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PROFILE

Mohammed Asim joined the department of Electrical Engineering as an Assistant Professor in July 2013. Later on he was promoted to post of Associate Professor in April 2024. He has overall experience of more than 15 years. He also works as Patent Coordinator of the IPR cell of the university. Dr. Asim has completed his B.Tech and M.Tech from Aligarh Muslim University in the year 2007 and 2009 respectively. Later completed his PhD from Integral University in the year 2017. He has completed a project “An efficient Solar PV based hybrid multi output converter for standalone application” sponsored by National Project Implementation Unit, MHRD, Govt. of India of Rs 13.72 lacs under “TEQIP Collaborative Research Scheme” from 18 June 2019 to 30 June 2021 and also a seed money project “A High Step-Up Quasi-Z Source DC–DC Converter” sponsored by Integral University, Lucknow, India of Rs 1.5 lacs. Currently he is working on seed money project “Design of Transformer Less Photovoltaic Grid-Connected Inverter” sponsored by Integral University, Lucknow, India of Rs 1.5 lacs.

RESEARCH INTEREST:

- Photovoltaic
- BESS
- High Gain DC-DC converter
- Load Frequency Control

SUMMARY OF RESEARCH ACCOMPLISHMENT:

- ➤ Citations :450
- ➤ H index :12
- ➤ I10 index :15
- ➤ Invited Talk as a Resource Person :04

PROFESSIONAL MEMBERSHIP:

- AMIE member of Institution of Engineers, India (AM-151249-0)
- Online Member of IAENG, (139195)

COURSE TAUGHT:

- Electrical machines-I
- Electrical Machines-II
- Power System –I
- Special Electrical Machines
- Utilization of Electrical Energy and traction
- Non-Conventional Energy Resources
- Power System Dynamics
- Power System Optimization

ADMINISTRATIVE/DEPARTMENTAL RESPONSIBILITY

- Patent Coordinator, Integral University
- Member of NAAC University team (Criteria-3)
- Member of CIED
- Member of IUSS
- Course coordinator of 4th year electrical
- Departmental Faculty Placement Coordinator

STUDENTS SUPERVISION

PhD	: 05
M. Tech	:12
B. Tech	:15

PUBLISHED/GRANT PATENTS

- A System for Maximum Power Point Tracking based on fractional voltage method (**Patent granted**)(Indian Patent no:3473/DEL/2015)
- A low cost solar viscometer (Patent published in the patent office journal, India, 13/11/2015 (**Patent granted**) (Indian Patent no:3474/DEL/2015)
- A high gain DC-DC converter for maximum power point tracking in a solar PV generation system.16/10/2020 (Indian Patent Published: Application no:202011041112) (**Patent granted**)
- A Method and a System for the Performance of Solar Cell Under Changing Atmospheric Condition. Published. 20/08/2020.Australian Patent. (**Patent granted**) (Patent no: 2021106064)
- A Quasi Z source high step up DC-DC converter (Indian Patent published-Application Reference 202211026628) 13/05/2022

- Development of TCO Layer For Photovoltaic Cell By Using Transition Metal In ZnO Prepared By Two Step Process (Indian Patent published-Application Reference 202211029425) 27/05/2022
- Design of Transformerless Inverter Topology For Reduction Of Common Mode Current in Grid-Connected PV System (Indian Patent published-Application Reference 202311012305) 17/03/2023
- High Gain, Low Power Triple Cascode Operational Transconductance Amplifier Using Carbon Nanotube Field Effect Transistor (Indian Patent Published-Application Reference 202311037711) 14/07/2023
- Optional k-phase vacation for mx/g/1 queue with bulk arrival and state-dependent rates (Indian Patent Published-Application Reference 202311003914) 27/01/2023
- Erroneous energy reading detector for smart energy meter (Indian Patent Published-Application Reference 202311073506) 24/11/2023
- Efficient, ultra low power instrumentation amplifier based on carbon nanotube field effect transistors (Indian Patent Published-Application Reference 202311063419) 13/10/2023
- Multiple output dc/dc converter with high voltage gains in arithmetic progression (Indian Patent Published-Application Reference 202311058052) 29/09/2023
- Integrated hybrid energy system for rural empowerment and development (Indian Patent Published-Application Reference 202411011338) 23/02/2024

