

CURRICULUM VITAE

Dr. Atif Iqbal, DSc (Poland), PhD (UK)

Full Professor, Dept. of Electrical Engineering, Qatar University, Doha, Qatar

Former Professor, Dept. of Electrical Engineering, Aligarh Muslim University, Aligarh, India

Fellow IET (UK), Fellow IE (India), Senior Member IEEE

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Google Scholar :

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Research gate :

https://www.researchgate.net/profile/Atif_Iqbal6

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<https://orcid.org/0000-0002-6932-4367>

Vice-Chair, IEEE Qatar Section (Region-8)

“World’s Top 2% Faculty Member in the Main Subfield Discipline, World Rank #649 (2019), #622 (2020), #457 (2021)-Full career, Rank #258 (2021) One Year Data” Data released by Stanford University, USA

“Awarded 2022 (2017-2021) Research Excellence Award from the Qatar University”

“Awarded 2015 (2011-2015) Research Excellence Award from the Qatar University”

“Awarded 2014-2015 Faculty Merit Award from the Qatar University”

“Awarded 2019 Research Excellence Award from College of Engineering, Qatar University”

Associate Editor, IEEE Transaction On Industrial Electronics and IEEE ACCESS

Industrial Consultant and Head of Design Team-Power Electronics and Drives Products-Powerlab Instruments-India

Permanent Residency of Australia under Global Talent Visa Scheme

Global Talent Visa Holder, Endorsed by the Royal Society of Engineers, UK

SHORT BIOGRAPHY

Area of Specialisation: Power Electronics, Electric Drives & Renewable Energy (Electrical Engineering)

Research Interest: Smart Grid, Complex Energy Transition, Active Distribution Network, Microgrid, Electric Vehicles drivetrain, Smart Battery Charging, Sustainable Development, and Energy Security, Distributed Energy Generation, High-Performance Adjustable Speed Drives.

EDUCATIONAL QUALIFICATIONS

- 2019: DSc (Habilitation)** From Gdansk University of Technology, Gdansk, Poland
Specialization: Control, Informatics, and Electrical Engineering
Thesis Title: Multi-Phase (More Than 3-Phase) Power Conversion and Control
- 2006: Ph.D.** From School of Engineering, Liverpool John Moores University, Liverpool, UK.
Specialization: Power Electronics and Electric Drives
Thesis Title: Modelling and Control of Series-connected Five-phase and Six-phase Two-motor drives.

- 3) **1996: M.Sc. Engg.** From Department of Electrical Engineering, Aligarh Muslim University, Aligarh, India.
Specialization: Power Systems & Drives
Thesis Title: Performance Evaluation of an Experimental 100 kW (Peak) Solar Photovoltaic Power Plant.
- 4) **1991: B.Sc. Engg.** Department of Electrical Engineering, Aligarh Muslim University, Aligarh, India.
Specialization: Electrical Engineering
Project (Major): Study of Improvement in the efficiency of Harduaganj Thermal Power Plant using MHD Retrofit Scheme.
Project (Minor): 1. 400 kV Transmission Line Design; 2. 500 kVA, 132/66 kV, 3-Phase Transformer Design; 3. 30 hp, 11kV, Delta Connected 3-Phase Induction Motor Design.

PROFESSIONAL WORK EXPERIENCE

- **Oct. 2019 to Present:** Full Professor: Dept. Of Electrical Engineering, Qatar University, Doha, Qatar.
- **Nov. 2012 to Oct. 2019:** Associate Professor: Dept. Of Electrical Engineering, Qatar University, Doha, Qatar.
- **Nov.-2015-March-2016:** Acting HoD, Dept. of Electrical Engineering, Aligarh Muslim University, Aligarh, India
- **Feb. 2011 to Nov. 2012:** Assistant Professor: Dept. Of Electrical Engineering, Qatar University, Doha, Qatar.
- **April-2009-Feb.-2011:** Teaching assistant, Dept. Of Electrical & Computer Engineering, the duties were to give research support to Prof. Haitham Abu-Rub, Texas A&M University at Qatar
- **April-2012-Aug.-2016:** Full Professor: Dept. Of Electrical Engineering, Aligarh Muslim University, Aligarh, India.
- **Feb.-2009-March-2012:** Associate Professor: Dept. Of Electrical Engineering, Aligarh Muslim University, Aligarh, India.
- **July-1998-Feb.-2006:** Senior Lecturer: Dept. Of Electrical Engineering, Aligarh Muslim University, Aligarh, India.
- **Sept.-1991-July-1998:** Lecturer: Dept. Of Electrical Engineering, Aligarh Muslim University, Aligarh, India.
- **Jan-2003 to Jan-2006:** Part-time Sessional Lecturer: School of Engineering, Liverpool John Moores University, Liverpool, UK.
- **1-5 July 2019:** Visiting Professor at Gdansk University of Technology, Gdansk, Poland.

INDUSTRIAL EXPERIENCE

- **Jan. 2018 to Present:** Consultant and Head of Design Team-Power Electronics and Drives Products-Powerlab Instruments, Chennai, India

RESEARCH PUBLICATIONS

Total Number of Research Papers: 544

Journal: 271(published) = 272

International Conference: 246 (published) = 246

Indian Conference: 25 (published) = 25

Invited Article: 1

PATENTS

5 (Granted) + 5 (Under Review) = 10

MAJOR RESEARCH GRANTS

- NPRP 13S-0108-200028 (500 kUSD)
- NPRP-EP X 033-02-007 (4.6 Million USD for 5 years-2013-2018)
- NPRPS 11S-1125-170027 (600k USD)
- NPRP 4-152-2-53 (1049038.80 USD)
- NPRP 4-77-2-28 (1033555.75 USD)
- NPRP 4-080-2-30 (1046303.2 USD)
- QUUG-CENG-DEE-11/12-6 (34153 USD)
- QUUG-CENG-DEE-1213-11 (40983 USD)
- UREP 12-035-02-12 (40,000 USD)
- UREP 12-031-02-10 (80,000 USD)
- UREP 13-41-02-17 (60,000 USD)
- Polish Govt. Research Fund (167,000 USD)
- UREP 15-075-2-027 (60,000 USD)
- UREP 15-042-2-014 (39,948 USD)
- QUUG-CENG-EE-14/15 (27322 USD)
- UREP 17-061-2-017 (30,000 USD)
- UREP 21-062-2-022 (22,000 USD)
- UREP 24-091-2-018 (30,000 USD)
- QUHI-CNEG-19/20-2 (147540 USD)
- UREP 27-021-2-010 (30,000 USD)
- QUCG-CENG-21/22-1 (57377 USD)
- M-CTP-CENG-2020-2 (153,000 USD)

GRADUATE STUDENT'S SUPERVISION

PhD Thesis Supervised: 17 (Awarded) + 4 (under progress) = 21

Masters (MSc. Engineering) Dissertation Supervised: 22

BOOKS PUBLISHED

- Proceedings of 3rd International Conference on Machine Learning, Advances in Computing, Renewable Energy and Communication MARC 2021, Lecture Notes in Electrical Engineering LNEE vol. 915, ISBN: 978-981-19-2828-4 Springer, (Editor)
- High-Performance Control of AC Drives with MATLAB/Simulink Models-Wiley, UK Publication Date: May 29, 2012, | ISBN-10: 0470978295 | ISBN-13: 978-0470978290 | Edition: 1 (Author)
- One chapter contributed on dc-dc converter in the book of Power Electronics by Prof. M.S. Jamil Asghar, Prentice Hall of India, 2003. ISBN: 978-81-203-2396-4 (Author)
- One chapter (Chapter -15) on “Multi-phase Matrix Converter Topologies and Control”, for the book entitled, “Power Electronics for Renewable energy systems, transportation, and industrial applications”, Wiley UK, ISBN 9781118634035, June 2014. (Author)
- Two Chapters (Chapter-14 AC-AC converter, and Chapter-15 Multiphase Power Converter) in Power Electronics Handbook 4th Edition, Butterworth-Heinemann, Elsevier, 1st Sept. 2017. ISBN: 978-0-12-811407-0 (Author)
- Malik, Fatema, Jarial, **Iqbal, A.** “Intelligent Data Analytics for Power Apparatus Health Monitoring”, Elsevier (under preparation, expected Mid 2023) (Editor)
- Edited Book, Entitled, “Soft Computing in Condition Monitoring and Diagnostics of Electrical and Mechanical Systems” Book Series: Advances in Intelligent Systems and Computing, Publication: Springer Nature (ISBN 978-981-15-1532-3).

<https://www.springer.com/gp/book/9789811515316.>,

<https://link.springer.com/book/10.1007/978-981-15-1532-3> , Published Jan 2020.

- Textbook entitled, “Electric Machine Fundamentals with Numerical Simulation Using MATLAB/Simulink”, Publisher: Wiley, UK ISBN-10 : 1119682630 (June 2021)
- High-Performance Control of AC Drives with MATLAB/Simulink Models-Wiley, UK Edition: 2, SBN: 978-1-119-59129-0 (Aug. 2021). (Author)
- Metaheuristic and Evolutionary Computation: Algorithms and Applications - Novel AI & Machine Learning Methods for Engineering and System”-Springer (In Press) <https://www.springer.com/gp/book/9789811575709>. DOI: 10.1007/978-981-15-7571-6
- Intelligent Data-Analytics For Condition Monitoring: Smart Grid Applications,-Elsevier: <https://www.amazon.com/Intelligent-Data-Analytics-Condition-Monitoring-Applications/dp/0323855105> . (Editor)
- 'Renewable Power for Sustainable Growth', Proceedings of International Conference on Renewable Power (ICRP), Springer <https://www.springer.com/gp/book/9789813340794>, April 2021. (Editor)
- Machine Learning, Advances in Computing, Renewable Energy and Communication- Proceeding of MARC 2020-Editor-2022, ISBN 978-981-16-2354-7 (Editor)
- Book Chapter: “Control Algorithm on Variable Parameter Resized Zero Attracting Least Mean Fourth Control for Grid-Tied PV System”, Print ISBN: 978-93-90206-87-2, eBook ISBN: 978-93-90206-88-9 Recent Developments in Engineering Research Vol. 2, Book Publisher International
- Book Chapter: “Metaheuristics Algorithm Based Hybrid Model for Identification of Building Sale Prices”, in Metaheuristic and Evolutionary Computation: Algorithms and Applications - Novel AI & Machine Learning Methods for Engineering and System, pp. 689-704
- Book Chapter: “Switching Angles Computations Using PSO in Selective Harmonics Minimization PWM”, in Metaheuristic and Evolutionary Computation: Algorithms and Applications - Novel AI & Machine Learning Methods for Engineering and System, pp. 437-462

SERVICES TO INTERNATIONAL AND LOCAL COMMUNITIES

- Associate Editor IEEE Transaction on Industrial Electronics
- Associate Editor IEEE ACCESS
- Associate Editor The Arabian Journal of Science and Engineering, Springer Nature
- Associate Editor Power Electronics and Drives Journal
- Former Associate Editor, IEEE Transaction on Industry Application
- Editor-in-Chief, IManager Journal of Electrical Engineering
- Publication Chair, 47th IEEE IECON 2021, Canada
- Ambassador, 19th IEEE Int. Multi-Conference on Systems, Signals & Devices 2022, May 8-10, Setif, Algeria
- Technical Program Chair of 12th CPE-POWERENRG 12-14 April 2018 in Qatar.
- Technical Program Co-Chair, 2nd Int. Conf. in Smart Grid and Renewable Energy, SGRE, 19-21 Nov. 2019.
- Member Smart Grid Centre, Texas A&M University at Qatar <https://www.sgc-q.com/people/members/>
- Guest Editor “Intelligent Systems Design and Computing”, Inderscience, 2018.
- Organizing committee member on 1st Workshop on Smart Grid and Renewable Energy at Doha, Qatar, 22-23 March 2015, <http://www.sgre2015.com/>.
- Associate Guest Editor, Special issue of IEEE Transaction on Power Electronics on “Impedance source converter topologies and their applications”, 2015.
- Organized a workshop as a Co-Chair at TAMUQ, Doha, Qatar, on “Power Electronics in industrial applications and renewable energy” as Co-chair, 3 – 4 November 2011.
- Lead of Multiphase Converters and Applications sub-committee of IEEE IES Power Electronics Technical Committee since March 2017- <https://petc.ieee-ies.org/chairs.html>

