

Furqan Asghar

(HEC APPROVED SUPERVISOR)

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Faisalabad, Pakistan
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PEC # ELECT/35155

Educational Background

MSc Leading to PhD, Factory Automation and Intelligent Control Laboratory, (March. 2014 – Dec. 2017)
School of Electronics and Information Engineering, Kunsan National University,
South Korea

Major Field: Electrical, Electronics and Control Engineering

Expertise: Power Quality Improvement, Intelligent Energy Management, Hybrid Microgrids, AI and ML based
Control and Automation, Technoeconomic Analysis of Power Systems

CGPA 4.35/4.5

Supervisor: Prof. Dr. Sung Ho Kim

Thesis: Robust Frequency and Voltage Stability Control Strategy for Standalone AC/DC Hybrid Microgrid System

BSc in Electrical Engineering (Electronics), The University of Faisalabad, Pakistan (Sept.2008 - July.2012)

CGPA 3.41/4.0

Supervisor: Prof. Dr. Shahid Atiq

Project: Design of Externally Excited Variable Speed Synchronous Generator Drive for Wind Turbine Applications

Work Experience

ASSISTANT PROFESSOR

Duration – (July. 2018 to Present)

Organization – Department of Energy Systems Engineering, University of Agriculture, Faisalabad, Pakistan

Teaching Level – B.Sc. Energy Systems, M.Sc. Energy Systems, PhD. Energy Systems (Courses related to
Electrical Engineering (Power/Electronics/Control & **Renewable** Energy Systems))

DEPUTY DIRECTOR, ORIC

Duration – (October 2025 to Present)

Organization – ORIC, University of Agriculture, Faisalabad, Pakistan

Administrative Level – Facilitates research commercialization and innovation initiatives

– Coordinates with HEC and partner industries

– Oversees project monitoring and reporting

RESEARCH HEAD/ASSISTANT PROFESSOR

Duration – (Jan. 2018 to July. 2018)

Organization – Department of Electrical Engineering, The University of Faisalabad, Pakistan

Administrative Level – Director. Post Graduate Research, Engineering Campus

– Program Coordinator for Post Graduate Studies

– OBE Coordinator for Engineering Campus

Teaching Level – BS-Electrical, MS-Electrical

RESEARCH ASSISTANT

Duration – (Mar. 2014 to Dec. 2017)

Organization – Factory Automation and Intelligent Control Laboratory (FAIC),
Kunsan National University, South Korea

Designation Responsibilities – Working on Various Projects related to Power and Control, Industrial Automation, Hardware and Software Designing, assisting the supervisor professor in Different Academic & Research Tasks.

Major Research and Development Projects

Research Funding Won

Sr. No.	Title	Role	Funding Amount (in Millions)	Funding Agency
1	IoT and AI Empowered Operational Control System for Decentralized Cold Storage for Perishables	PI	2.00	Endowment Fund Secretariat, University of Agriculture, Faisalabad
2	Energy Efficient Programmed Controlled Dates Ripening and Drying Process Employing Variable Refrigerant Flow Technology	Co-PI	1.57	Endowment Fund Secretariat, University of Agriculture, Faisalabad
3	Solar Powered IoT Enabled Smart Soil Moisture Sensor: Cost Effective Monitoring for Remote Areas with Limited Internet Access via LoRaWAN	Team Member	1.80	Endowment Fund Secretariat, University of Agriculture, Faisalabad

Development Projects

Sr. No.	Title	Role	Funding Amount (in Millions)	Funding Agency
1	Installation of 1.5MWp Solar System on ESCO Model in University of Agriculture, Faisalabad (Completed)	Co-Convener (Technical)	194.00	University of Agriculture, Faisalabad
2	Installation of 4.0MWp Solar System at Different Sites (buildings, Turbines, Farms) in University of Agriculture, Faisalabad (In-Process)	Technical Expert	510.00	University of Agriculture, Faisalabad
3	Green Energy Solution (Solar System 125KWp) Installation at ICT Block and Other Allied Buildings (Completed)	Technical Expert	14.459	University of Agriculture, Faisalabad
4	Retrofitting of Energy Inefficient Appliances with Energy Efficient Appliances in University of Agriculture (Completed)	Team Coordinator	71.99	World Bank Funded Green Development Program & Punjab Energy Efficiency & Conservation Agency (PEECA)
5	Installation of Energy Safety and Saving Equipment in University of Agriculture, Faisalabad (Completed)	Technical Expert	39.59	Punjab Energy Efficiency & Conservation Agency (PEECA)
6	Integrated Energy System (Solar + Biogas 200KWp) Installation at Punjab Bio-energy Institute (Completed)	Technical Expert (Solar Component)	95.00	Government of Punjab

