Dr. Salman Ahmad

Assistant Professor (Senior scale), Dept. of Electrical Engineering
Islamic University of Science and Technology, Awantipora, Kashmir, 192122, India
Email: salman.ahmad@iust.ac.in

Education

- Doctor of Philosophy (**PhD)** in **Power Electronics** from **AMU,** Aligarh, India. **2020**
  Thesis: Low Switching Frequency PWM Techniques for Multi-phase Voltage Source Inverter
  Supervisor's: Prof. Atif Iqbal (Fellow IEEE(USA), Fellow IET(UK)) & Prof. Imtiaz Ashraf (Fellow (IE)).

- Master of Technology **(M. Tech)** from **Indian Institute of Technology (IIT) Roorkee**, India. **2010-2012**
  Dissertation: MPPT of Wind Turbine for Induction Generator connected with Grid.
  Marks: 86.12% (Distinction)
  Supervisor's: Dr. D.K Khathod & Dr. S.N Singh

- Bachelor of Technology **(B. Tech)** in **Electrical Engineering** from, **AMU**, Aligarh. **2006-2010**
  Project: Fabrication and testing of CIGRE MODEL II for partial discharge studies in high voltage
  CPI: 8.636/10 (Honors)
  Project Guide: Dr. Mujib Ullah Zuberi & Dr. Aejaz Masood

Competitive Exams Qualified

- Qualified **GATE 2010** with **AIR-918** (Out of 52,248) and **GATE 2012** with **AIR-4954** (Out of 1,10,125)
- Qualified Competitive Tests of **UPPCL**, Assistant Engineer (AE), **BARC**, Scientific Officer **2011**
- Qualified **AIEEE**-2006 with **AIR 9735** (out of 5,23,811) (B. Tech admission offers @ NIT Srinagar & DTU)2006
- Qualified B. Tech **UPSEE**, Rank-3211 (out of 1,50,000 candidates). **2006**
- Qualified **AMU PhD** Entrance- 2015 and **AMU B. Tech** Entrance- 2006 (Rank 170 out of 13, 639 candidates)

Work Experience

- **Assistant Professor (Regular), IUST Awantipora, Kashmir, India.** **2020- Till Date**
  Teaching and supervising both undergraduate, postgraduate and PhD students. Contributed to the drafting of syllabi under BoS-2023 and under BoS-2025. Established laboratories for Electrical drives and Electric Vehicles. Serving as the head of various committees at both departmental and University level. Successfully completed four research projects funded by various Government agencies.

- **Assistant Professor (TEQIP-III, Contractual), IUST Awantipora, Kashmir, India.** **2018- 2020**
  Teaching and supervising undergraduate students. Contributed to the drafting of syllabi under BoS-2018. Established laboratories for Electrical drives, and Electric Vehicles. Served as the head of various committees at both departmental and institutional levels.

- **Lecturer (Govt. of Ethiopia), Debre Berhan and Arba Minch University** **2012- 2015**
  The main tasks were preparation and presentation of lectures, supervision of group work, writing and grading tests and quizzes, grading projects and papers, preparing and grading the final exam for the course and projects. Completed one research project funded by Govt. of Ethiopia.

Professional Memberships

- ***Senior Member IEEE USA*** **2024-Till Date**
- *Member IEEE USA* **2017-2024**
- *Associate Member Institutions of Engineers (IE) India* **2016-Till Date**

Research Grants

- **Principal Investigator**, *"Design and Analysis of quasi-Z source based multilevel dc link inverter for performance enhancement of photovoltaic system "*. SEED grant under TEQIP-III, INR 2,00,000 (Completed). **2019-2020**

- **Co-Principal Investigator**, *"Development of weather station at IUST for assessing the utilization of renewable energy for space heating, cooling and other sustainable applications "*. *SEED* grant under TEQIP-III, INR 2,00,000 (Completed). **2019-2**
- **Principal Investigator**, *"Design and implementation of reduced switch count multi-level inverter for unified power flow controller solar intermittency and power quality "*. JKST&IC (DST), INR 2,74,000 (Completed). **2021-2024**
- **Co-Principal Investigator**, *"Development of green technology-based hybrid space heating for Kashmir valley "*. SEED grant under *"*. JKST&IC (DST), INR 4,99,000 (Completed). **2021-2024**

- **Co-Principal Investigator**, *"Novel Green and Sustainable Methods for Natural and Natural Product-like Architectures "*, sub-theme, *Digital twin (DT) applications in renewable energy systems (RES),* PAIR grant under ANRF, (IISER Pune is HUB). (1st year funding 2.30 Crores) **2025-Till Date**

