CURRICULUM VITAE

AMRITESH KUMAR, **PhD , Assistant Professor, NIT Silchar, Sichar, Assam**
PhD in Electrical with specialisation in Power electronics and Drives

ME in Electrical with specialisation in Power electronics and Drives

B Tech in Electrical and Electronics

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PROFESSIONAL EXPERIENCE

- July 7, 2022- Till date: **Assistant Professor Grade-I**, Department of Electrical Engineering, NIT Silchar, Cachar, Assam.
- 21-11-2019 - 06-07-2022 **Assistant Professor Grade-II**, Department of Electrical Engineering, NIT Silchar, Cachar, Assam.
- June 18, 2018- July 6, 2022: **Assistant Professor Grade-II**, Department of Electrical Engineering, NIT Silchar, Cachar, Assam.
- 6 Month Industrial Internship at **Crompton Greaves**, Mhape, Mumbai in drives division in 2011.

EDUCATIONAL QUALIFICATION

- **Doctor of Philosophy** in Electrical with specialization Power Electronics (Topic- Grid/Off-grid Multilevel Split Voltage Converter for Photovoltaic System Feeding a Variety of Loads), **Delhi Technological University (DTU)**, Delhi, Completed course work with CGPA 8.5, 2017.
- **Master of Engineering** in Electrical with specialization in power electronics and drives (2009-2011)
  Birla institute of Technology and science, Pilani (**BITS PILANI**), Rajasthan with CGPA 9.27.
- **Bachelor of Technology** in Electrical and Electronics Engg (2005-2009)
  SASTRA University, India, Graduated with CGPA of 8.44.
- **All India Senior School Certificate Examination, (2001-2003)**
  Delhi Public School, Central Board of Secondary Education, (C.B.S.E.), Passed with 73%.
- **All India Secondary School Examination (2000-2001)**
  May Flower School, Central Board of Secondary Education, (C.B.S.E.), Passed with 85%.

Research Publications

International Journals

1. A. Panchbhai, G. Chilkalpudi, and **A. Kumar**, "Analysis of Circulating Power in Triple Active Bridge Converter: Impact of SPS and DPS Control," **IEEE Trans. Ind. Appl**. **(Accepted)**
2. F. Hassan, A. Kumar and A. Pati, "An Adaptive Enhanced Generalized Integrator-Based Complex Filter for Fundamental Components Extraction Under Weak-Grid Integrated Single-Phase Systems," in **IEEE Transactions on Instrumentation and Measurement**, vol. 74, pp. 1-11, 2025, Art no. 9006511, doi: 10.1109/TIM.2025.3586360.
3. Ranjan, R., **Kumar, A**., "Linear and Nonlinear Coordinated Droop Control Strategies to Address Current Sharing and Voltage Regulation Challenges for the Parallel Operation of DC-DC Converters in DC Microgrid" **Int J Circ Theory Appl**. 2025 (Accepted)
4. A. K. Dubey, **A. Kumar**, J. P. Mishra and C. N. R, "Grid Forming Power Converter Equipped with SAPF and Active Islanding Detection Capabilities Employing SOSF-SOFLL based Synchronization," in **IEEE Transactions on Industry Applications**, Jan 2025, doi: 10.1109/TIA.2025.3535474.. Impact factor: 4.2. (SCI)
5. Ranjan, R., Kumar, A. Coordinated Approach of DC Bus and Battery SoC Signaling for the Automated Control of DC-DC Converters involved in PV-BES based Off-Grid DC Microgrid. **Arab J Sci Eng** (2024). https://doi.org/10.1007/s13369-024-09803. (SCI)
6. Hassan F, Kumar Dubey A, Kumar A, Pati A. An improved derivative-based phase-locked loop for single-phase grid synchronization under abnormal grid conditions. **Int J Circ Theor Appl**. 2024; 1-16. doi:10.1002/cta.4211. (SCI)

