Dr. Muhammad Majid Gulzar

Assistant Professor,
Department of Control & Instrumentation Engineering (CIE)
Interdisciplinary Research Center for Renewable Energy and Power Systems (IRC-REPS)
King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia.

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Education

2018 to 2019	Post-Doctorate. Control Science and Engineering
	Nanjing University of Aeronautics and Astronautics, Nanjing, China
2013 to 2016	PhD. Control Science and Engineering
	University of Science and Technology of China, Hefei, China *(QS World Rank # 83)*
2009 to 2012	M.Sc. Electrical Engineering
	University of Engineering and Technology, Lahore, Pakistan

Grants/Achievements

2024 to 2028	An Optimal Controller for Frequency Regulation in High Penetrated Renewable Energy based Interconnected Power System "Baseload Applied Grant (BAG)"
	Research Development and Innovation Authority (RDIA) (SAR: 1599950) (Proposal Submitted)
2024 to 2028	Development and Commercialization of Smart Building Technologies for Sustainable Energy Consumption in Saudi Arabia "Basic Science Grant (BSG)"
	Research Development and Innovation Authority (RDIA) (SAR: 1583340) (Proposal Submitted)
2024 to 2028	Development of an Automated single cell injection system for therapy of disease with microinjection of CRISPR/Cas9 "Baseload Applied Grant (BAG)"
	Research Development and Innovation Authority (RDIA) (SAR: 1593900) (Proposal Submitted)
2023 to 2024	An Optimal Controller for Load Frequency Control of Interconnected Renewable Energy Based Power System "Advancing Renewable Energy Systems to increase their Effectiveness and Sustainability"
	Funded by Saline Water Conversion Corporation (SWCC) (SAR: 000) (Proposal Submitted)
2023 to 2024	Robust Load Frequency Controller Design for Multi-area Hybrid Renewable Energy based Power System "Educational / Research Program"
	Funded by King Fahd University of Petroleum and Minerals (KFUPM) (SAR: 1000000) (Proposal Submitted)
2023 to 2024	An Optimal Controller for Frequency Regulation in High Penetrated Renewable Energy based Interconnected Power System "Saudi Applied Research and Technology Initiative"
	Funded by Research, Development and Innovation Authority (RDIA) Initiatives (SAR: 1600000) (Proposal Submitted)
2023 to 2024	Optimal Controller to Stabilize Grid Frequency under Uncertainty in a Multi-Area Hybrid Renewable based Power Systems "Interdisciplinary Research Center for Renewable Energy and Power Systems (IRC-REPS), KFUPM"
	Funded by Deanship of Research Oversight and Coordination (DROC)-KFUPM (SAR: 37427)
2023 to 2024	Stochastic Approaches for Economic-Technical-Environmental Operation of Microgrids with Different Energy Storage Systems Considering Uncertainty of Parameters "Interdisciplinary Research Center for Renewable Energy and Power Systems (IRC-REPS), KFUPM"
	Funded by Deanship of Research Oversight and Coordination (DROC)-KFUPM (SAR: 37427)

2023 to 2024	Mitigating the Impact of Renewable Stochasticity Through Incorporation of Energy Storage and Smart Inverters "Interdisciplinary Research Center for Renewable Energy and Power Systems (IRC-REPS), KFUPM"
	Funded by Deanship of Research Oversight and Coordination (DROC)-KFUPM (SAR: 37427)
2023 to 2024	Load Frequency Control for Hybrid Renewable Power System Using Fractional Model Predictive Controller "Early Career Research Grant"
	Funded by Deanship of Research Oversight and Coordination (DROC)-KFUPM" (SAR: 96530)
2023 to 2024	Optimal Load Frequency Stabilizer for Complex Interconnected Renewable Energy Based Power System under Unbalanced Loading Conditions "Inbound International Visiting Scholars Program"
	Funded by Deanship of Research Oversight and Coordination (DROC)-KFUPM" (SAR: 25000)
2020 to 2022	ASIA-CONNECT Project "ICT Research and Development for Rural/Remote Areas of Pakistan" (https://www.tein.asia/main/?mc=0)
	Funded by TEIN[*] Cooperation Center (PKR: 8.5 Million)
2021 to 2022	IoT based Environmental Monitoring System during Transportation "National Grassroots ICT Research Initiative (NIGIRI)"
	Funded by IGNITE-National Technology Fund, Pakistan (PKR: 50000)
2020 to 2021	Electronic Welding System "National Grassroots ICT Research Initiative (NIGIRI)"
	Funded by IGNITE-National Technology Fund, Pakistan (PKR: 50000)
2018 to 2019	Talent Recruitment Program Project "The Belt & Road Initiative" (http://english.gov.cn/beltAndRoad/)
	Funded by State Administration of Foreign Experts Affairs under Research Grant No. DL.20180096, China (PKR: 2.1 Million)
2013 to 2016	Fully Funded PhD Scholarship
	Funded by China Scholarship Council (CSC), China
2013 & 2016	Student Travel Grant Award for PhD Studies
	Funded by Higher Education Commission (HEC), Pakistan
2012 to 2013	3D CNC Based PCB Drilling Machine
	Funded by National ICT R&D, Pakistan (PKR: 75000)