- **Principal Investigator**, *"Design and Implementation of an Efficient and IoT-enabled Off- Grid Solar Photovoltaic Water Pumping System for Hilly and Rural Areas in Kashmir "*. Young Scientist Award, DST, Govt. of India, INR 50 lakh for Three Year **(Proposal Submitted).** **2025**

- **Co-Principal Investigator**, *"Integrated Solar Powered Induction Cooking and Passive space heating for enhancing Food Vendors Livelihoods and Promoting Sustainable Tourism for Off-grid Hilly Region "*. Young Scientist Award, DST, Govt. of India, INR 48.46 lakh for Three Year **(Proposal Submitted).** **2025**

- **Co-Principal Investigator**, *"Design and Implement of a Hybrid Wind-Solar-Battery Storage System based Microgrid employing Grid Forming Inverter Technique for an unelectrified habitations of Warwan Valley, J&K "*. Young Scientist Award, DST, Govt. of India, INR 50 lakh for Three Year **(Proposal Submitted).** **2025**

Book/Chapter Publications

Book (Authored/Edited)

- **Salman Ahmad**, F.I Bakhsh and S. Kumar, *"Multilevel converter: Modulation, Control and Applications*, **John Wiley & Sons**, USA, pp. 400. (ISBN: 978-1-394-16735-7) (**Edited Book**). **2024**
  LINK: https://www.wiley.com/en-us/Multilevel+Converters-p-9781394167357

- **Salman Ahmad**, A. Iqbal, M. Ali and S. Moinuddin, *"Multiphase Power Electronic Converters: Modulation, Control, and Applications"*,1st Edition, **Elsevier**, USA, (**Authored Book**), pp. 445. (ISBN: 9780443315947) **2025**
  LINK: https://shop.elsevier.com/books/multiphase-power-electronic-converters/ahmad/978-0-443-31594-7

Book Chapters

- A. Iqbal, S. Moinoddin, **Salman Ahmad**, M. Ali, A. Sarwar, and K. N. Mude," *Multiphase Converters"*, in Power Electronics Handbook. Elsevier, USA, 2017, pp. 457-528. (Edited by- M.H Rashid). https://www.elsevier.com//power-e/rashid/978-0-12-811407-0, Book **citations** on Google Scholar: 11,358 **2017**

- **Salman Ahmad**, Atif Iqbal, *"Switching Angles Computations using PSO in Selective Harmonics Minimization PWM"*, Metaheuristic and Evolutionary Computation: Algorithms and Applications, Springer Nature-Singapore, under the series of Studies in Computational Intelligence", vol. 96, pp 437-461, ISBN 978-981-15-7571-6. (DOI: https://doi.org/10.1007/978-981-15-7571-6 18). **2021**

- **Salman Ahmad**, A. Iqbal, I. Ashraf, Z.A Ganie *"Harmonics Minimization in Multilevel Inverter by Continuous Mode ACO Technique"*, Metaheuristic and Evolutionary Computation: Algorithms and Applications, Springer

Singapore, under the series of Innovations in Electrical and Electronic Engineering", vol. 756, edition 1, ISBN 978-981-16-0748-6. 2021, (DOI: 10.1007/978-981-16-0749-3). **2021**

- A.S Anees, **Salman Ahmad**, Z.A Ganie, *"Space Heating for Kashmir Valley: Issues, Challenges and Remedies"*, Renewable power and sustainable growth, Springer Nature, Singapore, 2021. Electronic ISBN: 978-981-334-080-0. Link: https://link.springer.com/chapter/10.1007/978-981-33-4080-0_31. **2021**

- Bashir, Javeed, **Salman Ahmad**, and Ahmed Sharique Anees, *"Unified Power Quality Conditioner (UPQC) Based on Multilevel Configurations"*, Multilevel Converters (2024): 233-251. **2024**
  Link: https://onlinelibrary.wiley.com/doi/abs/10.1002/9781394167371.ch12

- **Salman Ahmad**, Tajamal Hayat Parray, and Farhad Ilahi Bakhsh, *"Packed U-Cell Multilevel Inverter and Applications in Solar Photovoltaic System"* Multilevel Converters (2024): 203-231. **2024**
  Link: https://onlinelibrary.wiley.com/doi/10.1002/9781394167371.ch11

- Ganie, Zahoor Ahmad, Abdul Hamid Bhat, and **Salman Ahmad**, *"Multilevel Inverter Topologies, Modulation, and Applications in Motor Drives"*, Multilevel Converters (2024): 51-74. **2024**
  Link: https://onlinelibrary.wiley.com/doi/10.1002/9781394167371.ch3