7. G. Chilakalapudi, **A. Kumar**, A. Panchbhai and A. V. V. N. Phanindra, "Minimum Inductor Current Tracking in DAB-Based Isolated DC/DC Converter for Q Control With Harmonic Analysis Approach Employing FOGI Filter for EV Applications," in **IEEE Transactions on Transportation Electrification**, vol. 10, no. 4, pp. 8388-8399, Dec. 2024, doi: 10.1109/TTE.2024.3362532. (SCI)
8. Panchbhai A, **Kumar A**. Simplified control of TAB converter for scalable multibattery charging system. **Int J Circ Theor Appl. 2024 (Wiley)**; 1-20. doi:10.1002/cta.3953. (SCI)
9. A. K. Dubey, **A. Kumar** and J. P. Mishra, "Robust Adaptive Active Islanding Detection With α -Axis Disturbance Injection Under High Impedance Fault, Unbalanced Loading, and Phase Failure in Grid Tied PV System," in **IEEE Journal of Emerging and Selected Topics in Industrial Electronics**, vol. 4, no. 4, pp. 1213-1223, Oct. 2023, doi: 10.1109/JESTIE.2023.3281254.
10. Chilakalapudi, G, **Kumar, A**. Optimal reactive power control for dual-active-bridge converter using improved dual-phase-shift modulation strategy for electric vehicle application. **Int J Circ Theor Appl**. Oct 2022; 51(3): 1204- 1223. doi:10.1002/cta.3474. (SCI)
11. A. K. Dubey, J. P. Mishra and **A. Kumar**, "Modified CCF Based Shunt Active Power Filter Operation With Dead-Band Elimination for Effective Harmonic and Unbalance Compensation in 3-Phase 3-Wire System," in **IEEE Transactions on Power Delivery,** vol. 37, no. 3, pp. 2131-2142, June 2022, doi: 10.1109/TPWRD.2021.3104828. (SCI)
12. Dubey, AK, Mishra, JP, **Kumar, A**. Performance improvement of shunt active power filter under variable grid frequency condition using complex coefficient filter-frequency locked **loop. Int J Circ Theory Appl. (Wiley)** 2021; 49: 1164–1181, Feb 2021, https://doi.org/10.1002/cta.2920. (SCI)
13. V. Verma and **A. Kumar**, "Cascaded Multilevel Active Rectifier Fed Three-Phase Smart Pump Load on Single-Phase Rural Feeder," in **IEEE Transactions on Power Electronics**, vol. 32, no. 7, pp. 5398-5410, July 2017, doi: 10.1109/TPEL.2016.2605005. Impact factor: 7.151. (SCI)
14. **A. Kumar** and V. Verma, "Analysis and control of improved power quality single-phase split voltage cascaded converter feeding three-phase OEIM drive," in **IET Power Electronics**, vol. 10, no. 8, pp. 903-910, July 2017, https://doi.org/10.1049/iet-pel.2016.0488. Impact factor: 3.547. (SCI)
15. **A. Kumar** and V. Verma, "Performance Enhancement of Single Phase Grid Connected PV System under Partial Shading using Cascaded Multilevel Converter," in **IEEE Transactions on Industry Applications**, vol. PP, no. 99, pp. 1-1, Jan 2018, doi: 10.1109/TIA.2017.2789238. Impact factor : 2.937. (SCI)
16. **A. Kumar** and V.Verma, "Photovoltaic-grid hybrid power fed pump drive operation for curbing the intermittency in PV power generation with grid side limited power conditioning," in International **Journal of Electrical Power & Energy Systems** (**Elsevier**) Volume 82, Pages 409-419, November 2016, https://doi.org/10.1016/j.ijepes.2016.03.018 . Impact factor: 3.289. (SCI)

International Conferences

1. L. K. Dangeti, S. S. Duvvuri, **A. Kumar**, M. Chand Bade, M. S. Rama Ganesh and B. M. Sri Vasavi, "A Modified Non-Isolated Switched-Inductor based Boost Converter using Voltage Multiplier Cell for EV Application," 2024 IEEE Third International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES), Delhi, India, 2024, pp. 241-245, doi: 10.1109/ICPEICES62430.2024.10719331.
2. F. Hassan, **A. Kumar**, A. Pati and B. Stickan, "A Frequency Locked-Loop with Reduced Tuning Complexity for Single-Phase Grid-Tied System with Inherent DC-Offset Rejection Capability," 2024 IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), Hyderabad, India, 2024, pp. 1-6, doi: 10.1109/SEFET61574.2024.10717887.
3. L. K. Dangeti, S. M. Padmaja and **A. Kumar**, "Small Signal Modelling and Analysis of an Improved Hybrid Switched Inductor Based Boost Converter," 2024 IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), Hyderabad, India, 2024, pp. 1-6, doi: 10.1109/SEFET61574.2024.10717935.
4. A. V. V. N. Phanindra, G. Chilakalapudi, A. Panchbhai, and **A. Kumar**, "A Real-time design and analysis of Dual Active Bridge DC-DC converter for EV applications," 2023 IEEE Silchar Subsection Conference (SILCON), Silchar, India, 2023, pp. 1-6, doi: 10.1109/SILCON59133.2023.10404787
5. L. K. Dangeti, G. Chilakalapudi and **A. Kumar**, "An improved Hybrid switched inductor and switched capacitor based DC-DC Converter to reduce the voltage stress across the switch," 2023 IEEE Silchar Subsection Conference (SILCON), Silchar, India, 2023, pp. 1-5, doi: 10.1109/SILCON59133.2023.10404832.
6. A. Panchbhai, G. Chilkalpudi and **A. Kumar**, "Analysis of Circulating Power in Triple Active Bridge Converter: Impact of SPS and DPS Control," 2023 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE), Trivandrum, India, 2023, pp. 1-6, doi: 10.1109/PESGRE58662.2023.10404809.
7. A. K. Dubey, **A. Kumar**, J. P. Mishra and C. N R, "PV Source Integration through Grid -tied Shunt Active Power Filter Operation with Second Order Sequence Filter-Frequency Locked Loop based Synchronization," 2023 IEEE International Conference on Energy Technologies for Future Grids (ETFG), Wollongong, Australia, 2023, pp. 1-6, doi: 10.1109/ETFG55873.2023.10407488