Research Projects during MS-PhD (South Korea)

- Development of Nonlinear Control (Back Stepping+Sliding Mode) of Hybrid Energy Storage for Hybrid Electric Vehicle

- Three Phase Inverter Fault Detection using Three-Dimensional Feature Extraction with Neural Network
- Fuzzy Logic based CC/CV Battery Charging & Management for Efficient Energy Storage and Distribution
- Fuzzy Logic based Frequency and Voltage Stabilization for Standalone AC/DC Hybrid Micro Grids
- Active Cell Balancing Circuit Design for Educational Training Board using Current Bypass Technique
- Neural Network based Battery SOC and SOH Estimation for 48V 4.8KWh Battery Pack
- Fuzzy Logic based Power Management for Wind-PV Hybrid Micro Grids using MATLAB
- Development of Fuzzy Logic based Robust and Autonomous Safe-Landing Controller for UAV Quadcopter
- Development of ZigBee based wireless communication for an aerobic copper heating management system
- Development of metal-air battery & renewable energy based high efficiency energy storage and supply system
- Development of an auto calliper control device for controlling surface expansion of paper machine steel roll
- Design and Analysis of Fuzzy Logic Tuned PID for EV's based on IPMSM using Flux-Weakening
- Development of ZigBee based sensor module and wireless communication-based monitoring/control system for efficient management of small and medium sized watercraft
- Development of wireless communicated control system to control paper thickness quality for auto slicer
- Design, Development and Analysis of inline-airflow solar hybrid dryer for perishable products
- Development of automatic fingerprint defect detection system based on IR sensor for productivity of papermaking process
- Development of automatic measuring apparatus for surface wear of roller used in industrial process
- Development of automatic fault diagnosis system for online fault detection of switching devices
- Development of embedded system based active Anti-Rolling Gyro controller for solar boat
- Programming for Arduino, Converters, ARM Cortex, Energy Harvesting Demo Boards and Raspberry Pi

Publications

Journals [J]

- [J.1] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, “Robust Frequency and Voltage Stability Control Strategy for Standalone AC/DC Hybrid Microgrid System”, *Energies*, 2017 **(IF 3.25)** **(Corresponding Author)**
- [J.2] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, “Fuzzy Logic-based Intelligent Frequency and Voltage Stability Control System for Standalone Microgrid”, *Int. Trans Electr. Energ. Syst.*, Wiley Online Library, 2017 **(IF 2.3)** **(Corresponding Author)**
- [J.3] **Furqan Asghar**, M. Imtiaz Hussain, Fahad Abdullah Alshahrani, M. Imran Akhtar, Waseem Amjad, M. Shahzad, Syed Nabeel Husnain, Gwi Hyun Lee, “Technoeconomic analysis of standalone hybrid renewable energy systems for telecommunication sector under different climatic conditions in Saudi Arabia”, *Energy Reports*, Elsevier, 2024 **(IF 5.2)**
- [J.4] Fareeha Akram, **Furqan Asghar**, M. Asghar Majeed, Waseem Amjad, M. Owais Manzoor, Anjum Munir, “Techno-Economic Optimization Analysis of Stand-alone Renewable Energy System for Remote Areas”, *Sustainable Energy Technologies and Assessments*, Elsevier, 2020 **(IF 8.0)** **(Corresponding Author)**
- [J.5] M. Asghar Majeed, **Furqan Asghar**, M. Imtiaz Hussain, Waseem Amjad, Anjum Munir, Hammad Armaghan, Jun-Tae Kim, “Adaptive Dynamic Control Based Optimization of Renewable Energy Resources for Grid-Tied Microgrids”, *Sustainability*, MDPI, 2022 **(IF 3.9)** **(Corresponding Author)**
- [J.6] Faran Asghar, Adnan Zahid, M. Imtiaz Hussain, **Furqan Asghar**, Waseem Amjad, Jun-Tae Kim, “A Novel Solution for Optimized Energy Management Systems Comprising an AC/DC Hybrid Microgrid System for Industries”, *Sustainability*, MDPI, 2022 **(IF 3.9)** **(Corresponding Author)**
- [J.7] Mudassar Usman, **Furqan Asghar**, M. Rameez Javed, Umar Siddique Virk, M. Yasir Jamal, Aashir Waleed, “An efficient controller design of a PV integrated single inductor multiple output DC–DC converter for dynamic voltage and low power applications”, *Science Progress*, 2023 **(IF 2.9)**
- [J.8] M. Asghar Majeed, Sotdhipong Phichisawat, **Furqan Asghar**, Umair Hussan “A multi-area decentralized optimal power flow framework for smart grids with interconnected transmission networks”, *Ain Shams Engineering Journal*, 2025 **(IF 5.9)**
- [J.9] M. Asghar Majeed, Sotdhipong Phichisawat, **Furqan Asghar**, Umair Hussan “Data-Driven Optimized Load Forecasting: An LSTM-Based RNN Approach for Smart Grids”, *IEEE Access*, 2025 **(IF 3.9)**
- [J.10] M. Asghar Majeed, Sotdhipong Phichisawat, **Furqan Asghar**, Umair Hussan “High-Efficiency Renewable Penetration via Dynamic Decentralized Droop Control in Microgrid Systems”, *IEEE Access*, 2024 **(IF 3.9)**
- [J.11] M. Asghar Majeed, Sotdhipong Phichisawat, **Furqan Asghar**, Umair Hussan “Dynamic Resource Management in Microgrids: Optimizing Efficiency through Renewable Penetration and Resource

