hoc networks: Qos requirements of flying ad-hoc networks** 2016  
*Bilal Muhammad Khan Rabia Bilal*  
In: *Handbook of Research on Recent Developments in Intelligent Communication Application*, Chapter 10, Pages 255-281  
**Citations:** 1  
**DOI:** DOI:10.4018/978-1-5225-1785-6.ch010
- Fuzzy-topsis-based cluster head selection in mobile wireless sensor networks: Cluster head selection in mobile WSN** 2016  
*Bilal Muhammad Khan Rabia Bilal*  
In: *Handbook of Research on Recent Developments in Intelligent Communication Application*, Chapter 12, Pages 312-343  
**Citations:** 1  
**DOI:** DOI:10.4018/978-1-5225-1785-6.ch012
- Cross-Layer Cooperative Protocol for Industrial Wireless Sensor Network: Cross-Layer Cooperative Protocol for IWSN** 2016  
*Bilal Muhammad Khan Rabia Bilal*  
In: *Handbook of Research on Recent Developments in Intelligent Communication Application*, Chapter 8, Pages 218-241  
**Citations:** N/A  
**DOI:** DOI:10.4018/978-1-5225-1785-6.ch008
- Blind signal detection techniques for spectrum sensing in satellite communication: Blind signal detection** 2016  
*Bilal Muhammad Khan Rabia Bilal*  
In: *Handbook of Research on Recent Developments in Intelligent Communication Application*, Chapter 1, Pages 1-48  
**Citations:** N/A  
**DOI:** 10.4018/978-1-5225-1785-6.ch001

## Editorial Activities

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Reviewed Papers for Journals <b>Impact Factor: 3.476</b>	2022
Reviewed Papers for Journals <b>Impact Factor: 0.58</b>	2021
Reviewed Papers for Journals <b>Impact Factor: 4.098</b>	2020
Reviewed Papers for Journals	2020
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Reviewed Papers for Journals	2020
Reviewed Papers for Journals <b>Impact Factor: 4.098</b>	2020
Reviewed Papers for Journals <b>Impact Factor: 4.098</b>	2019

## Intellectual Property

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### Copyrights

### Patents

<b>A Process and an Apparatus of Battery Management for Monitoring and Managing Battery Parameters of Lithium Chemistry-Based Cells</b> <b>Status:</b> Filed	2022
<b>Autonomous Unmanned Aerial Vehicle (UAV) for Extinguishing Small Scale Early Stage Fire</b> <b>Status:</b> Filed	2021
<b>Formula Racing NUST Battery Kit</b> <b>Status:</b> Filed	2020
<b>Brain Interpreter</b> <b>Status:</b> Filed	2020

### Industrial Designs

### Trademarks