8. A. Kane, S. Kane and **A. Kumar**, "Modeling of Thermoelectric Module for Generating Power," 2023 International Conference on Computer, Electronics & Electrical Engineering & their Applications (IC2E3), Srinagar Garhwal, India, 2023, pp. 1-5, doi: 10.1109/IC2E357697.2023.10262477.
9. S. Chakraborty, **A. Kumar**, N. Adhikary and A. Narula, "A Multilevel Switched Capacitor based High-Gain Non-Isolated Hybrid Switched Inductor Cascaded Boost DC-DC Converter," 2023 International Conference on Computer, Electronics & Electrical Engineering & their Applications (IC2E3), Srinagar Garhwal, India, 2023, pp. 1-6, doi: 10.1109/IC2E357697.2023.10262407.
10. A. Panchbhai, R. Ranjan, G. Chilkalpudi and **A. Kumar**, "Power Decoupling Using Inductor In Triple Active Bridge," *2023 International Conference on Power, Instrumentation, Control and Computing (PICC)*, Thrissur, India, 2023, pp. 1-5, doi: 10.1109/PICC57976.2023.10142490.
11. A. K. Dubey, **A. Kumar** and J. P. Mishra, "Multi-functional Power Converter Operation for SAPF application and PV Integration with Dead-band Elimination Technique," 2022 IEEE Silchar Subsection Conference (SILCON), Silchar, India, 2022, pp. 1-6, doi: 10.1109/SILCON55242.2022.10028842.
12. F. Hassan, **A. Kumar** and A. Pati "Recent Advances in Phase Locked Loops for Grid Connected Systems: A Review" 2022 DELCON, India, 2022, pp. 1-6, doi: 10.1109/DELCON54057.2022.9752810.
13. A. K. Dubey, **A. Kumar** and J. P. Mishra, "Multi-functional Power Converter Operation for SAPF application and PV Integration with Dead-band Elimination Technique," 2022 IEEE Silchar Subsection Conference (SILCON), Silchar, India, 2022, pp. 1-6, doi: 10.1109/SILCON55242.2022.10028842.
14. F. Hassan, **A. Kumar** and A. Pati, "Analysis of Single-Phase Second Order Generalized Integrator Based Phase-Locked Loop And Derivative Element Based Phase-Locked Loop Under Weak Grid Condition," 2022 IEEE Silchar Subsection Conference (SILCON), Silchar, India, 2022, pp. 1-5, doi: 10.1109/SILCON55242.2022.10028956.
15. G. Chilakalapudi, A. K. Dubey and **A. Kumar**, "AC-link Fundamental Component Extraction in DAB DC/DC converter using SO-SOGI for Minimization of Back Power," 2022 IEEE Silchar Subsection Conference (SILCON), Silchar, India, 2022, pp. 1-5, doi: 10.1109/SILCON55242.2022.10028875.
16. Das, Saikat, Nirakar Nayak, and **Amritesh Kumar**. "Dynamic Power Flow Control Using Dual-Input Single-Output Non-Isolated DC-DC Converter for Renewable Energy Applications." International Conference on Electrical and Electronics Engineering. Springer, Singapore, 2022.
17. Chakraborty, Soham, and **Amritesh Kumar**. "A Multilevel Based High Gain Switched Inductor Quadratic DC-DC Boost Converter." olume 55, Issue 1,2022, Pages 448-453,ISSN 2405-8963,https://doi.org/10.1016/j.ifacol.2022.04.074.
18. Alok Kumar Dubey, Jyoti Prakash Mishra, Amritesh Kumar," Comparative Analysis of ROGI based Shunt Active Power Filter under Current Fed and Voltage Fed Type Non-Linear Loading Condition", IFAC-PapersOnLine , vol.55, Issue 1, 2022, pp.156-161, doi: 10.1016/j.ifacol.2022.04.026.
19. Ranjan Ravi, Anand Panchbhai, and Amritesh Kumar. "Decentralized Primary Control of PV-Battery System Integrated with DC Microgrid in Off-Grid Mode." 2022 IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE). IEEE, 2022.
20. S. Chakraborty and A. Kumar, "A High Step-Up Transformerless DC-DC Quadratic Boost Converter using Voltage-Lift Switched Inductor and Voltage Multiplier," 2022 IEEE IAS Global Conference on Emerging Technologies (GlobConET), Arad, Romania, 2022, pp. 170-175, doi: 10.1109/GlobConET53749.2022.9872501
21. S. Chakraborty and A. Kumar, "Analysis and Design of Non-Isolated Tapped-Coupled-Inductor DC-DC Boost Converter," 2022 IEEE IAS Global Conference on Emerging Technologies (GlobConET), Arad, Romania, 2022, pp. 637-642, doi: 10.1109/GlobConET53749.2022.9872408.
22. P. Kumar and **A. Kumar**, "Analysis and Design of a Switched-Capacitor and Switched-Inductor Network based High-gain DC-DC Converter," 2021 IEEE 4th International Conference on Computing, Power and Communication Technologies (GUCON), 2021, pp. 1-5, doi: 10.1109/GUCON50781.2021.9573650.
23. Prabhat Kumar and **Amritesh Kumar**, " Analysis and Design of a Parallel Switched-Inductor DC-DC Converter," 2nd International Conference on "Advances in Electronics, Electrical & Computational Intelligence" (ICAEEC-2021), 9th March, 2021, Indian Institute of Information Technology-Allahabad, Prayagraj, INDIA.
24. R. Aryan, R. Ranjan and **A. Kumar**, "Primary Control Strategies for Power Sharing and Voltage Regulation in DC Microgrid: A Review," IEEE 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies, 2021, pp. 1-6, doi: 10.1109/ICEPE50861.2021.9404516. Date: March 2021.
25. A. Dubey, J. P. Mishra, **A. Kumar** and A. A. Dongre, "MSOGI-FLL based Robust Harmonics Compensation under Distorted Grid Voltage Condition," IEEE 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies, 2021, pp. 1-5, doi: 10.1109/ICEPE50861.2021.9404424. Date: March 2021.
26. R. Aryan, R. Ranjan and **A. Kumar**, "Distributed Primary and Secondary Control Strategy for Power Sharing and Voltage Restoration in a DC Microgrid," IEEE 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies, 2021, pp.1-6, doi:10.1109/ICEPE50861.2021.9404419. Date: March 2021.
27. A. K. Dubey, J. P. Mishra and **A. Kumar**, "Flexible Distributed Power Converter with Harmonic Compensation and Seamless Passive Islanding Detection," IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Jaipur, India, 2020, pp. 1-6, doi: 10.1109/PEDES49360.2020.9379616. Date: December 2020
28. Y. Rama Siva Narayana, **A. Kumar** and D. C. Das, "Improved High Voltage Gain Non-Isolated Switched Inductor Quasi Z-Source DC-DC Converter for Zero energy DC Homes Application," 2020 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Jaipur, India, 2020, pp. 1-6, doi: 10.1109/PEDES49360.2020.9379572. Date: December 2020
29. **A. Kumar**, A. Narula and V. Verma, "Low Voltage Ride Through (LVRT) Strategies for Single Phase Grid Connected PV Fed Cascaded Multilevel Inverter," 2020 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Jaipur, India, 2020, pp. 1-6, doi: 10.1109/PEDES49360.2020.9379534.Date: December 2020