Patent	
August 2023	Intelligent stability and control for frequency stabilization of an integrated hybrid renewable energy system
	KFUPM Reference # 2023-174, Oblon Reference # 549678US (Under Review)
July 2023	Load Frequency Controller for Hybrid PV-Hydrogen-Bromine Redox Flow Battery Storage Power System
	KFUPM Reference # 2023-059 (Proposal Submitted)
May 2023	Designing of robust frequency stabilization using optimized MPC-(1+PIDN) controller for high order interconnected renewable energy based power systems
	KFUPM Reference # 2023-106, Oblon Reference # 550219US (Under Review)
December 2022	Solar PV Automatic Voltage Regulator Under Extreme Weather Conditions
	KFUPM Reference # 2022-188, Oblon Reference # 547919US (Under Review)
November 2022	An Innovative Converterless Solar PV Operation in Hybrid Renewable Microgrids
	KFUPM Reference # 2022-176, Oblon Reference # 550219US (Under Review)
November 2022	Discrete-Time Load Frequency Controller for Hybrid Renewable Power System
	KFUPM Reference # 2022-173, Oblon Reference # 547181US (Accepted)

November 2022	Robust Load Frequency Controller in Multi-area Hybrid Renewable Power System with Uncertainties
	KFUPM Reference # 2022-170, Oblon Reference # 547182US (Under Review)
December 2021	IoT based Wireless Energy Analysis System with Data Storage Backup
	Patent application # 992/2021 filed at IPO Pakistan

Work Experience

Department of Control & Instrumentation Engineering (CIE),

Assistant Professor (Sep 2022 – to-date)

King Fahd University of Petroleum and Minerals (KFUPM), Dhahran, Saudi Arabia.

Responsibilities

Teaching:

- ✓ Teaching BSc, MSc and PhD Control & Instrumentation Engineering students, advance engineering courses (Linear Multivariable Systems, Instrumentation for Process Control, Signals and Systems, Numerical Methods)
- ✓ Focal Person from CIE Department, KFUPM for Belt and Road Intelligent UAV Industry and Education Alliance (BR-IUAVIEA) with Nanjing University of Aeronautics and Astronautics, Nanjing, China.
- ✓ Focal Person from CIE Department, KFUPM for KIKX (KFUPM Institute for Knowledge Exchange).
- ✓ Focal Person from CIE Department, KFUPM for Graduate Programs Advertisement Committee.
- ✓ Member of adHoc Committee for Annual Distinguished Awards (Excellence in Teaching, Excellence in Teaching Advising, Best Short Course Award), CIE Department, KFUPM. (2022-2023)
- ✓ Member of adHoc Committee for Updating the List of Flagship Conferences, CIE Department, KFUPM. (2023-2024)
- ✓ Member of Capstone 2.0, responsible for evaluating FYP, KFUPM.
- ✓ Member of Faculty Recruitment Committee, CIE Department, KFUPM. (2022-2024)
- ✓ Member of Information and Industrial Relations Committee, CIE Department, KFUPM. (2022-2024)
- ✓ Member of Textbook Committee, CIE Department, KFUPM. (2022-2024)
- ✓ Member of Lab Development & Safety Committee, CIE Department, KFUPM. (2022-2024)

Research Center Affiliation:

- ✓ Affiliated with Interdisciplinary Research Centre (lRC) for "Renewable Energy and Power Systems"

Department of Electrical Engineering (EE),

Associate Professor (Jan 2021 – Aug 2022)
Assistant Professor (Jul 2016 – Dec 2020)
Lecturer (Sep 2008 – Jun 2016)

University of Central Punjab (UCP), Lahore, Pakistan.

Responsibilities

Teaching:

- ✓ Teaching BSc, MSc and PhD Electrical Engineering students, advance engineering courses (Operation and Control of Renewable Energy Systems, Optimizations Techniques and Applications, Linear System Theory, Distributed Control and Multi-agent Systems, Nonlinear Systems and Control, Sensors-Actuators and Electronic Devices, Linear Control Systems, Industrial Process Control, Instrumentations and Measurements, Machines and Transformers, Computer Programming, Linear Algebra, etc.).
- ✓ Member of Academic Council Meeting (ACM), University of Central Punjab.
- ✓ Member of Post Graduate Program Review (PGPR), University of Central Punjab.
- ✓ Member of Industrial Advisory Board (IAB), University of Central Punjab.
- ✓ Member of Board of Studies (BOS), Department of Electrical Engineering, University of Central Punjab.
- ✓ Member of research committee, responsible for evaluating FYP and MS/PhD thesis of Electrical Engineering.
- ✓ Knowledge Area Head for Outcome Based Education implementation
- ✓ Prepared Self Assessment Report (SAR)-2020/2021 for the accreditation of Electrical Engineering program from Pakistan Engineering Council (PEC).