Journal Publications

[1]. **Salman Ahmad**, Mohammed Meraj, Atif Iqbal, and Imtiaz Ashraf, *"Selective harmonics elimination in multilevel inverter by a derivative-free iterative method under varying voltage condition"*, **ISA transactions, Elsevier**, vol. 92, pages 241-256. **SCI-Indexed, I.F= 6.3**. DOI: doi.org/10.1016/j.isatra2019.02.015. **2018**

[2]. Al-Hitmi, Mohammed, **Salman Ahmad**, Atif Iqbal, Sanjeevikumar Padmanaban, and Imtiaz Ashraf, *"Selective harmonic elimination in a wide modulation range using modified Newton–Raphson and pattern generation methods for a multilevel inverter"* **Energies**, vol. 11, no. 2: 458. **SCIE**-Indexed**, I.F=3,** DOI: 10.3390/en11020458. **2018**

[3]. **Salman Ahmad**, Mohammed Al-Hitmi, Atif Iqal, Imtiaz Ashraf, Mohammed Meraj, and Sanjeevikumar Padmanaban, *"Low-order harmonics control in staircase waveform useful in high-power application by a novel technique"*, International Transactions on Electrical Energy Systems**, Wiley**, vol. 29, no. 3: e2769. **SCIE**-Indexed**, I.F= 1.9**. DOI: doi.org/10.1002/etep.2769. **2019**

[4]. Rahman, Khaliqur, Atif Iqbal, Mohammed A. Al-Hitmi, Obrad Dordevic, and **Salman Ahmad**, *"Performance analysis of a three-to-five phase dual matrix converter based on space vector pulse width modulation"*, **IEEE Access** vol. 7: 12307-12318. **SCI**-Indexed**, I.F= 3.4**. DOI: 10.1109/ACCESS.2019.2892514. **2019**

[5]. **Salman Ahmad**, Mohammed Al-Hitmi, Atif Iqbal, Khaliqur Rahman, and Imtiaz Ashraf, *"Low switching frequency modulation of a 3×3 matrix converter in upfc application using differential evolution method"*, International Transactions on Electrical Energy Systems, **Wiley**, vol. 30, no. 1: e12179. **SCIE**-Indexed**, I.F= 1.9**. DOI: doi.org/10.1002/2050-7038.12179. **2020**

[6]. **Salman Ahmad**, Atif Iqbal, Mohammad Ali, Khaliqur Rahman, and Abdellahi Sidi Ahmed, *"A fast convergent homotopy perturbation method for solving selective harmonics elimination PWM problem in multi-level inverter"*, **IEEE Access**, vol. 9 :113040-113051. **SCI**-Indexed**, I.F= 3.4** doi: 10.1109/ACCESS.2021.3104184. **2021**

[7]. **Salman Ahmad**, Rahim Uddin, Zahoor Ahmad Ganie, Ahmed Sharique Anees, and Farhad Ilahi Bakhsh, *"Low frequency operation and dsPIC micro-controller implementation for multilevel quasi-Z source inverter in photovoltaic application"*, Distributed Generation & Alternative Energy Journal, **Taylor & Francis,** vol. 37: 929-958. **SCOPUS**-Indexed**,** DOI: 10.13052/dgaej2156-3306.3743. **2022**

[8]. **Salman Ahmad**, Atif Iqbal, Imtiaz Ashraf, and Mohammad Meraj, *"Improved power quality operation of symmetrical and asymmetrical multilevel inverter using invasive weed optimization technique"*, Energy Reports, **Elsevier**, vol. 8: 3323-3336. **SCI**-Indexed**, I.F= 4.7**, DOI: 10.1016/j.egyr.2022.01.122. **2022**

[9]. Ahmad Ganie, Zahoor, Abdul Hamid Bhat, and **Salman Ahmad**, *"A novel adaptive invasive weed optimization technique and least square regression for harmonics minimization in standalone PV applications"*, International Journal of Circuit Theory and Applications, **Wiley**, vol. 51, no.: 1642-1664. **SCI**-Indexed**, I.F= 1.8**, DOI: doi.org/10.1002/cta.3483. **2023**

[10]. Zahoor Ahmad, Abdul Hamid Bhat, and **Salman Ahmad**, *"Wide band solution and sensitivity analysis for lower order harmonics control in multilevel converter"*, International Journal of Power Electronics, **Inderscience**, vol. 18, no. 2: 176-200. **SCOPUS**-Indexed**.** DOI: doi.org/10.1504/IJPELEC.2023.132970. **2023**