30. G. Chilakalapudi and **A. Kumar**, "Multi-Mode Power Management for Grid- Connected Photovoltaic System using Indirect Current Control Strategy," 2020 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Jaipur, India, 2020, pp. 1-6, doi: 10.1109/PEDES49360.2020.9379799. Date: December 2020
31. A. Sen, S. Pradhan and **A. Kumar**, "A Novel Curve Scanning Based Maximum Power Point Tracking Algorithm Under Partial Shading Conditions," 2020 IEEE First International Conference on Smart Technologies for Power, Energy and Control (STPEC), 2020, pp. 1-6, doi: 10.1109/STPEC49749.2020.9297794.
32. G. Chilakalapudi and **A. Kumar**, "Design and Analysis of an Indirect control Strategy for Reactive VAR Compensation in single-phase AC Microgrid system," 2020 International Conference on Electrical and Electronics Engineering (ICE3), Gorakhpur, India, 2020, pp. 59-64, doi: 10.1109/ICE348803.2020.9122910.
33. R. Arya, **A. Kumar**, A. Narula, " Multi-Input Multi-Level Isolated DC-DC Converter for enhanced reliability of Renewable sources," 2nd IEEE International Conference on Power Electronics, Intelligent Control and Energy systems (ICPEICES-2018), DTU, Delhi, 2018.
34. V. Verma and **A. Kumar**, "Smart parking for PHEV/EV using solid state split voltage bidirectional converter at UPF with V2G/G2V capability," 2016 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Trivandrum, 2016, pp. 1-6.
35. **A. Kumar** and V. Verma, "Performance enhancement of single phase grid connected PV system under partial shading using cascaded multilevel converter," 2016 IEEE 1st International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES), Delhi, 2016, pp. 1-6.
36. **A. Kumar**, E. Kochhar and K. Upamanyu, "Photovoltaic and wind energy hybrid sourced voltage based indirect vector controlled drive for Water Pumping System," 2015 IEEE International Conference on Electrical, Computer and Communication Technologies (ICECCT), Coimbatore, 2015, pp. 1-5.
37. **A. Kumar**, D. Kumar and D. R. Meena, "SRF based modeling and control of cascaded multilevel active rectifier with uniform DC-buses," 2014 Recent Advances in Engineering and Computational Sciences (RAECS), Chandigarh, 2014, pp. 1-5.
38. V. Verma and **A. Kumar**, "Grid connected single phase rooftop PV system with limited reactive power supply," 2013 International Conference on Power, Energy and Control (ICPEC), Sri Rangalatchum Dindigul, 2013, pp. 39-43.
39. V. Verma and **A. Kumar**, "Power balanced cascaded multilevel inverter fed scalar controlled induction motor pump sourced from photovoltaic source," 2012 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Bengaluru, 2012, pp. 1-6.
40. V. Verma, D. Bhardwaj and **A. Kumar**, "Power equalized hybrid control of PV fed induction motor pump," 2012 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Bengaluru, 2012, pp. 1-5.
41. V. Verma and **A. Kumar**, "Grid coupled maximum power point tracked photovoltaic system with selective power conditioning capability," 2012 IEEE International Conference on Power and Energy (PECon), Kota Kinabalu, 2012, pp. 886-891.