PhD Thesis Supervised:

- ✓ An Optimal Controller for Frequency Stabilization of Hybrid Power System
- ✓ Load Frequency Stabilization of Interconnected Multi-area Power System Using Optimal Controller

MSc Thesis Supervised:

- ✓ Maximum Power Point Tracking of a Fuel Cell using Robust Controller
- ✓ Cruise Control of Automobile using Optimal Controller
- ✓ IOT based Wireless Energy Analysis System with Data Storage and Backup
- ✓ Maximum Power Point Tracking for Grid connected PV/Wind System using Adaptive Fuzzy Logic based Control
- ✓ Designing of 4-Area hybrid interconnected power system for mitigating frequency oscillations through MPC-(1+PIDN) cascaded control scheme
- ✓ Design of Fractional Model Predictive Controller for Frequency Regulation under Deregulated Power System
- ✓ Particle Swarm Optimization based Finite Time Sliding Mode Controller for Grid Connected Photovoltaic System
- ✓ Modelling of a Grid-Connected Hybrid PV/Wind/Fuel Cell with Storage Battery System without Dedicated Converter of PV/Fuel Cell
- ✓ Load Frequency Control of Hybrid Power System using Optimal Controller
- ✓ Trajectory Tracking Control of Quadrotor using Integral Sliding Mode Controller
- ✓ Consensus and Phase Synchronization of a Multi-Agent System using Adaptive Models
- ✓ Frequency Stabilization of Hybrid Photovoltaic Systems by Intelligent Controllers
- ✓ Frequency Control of Hybrid Photovoltaic Systems by Model Predictive Controller
- ✓ Optimized Control of Conical Tank Level using Adaptive Model Predictive Controller
- ✓ Adaptive Model Predictive Controller for load frequency problem in hybrid power system
- ✓ D-Modulation Scheme Based Control of MPPT for Wind Turbine
- ✓ Particle Swarm Optimization based Fractional Order PID Controller for MPP Tracking of PV Panel
- ✓ Permanent Magnet Synchronous Generator based Wind Energy Conversion System to Support Low Voltage Ride Through (LVRT) for a Weak Grid
- ✓ Maximum Power Point Tracking of PV through Variable Step Size P&O via tuning of PID Controller using Ant Colony Optimization Technique
- ✓ Mitigating the Load Frequency Fluctuations of Interconnected Power System using Model Predictive Controller
- ✓ Maximum Power Point Tracking of Grid Connected Photovoltaic System using Finite Time Sliding Mode Controller
- ✓ Comparison of Least Mean Square Based Techniques for Spur Cancellation in Fractional N Frequency Synthesizer
- ✓ A Non-Intrusive Virtual DSP Instrument for Diagnosis Based on Human Radial Pulse

Selected BSc Projects Supervised:

- ✓ IoT based Environmental Monitoring System during Transportation
- ✓ Designed and Fabrication of Economical MPPT base Solar Hybrid Inverter
- ✓ Automated Industrial Model of Bottle Filling, Counting and Lid Fitting using Conveyor Belt
- ✓ Smart Energy Meter and Switch Board
- ✓ Cable Driven Parallel Manipulator for Precision Farming
- ✓ Automation of Warehouse
- ✓ Sorting and Filling Using Omni Conveyor Deck
- ✓ Formation Control of Homogeneous Robots
- ✓ Fuzzy Logic Based Control of 3D CNC Miller Machine using CAD/CAM Software
- ✓ Design and Implementation of Inverted Pendulum/Ball balancing on a beam & plate
- ✓ Concurrent Control of Industrial Robotic Arm

Admin Duties:

- ✓ Patron of Islamic Guidance Club-UCP. (2017-2020)
- ✓ Admission In-charge during admission procedure. (2011-2013)
- ✓ Management of Engineering labs, Procurement of equipment, Quarterly Internal auditing of all items. (2008-2010)
- ✓ Administration of routine tasks, such as supervision, hiring and handling issues of lower/clerical staff. (2008-2010)
- ✓ Planning safety procedures (Safety exit plan, first aid, etc). (2008-2010)

Electrical Supply & Control:

- ✓ Assisting troubleshooting of main university generator (Cummins 235KVA). (2008-2010)
- ✓ Supervision of overhauling work of generator, procurement of necessary parts etc. (2008-2010)

- ✓ Ensuring that the system for backup electricity to university classrooms and labs is kept functional, and routinely maintained. (2008-2010)

Department of Electrical Engineering (EE), **Visiting Faculty Member (Jan – Sep 2020)**
University of Engineering and Technology (UET),
Lahore, Pakistan

Course Taught: Nonlinear Systems and Control

Institute of Electrical, Electronics & Computer **Visiting Faculty Member (May – Aug 2022)**
Engineering (IEECE),
University of the Punjab (PU), Lahore, Pakistan

Course Taught: Engineering Optimization-I

Department of Electrical Engineering, **Teacher Assistant (April – July 2008)**
University of Central Punjab, Lahore, Pakistan.