[11]. Rahman, Khaliqur, Adil Sarwar, Mohd Tariq, Shabana Urooj, Farhad Ilahi Bakhsh, Atif Iqbal, **Salman Ahmad**, and Md Rasidul Islam, *"Experimental analysis of advanced control technique for a five-phase direct matrix converter based on space vector PWM"*, **IET Power Electronics** vol. 16, no. 15: 2515-2524. **SCI**-Indexed**, I.F= 1.7.** DOI: doi.org/10.1049/pel2.12577. **2023**

[12]. Anees, Ahmed Sharique, **Salman Ahmad**, Rayes Ahmad Lone, and Zahoor Ahmad Ganie, *"Innovative solutions for sustainable space heating: Integrating solar air heaters and low-cost retrofitting windows for hilly region of Kashmir"*, e-Prime-Advances in Electrical Engineering, Electronics and Energy, **Elsevier**, vol. 10: 100872. **SCOPUS**-Indexed**.** DOI: doi.org/10.1016/j.prime.2024.100872. **2024**

[13]. **Salman Ahmad**, Jahangeer Ahmad, and Farhad Ilahi Bakhsh, *"Optimized harmonic PWM implementation in a reduced switch count MLI with quadruple boosting using PSO for solar PV applications"*, **Engineering Research Express**, vol. 7, no. 1. **ESCI**-Indexed**, I.F=** 1.5. DOI: 10.1088/2631-8695/adb00c. **2025**

[14]. Bashir, Irtiza, Abdul Hamid Bhat, and **Salman Ahmad**, *"A review on soft switched PFC boost converter for efficient lowering of switching losses"*, Electric Power Systems Research, **Elsevier**, vol. 242: 111430. **SCI**-Indexed**, I.F= 3.3**. DOI: doi.org/10.1016/j.epsr.2025.111430. **2025**

[15]. T. Hayat Parray, **Salman Ahmad**, Farhad Ilahi Bakhsh," *Optimized MSHE–PWM Control of a Reduced-Switch Five-Level Transformer less Inverter Using Bayesian Techniques"* Distributed Generation & Alternative Energy Journal. (Accepted. SCOPUS-Indexed, Cite score: 1.90. **2026**

Conference Publications & Presentations

[1]. **Salman Ahmad**, Atif Iqbal, Imtiaz Ashraf, Mohd. Tariq, *"Low Switching Frequency Modulation for a 3-Level Grid Tied NPC Inverter in Solar PV Application"*, **ICCPEAT** 2017, Pondicherry. February 24-25. **2017**

[2]. **Salman Ahmad**, Antwan Elias Hesny, Atif Iqbal, Saad Ahmed Aly, Syed Rahman, *"Design and Development of a Contactless Battery Charger for Electric Vehicles"*, International Conference on Emerging Trends in Engineering & Technology Management, **NIT Hamirpur**. Dec. 16-18, 2017, 102-107, Vol 1, 978-93-86724-30-4 **2017**

[3]. **Salman Ahmad**, Atif Iqbal, Imtiaz Ashraf, R. Alammari, *"SHE PWM for Multilevel Inverter Using Modified NR and Pattern Generation for Wide Range of Solutions"*, **IEEE CPEPWERENG**, Doha, **Qatar**. April 10-12 2018. DOI: 10.1109/CPE.2018.8372498. **2018**

[4]. **Salman Ahmad**, Atif Iqbal, Imtiaz Ashraf, M. A Al-Hitmi, *"Selected Harmonics Elimination in Multilevel Inverter Using Improved Numerical Technique"*, **IEEE CPE-PWERENG, Doha, Qatar** April 10-12 2018. DOI: 10.1109/CPE.2018.8372500. **2018**

[5]. **Salman Ahmad**, Zahoor Ahmad Ganie, Imtiaz Ashraf, Atif Iqbal, *"Harmonics minimization in 3-level waveform and its FPGA realization"*, **IEEE CIPECH**, KIET, India. November 1-2 2018. DOI: 10.1109/CIPECH.2018.8724136. **2018**

[6]. Manita Kumari, Mohammad Ali, **Salman Ahmad**, Imtiaz Ashraf, Atif Iqbal, Mohammad Tarique *"Genetic Algorithm based SHE-PWM for 1 − ϕ and 3 − ϕ Voltage source inverters"*, IEEE, ICPECA, JMI Delhi, India. November 16-17 2019. **2019**