PUBLISHED/ACCEPTED SCI/SCOPUS RESEARCH PAPERS

- Khan, F. A., Mekhilef, S., Ramachandaramurthy, V. K., Ab Aziz, N. F., Pal, N., Yaseen, A., ... & Alshammari, O. (2024). Design and development of grid independent integrated energy system for electric vehicle charging stations at different locations in Malaysia. *Energy*, 302, 131686.
- Sarwar, Adil, Yadav, Raj Kumar, Asim, Mohammed, Saxena, Dipti, Jain, Chandra Prakash and Mewara, Hari Shankar. "Most Valuable Player based selective harmonic elimination in a cascaded H-bridge inverter for wide operating range" *International Journal of Emerging Electric Power Systems*, 2022. <https://doi.org/10.1515/ijeeps-2022-0041>.
- Asim, M., Agrawal, P., Tariq, M., & Alamri, B. (2022). MPPT-based on Bat algorithm for photovoltaic systems working under partial shading conditions. *Journal of Intelligent & Fuzzy Systems*, 42 (2), 851-859.
- Khan, S. A., Ahmad, S., Sarwar, A., Tariq, M., Ahmad, J., Asim, M., ... & Hossain, M. A. (2021). Chaos Induced Coyote Algorithm (CICA) for Extracting the Parameters in a Single, Double, and Three Diode Model of a Mono-Crystalline, Polycrystalline, and a Thin-Film Solar PV Cell. *Electronics*, 10(17), 2094.
- Ahmad, J., Zaid, M., Sarwar, A., Lin, C. H., Asim, M., Yadav, R. K., ... & Alamri, B. (2021). A new high-gain DC-DC converter with continuous input current for DC microgrid applications. *Energies*, 14(9), 2629.

- Asim, M., Riyaz, A., Tiwari, S., & Verma, A. (2018). Performance evaluation of fuzzy controller for boost converter with active PFC. *Journal of Intelligent & Fuzzy Systems*, 35(5), 5169-5175.
- Khan, T., Mohammed, A., Manzar, M. S., Ibrahim, M., & Ahmed, S. S. A. (2021). Least mean sixth control approach for three-phase three-wire grid-integrated PV system. *International Journal of Power Electronics and Drive Systems*, 12(4), 2131.
- Mohammed, A., Sarwar, A., Shahabuddin, M., & Manzar, M. S. (2021). Development of solar photovoltaic model for wide range of operating conditions. *International Journal of Power Electronics and Drive Systems*, 12(4), 2483.
- Asim, M., Tariq, M., Mallick, M. A., & Ashraf, I. (2016). An improved constant voltage based MPPT technique for PMDC motor. *International Journal of Power Electronics and Drive Systems*, 7(4).

PAPER PUBLISHED IN INTERNATIONAL CONFERENCES

- M. Uvais, A. J. Ansari and M. Asim, "Parameter Extraction Of Organic Solar Cell: A Review," 2023 International Conference on Power, Instrumentation, Energy and Control (PIECON), Aligarh, India, 2023, pp. 1-6, doi: 10.1109/PIECON56912.2023.10085878.
- A. Riyaz, S. J. Singh, S. Kumar, M. Asim and A. R. Ansari, "Analysis of Three-Phase to Five-Phase System Under Unbalance condition," 2023 International Conference on Power, Instrumentation, Energy and Control (PIECON), Aligarh, India, 2023, pp. 1-6, doi: 10.1109/PIECON56912.2023.10085848.
- M. A. Alam, S. V. A. V. Prasad and D. M. Asim, "Design of HERIC Topology Based grid-tied Single Phase Transformerless Photovoltaic Inverter to Minimize Leakage Current," 2023 International Conference on Power, Instrumentation, Energy and Control (PIECON), Aligarh, India, 2023, pp. 1-6, doi: 10.1109/PIECON56912.2023.10085753.
- O. Bin Abu Baker, M. Asim and A. Sarwar, "Application of Multilevel Inverter in Power Generation Using Renewable Resources," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-5, doi: 10.1109/ICEFEET51821.2022.9848286.
- R. Usmani, M. Asim and M. Nasibullah, "In roads to OPV Design Perspective: Limitations & optimum parametric characterization," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-5, doi: 10.1109/ICEFEET51821.2022.9847775.
- M. Haris, M. Asim and M. Tariq, "A Review of Non-Isolated High Gain DC-to-DC Converter Topologies," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-6, doi: 10.1109/ICEFEET51821.2022.9847767.
- M. Uvais, A. J. Ansari and M. Asim, "Modeling and Analysis of Organic Solar Cells Using Multiple Diodes," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-5, doi: 10.1109/ICEFEET51821.2022.9848028.