- Allocation with C-CMRFOs”, IEEE Access, 2024 (IF 3.9)
- [J.12] M. Asghar Majeed, Sotdhipong Phichisawat, **Furqan Asghar**, Umair Hussan “Optimal Energy Management System for Grid-Tied Microgrid: An Improved Adaptive Genetic Algorithm”, IEEE Access, 2023 (IF 3.9)
- [J.13]. Umair Hussan, Mudassar Hassan, M. Ahsan Ayub, Jian Chun Peng, Hamna Rasheed, Hui Jiang, **Furqan Asghar**, “Smooth and Uninterrupted Operation of Standalone DC Microgrid under High and Low Penetration of RESs”, IEEE Access, 2024 (IF 3.9)
- [J.14] Ali Rohan, M. Saad Razaq, Md. Junayed Hasan, **Furqan Asghar**, Ali Kashif Bashir, Tania Dottorini, “Application of deep learning for livestock behaviour recognition: A systematic literature review”, Computers and Electronics in Agriculture, 2024 (IF 8.9)
- [J.15] Faisal Mahmood, Christian Fabrice Magoua, **Furqan Asghar**, Xing Xie, Dang Lin, Dongjin Liu, Bin Li, “Understanding the Synthesis of Turbostratic/Flash Graphene via Joule Heating”, Material, MDPI, 2025 (IF 3.75)
- [J.16] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, "Neural Network-based Fault Detection and Diagnosis System for Three-Phase Inverter in Variable Speed Drive with Induction Motor", Journal of Control Science and Engineering, 2016 (Corresponding Author) (1.0)
- [J.17] M. Rameez Javed, Muhammad Imtiaz Hussain, Mudassar Usman, **Furqan Asghar**, M. Shahid, Waseem Amjad, Gwi Hyun Lee, Aashir Waleed, “Experimental study on the impact of high voltage power transmission lines on silicon photovoltaics using artificial neural network”, Frontiers in Energy Research, 2023 (IF 3.4)
- [J.18] Rameez Javed, Zain Shabbir, **Furqan Asghar**, Waseem Amjad, Faisal Mahmood, M. Omer Khan, Umar Siddique Virk, Aashir Waleed, Zunaib Maqsood Haider “An Efficient Fault Detection Method for Induction Motors Using Thermal Imaging and Machine Vision”, Sustainability, MDPI, 2022 (IF 3.9)
- [J.19] Waseem Amjad, M. Ali Raza, **Furqan Asghar**, Anjum Munir, Faisal Mahmood, Syed Nabeel Hussain, M. Imtiaz Hussain, Jun-Tae Kim, “Advanced Exergy Analyses of a Solar Hybrid Food Dehydrator”, Energies, 2022 (IF 3.25)
- [J.20] Asghar Majeed, Gufran Khan, **Furqan Asghar**, “Nonlinear Control of Hybrid Energy Storage System for Hybrid Electric Vehicle”, Int. Trans Electr. Energ. Syst., Wiley Online Library, 2019 (IF 2.3)
- [J.21] Waseem Amjad, Gohar Ali Gilani, Anjum Munir, **Furqan Asghar**, Azhar Ali, Muhammad Waseem, “Energetic and Exergetic thermal analysis of an inline-airflow solar hybrid dryer”, Applied Thermal Engineering, Elsevier, 2019 (IF 6.9)
- [J.22] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, "A Novel Three-Phase Inverter Fault Diagnosis System using Three-dimensional Feature Extraction and Neural Network", Arabian Journal for Science and Engineering, Springer, 2018 (IF 2.9)
- [J.23] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, "A Neural Network based Robust Online SOC and SOH Estimation for Sealed Lead-Acid Batteries in Renewable Systems", Arabian Journal for Science and Engineering, Springer, 2018 (IF 2.9)
- [J.24] Muhammad Talha, **Furqan Asghar**, Ali Rohan, M. M. Rabah, Sung Ho Kim, “Fuzzy Logic based Robust and Autonomous Safe-Landing for UAV Quadcopter”, Arabian Journal for Science and Engineering, Springer, 2018 (IF 2.9)
- [J.25] Asfand Yar, M. Yousaf Arshad, Faran Asghar, Waseem Amjad, **Furqan Asghar**, M. Imtiaz Hussain, Gwi Hyun Lee, Faisal Mahmood, “Machine Learning-based Relative Performance Analysis of Monocrystalline and Polycrystalline Grid-tied PV Systems”, International Journal of Photoenergy, Hindawi, 2022 (IF 3.2)
- [J.26] Umair Hussan, Muhammad Asghar Majeed, **Furqan Asghar**, Aashir Waleed, Asim Khan, M. Rameez Javed, “Fuzzy logic-based voltage regulation of hybrid energy storage system in hybrid electric vehicles”, Electrical Engineering, Springer. 2021 (IF 1.8)
- [J.27] Faisal Mahmood, Shazma Ashraf, M. Shahzad, Bin Li, **Furqan Asghar**, Waseem Amjad, M. Mubashar Omar, “Graphene Synthesis from Organic Substrates: A Review”, Industrial and Engineering Chemistry Research, 2023 (IF 4.2)
- [J.28] Syed M. Sajjad Haider, M. Zubair, Aashir Waleed, M. Shahid, **Furqan Asghar**, M. Omer Khan, “AI for Academic Integrity: GPU-Free Pose Estimation Framework for Automated Invigilation”, Automation, MDPI, 2025 (IF 2.0)
- [J.29] Waseem Amjad, Muhammad Waseem, Anjum Munir, Abdul Ghafoor, **Furqan Asghar**, Gohar Ali Gilani, “Solar Assisted Dehydrator for Decentralized Controlled and Homogeneous Multi-Product Drying”, Journal of Solar Energy Engineering, 2021 (IF 2.3)