[7]. **Salman Ahmad**, Zahoor Ahmad Ganie, Rahim Uddin, *"Close Loop Control of quasi-Z-Source Inverter in Grid Connected PV System"*, **IEEE UPCON**, AMU Aligarh, India. November 8-10 2019. **2019**

[8]. **Salman Ahmad**, A. Iqbal, I. Asraf, Z.A,Ganie *"Harmonics Minimization in Multilevel Inverter by Continuous Mode ACO Technique"*, **ICEEE 2021**, University of Malaya, **Malaysia**, January 2-3, 2021. **2021**

[9]. **Salman Ahmad**, I. Khan, A. Iqbal, S. Rahman, *"A Novel Pulse Width Amplitude Modulation for Elimination of Multiple Harmonics In Asymmetrical Multilevel Inverter"*, **IEEE Texas Power and Energy Conference**, Texas A& M University, **USA**, February 2-5, 2021. **2021**

[10]. Ahraz Moon, Shabana Mehfuz and **Salman Ahmad**, "*Design and Implementation of SEPIC Converter for PV System Based Smart Home Application"*, in (STPES), **NIT Srinagar**, (pp. 1-6), **IEEE**, May 2022. **2022**

[11]. Ganie, Z. A., Bhat, A. H., & **Salman Ahmad**, *"Low Switching Frequency Operation of a Two-Level Voltage Source Inverter Using Imperialist Competitive Algorithm and Hardware Realization"*, in (STPES), **NIT Srinagar**, (pp. 1-6), IEEE, May 2022. **2022**

[12]. Ganie, Z. A., Bhat, A. H., & **Salman Ahmad**, *"Harmonics Minimization in Wide Modulation Range Using Improved Differential Evolution Optimization Technique and Hardware Validation"*, in 2022 2nd Asian Conference on Innovation in Technology (**ASIANCON**) (pp. 1-6). IEEE, August, 2022. **2022**

[13]. Anees. A, & **Salman Ahmad**, Lone. R, "*Green Technology Based Space Heating Solutions for Cold Weather Condition: A Case Study of Kashmir Valley"*, in 2023 International Conference on Power, Instrumentation, Energy and Control (**PIECON**), AMU (pp. 1-6). IEEE, 2023. **2023**

[14]. Anees. A, & **Salman Ahmad**, Lone. R, "*Green Technology Based Space Heating Solutions for Cold Weather Condition: A Case Study of Kashmir Valley"*, in 2023 International Conference on Power, Instrumentation, Energy and Control (**PIECON**), AMU (pp. 1-6). IEEE, 2023. **2023**

[15]. **Salman Ahmad**, Anees. R, Bashir. J, *"A reduced device count multilevel converter for improved power quality in solar PV system and rapid prototyping using DSP controller"*, in National Conference on Electrical and Power Electronics (NCEPE - 23), August 2023. **2023**

[16]. **Salman Ahmad**, Anees. S, Bashir. J, *"Design and Development of a High Gain DC-DC Converter Suitable for Renewable Energy Application"*, in 2023 International Conference on Power, Instrumentation, Energy and Control (**PIECON**), AMU (pp. 1-6), **IEEE**, February 2023. **2023**

[17]. Iqra Jan, **Salman Ahmad**, Farhad Ilahi Bakhsh, Jaffar Ali Lone, *"Selective Harmonic Minimization in Cascaded 11-Level Inverter using Real Time Typhoon HIL"*, 2nd International Conference on Sustainable Power and Energy Research (ICSPER-2025), **Springer** (Scopus), NIT Srinagar, July 11-12, 2025. **2025**

[18]. Ahmad Sharique Anees, Bismah Jan, **Salman Ahmad**, Zahoor Ahmad Ganie and Rayees Ahmad Lone, *"Portable Induction-Based Water Heating Element for Efficient and Safe Water Heating Applications"*, 2nd International Conference on Sustainable Power and Energy Research (ICSPER-2025), **Springer** (Scopus), NIT Srinagar, July 11-12, 2025. **2025**

Patents

- **Title**: *Designing a low cost retrofit window for better thermal insulation.*
  Application No: 202411017555, (**Published**). **19-04-2024**

- **Title**: *portable induction-based water heating element for efficient and safe water heating applications.*
  Application No:202411056514, (**Published**). **25-07-2024**

- **Title**: *Audio Kashmiri clock for blind and illiterate person*
  Application No: 202511001000, (**Published**). **31-01-2025**

- **Title**: *Intelligent monitoring & protection system for water pumping motor against anti-icing & empty full conditions*
  Application No: 202511001002, (**Published**). **31-01-2025**