Patent

1. **A. Kumar**, A. Pati, et al**.,** "Dual Active Bridge-Based Fast Charging System for Electric Vehicles," **Indian Patent No. 561824, Application No. 202431005916,** filed on **January 29, 2024,** granted on **March 4, 2025.**

SUBJECTS TAUGHT/LABORATORY HANDLED/LAB DEVELOPED

- Power Electronics and Drives, Power Electronics, Basic electrical science, Renewable energy (UG)
- Power Electronics Lab, Basic Electrical Engineering Lab, DSP based Electromechanical System
- Established NEW lab for Power Electronics drives and DSP based Electromechanical System, Applied power electronics and energy conversion lab.
- Established advanced research lab facility for distributed generation and AC, DC microgrid.

THESIS SUPERVISED (PG)/(PhD)/(BTech)

- **PhD Supervised (03), Undergoing (06)**
    a) **Dr. Alok Kumar Dubey (18-3-03-115) -** Title: Multifunctional and Flexible Power Converter Application for Power Quality Improvement of a Microgrid in Robust Grid-Tied Mode and Islanded Operation-Completed
    b) **Dr. Ganesh Chilakalapudi (18-3-03-118)**- Title: Modeling and Control of Isolated DC-DC Dual active bridge based Isolated DC-DC Converter for EV Application – Completed
    c) **Dr. Ravi Ranjan (19-3-03-118)**- Title: Modeling and Hierarchical Coordinated Control Approach for Parallel Operated DC-DC Converters in a DC Microgrid– Submitted

- M.Tech - 06; B.Tech – 10

SHORT TERM / GIAN COURSES

1. 3-Day workshop on "Recent Development in Wind Energy Technology" organized by the Department of Electrical Engineering, National Institute of Technology Silchar sponsored by SPARC, MoE, Government of India (22-24 November, 2024)
2. Participated in One Week Online Faculty Development Program on "Sustainable Energy Technology and Green Mobility: Present Status and Future Prospects" organized by the Electrical Engineering Department National Institute of Technology Silchar Assam during 11th -16th Sept. 2024
3. Participated in workshop titled " Applications of Artificial Intelligence in Renewable Energy, EV Charging, and Grid Modernization infused with Gross National Happiness Values " organized by Dept. of Electrical Engineering, Jigme Namgyel Engineering College (JNEC), Bhutan in offline mode during 18th -21st Oct 2024
4. Online FDP on "Sustainable Energy Technologies and Green Mobility: Present Status and Future Prospects (SETGM) 2024" held in Sept 12-16, 2024 at Department of Electrical Engineering NIT Silchar, India.
5. AICTE sponsored short term training program on "Challenges in Electrical Vehicular battery charging & Grid Integration Issues" held in August 24-29, 2020, at Department of Electrical & Electronics Engineering Rajeev Gandhi Memorial College of Engineering & Technology, Andhra Pradesh, India.
6. TEQIP-III sponsored five days online International workshop on "Biotechnological Advances and Research" held in August 22-26, 2020, at NIT Silchar.
7. International Virtual Keynote Conference on "Future of Electrical Power and Energy sectors: Sustainable Development Goals" held on September 3,2020 at Department of Electrical and Electronics Engineering, Rajshahi University of Engineering & Technology.
8. Online FDP on "Electrical Vehicles" held in September 01-05, at Gyan Ganga Institute of Technology and Sciences, Jabalpur.
9. TEQIP-III sponsored five days online workshop on "Advancements in Electrical Engineering: An Academic & Industrial Approach" held on August 03-07, 2020, at Department of Electrical Engineering, NIT Silchar.
10. One Week online FDP on "Emerging Trends in Power Electronics and Power System (ETPEPS-2020)" held on August 24-29, 2020, at Department of Electrical Engineering O P Jindal University, Raigarh (CG), Chhattisgarh,India.
11. One day webinar on "New Education Policy:2020 Impact on Technical Education" held on 14th August 2020, at NIT Agartala.
12. One week training on "Hands-on-Training on Real- Time Simulator (HRTS 2020)" held in Feb 5-9, 2020 at NIT Silchar.
13. One week FDP on "Curriculum Design and Implementation for Outcome-Based Education" held in May 27-31, 2019 at NIT Silchar.
14. One week workshop on "Intellectual property rights and technological development" held in Jan 21-25, 2019 at NIT Silchar.
15. 2 day workshop on "Outcome based education and accreditation" held in Sept 30- Oct 1st, 2018 at NIT Silchar.
16. One week GIAN course on "Emerging Trends in Advance Control System Applications in Intelligent Transport Systems" held in Dec 4-8, 2017 at Department of Electrical Engineering, Delhi Technological University, Delhi.
17. One week GIAN course on "Emerging Cutting-edge technologies in advanced electrical machines and drives: design and performance issues, fault diagnosis, failure prognosis and mitigation" held in Nov 6-10, 2017 at Department of Electrical Engineering, Delhi Technological University, Delhi.
18. One week GIAN course on "Recent Trends in Power System Reliability Evaluation: Models, Statistical Methods and Applications" held in Oct 9-13, 2017 at Department of Electrical Engineering, Delhi Technological University, Delhi.
19. One week GIAN course on "Challenges and opportunities in renewable energy: role of smart grid" held in Jun 3-8, 2016 at Department of Electrical Engineering, Delhi Technological University, Delhi.
20. One week GIAN course on "Photovoltaic array to utility interface power converter" held in Aug 22-27, 2016 at Department of Electrical Engineering, Delhi Technological University, Delhi.