- [J.30] Ali Rohan, **Furqan Asghar**, Sung Ho Kim, “Design of Fuzzy Logic Tuned PID Controller for Electric Vehicle based on IPMSM using Flux-Weakening”, Journal of Electrical Engineering and Technology, Springer, 2018 (**IF 1.9**)
- [J.31] Ali Rohan, Mohamed Rabah, **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, “Advanced Drone Battery Charging System”, Journal of Electrical Engineering and Technology, Springer, 2019 (**IF 1.9**)
- [J.32] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, In-Ho Ra, " Simulation Study on Battery State of Charge Estimation using Kalman Filter", Journal of Advanced Computational Intelligence and Intelligent Informatics, 2016 (**IF 0.7**)
- [J.33] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, In-Ho Ra, " Experimental Evaluation of Cell Balancing Algorithms with Arduino based Monitoring System” Journal of Advanced Computational Intelligence and Intelligent Informatics, 2016 (**IF 0.7**)
- [J. 34] W. Amjad, A. Munir, F. Akram, A. Parmar, M. Precopo, **F. Asghar**, F. Mahmood, “Decentralized solar-powered cooling systems for freshfruit and vegetables to reduce post-harvest losses indeveloping regions: a review”, Clean Energy, Oxford Publishers, 2023 (**3.7**)
- [J.35] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, "Comparative Study of Three Fault Diagnostic Methods for Three Phase Inverter with Induction Motor", International Journal of Fuzzy Logic and Intelligent Systems, 2017 (**Corresponding Author**) (**1.5**)
- [J.36] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, "Design of Fuzzy Tuned PID Controller for Anti Rolling Gyro Stabilizer in Ships", International Journal of Fuzzy Logic & Intelligent Systems, 2017 (**1.5**)
- [J.37] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, "A Matlab and Simulink based Three Phase Inverter Fault Diagnosis Method using Three Dimensional Features", International Journal of Fuzzy Logic and Intelligent Systems, 2016 (**1.5**)
- [J.38] **Furqan Asghar**, Ali Rohan, Muhammad Talha, Yun Jong Han, Sung Ho Kim, “Fuzzy Logic based Efficient Load Management and Optimal Operation of a PV-DG Hybrid System with Battery Backup”, Journal of Korean Institute of Intelligent Systems (JKIIS), February 2020
- [J.39] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, "Fuzzy Logic based Energy Management for Wind Turbine, Photovoltaic and Diesel Hybrid System”, Journal of Korean Institute of Intelligent Systems (JKIIS), 2016
- [J.40] **Furqan Asghar**, Muhammad Talha, Se-Yoon Kim, Kim Sung Ho, “Hotteling T2 Index based PCA Method for Fault Detection in Transient State Processes”, J. of Institute of Control, Robotics and Systems, 2016
- [J.41] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, "Development of Energy Management System for Micro Grid with Photovoltaic and Battery System", Journal of Korean Institute of Intelligent Systems (JKIIS), 2015
- [J.42] **Furqan Asghar**, Se-Yoon Kim, Sung Ho Kim, “Development of Efficient Operational Mode for Wind Diesel Hybrid System”, Journal of Korean Institute of Intelligent Systems (JKIIS), 2014