- Member of Impedance source converters-subcommittee of IEEE IES, PETC.
- Member of Electric machine and drives subcommittee IEEE IES, PETC.
- Track Chair on Special Machine and Drives in IEEE IECON-2016, 23-26 Oct. 2016 Florence, Italy.
- Member of the Sub-Committee on Motor and Drives of the Power Electronics Technical Committee in IES/IEEE. 2013-2014.
- Acting Chairman, Dept. of Electrical Engg., AMU, India in Nov., and March 2016.
- Deputy Director, Residential Coaching Academy, AMU, Aligarh, India, Since July 2015 until 13 Aug. 2016.
- Served as Training and Placement Officer (TPO) at ZH College of Engineering and Technology, AMU, Aligarh from 2007-2009.
- Served as Wardens of Allam Iqbal Hall (1994-1996), Hadi Hassan Hall (1997-1999), Suleman Hall (2006-2008).
- Acting-Provost of Suleman Hall from time to time during the wardenship period.
- Tabulator M.Tech. exams of EE, AMU (2000-2002)
- Co-Coordinator of XI-Five-year plan of EE and Principal office, ZHCET, AMU.
- Co-ordinated the programme of AICTE visit at ZHCET, AMU.
- Served in several academic committees at AMU, India.
- Serve as editors and reviewers for several IEEE and other international journals.
- Serve as Advisory board members in international conferences and organized short term training courses.

AWARDS

- **Silver Medal during IIFME, Kuwait, 2020 for Invention on LED Driver Circuit**
- **Outstanding UREP project award UREP 21-062-2-022**
- **Recipient of 2022 Research Excellence Award from the Qatar University**
- **Recipient of 2019 Research Excellence Award from the Qatar University**
- **Recipient of 2015 Research Excellence Award from the Qatar University**
- **Recipient of 2014-2015 Faculty Merit Award from the Qatar University**
- **Best Journal Paper for 2021**-Arif, M.S., Sarwer, Z., Daula, M.S., Ayob, M.S., **Iqbal, A.**, Mekhilef, S., “Asymmetrical multilevel inverter topology with low total standing voltage and reduced switches count”, *Int. Journal of Circuit Theory and Applications*, Wiley, vol. 49. Issue 6, pp. 1757-1775, June 2021
- Best Senior Design Project award to my students of Spring 2022 (L1, L2 EV Charger design)
- Best Research Paper Award during 2021 IEEE International Conference on Computing, Power, and Communication Technologies (GUCON 2021) held on September 24-26, 2021
- Obtained Top Cited Articles Award during 2020-2021 from Wiley for four different research papers.
- Best Research Papers award in Springer Sponsored ICRP 2020, 13-14 July, Rajouri, J&K, India
- Silver Medal in recognition of excellence in innovation, “Linear Regulated Dimmable LED Driver For DC Distributed Lighting System”, during 12th International Innovation fair in the middle east, Kuwait, 16-19 Feb. 2020
- Best Research Paper award in IEEE ICIOT 2020, 2-4 Jan., Doha, Qatar
- One of the Bests UREP project award UREP 15-075-2-027
- Outstanding Students grant, 12th Annual Undergraduate Research Experience Program Competition held virtually on 6 and 7 April 2020, UREP 21-062-2-022
- Recipient of 2019 Research Excellence Award from College of Engineering, Qatar University, Doha, Qatar.
- Best Research Paper in IEEE CENCON 2019, 16-17 Oct. Yogyakarta, Indonesia.
- Best research paper award in Int. Conf. on Signal, Machines, and Automation (SIGMA), 23-25 Feb. 2018 at NSIT, Delhi, India

- Outstanding UREP Research project in 8th QNRF UREP competition (21-23 March 2016) for the project entitled “Performance characterization of lighting systems-Effects on health, environment and Power Quality of Qatar Utility Grid’, UREP 15-075-2-027”.
- Recipient of 2022 Research Excellence Award in the category of science and engineering in recognition of the outstanding research contributions and sustained research excellence leading to regional and global visibility of Qatar University as an institution committed to advancing innovative scholarly works for human welfare. The award carries a certificate and 13660 USD
- Recipient of 2015 Research Excellence Award in the category of science and engineering in recognition of the outstanding research contributions and sustained research excellence leading to regional and global visibility of Qatar University as an institution committed to advancing innovative scholarly works for human welfare. The award carries a certificate and 11111.11 USD
- Recipient of 2014-2015 Outstanding Faculty Merit Award by Qatar University.
- Outstanding UREP Research project in 7th QNRF UREP competition for the project entitled “Reduced switch count multi-phase multi-level voltage source inverter” (April 2013 to March 2014). UREP 13-41-02-17”
- Recipient of Funds for NPRP projects, NPRP-Exceptional proposal, UREP, etc
- Best Research Paper award at IEEE ICIT-2013, 25-28 Feb. 2013, Cape Town, South Africa.
- Best Research Paper of the session at the 4th International Conf. on IET Sustainable Energy and Intelligent System SEISCON, 12-14 Dec 2013.
- Received EPSRC (Engineering and Physical Science Research Council) Govt. of UK award to pursue a doctorate degree at School of Engineering, Liverpool John Moores University, Liverpool, UK (2002 TO 2005)
- Recipient of Ph.D. studentship in EPSRC funded project, UK 2002-2005
- Maulana Tufail Ahmad Gold Medal for standing First at B.Sc. Engg. (Electrical Engineering) Examination 1991, AMU, Aligarh, India.

BEST CONFERENCE PAPER AWARDS

1. **Iqbal, A.**, Ahmad, Sk. M., Abu-Rub, H., Al-ammari, R., (2013), “PWM Scheme for Dual Matrix Converters Based Five-phase Open-end Winding Drive”, *IEEE ICIT*, 25-27 Feb. 2013, Cape Town, South Africa, pp. 1686-1690 (**BEST PAPER AWARD**).
2. Sanjeeve, K., **Iqbal, A.**, Abu-Rub. H., (2013), “Implementation and Control of Extra High Voltage DC-DC Boost Converter” *IET-SEISCON*, 12-14 Dec. 2013, Chennai, India, paper No. SPS 151 CD-ROM paper, pp. 182-188. [<http://digital-library.theiet.org/content/conferences/10.1049/ic.2013.0312>](**BEST PAPER AWARD**).
3. Kesraoui, H., Al-Hitmi, M. Rahman, K. **Iqbal, A.** (2018), “Comparative study Of Classical And Fuzzy –Regulator In Five Phase Synchronous Machine Control With Open Phase”, *Int. Conf. on Signals, Machines and Automation (SIGMA)*, PAPER ID 367, 23-25 Feb. 2018, New Delhi, India (**BEST PAPER AWARD**).
4. Pandav, K., Bhaskar, M.S., Padmanaban, S., Holm-Nielsen, J.B., Sotikno, T., Iqbal, A., (2019), “New Multilevel Modified CUK converter fairly for renewable energy application”, *4th IEEE Int. Conf. of Energy Conversion (CENCON)*, 16-17 Oct. Yogyakarta, Indonesia, (**BEST PAPER AWARD**).
5. Al-Hitmi, **Iqbal, A.**, Rahman, S., Pandav, K., Meraj, M., Mehrjrdrdi, H., (2020), “A Dual Active Bridge Based Wireless Power Transfer System for EV Battery Charging Controlled Using High Speed FPGA” *IEEE ICIoT’2020 Conference* Doha, Qatar, February 2-5, 2020. (**BEST PAPER AWARD**).
6. Asharf, A., Rizqullah, A., Ahmed, M.R., Kraev, D.R., **Iqbal, A.**, Khandakar, A., Rahman, S., (2020), “ Step by step simulation of boost controller for L and LCL Filters for EV fast Charging Systems”, Springer sponsored *Int. Conf. on Renewable Power 13-14 July, Rajouri, India* (**BEST PAPER AWARD**).
7. Elfouly, M., Ahmed, S., **Iqbal, A.**, Mehrjrdrdi, H., (2020), “Power Transfer Enhancement by Simultaneous AC-DC Transmission-An Experimental Implementation” Springer sponsored *Int. Conf. on Renewable Power 13-14 July, Rajouri, India* (**BEST PAPER AWARD**)

8. Samiullah, M., Ashraf, I., **Iqbal, A.**, Rahman, K., (2020), “A novel high gain boost converter for interfacing low voltage PV in a DC microgrid”, Springer sponsored *Int. Conf. on Renewable Power 13-14 July, Rajouri, India (BEST PAPER AWARD)*
9. Syed, S., Meena, E., Mariam, E., Badr, Q., **Iqbal, A.**, (2020), “Comparison of Direct Torque Control and Indirect Field-Oriented Control for Three-Phase Induction Machine”, Springer sponsored *Int. Conf. on Renewable Power 13-14 July, Rajouri, India (BEST PAPER AWARD)*
10. Sadaf, S., Al-Emadi, N., Sagar, M. B., **Iqbal, A.**, (2020), “Triple Switch dc to dc converter for high voltage boost application-Revista”, Springer sponsored *Int. Conf. on Renewable Power 13-14 July, Rajouri, India (BEST PAPER AWARD)*
11. Samiullah, M., Ashraf, I., **Iqbal, A.**, (2020), “A transformer-less ultra-gain switched inductor boost converter for dc microgrid applications”, Springer sponsored *Int. Conf. on Renewable Power 13-14 July, Rajouri, India (BEST PAPER AWARD)*
12. Samiullah, M., Ashraf, I., **Iqbal, A.**, Ataullah, M., (2020), “Double stage voltage lift switched capacitor converter for high voltage application in DC Microgrid”, *Int. Conf. on Smart Technologies for Energy, Environment & Sustainable Development (ICSTEESD-20)*, 4-5 Dec. 2020, Nagpur, India **(BEST PAPER AWARD)**
13. Sheetal, G., **Iqbal, A.**, Mehrjerdi, H., Meraj, M., “Voltage Profiling and Control of a Sub-Transmission Network with Integrated Renewable Energy Sources-A Case Study”, 2021 IEEE International Conference on Computing, Power and Communication Technologies (GUCON 2021) held on September 24-26, 2021 **(BEST PAPER AWARD)**

DETAILED RESEARCH PROFILE

A. Research Publications

Refereed International Journals:

1. **Iqbal, A.**, Bhaskar, M.S, Meraj, M., Padmanban, S. (2019), “Closed-Loop Control and Boundary for CCM and DCM of Non-isolated Inverting Nx Multilevel Boost Converter for High Voltage Step-up Applications”, *IEEE Trans. On Ind. Elect.*, Vol. 67, No. 4, pp. 2863-2874, April 2020. DOI: 10.1109/TIE.2019.2912797.
2. **Iqbal, A.**, Bhaskar, M.S., Meraj, M., Padmanban, S., (2018), “DC-Transformer Modelling, Analysis and Comparison of the Experimental Investigation of a Non-Inverting and Non-Isolated Nx Multilevel Boost Converter (Nx MBC) for Low to High DC Voltage Applications”, *IEEE Access*, vol. 6, issue 1, pp. 70935-70951, Dec. 2018, 10.1109/ACCESS.2018.2881391.
3. **Iqbal, A.**, Meraj, M., Tariq, M., Lodi, K.A., Maswood, A.I., Rahman, S., (2019), “Experimental Investigation and Comparative Evaluation of Standard Level Shifted Multi-Carrier Modulation Schemes with a Constraint GA Based SHE Techniques for A Seven-Level PUC Inverter”, *IEEE Access*, vol. 7, issue 1, pp. 100605 – 100617, Dec. 2019.
4. **Iqbal, A.**, Duala, M.S., Mohammed Ali, J.S., Saad, M., Lam, J., (2020), “A New Eight Switch Seven Level Boost Active Neutral Point Clamped (8S-7L-BANPC) Inverter”, *IEEE ACCESS* DOI: 10.1109/ACCESS.2020.3036483, vol. 8, pp. 203972-203981.
5. **Iqbal, A.**, Daula, M., Reddy, B., Pandav, K., (2021), “Quadruple Boost Multilevel Inverter (QB-MLI) Topology with Reduced Switch Count”, *IEEE Trans. On Power Electronics*, DOI: 10.1109/TPEL.2020.3044628, vol. 36, issue 7, 2021
6. **Iqbal, A.**, Daula, M., Reddy, B. P., Maroti, K., Alammari, R., (2020), “A New Family of Step-up Hybrid Switched-Capacitor Integrated Multilevel Inverter Topologies with Dual Input Voltage Sources”, *IEEE Access* vol. 9, pp. 4398-4410, 2021, doi: 10.1109/ACCESS.2020.3046192.
7. **Iqbal, A.**, (2021), “Solar PV Grid Integration Solution Using qZ-Source Based Multilevel Inverter”, fifth Annual Technical Volume of Electrical Engineering Division of The Institution of Engineers (India) on the theme “Power Electronic Interfaces for Effective Energy Conversion and Management” (Accepted)
8. **Iqbal, A.**, Sarkar, A., Sainikhil, G., Azees, M., (2021), “A Secure and Decentralized Blockchain based EV Energy trading model using Smart contract in V2G Network”, *IEEE Access*, DOI: 10.1109/ACCESS.2021.3081506. vol. 9, pp. 75761-75777, 2021

9. **Iqbal, A.**, Reddy, B.P., Rahman, S., Meraj, M., (2022) “Modelling and indirect field-oriented control for pole phase modulation induction motor drives. *IET Power Electron.* 1–13, 2022. <https://doi.org/10.1049/pel2.12381>
10. Ahmed, F., Ashraf, I., **Iqbal, A.**, Marzband, M., Khan, I., (2022), “A novel AI approach for optimal deployment of EV fast charging station and reliability analysis with solar based DGs in distribution network”, *Energy Report*, <https://doi.org/10.1016/j.egy.2022.09.058> (Early Access)
11. Al-Hitmi, M., Husain, R., **Iqbal, A.**, Islam, S., (2022), “Symmetric and Asymmetric Multilevel Inverter topologies with reduced device count”, *IEEE Access*, DOI: [10.1109/ACCESS.2022.3229087](https://doi.org/10.1109/ACCESS.2022.3229087) (Early Access)
12. Islam, S., Duala, M., **Iqbal, A.**, Mekhalief, S., (2022), "A 9 and 13-Level Switched-Capacitor-Based Multilevel Inverter with enhanced Self-Balanced Capacitor Voltage Capability" *IEEE Journal of Emerging and Selected Topics in Power Electronics* DOI: [10.1109/JESTPE.2022.3179439](https://doi.org/10.1109/JESTPE.2022.3179439) (Early Access)
13. Aalami, M., Babaei, E., Zadeh, S.G., **Iqbal, A.**, (2022), “Trans Z-source-based half-bridge inverter: A method for achieving high voltage gain”, *Int. Journal Of Circuit Theory And Applications*, DOI: [10.1002/cta.3400](https://doi.org/10.1002/cta.3400) (Early Access)
14. Tauseef, M., Chakarvorty, A., **Iqbal, A.**, Hoisainpour, A., (2022), “Enhanced dynamic performance in DC–DC converter-PMDC motor combination through an intelligent non-linear adaptive control scheme”, *IET Power Electronics*, <http://doi.org/10.1049/pel2.12330> (Early Access)
15. Islam, S., Siddique, M.D., **Iqbal, A.**, Mekhilef, S., Al-Hitmi, M., (2022) “A Switched Capacitor-Based 13-Level Inverter with Reduced Switch Count,” *IEEE Transactions on Industry Applications*, 2022, doi: [10.1109/TIA.2022.3191302](https://doi.org/10.1109/TIA.2022.3191302), vol. 58, issue 6, pp. 7373-7383.
16. Marzang, V., Babaei, E., Mehrjerdi, H., **Iqbal, A.**, Islam, S., (2022), “A high step-up DC–DC converter based on ASL and VMC for renewable energy applications”, *Energy Report*, vol. 8, pp. 12699-12711, Nov. 2022
17. Wasiq, D., Duala, M., Sarwar, A., **Iqbal, A.**, Mekhalief, S., (2022), “A Triple Boost Thirteen Level Switched-Capacitor based Multi-level Inverter Topology for Solar PV Applications”, *Int. Journal of Circuit Theory and Application*, Wiley, <https://doi.org/10.1002/cta.3391> (Early Access)
18. Duala, M., Wasiq, D., **Iqbal, A.**, Mekhalief, S., Wahyudi, A., Rawa, M., (2022), “11 Level boost inverter topology with dual source configuration”, *IET Power Electronics*, <https://doi.org/10.1049/pel2.12317> (Early Access)
19. Abbas, A., **Iqbal, A.**, (2022), “A subdomain model for armature reaction field and open-circuit field prediction in consequent pole permanent magnet machines”, *Int. Journal of Numerical Modeling*, Wiley, March 2022, <https://doi.org/10.1002/jnm.3023>.
20. Ahmad, F., **Iqbal, A.**, Ashraf, I., Marzband, M., Khan, I., (2022), “A Novel AI Approach for Optimal Deployment of EV Fast Charging Station and Reliability Analysis with Solar based DGs in Distribution Network”, *Energy Report*, EGYR-D-22-01538R2 (Accepted)
21. Waghmare, M., Sumre, B., Aware, M., **Iqbal, A.**, (2023), “Dual Stage Single-phase to Multi-phase Matrix Converter for Variable Frequency Applications”, *IEEE Trans. On Power Electronics*, vol. 38, issue 2, pp. 1372-1377, Feb 2023
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GUEST EDITORIAL

Khan, I., **Iqbal, A.**, Kumar, S., Mitilo, M., Shahidepour, M., Gurrero, J.M., Holem-Neilson, B., (2022), "Fast, superfast, and ultra-superfast Intelligent and Smart Charging Solutions for Electric Vehicles," in *IEEE Transactions on Industry Applications*, 2022, doi: 10.1109/TIA.2022.3187675.

Technical Article:

- Article on “Multi-phase (more than three-phase) motor drive”, *vol. 1, issue-2*, Newsletter of Galgotia college of Engg. & Tech., Noida, India. Oct. 2010.
- “Space Vector PWM Techniques for a three-phase VSI”, Encyclopaedia, 2019, v1, Available online: <https://encyclopedia.pub/109>

B. Keynote Lectures

- *Opportunities and Challenges in Grid-Connected Distributed Energy Sources*, 4th Int. Conf. on Sustainable Technologies for Industry 4.0, 17-18 Dec. 2022, Dhaka, Bangladesh.
- *Grid-connected Distributed energy sources-challenges and Requirements*, Electrical and Electronics Virtual Conference on 25 March 2022.
- *Energy Transition-Challenges and Requirements*, International Congress on Renewable Energy (ICORE-21), Reva University, Bangalore, India, 27th Nov. 2021
- *Grid-connected renewable energy sources-challenges and trends*, 18th IEEE International multi conference on Systems, Signals and Devices, 2021, 22-25 March 2021, Monastir, Tunisia.
- *Wireless Battery Charging System-Challenges and Trends*-Students and Young Professional Symposium’21, IEEE PES Lecture, 27 March 2021
- *Multiphase motor drive system-challenges*, 1st Workshop on Smart Grid and Renewable Energy at Doha, Qatar, 22-23 March 2015
- *Grid-connected Solar PV Inverters-Challenges and Requirements*, Int. conf. on Recent trends and advancement in Electrical Engg., and Renewable Energy, 23 Feb. 2018, Alwar, Rajasthan, India
- *Multiphase motor drive system-state-of-the-art and future challenges*, Int. conf. on signals, machine, and automation, 24- Feb 2018, NSIT, New Delhi, India
- *Distributed Energy Generation-Challenges and requirements*, in 4th IEEE Int. Conf. on Power Electronics and Application ICPEA 25-27 Sept. 2019 at Elazig, Turkey.

C. Planery Talk

- *Energy Transition for Net-Zero-The Road Ahead, 2nd IEEE International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET-2022), 24-25 June 2022, NIT Patna, India.*

D. Sponsored R&D Projects:

Projects Sponsored by QNRF, Doha, Qatar

On-going R&D Projects:

1. Impact Assessment of EV Charging Stations and Regulation policies for upcoming Active Distribution Network of Qatar Utility Grid-NPRP13S-0108-200028 [500kUSD, April 2021-March 2024]

Sponsored by Qatar University (On-going):

2. "Design, Optimization, Fabrication, and Control of High-Speed Electrical machines for Next Generation Electric Transportation Technology" [210,000 QR] QUCG-CENG-22/23-471 [Jan. 2022-Dec. 2023]
3. "Efficient Smart Home Energy Management with Emphasis on Electrical Vehicles' Charging/Discharging Strategy"-Graduate Assistant Fund [800,000 QR, Aug 2022-Aug 2026]

Industrial Project (completed)-MARUBENI-JAPAN:

4. "Off – Grid Power Supply Solution for Portable Cabins using Solar PV System for Qatar", QU-Marubeni Corporation Concept to Prototype Development Grant (2-2-2020 to 31-12-2021) (560K QR)-Project ID: **M-CTP-CENG-2020-2.**

Completed R&D Projects:

5. '1-MW PV Power RD&D Using SiC-based qZS Cascade Multilevel Inverter and Battery Energy Storage', NPRP X 033-02-077, 5-years from Oct 2013 to May 2019 (4.6 million USD)
6. "Protection and control of power system in presence of high penetration of renewable energy sources and FACTS elements", NPRP 11S-1125-170027 from March-2019 to Aug. 2022 (800K USD)
7. "Design, optimization, and Implementation of Permanent Magnet Brushless Synchronous Motor by using 2-D Analytical Magnetic Model"-Qatar University Collaborative research grant [210,000 QR, 2021] QUCG-CENG-21/22-1 [March 2021-Dec. 2022]
8. 'Highly Efficient Inductive Power Transfer System for Electric Vehicles', UREP 20-101-2-029 (June 2017-June 2018) (15000 \$) (Mentor)
9. 'Independently controlled four-wheel drive system for Autonomous Electric Vehicle', UREP 21-062-2-022 (Feb. 2018-Feb. 2019), (22,000 USD)
10. 'Advanced power electronic supply solution for variable ac motor drives', NPRP 4-152-2-053 (Amount 1049038.80 USD), 3-years from 1st April 2012 to 31st March 2015.
11. 'Photovoltaic and Wind energy generation (Technical and economical aspect)' NPRP 4-08-02-30 (Amount 1046303.2 USD), 3 years from 1st June 2012 to 31st May 2015.
12. 'Advanced Model Predictive Control application to Power Electronics and Drives', NPRP 04-077-2-028 (Amount 1033555.75 USD), 3 years, 15th Jan 2012 to 14th Jan 2015.
13. 'Single stage power generation for PV system', UREP 10-11-02-003 (July 2011 to June 2012) (60,000 USD).
14. 'Replacing Incandescent lamps with Solid-State Lighting systems- Performance on Household Appliances'-UREP 17-061-2-017 (April 2015-March 2016), (30,000 USD).
15. 'Five-phase induction motor drive system with output LC filter", UREP 12-31-02-10 (Aug. 2012 to October 2013 (79949 USD)
16. 'Model predictive control of qZSI with PV power conversion with battery storage", UREP 12-35-02-12 (July 2012 to Jul 2013), (40,000 USD)
17. 'Reduced switches count multi-phase multi-level voltage source inverter', (April 2013 to March 2014). UREP 13-41-02-17 (60,000 USD)
18. 'Performance characterization of lighting systems-Effects on health, environment and Power Quality of Qatar Utility Grid', UREP 15-075-2-027 (March 2014 to March 2015) (60,000 USD)
19. 'Hybrid renewable energy generation system for eco-friendly buildings in Qatar' UREP 15-042-2-014 (Jan. 2014 to Jan 2015), (39948 usd).