21. One week TEQIP-11 sponsored Short Term Training Programme on "PLC, HMI, SCADA and AC Drives" held in June 13-17, 2016 at Department of Electrical Engineering, Delhi Technological University, Delhi.
22. Two day NaMPET_II sponsored national workshop on Power Electronics held in Nov 6-7, 2015 at Department of Electrical Engineering, Delhi Technological University, Delhi.
23. One week TEQIP-11 sponsored Short Term Training Programme on "Nature Inspired Algorithm & their Application" held in July 13-17, 2015 at Department of Electrical Engineering, Delhi Technological University, Delhi.
24. One week TEQIP-11 sponsored Short Term Training Programme on "Recent Advances and Challenges in Power and Energy for Sustainable Growth" held in June 1-5, 2015 at Department of Electrical Engineering, Delhi Technological University, Delhi.
25. Two week TEQIP-11 sponsored Short Term Training Programme on "Integrating Renewable Energy into Emerging Electrical Power Systems" held in Dec 8th – 19th , 2014 at Department of Electrical Engineering, Delhi Technological University, Delhi.
26. One week TEQIP-11 sponsored Short Term Training Programme on "Recent Trends in Switchgear and protection" held in July 21h – 25th, 2014 at Department of Electrical Engineering, Delhi Technological University, Delhi.
27. One week TEQIP-11 sponsored Short Term Training Programme on "Renewable Energy and Alternative Fuels (REAF-2014)" held in June 16-20, 2014 at Delhi Technological University, Delhi
28. One week UGC sponsored Short Term Training Programme on "Signal Processing in Modern Electrical Systems" held in December 09-13, 2013 at Department of Electrical Engineering, Delhi Technological University, Delhi

RESOURCE PERSON IN CONFERENCE/FDP/WEBINAR

1. Acts as Resource person in workshop titled "Emerging Technologies in Optimizing Renewable Energy Systems with Smart Materials and Storage Solutions" organized by University College of Engineering Kakinada in online mode during 20th -25th Jan 2025.
2. Acts as Resource person in workshop titled "Power Electronics applications to Renewable Energy Systems, Electric Vehicle and Intelligent Control "supported by DST PURSE & SRMIST and organized by Department of Electrical and Electronics Engineering, E-MOBILITY RESEARCH CENTRE (EMRC), SRM Institute of Science and Technology, Chennai, TN, India during 17th February 2025 to 03rd March 2025.
3. Acts as Resource person in one week short term training program titled "Recent Trends in Intelligent Control and Electric Vehicles*"* organized by Department of Electrical Engineering, Harcourt Butler Technical University, Kanpur during 3-8th March 2025.
4. Acts as Resource person in workshop titled "Applications of Artificial Intelligence in Renewable Energy, EV Charging, and Grid Modernization infused with Gross National Happiness Values " organized by Dept. of Electrical Engineering, Jigme Namgyel Engineering College (JNEC), Bhutan in offline mode during 18th -21st Oct 2024.
5. Acts as Resource person in FDP programme titled "Design, Analysis, and Application of Electromagnetic Systems" organized Dept. of Electrical Engineering , Ghani Khan Choudhury Institute of Engineering and Technology in hybrid mode during 27th -31st May 2024.
6. Acts as Resource person in FDP programme titled "Power Quality Analysis and Improvement in Deregulated Power System" organized by Department of Electrical Engineering, National Institute of Technology Hamirpur in hybrid mode during 18th -22th May 2024.
7. Acts as Resource person in FDP programme titled " Hybrid Vehicles and Battery Management System" to be organized Department of Electrical Engineering, NIT Warangal in association with Shri Vishnu Engineering College for Women (A), Bhimavaram in hybrid mode during 7th -16th March 2022.
8. Acts as Resource person in FDP programme titled " Electric Vehicles: State of the Art, Challenges & Way forward" to be organized by Dept. of Electrical & Electronics Engineering, AJAY KUMAR GARG ENGINEERING COLLEGE in online mode during 22th to 26th August 2022.
9. Acts as Resource person in ATAL FDP programme titled "Design and Recent Development in Renewable Energy Based Microgrid System" to be organized by Dept. of Electrical & Electronics Engineering, NIT Mizoram in online mode during 25th to 29th October 2021.
10. Acts as Resource person in AICTE sponsored Hybrid Vehicles and Battery Management System scheduled during 7th March to 16th March 2022, Shri Vishnu Engineering College for Women (A), Bhimavaram.