Conferences [C]

- [C.1] **Furqan Asghar**, Ali Rohan, Sung Ho Kim, “Fuzzy Logic based Energy Management Strategy for Hybrid Photovoltaic-Diesel Generator System with Battery Backup”, Proceedings of KIIS Autumn Conference, October. 2016, Seoul, South Korea
- [C.2] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, “Neural Network based Fault Detection and Diagnosis System for Three Phase Inverter with Induction Motor”, Proceedings of KIIS Autumn Conference, October. 2016, Seoul, South Korea
- [C.3] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, “Motion Classification using Principal Component Analysis and Standard Deviation”, Proceedings of KIIS Spring Conference, 2016, South Korea
- [C.4] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, “Model Parameters Estimation based Monitoring and Fault Detection Method”, Proceedings of KIIS Conference, January. 2016, Gunsan, South Korea
- [C.5] **Furqan Asghar**, Muhammad Talha, Se-Yeon Kim, Sung Ho Kim, “Hotteling T2 Index based PCA Method for Fault Detection in Transient State Processes”, Proceedings of KIIS Conference, January. 2016, Korea
- [C.6] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, In Ho Ra, “Battery State of Charge Estimation using Kalman Filter”, 16th International Symposium on Advanced Intelligent Systems, Nov. 2015, Korea
- [C.7] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, “Design and Implementation of Current Bypass Cell Balancing Algorithm with Arduino based Monitoring System”, The 16th International Symposium on