20. “Design and implementation of a Fast DC Battery Charger for Electric Vehicles”, Project ID: QUST-2-CENG-2019-6 (Aug. 2019-Nov. 2019) (10,000 QR)
21. “Novel Quasi Impedance Source Based Power Electronic Converters for Grid”, Project ID: QUST-2-CENG-2019-5 (Aug. 2019-Nov. 2019) (20,000 QR)
22. “Advanced Reconfigurable Multiphase Motor Drive System for Electric Vehicle Applications”, Project ID: 137 (Feb. 2019-Feb. 2021) (540K QR)-High Impact Grant (sponsored by Qatar University), QUHI-CENG-19/20-2.
23. “Multiple Output Contactless Inductive Power Transfer System for Electric Vehicle Battery Charging Station”, Project ID: QUCG-CENG-19/20-5, (Feb. 2019-Feb. 2021) (270K QR)- Collaborative research Grant (sponsored by Qatar University).
24. “Design of a DC/DC Converter with Maximum Power Point Tracking (MPPT) using Wide Bandgap Switching Devices for Solar PV Application”, -QUST-2-CENG-2020-4 [15-Sept to 31 Dec., 2020, 7000 QR].
25. “Design of Solar PV based Electrical Power Supply System for Qatar Dessert Camping”, - QUST-2-CENG-2020-5, [15-Sept to 31 Dec. 2020, 7000 QR].
26. Design and development of rapid electric vehicles battery charging system for community use, UREP24-091-2-018 (30000\$)-Aug 2019-Aug 2020.
27. A novel methodology to validate cyberattacks and evaluate their impact on Microgrids with cybersecurity in real time digital solution [14,000 QR, 2021] QUST-1-CENG-2021-10. [Jan. 2021-April 2021]
28. Design and Implementation of Switched Inductor Based High Gain DC-DC Power Converters for Nano-grid Applications [14,000 QR, 2021] QUST-1-CENG-2021-11[Jan. 2021-April 2021]
29. “Design of Electric Vehicle Level 1 and Level 2 Charger for residential applications”, QUST-2-CENG-2021-215 [7000 QR] [15 Aug-30 Nov 2021]
30. “Design of an efficient on-board integrated charger for Electric Vehicles”, QUST-2-CENG-2021-205 [7000 QR] [15 Aug-30 Nov 2021]
31. Design and Development of Rapid Electric Vehicle Battery Charging System for Community Use-Phase II-[Optimal V2G and V2H Operations]-UREP 27-021-2-010, Feb. 2021-Dec. 2021 (30000\$)-Awarded

Projects Sponsored by QU, Doha, Qatar

32. Start-up grant QUSG-ENG-SPR-11/12-11 (50,000 QR), (May-2011 to March-2012).
33. Development of Advanced Multi-Phase Multi-level open end winding motor drive system Qatar University Internal Grant QUUG-CENG-DEE-11/12-6. (125000 QR) (April-2012 to April-2014).
34. QUST-CENG-FALL-11/12-11 “Fault Diagnosis of Induction Motor Drive System” (57300 QR) (April 2012 to April 2013)
35. QUST-CENG-SPR-12-22 “Design and Development of a three-phase PWM inverter”, (10,000 QR) (20 Sep. 12 to 19 September 2013)
36. QUUG-CENG-DEE-1213-11, “PV-Thermal Solar Hybrid Power Generation System with Energy Storage”, (May 2013-April 2014) (150000 QR)
37. QUST-CENG-SPR-12/13-6, “Design of reduced switch count three-level five phase voltage”, (May 2013 to May 2014), (10000 QR)
38. QUST-CENG-SPR-13/14-2, “Power System Architecture of Qube Sat “First QU cubesat”- Phase II (10,000 QR) (30 April 2014 to 31 April 2015)
39. QUUG-CENG-EE-14/15-1, “Optimal Sustainable Energy Design in Autonomous System using Modified Particle Swarm Optimization”, (6th April 2015 to 5th April 2016), (100000 QR)
40. QUST-CENG-SPR-14/15-8, “Design and development of a three to five-phase transformer”, (17/5/2015-31/03/2016) (10,000 QR).
41. QUST-CENG-SPR\2017-12, “Design and development of a Contactless Battery Charger For Electric Vehicles” (8/01/2017 to 31/12/2017) (10,000 QR).
42. QUST-2-CENG-2017-17, “Design and development of a 4x4 Electric Vehicle”, (1/06/2017 to 31/12/2017) (10,000 QR)
43. QUST-2-CENG-2017-17, “Modelling and Control of Multiphase Matrix Converters for Motor Drive Applications”, (1/06/2017 to 31/12/2017), (20,000 QR)
44. “Design and development of DC microgrid”, QUST-1-CENG-2019-5, 05/02/2019 to 2/05/2019 (end of spring 2019) [10,000 QR]
45. “Design and Development of LED based floodlighting system for a UEFA football stadium”, QUST-1-CENG-2020-3 [Jan 2020-April 2020] [10,000 QR]

46. “Design of a Pole-Phase Modulated Induction Motor Drives for Electric Vehicle applications” QUST-1-CENG-2020-4 [Jan 2020-April 2020] [10,000 QR]

Project Sponsored by Govt. of Malaysia:

47. “Design and Development of High Power and Highly Efficient Multi-phase PWM Current Source Inverter for Five-phase Induction Motor” 50,000 RM at UTM, Malaysia, Project ID/Kod Projek: PJP/2012/FTK(5B)/S01097.

Project Sponsored by Govt. of Poland:

48. “Control, estimation and diagnostic algorithms for electrical drives with multiphase induction motors and voltage inverters output filters”- ID: 221548, OPUS, ST7 – stan z 2013-06-09 16:17:26 [wydruk roboczy] (Dec-2013 to Nov. 2016) (167,000 USD)

Project Sponsored by Govt. of India:

49. All India Council for Technical Education (AICTE), New Delhi, Govt. Of India sponsored project entitled “Critical Performance Evaluation of a DSP based Five-phase Induction motor drive” – (2007-09) (Rs. 8.23 lakhs equivalent to nearly \$20,000) No. 8023/BOR/RPS-86/2006-07, 2 years.
50. Council for scientific and industrial research (CSIR), New Delhi, Govt. Of India sponsored project entitled “Space Vector PWM of multi-phase voltage source inverter”- (2007-09) (Rs. 13.14 lakhs, equivalent to nearly \$30,000). File No. 22(0420)/07/EMR-II, 2 years
51. Council for scientific and industrial research (CSIR), New Delhi, Govt. Of India sponsored project entitled “Development of Control Algorithms for a three to multi-phase Matrix Converter” March 2009 to March 2012, (Rs. 18.57 lacs, equivalent to nearly \$45,000). File No. 22(0462)/09/EMR-II for a period of 3 years (2009-2012), 3 years.

E. Patents:

1. Multiphase Induction Motor Drive for Gearless Electric Vehicles, Attorney Docket Number; 432743.10216, Application Number: 63135388, US 2022/0224273, 14 July, 2022, Application filed on 8 Jan 2021
2. DC-DC Switched Inductor Boost (SI-B) Converter-US 2021/0313890A1, Oct 2021, Patent Number 11316430.
3. A Dual input Switched-Capacitor based Boost Inverter Topology for Renewable Energy Applications, U.S. Provisional Patent Application No. 63/257, 492 filed October 19, 2021 Our Ref: 432743.10245
4. Linear Regulated Dimmable LED Driver For DC Distributed Lighting System, Feb 2017, Attorney Docket No.: 432743.10074, U.S. Patent Application No.15/963,628
5. A Novel three-phase to seven-phase transformer, IP Australia, Patent Number 20211060622
6. Three to Five-phase transformation using AMR (Atif-Moinuddin-Rizwan) connection scheme – File No. 2684/RQ-DEL/2008. (Published, 2/10/2009)
7. Three to Seven-phase transformation using MAR (Moinuddin-Atif-Rizwan) connection scheme – File No. 2685/RQ-DEL/2008. (Published, 2/10/2009)
8. Automatic Fault tolerant system to obtain continuous three phase supply--- File No. 2686/RQ-DEL/2008. (Published, 2/10/2009)
9. Constant Volt per Hertz Control of Induction motor using Variable frequency transformer -File No. 1469/RQ-DEL/2010. (Published, 26/08/2011)

Provisional Patent Applied to US Patent Office:

10. Single Coil Multiphase Synchronous Generators for Wind Energy Conversion Systems (QU 2022-20)
11. Online fault diagnosis technique for inter-turn faults in switched reluctance machine (QU 2022-21, 15 Nov. 2022)

UNDERGRADUATE AND POSTGRADUATE STUDENT'S SUPERVISION DETAILS

A) PhD Supervised: 17 (Awarded), 4 (Under Progress) = 21 (Total PhD)

S.No.	Title	Completion Date	University	Remark
1	Modelling and Control of multi-phase voltage source inverters – (Shaikh Moinoddine) Student ID: Y-2427	7 th Feb. 2009- Completed	Aligarh Muslim University, India	Main Supervisor
2	PWM control of multi-phase voltage source inverter supplying multi-motor drive systems- (Md. Arif Khan) Student ID: 07-PhD-E-369	1 st December 2012- Completed	Aligarh Muslim University, India	Main Supervisor
3	Modelling, Simulation and Analysis of Maximum power point tracking of Paralleled Solar Photo-voltaic Modules – (Md. Fahim Ansari) Student ID: 2219	24 th Feb 2012- Completed	NITTR, Chandigarh, India	Co-Supervisor
4	Development of Control techniques for Direct AC-AC Matrix converter fed Multi-Phase Multi-Motor Drive System – (Mohammed Saleh) Student ID: s3575424	1 st May 2014 - Completed	Victoria University, Melbourne, Australia	Co-Supervisor
5	Development and Integration of Multilevel Inverter for solar PV applications – (Faiz Menai) Student ID: 13038	22 nd Nov. 2017 - Completed	Integral University, Lucknow, India	Co-Supervisor
6	Modelling and Control of Multiphase Matrix converter for Motor Drives Applications – (Khaliqur Rahman) Student ID: 201404782	26 th Nov. 2018- Completed	Qatar University, Qatar	Main Supervisor
7	Modelling and Non – linear Control of a Five-Phase PMSM in Normal and degraded Modes – (Hosseyeni Anissa)	28 th Nov. 2018- Completed	National School of Engineering, Monastir, Tunisia	Co-supervisor
8	Modeling and Control of a Five Phases Induction Motor in Healthy and Faulty Operations conditions – (Hamdi ECHEIKH)	28 th Nov. 2018- Completed	National School of Engineering, Monastir, Tunisia	Co-supervisor
9	Design And Development of Advanced Control Algorithm For Grid Connected PV System- (M.Ibrahim) Student ID: 1601039	27 August 2020- Completed	Integral University, Lucknow, India	Co-Supervisor
10	Performance Evaluation of Hybrid Solar PV /Diesel Engine Systems For Telecommunication Base Station Power Supply-Mohd. Khursheed Student ID: 13045	4 th September 2020 Completed	Integral University, Lucknow, India	Co-Supervisor
11	Low Switching frequency PWM techniques for multi-phase voltage source inverter – (Salman Ahmed)	9 th October 2019 Completed	Aligarh Muslim University,	Co-Supervisor