- P. Agrawal, M. Asim and M. Tariq, "Particle Swarm Optimization (PSO) for Maximum Power Point Tracking," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-5, doi: 10.1109/ICEFEET51821.2022.9847759.
- A. Ishtiaq, M. Asim and M. Anis, "A Brief Review on Multi level Inverter Methodology Topologies and Techniques," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-5, doi: 10.1109/ICEFEET51821.2022.9848098.
- M. Asim, A. Verma and M. R. Mahboob, "Load Frequency Control of Multi-Area Power System using Sine-Cosine Algorithm (SCA)," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-6, doi: 10.1109/ICEFEET51821.2022.9848375.
- M. Asim, M. H. Hassan, M. Anis, M. Zaid and F. A. Khan, "Analysis of Integrated DC-DC Converter-Based Grid Connected Transformer-less Photovoltaic Inverter," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-5, doi: 10.1109/ICEFEET51821.2022.9848008.
- M. A. Alam, S. V. A. V. Prasad and M. Asim, "Comparison and Analysis of Transformer-less Topologies for Grid-Connected PV Systems," 2022 2nd International Conference on Emerging Frontiers in Electrical and Electronic Technologies (ICEFEET), 2022, pp. 1-6, doi: 10.1109/ICEFEET51821.2022.9848108.
- M. Shahabuddin, M. Asim and A. Sarwar, "Parameter Extraction of a Solar PV Cell Using Projectile Search Algorithm," 2020 International Conference on Advances in Computing, Communication & Materials (ICACCM), 2020, pp. 357-361, doi: 10.1109/ICACCM50413.2020.9213005.
- S. S. Imam, M. Sadiq Saeed, M. Asim and M. O. R. Khan, "Solar Powered Plane," 2019 Global Conference for Advancement in Technology (GCAT), 2019, pp. 1-5, doi: 10.1109/GCAT47503.2019.8978402.
- F. A. Khan, S. H. Saeed, M. Asim, S. Rahman and P. R. Sarkar, "Cost Optimization by adding SPV Plant at Load end in a Grid Connected System," 2018 International Conference on Computational and Characterization Techniques in Engineering & Sciences (CCTES), 2018, pp. 65-70, doi: 10.1109/CCTES.2018.8674149.
- M. Shahabuddin, A. Riyaz, M. Asim, M. M. Shadab, A. Sarwar and A. Anees, "Performance Based Analysis of Solar PV Emulators: A Review," 2018 International Conference on Computational and Characterization Techniques in Engineering & Sciences (CCTES), 2018, pp. 94-99, doi: 10.1109/CCTES.2018.8674082.
- P. Agrawal, R. K. Yadav, M. Asim and M. W. Ahmad, "Modelling of Audio-visio-Tactile (AVT) Machine," 2012 Second International Conference on Advanced Computing & Communication Technologies, 2012, pp. 303-308, doi: 10.1109/ACCT.2012.72.
- Rafeeq Ahmed, M. A., Khan, S. Z., & Singh, B. (2019, April). Green IoT—Issues and Challenges. In *Proc. 2nd International Conference on Advanced Computing and Software Engineering (ICACSE-2019)*.
- Abu Tariq, M. A., & Tariq, M. (2011). Simulink based modeling, simulation and Performance Evaluation of an MPPT for maximum power generation on resistive load. In *2nd international*

conference on environmental science and technology. IACSIT Press, Singapore (Vol. 6, pp. 397-401)