Responsibilities
- ✓ Assisting Prof. Faisal Toosy

Dunya TV, Lahore **Internship (Aug – Oct 2009)**

Responsibilities
- ✓ Learning about NOC (Network Operation Centre) operations.
- ✓ Travelling with news team in DSNG (Digital Satellite News Gathering).
- ✓ Exposure to activities inside PCR (Program Control Room) & MCR (Main Control Room).
- ✓ Learning about power sub-station & internal power distribution at Dunya TV head office.

PAKTEL, Lahore **Internship (Aug – Sep 2006)**

Responsibilities
- ✓ Learned about activities in planning and transmission department.
- ✓ Worked at O&M department and switching department.

Creative Engineering (Pvt.) Ltd., Lahore **Internship (May – Jul 2006)**

Responsibilities
- ✓ Understanding manufacturing procedure of transformers and its accessories, energy meters, fuse cut out, distribution line fitting and fibreglass products.
- ✓ Learning about Quality Control / Quality Assurance procedures used during manufacturing.

Technical Qualification

SUPCON-DCS Controller JX-(300XP and ECS-100)	Basic Process Control Experiments using MultiF® C3000 (PID Controller) Training from SUPCON-UET, Lahore, Pakistan. (2010)
ELP	Complimentary Skills development Program from International institute and research center, Lahore, Pakistan. (2008)
CCNA	Training from UCP, Lahore, Pakistan. (2006)

Research Activities

Impact Factor Journal Papers:

1) Muhammad Anas Baig, Syed Abdul Rahman Kashif, **Muhammad Majid Gulzar**, Mohammed Alqahtani, Muhammad Khalid. "Improved Hybrid Sphere Decoding Algorithm for Long Horizon Finite Control Set Model Predictive Control of Grid-Tied Inverter", Energy Reports. Volume # 10, pp 3229-3239, November 2023. **(IF = 5.200)**
https://www.sciencedirect.com/science/article/pii/S2352484723014117 (https://doi.org/10.1016/j.egyr.2023.09.166)

2) Umar Tabraiz Shami, Syed Abdul Rahman Kashif, Muhammad Anique Aslam, **Muhammad Majid Gulzar**, Muhammad Maaruf, Fahad Alismail, Muhammad Khalid. "Selective Harmonic Elimination Notch Angle Calculation Using THD and ZHF Benchmarks for Cascaded Multilevel Inverters", IEEE Access. Vol. # 11, pp 116497-116510, October 2023. **(IF = 3.900)**
https://ieeexplore.ieee.org/document/10285084 (10.1109/ACCESS.2023.3324557)

3) Aziz Hadoune, Abderrahman Mouradi, Abdelaziz Mimet, Hamid Chojaa, Chaimae Dardabi, **Muhammad Majid Gulzar**, Mohammed Alqahtanie, Muhammad Khalid. "Optimizing Direct Power Control of DFIG-Based WECS Using Super Twisting Algorithm under Real Wind Profile", Frontiers in Energy Research. Vol. # 11-2023, October 2023. **(IF = 3.400)**
https://www.frontiersin.org/articles/10.3389/fenrg.2023.1261902/full (https://doi.org/10.3389/fenrg.2023.1261902)

4) **Muhammad Majid Gulzar**, Rasmia Irfan, Kamal Shahid, Muhammad Taskeen Raza, Imran Javed. "Frequency and Voltage Stabilization of Multiarea Hybrid Power System by Considering the Impact of Communication Time Delay", Electric Power Components and Systems. September 2023. **(IF = 1.500)**
https://www.tandfonline.com/doi/citedby/10.1080/15325008.2023.2251489 (https://doi.org/10.1080/15325008.2023.2251489)

5) Muhammad Anique Aslam, Syed Abdul Rahman Kashif, **Muhammad Majid Gulzar**, Mohammed Alqahtani, Muhammad Khalid. "A Novel Multi Level Dynamic Decomposition Based Coordinated Control of Electric Vehicles in Multimicrogrids", Sustainability. Vol. # 15, Issue # 16: 12648, August 2023. **(IF = 3.900)**
https://www.mdpi.com/2071-1050/15/16/12648 (https://doi.org/10.3390/su151612648)

6) **Muhammad Majid Gulzar**, Huma Tehreem, Muhammad Khalid. "Modified Finite Time Sliding Mode Controller for Automatic Voltage Regulation Under Fast Changing Atmospheric Conditions in Grid-Connected Solar Energy Systems", International Journal of Intelligent Systems. Vol. # 2023, Article ID # 8863346, August 2023. **(IF = 7.000)**
https://www.hindawi.com/journals/ijis/2023/8863346 (https://doi.org/10.1155/2023/8863346)