11. Acts as Resource person in AICTE sponsored Short-term training program on "Augmentation of SMART Materials and Technologies for Commercial Energy Harvestation" held on 23rd Nov- 12th December, 2020 at Kongu Engineering College.
12. Act as a reviewer in 6th Students' Conference on Engineering & Systems(SCES-2020) held in July 10-12, 2020 at Department of Electrical Engineering, Motilal Nehru National Institute of Technology Allahabad, Prayagraj, India.
13. Act as a session chair in 6th Students' Conference on Engineering & Systems (SCES-2020) on "S24 – Mechanical systems and Mechatronics" held in July 10-12, 2020, at Department of Electrical Engineering , Motilal Nehru National Institute of Technology Allahabad, Prayagraj, India.
14. Act as a session chair in "3rd International Conference on Energy, Power and Environment: Towards clean Energy technologies (ICEPE 2020)" held in March 5-7, 2021, at National Institute of Technology Meghalaya, Shillong, India.
15. Act as a session chair in "9th IEEE Power Electronics, Drives and Energy Systems (PEDES) 2020" held in Dec 16-19, 2021, at MNIT, Jaipur, India..
16. AICTE Sponsored Six Days Online STTP on "Digital Controllers for Power Electronics Applications" held on August 3-8, 2020, at Department of Electrical and Electronics Engineering, Syed Ammal Engineering College Ramanathapuram.
17. One Week Online Faculty Development Program (FDP) on "Recent Advances in Electrical Engineering (RAEE-2020)" held on June 03-07, 2020, at VEMU Institute of Technology
18. TEQIP-III sponsored online FDP on Engineering Next Generation Technology for Humanity (ENGTH-2020) held on August 05-09, 2020, at Department of Electrical and Electronics Engineering, Motihari college of Engineering, Motihari.
19. One week TEQIP-111 sponsored FDP on "Power Electronics and Drive systems" held in Aug 26-30th , 2019 at Department of Electrical Engineering, Girijananda chowdhury institute of management and technology (GIMT), Guwahati, Assam.
20. TEQIP-111 sponsored two day expert lecture on "Control and operation of power electronics switches in renewable energy resources" held in Sept 27-28th, 2019 at Department of Electrical Engineering, MCE, MOTIHAI, Bihar.
21. One week FDP on "Recent Advances in Electrical Engineering" held in June 3-7th , 2020 at Department of Electrical Engineering, VEMU INSTITUTE OF TECHNOLOGY, P.Kothakota, Chittoor.
22. One day webinar on "Emerging Opportunities and Challenges in Grid/Off-Grid PV Application for Developing EV Charging Infrastructure" held in July 25th , 2020 at The Institution of Engineers (India), SILCHAR LOCAL CENTRE.
23. ICEPE 2020 Special Session chair on "Power Electronics Interfaces and their control for Distributed Energy Resources, Storage Systems and Electric vehicle" held in Sept 4-6th , 2020 at National Institute of Technology Meghalaya, Shillong, India.
24. TPC member for conference on "ICSEM" held in Aug 21-22th, 2020 at College of engineering roorkee, Uttrakhand.
25. Chair a session on "Mechanical Systems and Mechatronics" for SCES 2020 held at MNIT Allahabad during 10-12th July, 2020.

Conference/FDP/WEBINAR/SHORT TERM COURSE ORGANIZED

1. **Organizing Chair**, IEEE NE-IECCE 2025 held on 4-6th July, 2025 at NIT Silchar Organized by IEEE IAS Joint chapter, IEEE Silchar subsection.
2. **Co-ordinator** of IEEE IAS sponsored one week online workshop on "Leveraging Technology for Fostering Entrepreneurship, Higher Studies and Career Opportunities for Young Engineers" organized by the Department of Electrical Engineering, National Institute of Technology Silchar In Association with Institution Innovation Council IIC 7.0 jointly with IEEE IAS Nov 13-17.
3. **Co-coordinator from** India side of Indo-Bhutan India Friendship workshop on "Applications of Artificial Intelligence in Renewable Energy Integration, EV charging, and Grid Modernization infused with Gross National Happiness Values, Organizing Institutions: Jigme Namgyal Engineering College, Dewathang, Samdrupjongkhar, Bhutan, National Institute of Technology Silchar, India, and College of Science and Technology (CST), Phuentsholing, Bhutan.
4. **Organized** on IEEE Day Celebrations day technical Talk on "Leveraging Technology for a Better Tomorrow" by Mr. Amit Kumar, Superintending Engineer (Electronics), INFOCOM Services, Assam Arakan Fold Belt (AAFB) Exploratory Asset, ONGC, Silchar organized by IEEE Silchar Subsection jointly with IEEE Industry Applications Society (IAS) Joint Chapter of Silchar Subsection at National Institute of Technology Silchar, Assam.

5. **Organized** Technical Talk on " GaN FET – based High-Density Power Converters " by Dr. Harish Sarma Krishnamurthy, associate professor of the Department of Electrical and Computer Engineering at the University of Houston, Texas, USA organized by IEEE Industry Applications Society (IAS) Joint Chapter of Silchar Subsection and Department of Electrical Engineering, National Institute of Technology Silchar, Assam.
6. **Organizing Secretary**, IEEE SILCON 2022 held on 4-6th Nov, 2022 at NIT Silchar under IEEE Silchar subsection.
7. **Organizing Chair**, IEEE SILCON 2023 held on 3-5th Nov, 2023 at NIT Silchar under IEEE Silchar subsection.
8. One week AICTE sponsored workshop Programme on "Advances in Renewable Energy and Electric Vehicles" held in March 26-11th , 2022 at Department of Electrical Engineering, NIT SILCHAR, Silchar
9. One week TEQIP-111 sponsored workshop Programme on "Power Electronics Application to Industrial Systems" held in Sep 07-11th , 2020 at Department of Electrical Engineering, NIT SILCHAR, Silchar
10. One week TEQIP-111 sponsored workshop Programme on "Challenges in Operation and Control of Distributed Energy Resources (COCDER'19)" held in July 26-30th , 2019 at Department of Electrical Engineering, NIT SILCHAR, Silchar
11. One week TEQIP-111 sponsored workshop Programme on "Fractional Order Systems and Their Applications (FOSTA - 2019)" held in Aug 16-20th , 2019 at Department of Electrical Engineering, NIT SILCHAR, Silchar