	Student ID: 15-PhD-EED-61		Aligarh, India	
12	Modelling, Control and Implementation of Isolated and Non-Isolated High Gain Impedance Source Power Converters (Mohammad Meraj) Student ID: 201610777	18 April 2021 Completed	Qatar University, Qatar	Main Supervisor
13	Modelling, Design, and Implementation of High Gain Power Electronic DC-DC Converters for Nanogrid Applications (Shima Sadaf) Student ID: 201804614	29 Nov. 2021 Completed	Qatar University, Qatar	Co-supervisor
14	Harmonic reduction of grid integrated multilevel inverters (Ahmed Riyaz) Student ID: 2014DR1131	8 June 2022 Completed	IIT (ISM), Dhanbad, India	Co-supervisor
15	Three phase to seven phase power conversion techniques for high power applications (Md Tabrez) Student ID: 2015DR1154	29 July 2022 Completed	IIT (ISM), Dhanbad, India	Co-supervisor
16	Design, Modelling and Control of Multiport Hybrid Power Converters With AC and DC outputs for Nanogrid Applications (Md. Samiullah) Student ID: 17PHDEED40	Sept. 2023 (Expected)	Aligarh Muslim University, Aligarh	Co-Supervisor
17	Modulation and control of Novel Multilevel Inverter Topology for Solar PV application- (Israr Ahmad)	6 th Sept. 2022 Completed	Integral University, Lucknow, India	Co-Supervisor
18	Cyber Security Enabled Protection and optimization of active distribution networks in Smart Grids (Shahbaz Hussain) Student ID: 201409608	17 th Nov. 2022 Completed	Qatar University	Main Supervisor
19	Optimal deployment and sizing of plug in electric vehicles (PEVs) charging station in urban area- (Fareed Ahmad) Student ID: 18PHDEED19	Dec. 2023 (Expected)	Aligarh Muslim University, Aligarh, India	Co-Supervisor
20	Design and Development of Efficient Multilevel Inverters with Switched Passive Networks for Renewable Energy System Applications (Mohammad Zaid)	Dec (2025) (Expected)	Aligarh Muslim University, Aligarh, India	Co-Supervisor
21	Electric Vehicle Charging strategies and their Integration Impact on Active Distribution Network (Sheetal Kumal Deshmuk-201912817)	Dec (2025) (Expected)	Qatar University	Main Supervisor

B) Master Dissertation Supervised: Completed (22)

1. Abdellahi Sidi Ahmed (2021), “Investigation on EV Charging Stations Penetration on Kahramaa Distribution Network”, 27 April 2021.
2. Veer Singh (1998), “Design and implementation of a Fly-back Converter” – Co-supervisor
3. Jamshed Anwer (1998), “Design Fabrication and Testing of IGBT based MPPT for Solar Photo-voltaic System” – Supervisor

4. Shaik Moiunddin (1998), “Design and Realization of a versatile Master Controller for Power Electronic Converter” –Co-Supervisor
5. Zameer Ahmad Khan (2000), “On Computer networking principles, methodologies and applications” – Co-Supervisor
6. Semma Kaushik (2000), “Energy Generation Forecasting Of a 100 kW (Peak) Kalyanpur Solar Photovoltaic Power Plant using ANN” – Co-Supervisor
7. Ghufran Ahmad (2001), “Development of MPPT for solar Photovoltaic System” – Main Supervisor
8. Shahid Akhtar (2002), “Modelling of a 25 kW (Peak) Grid Interactive Solar Photovoltaic Power plant using ANN” – Co-Supervisor
9. Fazulr Rahman (2002), “Techno Economic Analysis of a stand-alone SPWV and Diesel hybrid power plant” – Co-Supervisor
10. Javed Ahmad (2003), “Development of Power Electronic converter for hybridization of SPWV system with Grid” – Supervisor
11. Mohd. Arif Khan (2007), “Generalised Discontinuous Space vector PWM techniques for a five-phase VSI” – Supervisor
12. Puneet Sharma (2007), “Continuous Control of a five-phase VSI in over modulation region including ten step mode” – Supervisor
13. Mohd. Shahid (2008) “Control Characteristics of a five-phase induction motor drive” – Supervisor
14. Sk. Moin Ahmed (2007-08), “Stability analysis of five-phase series-connected two-motor drive system” – Supervisor
15. Tasaddaque Husain (2007-08) “Fault analysis of a five-phase induction motor drive system” – Supervisor
16. Dinesh Sharma (2007-08) “Simulation of AC-AC Matrix converter” – Supervisor
17. Ahmed Reyaz (2008-09), “Performance analysis of a five-phase induction motor drive under variable voltage supply” – Supervisor
18. Saifullah Piyami (2008-09), “Performance analysis of a five-phase induction motor drive under unbalanced voltage supply” – Supervisor
19. Ahmad Anad Abdullah (2014-2015), “Modulation and Control of Impedance and quasi-impedance source inverters” – Main Supervisor (defence on 27th May 2015 at the Qatar University).
20. M. Sartaj (2015-16), “Modelling and Simulation of a Five-phase Induction Generator” – Supervisor at AMU, Aligarh.
21. Fareed Ahmed (2015-16), Energy Conservation through Demand Side Management in Utility Grid”, Co-Supervisor at AMU, Aligarh.
22. Shahbaz Tabish, (2015-16) “Maximum power point tracking under partial shaded condition of Solar PV system”, Co-supervisor, at AMU, Aligarh.

C) Bachelor Student’s Project Supervision:

Spring 2015-Fall2015

- Power System Architecture for Cube-Sat Phase II
- Design and Implementation of Dynamic Voltage Restorer
- Design of a 3/5 phase transformer with fault diagnostics

Spring 2016-Fall 2016:

- Performance Evaluation of a Single-phase Induction motor for Distorted Supply

Fall 2016-Spring 2017

- Design of wireless battery charger for EV applications

Fall 2017-Spring 2018

- Design of a 4x4 EV
- Simultaneous AC/DC Transmission
- Design of LED driver circuit

Fall 2018-Spring 2019

- Design of DC Microgrid System

Fall 2019-Spring 2020

- Design and implementation of a Fast DC Battery Charger for Electric Vehicles [3rd Best Project Award by college of Engineering, Qatar University]
- Design of LED based floodlighting system for a UEFA football stadium
- Design of a Pole-Phase Modulated Motor Drives for Electric Vehicle applications

Fall 2020-Spring 2021

- Design of Solar PV system for Qatar Dessert Camping
- Design of Motor for EV applications
- Design of GANFET based DC/DC converter for MPPT Applications

Spring 2021-Fall 2021

- Design of Level 1 and Level 2 EV Charger (Best Project Award Spring 2022)
- Design of Onboard charger for EV applications

Fall 2022-Spring 2023

- Design and Implementation of EV chargers used to provide ancilliary services to Power Distribution Network.
- Design and Controller Hardware-in-the-Loop Simulation of an off- board dc fast integrated charger for Electric Vehicles

EXTERNAL THESIS AND GRANT EVALUATIONS

PhD Thesis Evaluation (20):

- **PhD Thesis:** Performance Investigation of Transistor Clamped H - Bridge Inverter Based DVR for Diverse Power Quality Problems-Humeera Altaf-National Institute of Technology, Srinagar, India, 10 Nov. 2022
- **PhD Thesis:** Effect Of Nanomaterials On The Electrical And Thermo Physical Properties Of Insulating Materials-Suhaib Ahmad Khan, Aligarh Muslim University, India, 19 Dec. 2022
- **PhD Thesis:** Efficient And Autonomous Management Of Energy In Residential Building Using Optimization Algorithms-Arshad Mohammad-Aligarh Muslim University, Aligarh, India-6th Nov. 2022
- **PhD Thesis:** Development And Control Of Switched-Capacitor Multilevel Inverters-Mohammad Tayyab- Aligarh Muslim University, India, 7 Nov. 2022
- **PhD Thesis:** Development of An Energy Management System For Fuel Cell/Lithium-Ion Battery Hybrid Electric Vehicles –Obu Samson Showers- Faculty of Engineering Cape-Peninsula University of Technology-Sept. 2022
- **PhD Thesis:** A Novel Approach for Power Quality and Reliability Analysis in Distribution System, Likhitha R, Visveswaraya Technological University, Belgaun, India, 10 August 2022
- **PhD Thesis:** Development of solar pv simulator for realizing pv Characteristics of module under varying environmental conditions, Mohammed Shahabuddin, Integral University, Lucknow, India, 3 April 2022
- **PhD Thesis:** Implementation Of Shunt Active Power Filter With Reduced Number Of Sensors, Shivangni Sharma, NIT, Patna, India, 25 Jan. 2022.
- **PhD Thesis:** Optimal Design And Planning Of Large-Scale Offshore Wind Farm, Mohammad Mushir Riyaz, Aligarh Muslim University, Aligarh, India, 27th Nov. 2021
- **PhD Thesis:** Investigation Of Multi-Function Grid Connected Converters For Enhanced Operation Employing Evolutionary Control Strategy, K. Vijayakumar (Reg. No. 201209220), Kalasalingam Academy Of Research And Education, 27th March 2021
- **PhD Thesis:** Load Frequency Controller Design And Analysis For Multi-Area Power System, Anand Kumar, NIT Patna, India, 12th Dec. 2020.
- **PhD Thesis:** Low switching frequency PWM techniques for multiphase voltage source inverter, Salman Ahmad, Aligarh Muslim University, Aligarh, India, 18th Aug. 2020
- **PhD Thesis:** An Efficient And Reliable Drive System For Oil And Gas Recovery In Subsea Applications, Mohammed Daoud, Qatar University, 18th April 2019
- **PhD Thesis:** Development Of Novel Non-Isolated Unidirectional Dc-Dc Multistage Power Converter Configurations For Renewable Energy Applications-Hardware Implementation And Investigation Studies-Mahajan Sagar Bhaskar, University of Johannesburg, South Africa, Oct. 2018.
- **PhD Thesis:** Design of Estimated Droop Controller For Microgrid and Flexible Positioning Of Distributed Generation-Sheela, A., Annamalai University, Chennai, India-May 2016.
- **PhD Thesis:** Security Analysis of Electrical Power Systems by Margin and Sensitivity Methods and Security Enhancement by FACTS Devices-Imran Khan, Integral University, India- June 2016

- **PhD Thesis:** Analysis And Design Of New Softs witching Bidirectional Dc-Dc Converter For Energy Storage Applications-Rajesh Thumma, KIITT University, Bhubaneswar, India-Oct 2017
- **PhD Thesis:** Hardware Development of Novel High Gain Series of DC-DC Converter Configurations for Renewable Energy Applications- Pandav Kiran Maroti, University of Johannesburg, South Africa, June 2019.
- **PhD Thesis:** Useful energy utilisation of integrated solar PV and thermal module with storage device, Aminou Moussavou-Faculty of Engineering Cape-Peninsula University of Technology-July 2019
- **PhD Thesis:** An Energy Management System For A Hybrid Reversible Fuel Cell/Supercapacitor In A 100% Renewable Power System- Doudou Nanitamo Luta- Faculty of Engineering Cape-Peninsula University of Technology-Sept. 2019

Master Thesis Evaluation (14):