7) Rimsha, Sadia Murawwat, **Muhammad Majid Gulzar**, Ahmad Alzahrani, Ghulam Hafeez, Farrukh Aslam Khan, Azher M. Abed. "State of Charge Estimation and Error Analysis of Lithium-ion Batteries for Electric Vehicles using Kalman Filter and Deep Neural Network", Journal of Energy Storage. Volume # 72, Part B, August 2023. **(IF = 9.400)**
https://www.sciencedirect.com/science/article/pii/S2352152X23014366 (https://doi.org/10.1016/j.est.2023.108039)

8) Sareddy Venkata Rami Reddy, T. R. Premila, Ch. Rami Reddy, **Muhammad Majid Gulzar**, Muhammad Khalid. "A New Variational Mode Decomposition-Based Passive Islanding Detection Strategy for Hybrid Distributed Renewable Generations", Arabian Journal for Science and Engineering. July 2023. **(IF = 2.900)**
https://link.springer.com/article/10.1007/s13369-023-08103-1 (https://doi.org/10.1007/s13369-023-08103-1)

9) Ahlam Jameel, **Muhammad Majid Gulzar**. "Load Frequency Regulation of Interconnected Muli-source Multi-area Power System with Penetration of Electric Vehicles Aggregator Model", Electrical Engineering. July 2023. **(IF = 1.800)**
https://link.springer.com/article/10.1007/s00202-023-01923-2 (https://doi.org/10.1007/s00202-023-01923-2)

10) **Muhammad Majid Gulzar**. "Modulation Approach for Wind MPPT Under Changing Weather Conditions", Arabian Journal for Science and Engineering. June 2023. **(IF = 2.807)**
https://link.springer.com/article/10.1007/s13369-023-08017-y (https://doi.org/10.1007/s13369-023-08017-y)

11) Adnan Shakoor, Mingyang Xie, Wendi Gao, **Muhammad Majid Gulzar**, Jiayu Sun, Dong Sun. "Quality and quantity control of mitochondria injection into single cells with robot-aided micro-manipulation system", IEEE Transactions on Automation Science and Engineering. June 2023. **(IF = 6.636)**
https://ieeexplore.ieee.org/document/10143764 (https://doi.org/10.1109/TASE.2023.3279325)

12) **Muhammad Majid Gulzar**, Sumbal Gardezi, Daud Sibtain, Muhammad Khalid. "Discrete-Time Modeling and Control for LFC based on Fuzzy Tuned Fractional-Order PD^μ Controller in a Sustainable Hybrid Power System", IEEE Access. Vol. # 11, pp 63271-63287, June 2023. **(IF = 3.476)**
https://ieeexplore.ieee.org/document/10160031 (https://doi.org/10.1109/ACCESS.2023.3288991)

13) **Muhammad Majid Gulzar**. "Designing of Robust Frequency Stabilization using Optimized MPC-(1+PIDN) Controller for High Order Interconnected Renewable Energy based Power Systems", Protection and Control of Modern Power Systems. Vol. # 8, Issue # 11, March 2023. **(IF = 10.500)**
https://pcmp.springeropen.com/articles/10.1186/s41601-023-00286-x (https://doi.org/10.1186/s41601-023-00286-x)

14) **Muhammad Majid Gulzar**, Ayesha Iqbal, Daud Sibtain, Muhammad Khalid. "An Innovative Converterless Solar PV Control Strategy for a Grid Connected Hybrid PV/Wind/Fuel-Cell System Coupled with Battery Energy Storage", IEEE Access. Vol. # 11, pp 23245-23259, March 2023. **(IF = 3.476)**
https://ieeexplore.ieee.org/document/10058965 (https://doi.org/10.1109/ACCESS.2023.3252891)

15) Ali Ahmed, Syed Abdul Rahman Kashif, Arslan Ashraf, **Muhammad Majid Gulzar**, Mohammad Alqahtani, Muhammad Khalid. "Coordinated Economic Operation of Hydrothermal Units with HVDC Link Based on Lagrange Multipliers", Mathematics. Vol. # 11, Issue # 7: 1610, March 2023. **(IF = 2.592)**
https://www.mdpi.com/2227-7390/11/7/1610 (https://doi.org/10.3390/math11071610)

16) **Muhammad Majid Gulzar**, Daud Sibtain, Muhammad Khalid. "Cascaded Fractional Model Predictive Controller for Load Frequency Control in Multiarea Hybrid Renewable Energy System with Uncertainties", International Journal of Energy Research. Vol. # 2023, Article ID # 5999997, February 2023. **(IF = 4.672)**
https://www.hindawi.com/journals/ijer/2023/5999997/ (https://doi.org/10.1155/2023/5999997)