AWARDS/ SIGNIFICANT ACHIEVEMENT/REVIEWER

- Senior member, IEEE
- Secretary IEEE, IAS Joint Chapter (Silchar Sub-Section and Kolkata Section) since 2023
- Past Joint Secretary. Silchar Subsection from June 2021 to Dec 2022
- Mentored students for zonal and central level in ANVESHAN 2.0 on topic "Photovoltaic Based Sustainable Controlled Electrical Heating for Tea Processing" in Feb 2020.
- **Awarded POSOCO Power System (PPSA-2018) award** under doctoral category for excellence in research work at Delhi Technological University.
- **Awarded** under **Premium Research category** at **Delhi Technological University** for the year 2018 for Publication in IEEE Transactions.
- **Awarded** under **Commendable Research category** at **Delhi Technological University** for the year 2017 for Publication in IEEE Transactions.
- **Awarded VEL TECH** Merit **Scholarship** for excellence in academics at **BITS PILANI in 2010**.
- **Awarded GATE** Merit **Scholarship** in academics at **BITS PILANI in 2011**.
- **Reviewer of** research papers for **IEEE transactions on Industrial Electronics, Informatics etc.**

SPONSORED PROJECTS/RESEARCH GRANT

- "Design and Development of Soft Interconnect for DC Microgrids using Power Electronics Interface for Improved Reliability of Power Supply" **SERB under SRG**, Oct 2019. **(Role –PI). Amount: Rs 29,08,400 (SRG/2019/101024, start date:31/12/2019, End date: 30/06/2022)**

- "Feasible Coordinated Controlled Grid-connected Photovoltaic Sourced DC based Fast Charging Infrastructure for Electric Vehicle: Design, Development and Experimental Validation" **SERB under IMPRINT-II (c), 27th Dec 2019** in collaboration with **Industrial partner Titlis Engg. and Projects**. **(Role –PI). Amount: Rs 1,89,45,180 (IMP/2019/000234, start date:30/12/2019, End date: 29/12/2023)**

- "Design and Demonstration of Off-grid Self-Healing & Sustainable DC Community Energy Solutions" DST under Mission Innovation (MI), Nov, 2018 in collaboration with Industrial partner RTI International, North Carolina, USA, Research Triangle Institute (RTI) Global India Pvt. Ltd., M2M Cybernetics Private Ltd. **(Role –CO PI). Amount: 22.25 million**

Member of Professional Body

- IEEE member (Membership no.- 95494211)

Books edited/authored/Book chapter

1. Rahman, S.M.A., **Kumar, A.** (2024). High Gain Voltage Lift-Based Interleaved Cascaded Boost DC-DC Converter. Advances in Microelectronics, Embedded Systems and IoT. ICMEET 2023. Lecture Notes in Electrical Engineering, vol 1156. Springer, Singapore. https://doi.org/10.1007/978-981-97-0767-6_14.
2. Das, S., Nayak, N., Kumar, A. (2022). Dynamic Power Flow Control Using Dual-Input Single-Output Non-Isolated DC-DC Converter for Renewable Energy Applications. In: Mekhilef, S., Shaw, R.N., Siano, P. (eds) Innovations in Electrical and Electronic Engineering. ICEEE 2022. Lecture Notes in Electrical Engineering, vol 893. Springer, Singapore. https://doi.org/10.1007/978-981-19-1742-4_24.
3. Verma, A., Prasad, S.K., Kumar, A. (2022). Comparative Study of PID and Model Predictive Control with Boost Converter. In: Mekhilef, S., Shaw, R.N., Siano, P. (eds) Innovations in Electrical and Electronic Engineering. ICEEE 2022. Lecture Notes in Electrical Engineering, vol 893. Springer, Singapore. https://doi.org/10.1007/978-981-19-1742-4_15.
4. Kumar, Prabhat and Amritesh Kumar. "Analysis and Design of a Parallel Switched-Inductor DC-DC Converter." Computational Methodologies for Electrical and Electronics Engineers, edited by Rajiv Singh, et al., IGI Global, 2021, pp. 93-110. http://doi:10.4018/978-1-7998-3327-7.ch008. Date: March 2021.

PERSONAL PROFILE

Name of Father	: Mr. Umeshwar Thakur
Date of Birth	: 24/06/1986
Permanent address	: Shramjivi Nagar, Bhagwanpur , Muzaffarpur, Bihar-842001, INDIA
Marital Status	: Married

DECLARATION

I hereby declare that all above furnished details are true & correct to the best of my knowledge and belief. Further information will be provided upon request.

Dr. Amritesh Kumar