Advanced Intelligent Systems, November. 2015, Mokpo, South Korea

- [C.8] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, “Performance Evaluation of Bi-directional Cell Balancing by using DC2100 Demo Circuit Board”, Proceedings of KIIS Autumn Conference, October. 2015, Cheongju, South Korea
- [C.9] Muhammad Talha, Se-Yoon Kim, **Furqan Asghar**, Sung Ho Kim, “Raspberry Pi web Server based Battery Monitoring System with Arduino and ZigBee”, Proceedings of KIIS Autumn Conference, October. 2015, Cheongju, South Korea
- [C.10] Se-Yoon Kim, **Furqan Asghar**, Sung Ho Kim, “Battery Open Circuit Voltage Estimation using Kalman Filter”, Proceedings of KIIS Spring Conference, April. 2015, Ansan, South Korea
- [C.11] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, “Development of Energy Management System for Micro Grid with Photovoltaic and Battery System”, Proceedings of KIIS Spring Conference, April. 2015, Ansan, South Korea
- [C.12] **Furqan Asghar**, Muhammad Talha, Sung Ho Kim, “Development of Fuzzy Logic based Battery Charging Algorithm for Photovoltaic System”, Proceedings of KIIS Spring Conference, April. 2015, Ansan, Korea
- [C.13] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, “Fuzzy Logic based Battery Charging Algorithm for Wind Turbine with Dump Load Controller”, Proceedings of KIIS Spring Conference, April. 2015, Ansan, South Korea
- [C.14] Muhammad Talha, **Furqan Asghar**, Sung Ho Kim, “Performance Evaluation of Bidirectional Cell Balancing by using Demo Circuit 2064A”, Proceedings of KIIS Spring Conference, April. 2015, Ansan, South Korea
- [C.15] **Furqan Asghar**, Se-Yoon Kim, Sung Ho Kim, “Development of Heat Generating System based on Small Wind Turbine System”. Joint 7th International Conference on Soft Computing and Intelligent Systems and 15TH International Symposium on Advanced Intelligent Systems, December. 2014, Kitakyushu, Japan
- [C.16] Ik Cho Lim, **Furqan Asghar**, Sung Ho Kim, Jung Kwon Kim, “Development of Fault Diagnostic System based on Fuzzy Logic for Small Sized Wind Turbine Systems”, Proceedings of KIIS Fall Conference, October. 2014, Gangneung, South Korea
- [C.17] Se-Yoon Kim, **Furqan Asghar**, Eu-Soo Youk, Sung Ho Kim, “Development of Web-based Remote Monitoring System using ZigBee and Arduino Ethernet Shield”, Proceedings of KIIS Fall Conference, October. 2014, Gangneung, South Korea
- [C.18] **Furqan Asghar**, Sung Ho Kim, “Comparative Study on the Performance of Various MPPT Algorithms for Solar Photovoltaic System”, Proceedings of KIIS Conference, 2014, Jeonju, Korea
- [C.19] Waseem Amjad, Mubeen Shahid, Anjum Munir, **Furqan Asghar**, Owais Manzoor, “Energy Assessment of a Combined Cycle Power Plant through Empirical and Computational Approaches: A Case Study”, Engineering Proceedings, December 2021, Pakistan
- [C.20] Muhammad Usman, Anjum Munir, **Furqan Asghar**, M. Hamza Latif, Rana Asad Ali, “Achieving Sustainability in the Academic Institutes of Pakistan: A Techno-Economic Analysis of 40kWp Rooftop Photovoltaic Grid-Tied System at the University of Agriculture, Faisalabad”, 5th International Conference on Energy Conservation and Efficiency, IEEE Explore, March 2022, Lahore, Pakistan

Students Supervision

Ph.D. (Hons.) Students Research Work Supervision as a Member of the Committee

- In Process – 01

M.Sc (Hons.) Students Research Work Supervision as Major Supervisor

- [1] Umer Saleem 2024, Microgrid Stability and Cost Optimization Using Optimized Firefly Based Metaheuristic Algorithm (2022-ag-899)
- [2] M. Mubeen Razzaq 2024, Optimization of rockbed configuration to store solar energy for greenhouse via CFD (2017-ag-7860)
- [3] M. Taymoor Ul Hassan 2023, Particle Swarm Optimization based optimized power scheduling and economic dispatch in stand-alone multi-Microgrids (2021-ag-847)
- [4] M. Sohail Tabassum 2023, Efficient voltage regulation and energy management of hybrid energy storage system in hybrid electric vehicle through multi-input multi-output converter using nonlinear control technique (2021-ag-848)