PUBLISHED NON-SCI-SCOPUS BUT PEER REVIEWED RESEARCH PAPERS

- Haris, M., Asim, M., & Tariq, M. (2024). Transformer-less DC-DC Converter with Low Duty Ratio Using a Single Switch and Quasi Impedance Based Network. *Indian J Sci Technol*, 17(4), 359-367.
- Verma, A., Asim, M., & Mahboob, R. (2023). Load Frequency Control in Power Systems Using the Most Valuable Player Algorithm. *Indian Journal of Science and Technology*, 16(43), 3854-3861.
- Alam MA, Prasad SVAV, Asim M. (2023) Analysis and Design of H5 Topology in Grid-Connected Single-Phase Transformerless Photovoltaic Inverter System. *Indian Journal of Science and Technology*. 16(6): 420-426. <https://doi.org/10.17485/IJST/v16i6.2191>
- Usmani R, Asim M, Nasibullah M. (2022) Optical Modelling of Typical Organic Solar Cell using Transfer Matrix Model. *Indian Journal of Science and Technology*. 15(38): 1965-1970. <https://doi.org/10.17485/IJST/v15i38.1398>

BOOK CHAPTERS

- Shahabuddin, M., Asim, M., & Sarwar, A. (2024). Evolution and Modeling of Solar Photovoltaic Cells: From Early to Modern Concepts. *Photovoltaic Systems Technology*, 27-41.
- Usmani, R., Nasibullah, M., Asim, M. (2022). Electrical Simulation of Typical Organic Solar Cell by GPVDM Software. In: Raj, J.S., Shi, Y., Pelusi, D., Balas, V.E. (eds) *Intelligent Sustainable Systems. Lecture Notes in Networks and Systems*, vol 458. Springer, Singapore. https://doi.org/10.1007/978-981-19-2894-9_52
- Asim, M., Khan, M.S., Yadav, R.K., Mewara, H.S., Sethy, N. (2022). Multilevel Inverters Operating with Improved Harmonic Performance Using SVPWM. In: Chanda, C.K., Szymanski, J.R., Sikander, A., Mondal, P.K., Acharjee, D. (eds) *Advanced Energy and Control Systems. Lecture Notes in Electrical Engineering*, vol 820. Springer, Singapore. https://doi.org/10.1007/978-981-16-7274-3_12
- Singh, T., Asim, M. (2021). Weather Monitoring System Using IoT. In: Singh, J., Kumar, S., Choudhury, U. (eds) *Innovations in Cyber Physical Systems. Lecture Notes in Electrical Engineering*, vol 788. Springer, Singapore. https://doi.org/10.1007/978-981-16-4149-7_21
- Akhtar, I., Paul, W. U. H., Kirmani, S., & Asim, M. (2021). Cost Analysis of 18 kW Solar Photovoltaic System for Smart Cities Growth in India. In *Renewable Power for Sustainable Growth* (pp. 661-667). Springer, Singapore.
- Shahabuddin, M., Asim, M., Sarwar, A. (2021). Parameter Extraction of PV Cell: A Review. In: Iqbal, A., Malik, H., Riyaz, A., Abdellah, K., Bayhan, S. (eds) *Renewable Power for Sustainable Growth. Lecture Notes in Electrical Engineering*, vol 723. Springer, Singapore. https://doi.org/10.1007/978-981-33-4080-0_1
- Khan, M.S., Shadab, M.M., Asim, M., Ahmad, J. (2021). Modeling and Simulation of Solar PV-Based Grid-Tied Multilevel Inverter. In: Iqbal, A., Malik, H., Riyaz, A., Abdellah, K.,