- **Title**: *Smart waste segregation system with image recognition for medical waste management.*
  Application No: 202511003336, (**Published**). **28-02-2025**

Research Supervision

PhD Supervision

1. **Thesis Title**: *Low Switching Frequency Pulse Width Modulation Techniques of Voltage Source Converters for High Power Applications.* **Role**: Co-supervisor. **Institute**: NIT Srinagar. **Status**: Completed. **2020-2024**

2. **Thesis Title**: *Enhancing efficiency and control flexibility in High-Power Interleaved Boost AC-DC converters.* **Role**: Co-supervisor. **Institute**: NIT Srinagar. **Status**: Ongoing. **2022-2026**

3. **Thesis Title**: *A Novel Reduced Switch 5-Level Common Ground Transformer less Inverter Topology.* **Role**: Co-supervisor. **Institute**: NIT Srinagar. **Status**: Completed. **2022-2026**

4. **Thesis Title**: *Yet to be allotted.* **Role**: Co-supervisor. **Institute**: IUST Awantipora. **Status**: Ongoing. **2024-2027**

5. **Thesis Title**: *Yet to be allotted.* **Role**: Supervisor. **Institute**: IUST Awantipora. **Status**: Ongoing. **2025-2028**

M.Tech Supervision

1. **Dissertation Title**: *Selective Harmonic Elimination in Reduced Switch Nine Level Inverter Having Quadruple Boosting Ability.* **Role**: Co-supervisor. **Institute**: NIT Srinagar. **Status**: Completed. **2023-2024**

B. Tech Supervision

- Supervised more than **20** B. Tech Projects related to Hardware Implementations of Power Electronics, Drives, Renewable Energy and Sustainable Developments. **2018-2025**

Research Accounts and Citations

- Google Scholar: https://scholar.google.com/citations?hl=en&authuser=1&user=fIWV9e4AAAAJ
- ResearchGate: https://www.researchgate.net/profile/Salman-Ahmad27
- ORCID ID: 0000-0003-0281-8220 Scopus ID: 57202601204, Web of Science Researcher ID: ABG-7771-2020

Editor and Special Sessions

- **Editor** of Frontiers in Energy Research journal, **SCI**-Indexed, IF=3.4 **2023**
  Link: https://loop.frontiersin.org/people/1871992/overview
- **Chaired** a session at the IEEE Energy Conversion Congress and Exposition-Asia, **IEEE ECCE Asia** held in **Singapore** (Virtual Conference). **24-27 May, 2021**
- **Chaired** one session at 2nd IEEE Asian Conference on Innovation in Technology (**ASIANCON**) from, held in Pune, India. **26-28 Aug, 2022**
- **Chaired** two sessions at the IEEE International Conference on Sustainable Technology for Power and Energy Systems 2022 held from 4th to 6th July, 2022 in NIT Srinagar. **4 -6 July, 2022**
- **Organized and chaired** special session at International Conference on Power, Instrumentation, Energy and Control (**PIECON**) at AMU Aligarh. **10-12 Feb. 2023**
- Delivered Invited Talk at NIT Srinagar during Techvaganza **2024**
- **Organized and chaired** a special session on "Advancing Renewable Energy with Next Generation Power Electronics at International Conference on Sustainable Power and Energy Research (**ICSPER-2025**) at **NIT Srinagar.** **11-12 July, 2025**
- **Organizing** a special session on "AI and Soft Computing for Sustainable Renewable Energy System" at 5th IEEE Delhi Section International Conference (**IEEE DELCON-2026**) at **BITS-Pilani.** **19-21 Nov, 2026**

Main Committees/ Coordinator/Outreach Activity

- Departmental Examination Coordinator, Students Project Coordinator, Member Secretary Department Research Committee, Academic Coordinator, Mentor, Power Electronics and Drives Lab Coordinator, Electric Vehicle Technology Laboratory Development Coordinator, Member Secretary Purchase Committee, Member TIRE&CC CIED IUST, NIRF Coordinator, Coordinator SPMC and Dept. Research Comm. (DRC).
- Alumni Coordinator, Sports Coordinator, Gate Coordinator, IEEE Coordinator
- Department Coordinator of Techfest-2023, Techfest-2024 and Techfest-2025 at IUST
- More than 10 Industrial Visits with Undergraduate and Postgraduate Students.
- Member of BOS-2019, BOS-2023 and BOS-2025 and drafted more than 20 courses for UG, PG and PhD.