17) **Muhammad Majid Gulzar**. "Maximum Power Point Tracking of a Grid Connected PV Based Fuel Cell System Using Optimal Control Technique", Sustainability. Vol. # 15, Issue # 5: 3980, February 2023. **(IF = 3.889)**
https://www.mdpi.com/2071-1050/15/5/3980 (https://doi.org/10.3390/su15053980)

18) **Muhammad Majid Gulzar**, Sadia Murawwat, Daud Sibtain, Kamal Shahid, Imran Javed, Yonghao Gui. "Modified Cascaded Controller Design Constructed on Fractional Operator 'β' to Mitigate Frequency Fluctuations for Sustainable Operation of Power Systems", Energies. Vol. # 15, Issue # 20: 7814, October 2022. **(IF = 3.252)**
https://www.mdpi.com/1996-1073/15/20/7814 (https://doi.org/10.3390/en15207814)

19) Daud Sibtain, **Muhammad Majid Gulzar**, Ali F Murtaza, Sadia Murawwat, Muhammad Iqbal, Imran Rasool, Amir Hayat, Arslan Arif. "Variable Structure Model Predictive Controller based Gain Scheduling for Frequency Regulation in Renewable based Power System", International Journal of Numerical Modelling: Electronic Networks, Devices and Fields. Vol. # 35, Issue # 4, pp e2989, August 2022. **(IF = 1.436)**
https://onlinelibrary.wiley.com/doi/10.1002/jnm.2989 (https://doi.org/10.1002/jnm.2989)

20) Muhammad Iqbal, **Muhammad Majid Gulzar**. "Master-Slave Design for Frequency Regulation in Hybrid Power System under Complex Environment", IET Renewable Power Generation. Vol. # 16, Issue # 14, pp 3041-3057, July 2022. **(IF = 3.034)**
https://ietresearch.onlinelibrary.wiley.com/doi/full/10.1049/rpg2.12553 (https://doi.org/10.1049/rpg2.12553)

21) Daud Sibtain, **Muhammad Majid Gulzar**, Kamal Shahid, Imran Javed, Sadia Murawwat, Muhammad Majid Hussain. "Stability Analysis and Design of Variable Step-Size P&O Algorithm Based on Fuzzy Robust Tracking of MPPT for Standalone/Grid Connected Power System", Sustainability. Vol. # 14, Issue # 15: 8986, July 2022. **(IF = 3.889)**
https://www.mdpi.com/2071-1050/14/15/8986 (https://doi.org/10.3390/su14158986)

22) Iqra Manzoor, Sadia Murawwat, **Muhammad Majid Gulzar**, Ahlam Jameel, Muhammad Saadi. "Secure indoor traffic modeling in long-term evolution femtocell networks using efficient Markov decision process", Transactions on Emerging Telecommunications Technologies. Vol. # 33, Issue # 6, pp 4090, June 2022. **(IF = 3.310)**

https://onlinelibrary.wiley.com/doi/10.1002/ett.4090 (https://doi.org/10.1002/ett.4090)

23) **Muhammad Majid Gulzar**, Muhammad Iqbal, Sulman Shahzad, Hafiz Abdul Muqeet, Muhammad Shahzad, Muhammad Majid Hussain, "Load Frequency Control (LFC) Strategies in Renewable Energy-Based Hybrid Power Systems: A Review", Energies. Vol. # 15, Issue # 10: 3488, May 2022. **(IF = 3.004)**
https://www.mdpi.com/1996-1073/15/10/3488 (https://doi.org/10.3390/en15103488)

24) **Muhammad Majid Gulzar**, Daud Sibtain, Arslan Ahmad, Imran Javed, Sadia Murawwat, Imran Rasool, Aamir Hayat. "An Efficient Design of Adaptive Model Predictive Controller for Load Frequency Control in Hybrid Power System", International Transactions on Electrical Energy Systems. Vol. # 2022, Article ID # 7894264, pp 1-14, April 2022. **(IF = 2.860)**
https://www.hindawi.com/journals/itees/2022/7894264/ (https://doi.org/10.1155/2022/7894264)

25) Akrama Khan, Hasnain Ahmad, Syed Muhammad Ahsan, **Muhammad Majid Gulzar**, Sadia Murawwat, "Coordinated LVRT Support for a PMSG-based Wind Energy Conversion System Integrated into a Weak AC-Grid", Energies. Vol. # 14, Issue # 20:6588, October 2021. **(IF = 3.004)**
https://www.mdpi.com/1996-1073/14/20/6588 (https://doi.org/10.3390/en14206588)

26) Daud Sibtain, Ali F. Murtaza, Naveed Ahmed, Hadeed Ahmed Sher, **Muhammad Majid Gulzar**. "Multi Control Adaptive Fractional Order PID Control Approach for PV/Wind Connected Grid system", International Transactions on Electrical Energy Systems. Vol. # 31, Issue # 4, pp 1-21, April 2021. **(IF = 1.692)**
https://onlinelibrary.wiley.com/doi/10.1002/2050-7038.12809 (https://doi.org/10.1002/2050-7038.12809)