- Bayhan, S. (eds) Renewable Power for Sustainable Growth. Lecture Notes in Electrical Engineering, vol 723. Springer, Singapore. https://doi.org/10.1007/978-981-33-4080-0_43
- Kumar, A., Asim, M., Shadab, M.M., Akhtar, I. (2021). Review of Various Load Frequency Controllers. In: Iqbal, A., Malik, H., Riyaz, A., Abdellah, K., Bayhan, S. (eds) Renewable Power for Sustainable Growth. Lecture Notes in Electrical Engineering, vol 723. Springer, Singapore. https://doi.org/10.1007/978-981-33-4080-0_26
 - Agrawal, P., Asim, M., Tariq, M. (2021). Optimization Algorithm-Based Maximum Power Point Tracking Techniques for Solar PV Systems. In: Iqbal, A., Malik, H., Riyaz, A., Abdellah, K., Bayhan, S. (eds) Renewable Power for Sustainable Growth. Lecture Notes in Electrical Engineering, vol 723. Springer, Singapore. https://doi.org/10.1007/978-981-33-4080-0_45
 - Asim, M., Verma, A., Riyaz, A. (2021). Analysis on Various Optimization Technique Used for Load Frequency Control. In: Malik, H., Fatema, N., Alzubi, J.A. (eds) AI and Machine Learning Paradigms for Health Monitoring System. Studies in Big Data, vol 86. Springer, Singapore. https://doi.org/10.1007/978-981-33-4412-9_32
 - Yadav, R.K., Sarwar, A., Saxena, D., Asim, M., Prakash, C. (2021). A Resilient Hybrid Output Converter with Inherent Cross-Regulation Avoidance Feature. In: Iqbal, A., Malik, H., Riyaz, A., Abdellah, K., Bayhan, S. (eds) Renewable Power for Sustainable Growth. Lecture Notes in Electrical Engineering, vol 723. Springer, Singapore. https://doi.org/10.1007/978-981-33-4080-0_25
 - Sinha, S., Agarwal, P., Gupta, N.K., Asim, M., Riyaz, A. (2020). Performance of Solar Cell Under Changing Atmospheric Condition. In: Sikander, A., Acharjee, D., Chanda, C., Mondal, P., Verma, P. (eds) Energy Systems, Drives and Automations. Lecture Notes in Electrical Engineering, vol 664. Springer, Singapore. https://doi.org/10.1007/978-981-15-5089-8_21
 - Asim, M., Khan, M.S., Ahmad, J., Umar, T., Riyaz, A. (2020). Efficiency Enhancement of Solar Panel Using Photodiode. In: Sikander, A., Acharjee, D., Chanda, C., Mondal, P., Verma, P. (eds) Energy Systems, Drives and Automations. Lecture Notes in Electrical Engineering, vol 664. Springer, Singapore. https://doi.org/10.1007/978-981-15-5089-8_20
 - Akhtar, I., Asim, M., Yadav, R.K., Agarwal, P., Kirmani, S. (2020). Design of Effective Grid-Connected Solar System. In: Smys, S., Bestak, R., Rocha, Á. (eds) Inventive Computation Technologies. ICICIT 2019. Lecture Notes in Networks and Systems, vol 98. Springer, Cham. https://doi.org/10.1007/978-3-030-33846-6_64
 - Ahamad, I., Asim, M., Verma, A., Huzaifa, M. (2019). Fault Detection in AC Transmission System Using Multiple Signal Classification Technique. In: Mishra, S., Sood, Y., Tomar, A. (eds) Applications of Computing, Automation and Wireless Systems in Electrical Engineering. Lecture Notes in Electrical Engineering, vol 553. Springer, Singapore. https://doi.org/10.1007/978-981-13-6772-4_1
 - Asim, M., Tariq, M., Mallick, M.A., Ashraf, I., Kumari, S., Bhoi, A.K. (2018). Critical Evaluation of Offline MPPT Techniques of Solar PV for Stand-Alone Applications. In: SenGupta, S., Zobia, A., Sherpa, K., Bhoi, A. (eds) Advances in Smart Grid and Renewable Energy. Lecture Notes in Electrical Engineering, vol 435. Springer, Singapore. https://doi.org/10.1007/978-981-10-4286-7_2
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