FDP/STTC Coordinator

- Organized a **one-week Short Term Course** (STC) as **Coordinator** on" *FPGA programming in Power and Control applications"* , in collaboration with Cranes Software International limited, Bangalore at IUST, Awantipora, J&K. (Total Funding of 5 lakh). **10-14 September 2018**

- Organized **one-week** AICTE sponsored ATAL FDP as **Co-Coordinator** on *"Grid Decarbonization and Distributed Energy Resources to Mitigate Climate Chang"*, at Islamic University of Science and Technology, Kashmir, J&K. (Total Funding of 3.5 lakh). **18-23 December 2023**

- Organized a **Two-Day Workshop** as **Coordinator** on" *Embedded systems and IoT: Using Raspberry Pi and Python*, in collaboration with ATFAAL Innovations Pvt. Ltd.at IUST, Kashmir, J&K. (Total Funding of 15*000*). **3-4 September 2025**
- Organized a **one-week Workshop** as **Coordinator** on" *Experimental Study on Electric Vehicle Drivetrain Using MATLAB-Based Motor Controller and Battery Management System"*, in collaboration with Syngient Technologies, Pune at IUST, Awantipora, J&K. (Total Funding of *20000*). **9-15 October 2025**

Fellowships/Awards/Honors

- Maulana Azad **Fellowship** by UP Government **2007-2008**
- **Merit-Cum Means** Fellowship by MHRD, Govt. of India **2008-2011**
- **MHRD Fellowship** from Govt. of India **2010-2012**
- First prize in **QUIZ** organized by ministry of Petroleum, Govt. of India **2011**
- First prize in **QUIZ** organized by IIT Roorkee **2012**
- Non-Net **Fellowship** from UGC, Govt. of India **2015-2017**
- TEQUIP-II **Fellowship** by MHRD, Govt. of India **2016-2017**
- **First prize in GIAN** organized by JMI & MHRD, Govt. of India **2017**
- **Best Projec**t Under research category in Techfest-2024 at IUST **2024**
- **Best Projec**t Under prototype category in Techfest-2025 at IUST **2025**

FDP/ Short Term Courses/FIP Attended

1. **Title**: *Advances in Power Electronics for Smart Grid*
   Type: Short Term Course. **Place**: IIT Patna (Under NAMPET). **Duration**: Three Days. Mar 3-5, **2016**

2. **Title**: *Digital Signal Controllers and FPGA for Power Electronics*
   Type: Workshop. **Place**: EE, AMU Aligarh. **Duration**: One week. Aug 24-30, **2016**

3. **Title**: *Big Data and Soft Computing: Techniques and Applications*
   Type: Workshop. **Place**: EE, AMU Aligarh. **Duration**: One week. Oct 05-09, **2016**

4. **Title**: *Advances in power electronics & renewable energy sources*
   Type: GIAN (MHRD). **Place**: EE, JMI, New Delhi. **Duration**: One week. Feb 06-10, **2017**
5. **Title**: *Nature inspired optimization techniques and research paper writing by Latex*

Type: Workshop. **Place**: EE, AMU Aligarh. **Duration**: One week. Mar 16-22, **2017**

6. **Title**: *Advanced sliding mode control and estimation for real complex system*
   Type: GIAN (MHRD). **Place**: IIT, Roorkee. **Duration**: Four days. Oct 24-27, **2017**

7. **Title**: *Emerging Electrical Energy Storage Applications*
   Type: GIAN (MHRD). **Place**: NIT, Hamirpur. **Duration**: One week. Dec 11-16, **2017**

8. **Title**: *Advanced Pedagogical Approach for Technical Courses and Laboratory*
   Type: FIP (NPIU). **Place** IIT, Kanpur. **Duration**: One week. Jan 29-Feb 02, **2018**

9. **Title**: *Advanced Pedagogical Approach for Technical Courses and Laboratory*
   Type: STC (AICTE). **Place**: IISC, Bangalore. **Duration**: One week. Aug 6-10, **2018**

10. **Title**: *Advanced Pedagogy and Digital Tools*
    Type: FIP (NPIU). **Place**: IIT, Kanpur. **Duration**: One week. May 13-17, **2019**

11. **Title**: *Application of artificial intelligence in electrical energy systems*
    Type: STTP **Place**: NIT, Srinagar. **Duration**: One week. Aug 17-21, **2020**

12. **Title**: *Transition in Power Electronics towards Flexible Micro-Grids*
    Type: STC (NAMPET). **Place**: NIT, Delhi. **Duration**: One week. Oct 19-23, **2020**