27) **Muhammad Majid Gulzar**, Daud Sibtain, Ali F. Murtaza, Sadia Murawwat, Muhammad Saadi, Ahlam Jameel. "Adaptive Fuzzy based Optimized Proportional-Integral Controller to Mitigate the Frequency Oscillation of Multi-Area Photovoltaic Thermal System", International Transactions on Electrical Energy Systems. Vol. # 31, Issue # 1, pp 1-20, January 2021. **(IF = 1.692)**
https://onlinelibrary.wiley.com/doi/epdf/10.1002/2050-7038.12643 (http://doi.org/10.1002/2050-7038.12643)

28) Mingyang Xie, **Muhammad Majid Gulzar**, Huma Tehreem, Muhammad Yaqoob Javed, Syed Tahir Hussain Rizvi. "Automatic Voltage Regulation of Grid Connected Photovoltaic System Using Lyapunov Based Sliding Mode Controller: A Finite-Time Approach", International Journal of Control, Automation and Systems. Vol. # 18, Issue # 6, pp 1550-1560, June 2020. **(IF = 2.181)**
https://link.springer.com/article/10.1007%2Fs12555-019-0563-x (https://doi.org/10.1007/s12555-019-0563-x)

29) Fahad Usman Khan, **Muhammad Majid Gulzar**, Daud Sibtain, Hafiz Muhammad Usman, Aamir Hayat. "Variable step size fractional incremental conductance for MPPT under changing atmospheric conditions", International Journal of Numerical Modelling: Electronic Networks, Devices and Fields. Vol. # 33, Issue # 6, pp 1-18, June 2020. **(IF = 0.833)**
https://onlinelibrary.wiley.com/doi/full/10.1002/jnm.2765 (https://doi.org/10.1002/jnm.2765)

30) Muhammad Yaqoob Javed, Adeel Feroz Mirza, Ali Hasan, Syed Tahir Hussain Rizvi, Qiang Ling, **Muhammad Majid Gulzar**, Muhammad Umair Safder, Majad Mansoor. "A Comprehensive Review on PV Based System to Harvest Maximum Power", Electronics. Vol. # 8, Issue # 12:1480, December 2019. **(IF = 1.764)**
https://www.mdpi.com/2079-9292/8/12/1480 (https://doi.org/10.3390/electronics8121480)

31) **Muhammad Majid Gulzar**, Syed Tahir Hussain Rizvi, Muhammad Yaqoob Javed, Daud Sibtain, Rubab Salah-ud-Din. "Mitigating the Load Frequency Fluctuations of Interconnected Power Systems using Model Predictive Controller", Electronics. Vol. # 8, Issue # 2:156, February 2019. **(IF = 2.110)**
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Guest Editor:

1) Special Issue: "Intelligent Energy Systems: AI-Based Coordinated Operation and Control of Renewable Integrated Power Grid" Sustainability. (2023-2024) (Impact Factor = 3.889)

2) Special Issue: "Operation and Control of Renewable Energy Systems" Frontiers in Electronics. (2022-2023)

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7) International Conference on Materials, Mechanical Engineering and Automation Technology (MMEAT-2018)

Reviewer:

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2) IEEE Systems Journal
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6) Energy Sources, Part A: Recovery, Utilization, and Environmental Effects
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12) Technical Journal
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14) IEEE International Conference on Smart Communities: Improving Quality of Life Using ICT, IoT and AI (HONET-2021 & 2022)
15) IEEE International Conference on Energy Conservation & Efficiency (ICECE-2021/2022)
16) IEEE International Conference on Emerging Trends in Electrical, Control and Telecommunication Engineering (ETECTE-2022)
17) IEEE International Conference on Robotics and Biomimetics (ROBIO-2019)
18) Advances in Science, Technology and Engineering Systems Journal (ASTESJ)
19) International Conference on Research in Intelligent Computing in Engineering

Guest Speaker:

3) Topic: "Operation and Control of Renewable Energy Systems"
   IEEE International Conference on Energy Conservation and Efficiency (ICECE), 16th-17th March 2022.

Session Chair:

1) Track Title: "Thermal Energy/Energy Storage and Conversion"
   IEEE International Conference on Energy Conservation and Efficiency (ICECE), 16th-17th March 2022.

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1) Interdisciplinary Research Center for Renewable Energy and Power Systems (IRC-REPS), KFUPM.
2) Member of Pakistan Engineering Council with serial number ELECT/24842.
3) Member of IEEEP (P) with membership number G-689.