- **Master Thesis:** Renewable energy microgrid for iron-ore rail freight shunting yards - Babalo Dekeda -Cape Peninsula University of Technology, South Africa-Sept. 2021
- **Master Thesis:** Energy management of a battery energy storage system for renewable energy DC microgrids - Christian Ndeke Bipongo -Cape Peninsula University of Technology, South Africa-Sept. 2021
- **Master Thesis:** Distance Power System Protection In Presence Of Renewable Energy Solar And Wind-Ahmad Aljabery-Qatar University-April 2021
- **Master Thesis:** Energy storage mechanisms for an African microgrid-Taariq Hendricks-Cape Peninsula University of Technology, South Africa-April 2021
- **Masters Thesis:** Impact of Distributed Generation on the electric protection system- Rufaro Mavis Mutambudzi-Cape Peninsula University of Technology, South Africa-Aug. 2019.
- **Master Thesis:** Development Of Multi-Phase Variable Frequency Drives For The Oil & Gas Industry, Izzeddin Shehada, 18 April 2019, Qatar University.
- **Master Thesis:** High-Power Multiport Dc-Dc Converter for Pv Farm Applications, Mohammad Khodadady, 17 April 2019, Qatar University.
- **Master Thesis:** Multi-terminal HVDC network with optimal power sharing for high-power renewable energy sources, Swasan Syed, Qatar University, Oct. 2018.
- **Master Thesis:** Grid Integration Of High-Power PV Generation Using Modular Multilevel Converter, Alaa M. Altawallbeh, Qatar University, 9-Jan-2019.
- **Masters Thesis:** Comparative Strategies For Efficient Control And Storage Of Renewable Energy In A Micro Grid-H. Du. Plooly-Cape Peninsula University of Technology, South Africa-Dec. 2016.
- **Masters Thesis:** Reconfigurable photovoltaic modules for nanosatellites- TCHONKO LEON NJOUAKOUA-Cape Peninsula University of Technology, South Africa-Dec. 2017.
- **Masters Thesis:** Fault Prediction and Classification in Transformer through SFRA- Ambuj Kumar (Registration No: 13M260)-Dept. of Electrical Engineering, NIT, Hamirpur, Himachalparadesh, India, Sept. 2015.
- **Masters Thesis:** Dielectric Diagnostic of Oil-Paper Insulation of Power Transformer Sunil Kumar Singh (Registration No: 13M265) – Dept. of Electrical Engineering, NIT, Hamirpur, Himachalparadesh, India, Sept. 2015.
- **Masters Thesis:** Advanced technological solutions to the negative perceptions of nuclear power plants GD Joubert-Cape Peninsula University of Technology, South Africa-Oct. 2018.

Research Grants Evaluated:

- A software-based Energy Trading System for Local Electricity Markets (ETS4LEM), ESRC, Research Grant, UK, ES/W002140/1, June 2021
- Design and analysis of switched fractional order controllers for optimized system performance and energy consumption: Application to energy intensive processes, National Research and Development Agency (ANID) of the Ministry of Science, Technology, Knowledge and Innovation of Chile, Proposal Number 1220168, Nov. 2021.

Book Evaluation:

- Modeling and Electronic Control of Modern Electrical Energy Systems, Wiley IEEE Series, October 2021

- Advanced Control of Power Converters: Techniques and Matlab/Simulink Implementation Series: IEEE Press Series on Control Systems Theory and Applications Hasan Komurcugil, Sertac Bayhan, Ramon Guzman, Mariusz Malinowski, and Haitham Abu-Rub (Wiley)—Dec. 2022

Program Evaluation:

- Program evaluator for BEng (Electrical Engineering), King Faisal University, Hafouf, KSA-October 2022

INVITED SPEAKER (SEMINARS/WORKSHOPS)

- Delivered a webinar on “Challenges in Grid-connected Distributed Energy Sources, organized by IEEE PELS Malaysia Section, on 20th October 2022.
- Delivered a webinar on “Design projects-Prospects and Challenges”, organized by VIT, India on 29th April 2022.
- Delivered a webinar on “Design projects-Planning and Implementations”, organized by Graphic Era University, Dehradun, Uttarakhand, India, on 1st Dec. 2021.
- Delivered a webinar on “Final year student design projects-Choices and Implementations”, organized by Islamic University of Science and Technology, Jammu & Kashmir, India, on 11th Nov. 2021.
- Delivered a webinar on “Grid-connected distributed energy generation-challenges and trends”, organized by Gdansk University of Technology, Poland, on 26th Jan. 2021.
- Delivered a webinar on “Research Methodology”, organized by Dept. of Electrical Engineering, Aligarh Muslim University, Aligarh, India, on 6th Aug. 2020.
- Delivered expert lecture on eVIT Conclave 2.0 on “Multilevel Inverters for EV applications”- 23-24 Oct. 2021, VIT, Chennai, India
- Delivered a webinar in two days International webinar on “Writing research projects and articles”, organized by Annamacharya Institute of Technology & Sciences, Rajampet, AP, India on 4th Aug. 2020.
- Delivered a Webinar entitled, “Distributed Energy Sources-A Solution for community Use”, in Faculty Development Training program on 27th July 2020 organized by GMR Institute of Technology, Rajam, AP, India
[\[https://www.youtube.com/watch?v=fqiitGsY_rw&feature=youtu.be\]](https://www.youtube.com/watch?v=fqiitGsY_rw&feature=youtu.be)
- Delivered a Webinar entitled, “Capstone Design project-challenges and opportunities”, on 23-July-2020 organized by Dept. of Science & Tech., Govt. of Bihar, India
[\[https://www.youtube.com/watch?v=gXKpXBBJ2Fs&feature=youtu.be\]](https://www.youtube.com/watch?v=gXKpXBBJ2Fs&feature=youtu.be)
- Delivered a webinar on ‘Final year UG projects-Challenges and Opportunities’, organized by IEEE Students Branch, ZH College of Engg & Tech., Aligarh Muslim University, Aligarh, India on 22 July 2020.
- Delivered a Webinar entitled, “Final Year Students Project”, on 16-May-2020 in a three-day IEEE Sponsored Workshop (14-16 May 2020) at Kongo College, Coimbatore, India.
- Delivered a Webinar entitled, “Design Project Management”, on 19-May-2020 at SSN College of Engineering, Tamil Nadu, India.
- Delivered a Webinar entitled, “Final Year UG projects-challenges and opportunities”, on 22-July-2020 organized by IEEE Students Branch, ZH College of Engg & Tech., Aligarh Muslim University, Aligarh, India.
- Delivered Invited talk in Technical Seminar, entitled, “Distributed Energy Generation-Challenges and Requirements”, organized Institution of Engineers (India) at Oryx Rotana, Doha, Qatar on 28th Oct. 2019.
- Delivered expert lecture on “Multiphase Drives”, at the Dept. of Electrical Engineering, Muzaffarpur Institute of Technology (MIT), Muzaffarpur, Bihar, India on 4/Aug./2018.
- Lecture Series/Workshop conducted on ‘Innovation and Research Methodology’, 23-25 July 2018, at the Dept. of Electrical Engineering, AMU, Aligarh, India.
- Delivered expert lecture as a Resource person in one-week workshop on “Matlab and it application in Engineering” 13-18 Jan 2016, at Azad Institute of Engineering, Lucknow, India.

- Delivered expert lecture on “multiphase drives-challenges” in a workshop at IIT Patna, India on 5th March 2016
- Delivered expert lecture as a Resource person in one-week TEQUIP II workshop on “Power Electronics in renewable energy and industrial drives” at NIT-Patna, India on 17-18 Dec. 2015.
- Delivered expert lecture as a Resource person in one-week workshop on “Smart Grid Technologies” 23-28 Nov. 2015 at EED, AMU, Aligarh, India. The topic of talk, “Grid-connected solar PV inverters-Challenges and requirements”.
- Attended one day workshop organized by Siemens on ‘Industrial communication network’ at Crown Plaza on 5th May 2015.
- “Session Chair at IEEE ICIT 2015, 17-19 March 2015 at Seville, Spain, at Power Electronics and Renewable Energy-PEREC-1”.
- “The future role of Electricity and impact on the environment”-Guest Speaker for Q-Reliance and Ministry of Environment Go Green seminar at Marriott Hotel, Doha on 8th March 2015.
- Invited speaker at Faculty of Electrical Engineering, University Technical Malaysia (UteM), Melaka, Malaysia on 5th Dec. 2012.
- Technical workshop on “Multi-phase AC drives and renewable energy” at BRCM, Bahal, Haryana on 17-18 August 2012.
- Technical workshop on “Multi-phase AC drives and Fault diagnosis” at VIT University, Chennai, Tamil Nadu on 10 August 2012.
- Technical workshop on “Multi-phase AC drives system and Fault diagnosis” at Arunai College of Engineering, Thiruvanamallai, Tamil Nadu on 9 August 2012.
- “Fault diagnosis of electric drive system using Artificial Intelligence techniques”, at Research Seminar, Dept. Of Electrical Engineering, Qatar University, Qatar on 30th March 2011.
- “Advances in Multi-phase Drive Systems” at Electrical and Control Engineering Department, Gdansk University of Technology, Gdansk, Poland, on 15th May 2010.
- “MATLAB/Simulink for Engineers” at Rural Engineering College, Bhalki, Distt. Bidar, Karnataka, India, on 30th Dec. 2008.
- “Energy Conservation in Electric Motors and Drives” at BHEL, Haridwar, India, on 14th Dec. 2007 on “National Energy Conservation Day”.
- “Matlab/Simulink application to AC Electric Drive Systems” at Azad Institute of Engineering & Technology, Lucknow, India on 17 March 2007.
- “Decoupled dynamic control of series-connected two-motor drive” at Centre for Electronic Design and Technology (CEDT), IISC, Bangalore. India on 13-06-06.
- “Matlab/Simulink model of solar photo-voltaic power plant” in one-week Training Programme on Recent Trends in Renewable Energy & Management (RTREM), 16-21 March’ 2006, Department of Electrical Engg., AMU, Aligarh.
- “Dynamic Decoupled control of series-connected five-phase two-motor drives”, AMU, Aligarh, India, on 21-02-2006.

COMMUNITY & UNIVERSITY ACTIVITIES AND CONTRIBUTIONS

Community/Activity	Nature of Contribution
Special Issue in IEEE Trans. On Industry Application, FAST, SUPER FAST and ULTRA SUPER FAST Intelligent and Smart Charging Solutions for Electric Vehicles-2021	Guest editor
4 th Global Power and Energy Conference, IEEE GPECOM 2022, 14-17 June 2022, Cappadocia, Turkey https://gpecom.org/2022/committee/	General Chair
International Meet on Power Electronics and Applications PEAMEET 2023, Valencia, Spain, 17-19 April 2023 https://www.albedomeetings.com/2023/peameet/committee	Scientific Committee Member