13. **Title**: *Advancements in Optimization of Power Drives and Control System*
    Type: STC. **Place**: NIT, Hamirpur. **Duration**: One week. Nov 16-20, **2020**

14. **Title**: *Digital Signals Controllers for Control of Power Electronic Converters and Applications (Series-I)*
    Type: STC. **Place**: SCET, Surat. **Duration**: One week. Dec 14-19, **2020**

15. **Title**: *Design of Photovoltaic System*
    Type: NPTEL (FDP). **Place**: IISC, Bangalore (Prof. L. Umanand). **Duration**: 12 weeks. Sep-Dec, **2020**

16. **Title**: *Faculty induction Programme for newly joined Faculty*
    Type: FIP (UGC-HRDC). **Place**: JMI, New Delhi. **Duration**: One month. Dec 28-Feb 02, **2021**

17. **Title**: *Power Electronics Applications in Microgrid and Electric Vehicle Systems*
    Type: FIP (UGC-HRDC). **Place**: YMCA, Faridabad. **Duration**: One Week. March 01-06, **2021**

18. **Title**: *Digital Signal Processor: An Introduction with Code Composer Studio and PSIM*
    Type: STTP. **Place**: NIT, Surat. **Duration**: One Week. April 14-16, 23-24, **2022**

19. **Title**: *National Intellectual Property Awareness Training Program*
    Type: Intellectual Property. **Place**: IUST, Kashmir. **Duration**: One Day. July 21, **2023**

20. **Title**: *Real time Simulation for Power Electronics and Power Systems Applications (RTSPEPS-2023)*
    Type: STC. **Place**: NIT, Jamshedpur. **Duration**: One Week. Aug 21-25, **2023**

21. **Title**: *Grid Decarbonization and Distributed Energy Resources to Mitigate Climate Change*
    Type: ATAL-FDP. **Place**: IUST, Kashmir. **Duration**: One Week. Dec 18-23, **2023**

22. **Title**: *Digital Controller for Power Applications*
    Type: NPTEL (FDP). **Place**: IIT, Madras (Prof. Laxmi N). **Duration**: 12 weeks. Sep-Dec, **2024**

23. **Title**: *Recent Advancements in Solar & Wind Energy Systems for Sustainable Development.*
Type: Industrial Training (DST). **Place**: EE, AMU Aligarh. **Duration**: Two weeks. Feb 3-15, **2025**

24. **Title**: *Building Integrated Photovoltaic Technology*
Type: Training Programming. **Place**: IUST, Kashmir. **Duration**: Two Days. April 16-17, **2025**

Reviewer (Journals 300+ and Conferences 100+ Manuscripts)

- IEEE Transaction on Industrial Electronics **2015-Till date**
- IEEE Transaction on Power Electronics **2016-Till date**
- IEEE Transaction on Industry Application **2016-2020**
- IEEE Transaction on Energy conversion **2019-2023**
- IET Power Electronics and IET Power Generation, Transmission and Distribution **2017-Till date**
- ISA Transaction, Elsevier and Electric Power System Research, Elsevier **2017-Till date**
- IEEE Access and IEEE Emerging Trends in Power Electronics **2016-Till date**
- ITEES, Wiley and Energy Storage, Wiley, Energies, MDPI **2017-Till date**
- Electrical Engineering, Springer, Arabian Journal of Science and Engineering, Springer **2020-Till date**
- IEEE IECON, IAS, PEDES, PIECON, ICSPER, SEFET **2017-Till date**

Area of Interest and Skills

Area of Research

- Electrical Drives, Electric Vehicle Technologies, Power Electronics, Renewable Energy Integration, and AI-based Control Systems. Current research focuses on advanced converter topologies, motor drive control, and sustainable energy solutions for transportation and smart grid applications.

Languages and Skills

- ***Languages-*** Fluent in English, Hindi and Urdu. Elementary in Arabic, Sanskrit, Kashmiri and Amharic
- ***Hardware and Softwares-***Proficient in Matlab, Simulink, DSP, FPGA, PSIM, HOMER, MS Office, LaTeX, Mendley, and MS Visio.
- ***Online platforms-*** Camtasia, Bandicam, Google classroom, Zoom, MS Team & Googlemeet
- ***Optimization Techniques***- Particle swarm optimization, Genetic algorithm, Differential evolution, Ant colony optimization and Artificial neural network.

References

1. Dr. Atif Iqbal, Fellow IEEE, IET & IE (India)
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Declaration

- I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Place: Aligarh, UP. (Dr. Salman Ahmad)
Date: 23-06-2026