- [5] Hafiz Muhammad Ali 2022, Artificial Intelligence based Robust Fault Detection System for Three Phase Inverter (2016-ag-7439)
- [6] Muhammad Ramzan 2022, Artificial Intelligence based Voltage and Frequency Stabilization of Hybrid Microgrids using V2G System (2022-ag-755)
- [7] Usman Ali 2022, Energy Optimization of Fertilization Process through Empirical and Computational Approaches of Energy Audit: A Case Study of Rafhan Maize (2020-ag-753)
- [8] Arsalan Ali 2021, Monitoring of power lines using UAV with the help of deep learning (2018-ag-2901)
- [9] Muhammad Aftab Arif 2021, Artificial Neural Network Based Automated Intelligent Glass Bottle Visual Inspection System (2018-ag-2896)
- [10] Muhammad Hamza 2021, Development of an Efficient Control Mechanism for Online Monitoring of Temperature and Humidity of a Solar based Cold Storage Unit (2018-ag-2893)
- [11] Adnan Zahid 2020, A Novel Solution of Optimized Energy Management System (OEMS) Comprising Smart Grid Technologies (SGT) for Industries in Pakistan (2018-ag-2899)
- [12] Khalil Ahmad 2020, Lyapunov Based Efficient Control Mechanism for Hybrid Energy Storage System in Hybrid Electric Vehicles (2018-ag-2913)
- [13] Umair Younas 2020, Automated Guided Vehicle (AGV) Advancement with the Integration of Battery Management (2017-ag-2216)
- [14] Zaheer Ul Hassan 2019, Automation and Intelligent Power Management of Secondary Power Distribution System (2017-ag-2207)
- [15] Usman Waheed 2019, Energy Analysis of Electric Vehicle using Various Powertrains (2017-ag-2208)
- [16] Awais Rehman 2019, Energy Conservation and Load Management of Textile Industry Through Comprehensive Energy Audit (2017-ag-4987)
- [17] Muhammad Ibrahim 2019, Comprehensive Approach to Minimize Energy Losses in Power Distribution Networks using SynerGEE (2017-ag-2215)

- In Process – 02

M.Sc (Hons.) Students Research Work Supervision as a Member of the Committee

- Graduated Students – 35
- In Process – 07

B.Sc (Hons.) Students Research Work Supervision as Major Supervisor

- Graduated Students – 39
- In Process – 04

Honors and Awards

- **M.Sc. Leading to Ph.D. Fellowship (Fully Funded) by Factory Automation and Intelligent Control Laboratory, Kunsan National University, South Korea**
- **Won ICT R&D funding by National Grassroots ICT R&D Fund, Ministry of Information Technology, Pakistan** for FYP undergraduate project in June 2012
- **HEC Approved Supervisor**
- **Member of the PAKISTAN ENGINEERING COUNCIL**
- **Member of the IEEE**, The University of Faisalabad Student Branch in 2009-2010, 2018
- **Reviewer for SCI & SCIE Indexed Journals** (Energies, IET Generation, Transmission and Distribution, Sustainable Energy Technologies and Assessments, International transactions on industrial informatics, Optimal Control, Applications and Methods, Applied Sciences, IEEJ Transactions on Electrical and Engineering, IEEE Access, Journal of Emerging & Selected Topics in Power Electronics, Heliyon)

Short Online Courses

- **Engineering Project Management: Initiating and Planning** by Rice University (5 Weeks)
- **University Teaching** by The University of Hong Kong (6 Weeks)
- **AI for Everyone** by Andrew Ng. DeepLearning. AI (4 Weeks)
- **Generative AI Application Developer** by Pakistan Engineering Council in Collaboration with PAKANGELS, iCode Guru, Aspire Pakistan (6 Weeks)

Technical Skill Summary

- **Programming Languages:** MATLAB, C, C++
- **Designing/Simulation Tools Skill:** MATLAB/Simulink, Helioscope, PV Syst, Homer Pro, Visual Studio, Proteus, Arduino Mega, Labview, Circuit Designing for Machine Control and Automation, Raspberry PI

and Linux based Systems, DC2080A Energy Harvesting Multi-Source Demo Boards, Battery Balancers Demo Boards 2100, BQ77900, BQ77908.

- **Documentation Tools:** Microsoft Word, PowerPoint, Excel

References

Prof. Dr. Sung Ho Kim

(Ph.D. Supervisor)

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Dr. Waseem Amjad

(Chairman)

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Dr. Ammar Armghan

(Associate Professor)

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