19 th IEEE Int. Multi Conf. on Systems, Signals & Devices 2022, May 06-10 2022, Setif, Algeria https://ssd-conf.org/ambassadors/	Conference Ambassador
3 rd edition of International Conference on Smart Grid and Renewable Energy (SGRE2022) 20-22 March 2022	Publication chair
IEEE 19 th Indian Council International Conference (INDICON), 24-26 Nov. 2022, https://www.indicon2022.org/committee.html	Track Chair (Power Electronics & Drives)
The 14 th IEEE PES Asia-Pacific Power and Energy Engineering Conference 2022 (APPEEC) will be held on 20 th to 23 rd November 2022 in Melbourne, Australia (organised by IEEE PES Victorian chapter). Special Session on Modelling, Control and Protection of Power Electronic Converters used to Interface Renewable Energy Sources to Microgrid”	Session Organizer
International Conference on Smart Technologies and Applications (ICSTA 2022) held on 11 th and 12 th March 2022	Int. Advisory Board Member
47 th IEEE IECON 2021-13-16 Oct. 2021	Publication Chair
IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), 2-5 Jan. 2022 India	Track Chair
IEEE GPECOM 5-8 Oct. 2021 (Renewable energy Management System)	Tutorial Session Chair
IEEE GPECOM 5-8 Oct. 2021 (T2#1, Power Electronics, Converters, Controllers -3)	Session Chair
Int. Conf. on Renewable Power ICRP, 17-18 April 2020, Rajouri, J&K, India	General Chair
2 nd Int. Conf. in Smart Grid and Renewable Energy, SGRE, 19-21 Nov. 2019, Doha, Qatar	Technical Program Co-Chair
12 th IEEE Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), 10-12 April 2018, Doha, Qatar	Technical Program Chair
1 st Workshop on Smart Grid and Renewable Energy at Doha, Qatar, 22-23 March 2015	Organizing Committee
IEEE 2 nd Global Power, Energy and communication conference, 21-23 Oct. 2020, Session on Electrical Machine and Drives I	Session Chair
25 th SPEEDAM, Sorrento, Italy, 24-26 June 2020, http://www.speedam.org/?page_id=1119	Scientific Committee Member,
Workshop on Power Electronics in industrial applications and renewable energy-PEIA-2011, 2-3 Nov. 2011, Doha	Co-Chair
IEEE ECCE-Asia 24-27 May 2021, Singapore SS8: Emerging Multilevel Inverter Topologies with Boosting Feature for Medium/High Voltage Applications	Special Session Organizer
IEEE ECCE-Asia 24-27 May 2021, Singapore SS7: Multiphase Drives for Modern Living	Special Session Organizer
IEEE IECON, 18-21 Oct. 2020, Singapore	Reviewer
SS: Control of Power Converters for Renewable Energy Systems and Smart/Micro Grids, IEEE IECON, 18-21 Oct. 2020, Singapore	Special Session Organizer
Electric Vehicle Charging Systems and their Impact on Smart Grid Operations IEEE IECON, 18-21 Oct. 2020, Singapore	Special Session Organizer
i-manager's Virtual Conference on Electronics and Communication: Loading Intelligence on Future Electronics (VCEC: LIFE2020), to be held ONLINE on the 15 th of October 2020	Technical Committee Member
2020 5 th IEEE International Conference on Computing, Communication and Automation, 30-31 Oct. 2020, http://iccca.in/ICCCA2020/index-2.html	Technical Track Chair
The 3 rd 2019 International Conference on Control, Automation and Diagnosis, ICCAD'19, July 2-4, 2019, in Grenoble-France.	Program Committee Member
Australian University Power Engineering Conference, Fiji, 26-29 Nov. 2019	International Program Committee Member
International Conference on Computational Intelligence, Modelling & Simulations in Advanced Technology (ICIMSAT-2020) C. V. Raman College of Engineering, Bhubaneswar, India	Advisory Committee

28th -29th September 2020	
IEEE ISIE 2020 17-19 June, Delft, Netherland	Reviewer
Session IX: Distributed Generation, Micro Grid and Power Quality - 3 Third Edition of International Conference on POWER INSTRUMENTATION CONTROL AND COMPUTING (PICC 2020), technically co-sponsored by IEEE Kerala Section, India 17-20 Dec. 2020	Session Chair
International Conference on Signals, Machine and Automation (SIGMA), 23-25 Feb. 2018, Delhi, India	Advisory Committee
International Conference on Signals, Machine and Automation (SIGMA), 23-25 Feb. 2018, Delhi, India	Session Chair
International conference on Recent Trends and advancement in Electrical and Renewable Energy, Alwar, Rajasthan, India, 23 Feb. 2018	Session Chair and Key-Note Speaker
3 rd International conference on Electrical Engineering, 28-29 April 2018, Dubai, UAE	Program Committee Member
International Conference on Emerging Trends in Engineering Innovations & Technology Management, 16-18 Dec. 2017, Hamripur, India	Technical Committee Member
42 nd IEEE IECON 2016, 24-27 Oct. 2016, Florence, Italy	Track Chair of Special Machines and Drives
IEEE Transaction on Industry Application (control and automation track)	Associate Editor
IEEE Transaction on Industrial Electronics	Editorial Board (Reviewer)
IEEE Transaction on Power Electronics	Editorial Board (Reviewer)
IEEE Transaction on Industry Application	Editorial Board (Reviewer)
IEEE Transaction on Sustainable Energy	Editorial Board (Reviewer)
IEEE Transaction on Industrial Informatics	Editorial Board (Reviewer)
IEEE Transaction on Transportation Electrification	Editorial Board (Reviewer)
IEEE Access	Editorial Board (Reviewer)
IET Power Electronics	Editorial Board (Reviewer)
IET Electric Power Applications	Editorial Board (Reviewer)
IEEE Transaction on Power Electronics, special issue on Z-Source Inverter Nov. 2016 Digital Object Identifier 10.1109/TPEL.2016.2577418	Guest Associate Editor
Journal of Computer Science, Informatics and Electrical Engineering”, SJI, USA.	Associate Editor
International Journal of Power Electronics and Drives System	Associate Editor
International Journal of Research Review in Engineering, Science and Technology, ISSN 2278-6643 http://ijrrest.org/about/?page_id=2	Senior Editor
International Journal of Engineering, Science and Technology	Editorial Board Member
Enhanced Research publications http://project.weblink4you.com/er_publication/editorial-board.php	Editorial Board Member
International journal of Advanced research on Electrical, Electronics and Instrumentation Engineering, http://ijareeie.com/editorial-board	Editorial Board Member
International journal of Electrical and Electronics Engineering research, http://www.tjprc.org/journals.php?year=2013&jtype=2&id=15&details=editors , ISSN(Print):2250-155X ; ISSN(Online): 2278-943X ; Impact Factor(JCC): 3.7567	Editorial Board Member

I Manager's Journal of Power System Engineering since 2006.	Editor
International Journal of Engineering, Science and Technology	Organized special Issue on Power Electronics and Motion Control, vol. 2, No. 10, 2010
Scientific Journal International, USA	Editorial Board Member
Imanagers Journal of Electrical Engineering	Editor-in-Chief
Journal of Electrical and Electronics Engg. Research	Editorial Board Member
ICIT-2013, 25-28 Feb. 2013, Cape Town Special session on High phase order system SS-06	Special Session Organizer
ICIT-2013 25-28 Feb. 2013, Cape Town Special Session on Modulation and Control of Three-Phase Four-wire Inverter Topologies Used in Power Distribution System	Special Session Organizer
EPE-PEMC 2012 on Sensorless Drive	Special Session Organizer
IEEE IECON 2012 on Z-Source Inverter	Special Session Organizer
IEEE IECON, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019	Reviewer
IEEE ECCE, 2012	Reviewer
IEEE IEMDC 2011	Reviewer
IEEE ISIE, 2010 and ICEM 2010	Reviewer
IEEE IECON 2009	Session Chair (Power Electronics converter) and Reviewer
IEEE IECON 2011 Multi-phase drive systems	Special Session (SS-20) and Session Chair and Reviewer
IEEE IECON 2012	Special Session (SS-44) and Reviewer
IEEE ISIE-2014 at Istanbul, Multi-phase Power conversion and Control	Special Session organizer (SS-12) and reviewer
IEEE ICIT 2015 at Seville, Spain 16-19 March 2015	Special Session organizer on HVDC and FACTS devices
IEEE IECON 2015, Yukohama, Japan	Reviewer
IEEE AFRICON 2015, 14-15 Sept. 2015, AddisAbaba, Africa http://africon2015.org/committees-2/	PC Member of Green Energy System And Technical Program committee
<u>3rd International Renewable and Sustainable Energy Conference (IRSEC'15)</u> , December 3-6 , 2015, Marrakech – Ouarzazate, Morocco http://www.med-space.org/irsec15/tpc/	Technical Program Committee
<u>4th International Renewable and Sustainable Energy Conference (IRSEC'16)</u> , Nov. 14-17, 2016, Marrakech – Ouarzazate, Morocco http://med-space.org/irsec16/tpc/	Technical Program Committee
<u>5th International Renewable and Sustainable Energy Conference (IRSEC'17)</u> , Dec. 4-7, 2017, Tangier, Morocco http://med-space.org/irsec17/tpc/	Technical Program Committee

Renewable and Sustainable Energy Conference 2017 (RSEC'2017), HCT, Sharjah, UAE	International Program committee
Int. conf. on Automation, Control and Diagnosis, 19-21 Jan 2017, Hammamet, Tunisia, http://www.iccad2017.com/index.php/committees	International Program Committee
ICCAD'18 (2018 - IEEE International Conference on Control, Automation and Diagnosis), 19-21 March 2018 Marrakech, Morocco	Program Committee Member
IEEE Int. Conference PEDES 18-21 December 2018, Chennai, India	Track Chair, Industrial Drives
SSS'18 (2018 International Conference on Sensors, Systems, Signals and Advanced Technologies), 8-10 May 2018, Hammamet, Tunisia	Program Committee Member
Int. Conf. on New Technological Opportunities in Networking and Sciences (NEWTON-18), 8-10 June 2018 Pithoragarh, Uttarakhand (Springer journal editor Int. journal of Intelligent Systems design and computing, Special issue on for conf. proceeding)	Editor
SS: Modular Multilevel Converters and Applications IEEE IECON 2018, 21-23 Oct 2018, Washington, USA	Special Session Organizer
SS: Control of Multiphase Motor Drive System IEEE IECON 2018, 21-23 Oct 2018, Washington, USA	Special Session Organizer
SS: IEEE 1 ST GLOBAL POWER, ENERGY AND COMMUNICATION CONFERENCE (IEEE-GPECOM 2019), 12-15 June 2019, Cappadocia, Turkey [RECENT TRENDS IN DC-DC CONVERTER FOR RENEWABLE ENERGY APPLICATIONS]	Special Session Organizer
IEEE UPCON 2019, 8-10 Nov. 2019, Aligarh, India	Int. Advisory committee
19 th IEEE Int. conference on Environmental and Electrical Engineering and 3 rd Industrial and commercial power system Europe, 11-14 June 2019, Genoa, Italy SS on Recent development in Multilevel Inverters-Design, Modeling and Control Strategy.	Special Session Organizer
SS-74: Multiphase Drives A Modern Trend in Power Electronics for Reliable Applications, IEEE IECON 29-oct to 1 Nov. 2017 Beijing, China.	Special Session Organizer
IEEE IECON 2013, 10-13 Nov. Vienna, Austria	Session Chair
IEEE CENCON 2014, 29-30 Oct 2014 at Malaysia	Track Chair Power Electronics
Power and Energy Conf. PECON 2014, 1-3 Dec. 2014 Kuching, Malaysia	Technical Programme Committee
2014 Innovative Applications of Computational Intelligence on Power, Energy and Controls with their impact on Humanity (CIPECH)-2014, 28-29 Nov	Track Chair
IEEE CENCON 2015, http://cencon2015.pels-malaysia.org/committee/ , Johor Bahru, Malaysia, 19-21 Oct. 2015	Int. Advisory Board Member
IEEE ISIE 2015, 3-5 June 2015, Buzios, Brazil	Special Session FACTs, HVDC and Active Power Filter Applications based on Predictive Control
1 st Workshop on Smart Grid and Renewable Energy 22-23 March 2015, Doha, Qatar. http://www.sgre2015.com/	Organizing committee member
IEEE ICIT 2015	Reviewer
2015, 5-6 October 3 rd Symposium on Predictive Control of Electrical Drives and Power Electronics	Reviewer