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1) University of Engineering and Technology, Lahore, Pakistan.
2) University of the Punjab, Lahore, Pakistan.
3) Lahore College for Women University, Lahore, Pakistan.
4) Government College University, Lahore, Pakistan.
5) FAST National University of Computer and Emerging Sciences, Lahore, Pakistan.
6) University of Lahore, Lahore, Pakistan.

Books/Books Chapters:

1) "Transforming the grid: AI, ML, Renewable, Storage, EVs, and Prosumers" Chapter # 3, Elsevier. (Submitted, 11-March-2023)
2) "An FPGA-Based Concurrent Control Consensus of Multiple-Axis Machine" LAP LAMBERT Academic Publishing, Germany (In Press) (www.lap-publishing.com)
3) Proof reading of book "International Organizations", published in 2008

Extra Curricular Activities

Workshops / Seminars Conducted:
- ✓ "MENDELEY-Personal Computer Library Management Software" organized by University of Science and Technology of China (USTC), China (August 2014)
- ✓ "Research Methodologies and Research Tools" organized by University of Science and Technology of China (USTC), China (September 2015)

- ✓ "Recent Developments in Networked Dynamic Systems" organized by University of Central Punjab (UCP), Pakistan (September 2016)
- ✓ "Digital Library" organized by University of Central Punjab (UCP), Pakistan (March 2017)
- ✓ "Impact Factor Publishing" organized by University of Central Punjab (UCP), Pakistan (September 2019)
- ✓ "Operation and Control of Renewable Energy Systems" organized by King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia (October 2022)
- ✓ "Artificial Intelligent Based Coordinated Control of Sustainable Integrated Power Grid" organized by King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia (October 2023)

Academic-Industry Linkage:
- ✓ "Faculty Industry Placement Program (FIPP)" arranged by University of Central Punjab and Transfopower Industries (Pvt). (September 2021)

Workshop Attended:
- ✓ "Modern Teaching Methodologies" organized by UCP-FOE (February 2011)
- ✓ "1st Pak-German workshop on Field Robotics" organized by LUMS School of Science & Engineering, Lahore, Pakistan (October 2011)
- ✓ "Robotic Workshop based on 8051 microcontroller" organized by UCP-FOE (February 2012)
- ✓ "Energy Audit Tools and Techniques" organized by PEC at PECHQ Islamabad (September 2012)
- ✓ "Faculty Training Workshop" organized by UCP-FOE (Aug- Sep 2012)
- ✓ "Professional Training of Simatic PLC & HMI Step-7", Conducted by MAFA-Authorized Siemens System Integrator (December 2012)
- ✓ "Professional Training of Advance PLC, HMI and SCADA", Conducted by Burraq Engineering Solutions (July 2017)
- ✓ "Faculty Training Workshop on Research Motivation, Communication Skills, Teaching Methodologies, Engineers as Entrepreneurs, OBE System, Industry-Academia Linkages etc.", organized by UCP-FOE (Oct 2017)
- ✓ "Electric Machine Control Design for Hybrid Electric Vehicle" organized by COMSATS, Lahore (May 2018)
- ✓ "Symposium on Control Automation and Intelligence" organized by UOL, Lahore (February 2020)
- ✓ "Teaching Excellence Program" organized by UCP, Lahore (Aug- Sep 2021)
- ✓ "Outcome Based Education (OBE)" organized by UCP, Lahore (March 2022)
- ✓ "Enhancing Research Productivity & Winning Research Grants" organized by UCP, Lahore (March 2022)
- ✓ "Developing Industrial Linkages" organized by UCP, Lahore (March 2022)

Seminars Attended:
- ✓ Recent Development on Distributed Networked System under Communication Information Constraints, by Professor Daniel W.C Ho, City university of Hong Kong.
- ✓ Embedded Signal Processing Research in Texas Instrument Systems & Applications R&D, by Muhammad Zubair Ikram.
- ✓ Chip making & its design by Dr. Ashraf Chughtai.
- ✓ Line losses in Wapda by Chairman of UET.
- ✓ 25 lectures on Personality Enhancement by Dr. Sajid Iftikhar (PhD Linguistics)
- ✓ 15 lectures on diseases and medical treatment by Dr. Sajid Iftikhar (PhD Linguistic).

Social Work:
- ✓ Volunteering at 'Government Shadab Training Institute for Special Education in Lahore, Pakistan.
- ✓ Commendable services in "World Thalassemia Day 2011" for making thalassemia free Pakistan.
- ✓ Supporting "Zero Thalassemia Convention", 10 January 2012.
- ✓ China Huangshan Mountain Climbing (November 2013)

Function Organized:
- ✓ Annual Milad and Shab-e-Midhat (November 2017)
- ✓ Energy Asia Conference (August 2007)
- ✓ S.E.T Quiz Competition, PCBA/PICS (June 2006)
- ✓ Annual Prize Distribution Function of FOE, UCP (2005)
- ✓ Annual Sports Week (2007)
- ✓ Winner of many TV, radio and universities level quiz programs on various topics.