PECON 2016 at Melaka, Malaysia, 28-29 Nov. 2016	Programme Committee Member
IEEE ECCE-2016	Reviewer
IEEE PEMD-2016	Reviewer
IEEE Innovative Smart Grid Technologies ISGT 28 Nov-1 Dec 2016, Melbourne, Australia	Associate Editor
12 th IEEE INDICON at JMI, New Delhi India, 17-20 Dec. 2015	Session chair on Electric Machines and Drives
13 th Brazilian Power Electronics Conference 2015	Reviewer
IEEE IECON 2015	Reviewer
IEEE AFRICON 2015	Reviewer
IEEE ECCE 2015	Reviewer
IEEE CENCON 2014 at Malaysia	Reviewer
IEEE IECON 2104`	Reviewer
IEEE IICPE 2012	Reviewer
IEEE ECCE 2013	Reviewer
Power Gen, 2011, Doha, Qatar	Member
International advisory board member, 4 th International Conf. on IET Sustainable Energy and Intelligent System SEISCON, 12-14 Dec 2013, Chennai, India http://seiscon.ietypschennai.org/adcommitte.html	Int. Advisory board member
Int. Conf. on Power, Energy & Control ICEPEC'13, 6-8 Feb. 2013, Dindigul, India http://www.psnacet.edu.in/icpec/inter_adv_comm.php	International Advisory committee
3 rd International Conf. on IET Sustainable Energy and Intelligent System SEISCON, 27-29 Dec 2012 http://www.vctw.org/ADVISORY%20BOARD.html	Int. Advisory board member
Special Session organizer “ISO8: Application of Power Electronics converters in Renewable Energy sources and their Hybrid Systems” at Mediterranean Green Energy Forum 2013, 16-20 June 2013, Fes, Morocco http://seb.sustainedenergy.org/cmsISdisplay.php	Special session organizer
International Conference on Emerging Trends and Applications in Computer Science – 2013, 13-14 th Sept. 2013, Shillong, India (ICETACS – 2013) http://icetacs.anthonys.ac.in/Intercomm.html	Int. Programme committee
17 th IEEE Mediterranean Electro-technical conference 13-16 April 2014, Beirut, Lebanon,	Special session on Multiphase power Conversion
TPC of IRSEC'14: http://med-space.org/irsec/tpc/	Technical Program committee member
International Conference on Power Electronics and their applications, 6-7 Nov. 2013, Algeria.	Steering Committee
IEEE Power and Energy Conference, 2-5 Dec. 2012, Kota Kinabalu, Malaysia	Session Chair
National Seminar on Recent Advances in Electrical & Electronics Engg. (RAEEE, 2009)	Advisory Committee Member
2 nd International Conf. on IET Sustainable Energy and Intelligent System SEISCON, 20-22 July 2011	Int. Advisory board member
International Conference on Modelling and Simulation MS'2007	Session Chair, (Power Electronics simulation)
Modelling and Simulation of High-performance AC drives”, from 7-12 Jan, at EED, AMU- Short term Course	Co-ordinator
Emerging trends in Mechanical and Electrical Engineering, 12-13 June 2012, Integral University, Lucknow, India.	Technical Committee member
SDP Committee, QAC Committee, Dept. Of Electrical Engineering, Qatar University	Member
Curriculum Committee, EED, QU	Member

Senior Design Project committee, EED, QU	Co-ordinator
Students Complaint redress adhoc committee	Chair
Recruitment committee, EED, QU	Member
IEEE IECON 2019	Reviewer
19 th IEEE Int. Conf. on Environmental and Electrical Engineering, Genoa, Italy, 11-14 June 2019 SS on Recent Development on Multilevel Inverter – design, modelling and control strategy	Special Session Organizer
5 th IEEE International Smart Cities Conference, (ISC2, 2019), Oct. 14-17, Casablanca, Morocco.	Technical Program Committee
6 th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON 2019) 8 th - 10 th November 2019, Aligarh, India	Advisory Committee
IEEE GPECOM 2019: IEEE Global Power, Energy and Communication Conference 2019 Nevsehir, Turkey, June 12-15, 2019	Technical Program Committee
2019 International Conference on Control, Automation and Diagnosis (ICCAD'19) July 2-4, 2019 at Grenoble, France http://www.iccad-conf.com/committee.html	International Program Committee
IEEE ICIT 2019, 26-28 Feb 2019, Buenos Aires, Argentina	Reviewer
IEEE GPECOM 2020: IEEE Global Power, Energy and Communication Conference 2020 Izmir, Turkey, Oct. 20-23, 2020 http://gpecom.org/2020/committee/	Technical Program Committee

LABS ESTABLISHMENT

- DSP based Five-phase drive system with multi-level active front end converter and multi-level 5-phase inverter developed at Electrical Engineering, Qatar University through the start-up research grant.
- Multi-phase drives lab established at Electrical Engineering, Aligarh Muslim University, Aligarh, India.
- Green Resilient Advanced Control Energy (GRACE) Lab at the Dept. of Electrical Engineering, Qatar University, Doha, Qatar.

FACULTY/PROFESSIONAL DEVELOPMENT

1. Completed the training on “Web of Science and End Note” organized by Clarivate at Qatar University, 25 Jan 2021.
2. Completed 1 hr of professional development training by IEEE entitled, “Inspired Control, Design and Cyber Security of Converter Based Power Systems”, 22-Oct-2020
3. Completed 1 hr of professional development training by IEEE entitled, “A Review of Advanced Power Module Packaging and Thermal Management in WBG Era”, 4-Aug-2020
4. Completed 1 hr of professional development training by IEEE entitled, “Smart Battery Energy Management and Health-Conscious Fast Charging for Future Transport”, 2-June-2020.
5. Attended Online Webinar by IEEE Smart Grid Society, “So you think you know what Big Data is?”, 9 Jan. 2020.
6. Attended a two days’ workshop on Safe and Reliable Power Distribution Network, organized by Texas A&M University at Qatar and QNRF, 1-2 Dec. 2019 at QNCC Doha, Qatar.
7. Attended Online Webinar by IEEE Smart Grid Society, “Smart Buildings: Approaches to Promoting Reliability of Smart Grid”, by Dr. Raj Gopal, 31 Jan. 2019.
8. Attended, presented paper and chaired session in IEEE IECON 2018 at Washington DC from 18-21 Oct. 2018.

9. Attended and presented papers in 9th IET Power Electronics, Machine and Drives (PEMD) conference at Liverpool, UK, 17-19 April 2018.
10. Attended, presented paper and chaired session in 12th IEEE Compatibility of Power Electronics and Power Engineering (CPE-POWERENG) at Doha, Qatar from 10-12 April 2018.
11. Attended and presented posters at Qatar Foundation Annual Research Conference – 2010-2014, 2018.
12. Attended and presented research paper international conference on Signal, Machines and Automation (SIGMA) at New Delhi, India 24 Feb. 2018.
13. Attended on-line webinar by IEEE IAS, “All Things Nuclear”, 6-Dec. 2017.
14. Attended on-line webinar by IEEE IAS, “Motivation for Magnetic Gears and Magnetically Geared Machines”, 1-Nov. 2017.
15. Attended on-line webinar by IEEE IAS, “Powering Critical Loads: State-of-the-Art Based on Taiwan Experience”, 6-Sept.-2017.
16. Attended on-line webinar by IEEE IAS, “Electrical Injury Drills: Approaches, Learnings, and Best Practices”, 4-May-2017.
17. Attended on-line webinar “AC vs. DC: Resurrection of Westinghouse and Edison debate”, 1-February 2017, IEEE IAS.
18. Attended a workshop on “Maximizing Mentoring potential”, at Qatar University 8-9 Feb. 2017.
19. Attended and presented research paper in IEEE IECON 2016, 23-26 October Florence, Italy.
20. Attended and presented paper in Biennial Int. Conf. on Power & Energy Systems-For Sustainable growth 2016, 21-23 Jan. 2016, Bangalore, India.
21. Attended a workshop on “Big Data and Ontology” at IIT Delhi, India on 19th Sept. 2015.
22. Attended one day RUGGEDCOM technical workshop “Siemens Industrial Communication solution event”, on 5th May 2015 at Crown Plaza, Doha, Qatar.
23. Attended a workshop on “Enhancing Teaching & Learning at the College of Engineering”, 18-May-2015 at College of Engineering, Doha, Qatar University.
24. Attended “Workshop on ABET Accreditation” conducted by College of Engineering, Qatar University on 30-June 2014.
25. Attended “The Assessment Days Event-2014” by Ms. Linda Suskie on 13th February 2014.
26. Attended a one-day workshop on “ABET Assessment” and completed 7 professional credit hour by Dr. Ashley Ater Karanov on 6th September 2012, at Qatar University, Doha, Qatar.
27. Attended a seminar on “Contextualizing Assessment for Learning to prepare students for success in the 21st Century Global Economy” by Dr. Ashley Ater Karanov on 5th September 2012, at Qatar University, Doha, Qatar.
28. Attended a hand on workshop on ABET assessment on 4th September 2012 by Dr. Mary Allen, at Qatar University, Doha, Qatar.
29. Attended and presented research paper at IEEE IICPE-2011 at New Delhi, India.
30. Attended and presented research paper at IEEE IECON-2011 at Melbourne, Australia
31. Attended and presented research paper at IEEE ICEM-2011 at Niagara Falls, Canada
32. Attended and presented research paper at IEEE ISIE-2010 at Bari, Italy
33. Attended and presented research paper at IEEE IECON-2009 at Porto, Portugal.
34. Attended NSF, USA, Texas A&M University, University of Central Florida and University of Minnesota sponsored 4 days’ workshop on “Electrical Energy Education & Research” from 13-16 Dec. 2009, at Texas A&M University at Qatar, Doha, Qatar.
35. Attended IECON 2009 at Porto, Portugal, 3-5 Nov. 2009.
36. Attended short term programme on ABET assessment exercise, on 25th October 2009 at Texas A&M university At Qatar, Doha.
37. Attended and presented a paper in IEEE TENCON 2008, 18-21 Nov.’ 08 at University of Hyderabad, India.
38. Attended and Chaired a session at International conference on Modelling and Simulation MS’07 at Kolkata, India from 3-5 Dec. 2007.
39. Attended International Conference in Industrial Technology (ICIT 06) at Mumbai, 15-17 Dec. 2006.
40. Attended one day Research seminar conducted by School of Engineering, Liverpool John Moores University, Liverpool, UK on 13 December 2005.
41. IEEE Power Electronics Society UK and Republic of Ireland chapter Research Seminar at Liverpool John Moores University, Liverpool, UK, on 7 September 2005.
42. Attended General Engineering Research Institute annual research symposium (GARS-2005) conducted by GERI, LJMU, Liverpool, UK on 22 June 2005.

43. Attended one day Research seminar conducted by School of Engineering, Liverpool John Moores University, Liverpool, UK on 27 April 2005 and presented a talk on “Series-connected five-phase two-motor drive with decoupled dynamic control”.
44. Attended one day Research Seminar conducted by School of Engineering, Liverpool John Moores University, Liverpool, UK, on 15 December 2004.
45. IEEE Power Electronics Society UK and Republic of Ireland chapter Matrix Converter Event on 17 Nov. 2004 at Nottingham University, Nottingham, UK.
46. Short term training programme conducted by Digital Grad School, Northwest, Govt. of UK from 21-23 September 2004 in Adelphi Hotel, Liverpool, UK.
47. IEEE 35th Annual Power Electronics Specialists Conference (PESC, 2004), Aachen, Germany, 20-25 June 2004.
48. IEEE Power Electronics Society UK and Ireland chapter Seminar on Advances in Variable Speed Drives at School of Engineering, Liverpool John Moores University, 15 Dec. 2003.
49. 38th International Universities Power Engineering Conference (UPEC), at the University of Aristotle, Thessaloniki, Greece, Europe from 6-8 Sept. 2003.
50. Short-term course on Renewable Energy System, at CPRI, Bangalore from 1-8 Jan 2002.
51. Short term course on “High Voltage Engg. And Insulation System as applied to Electrical, Electronics and Computer Engg.”, conducted by Deptt. of Electrical Engg., AMU, Aligarh from 7 –30 Dec. 2000.
52. Short Term Course on “Energy- An IT Perspective”, at IIT Delhi, India from 27 Nov. to 6 Dec. 2000.
53. International Conference on Power Generation System Planning and operation at IIT Delhi, 12-13 Dec. 1997.
54. IEEE International Conference on “Power Electronic Drives and Energy System for industrial growth” (PEDES), 5-7 Jan 1996.
55. Induction Teachers Training Programme conducted by All India Council for Technical Education (AICTE), New Delhi, India at Academic Staff College, AMU, Aligarh, India from 19.6. 1995 to 8.7. 1995.

PROFESSIONAL BODIES MEMBERSHIP

- Fellow, Institution of Engineering & Technology IET (UK), Membership Number 1100554817
- Senior Member IEEE, Member Industrial Electronics society, and Member Industry Application society (90601524)
- Fellow, Institution of Engineer, IE (India), (F-116460)