

Dr. Anshul Kumar Mishra

Email: anshulmishra@ieee.org | Phone: +91-8219673613 | Location: Mainpuri(UP) India

Professional Summary

PhD in Electrical Engineering with specialized expertise in Power Electronics, Converter Design, Motor Drives, and Condition Monitoring. Adept at working in dynamic, multidisciplinary environments to solve industrial problems, drive innovation, and ensure regulatory compliance. Experienced researcher and educator with a deep understanding of simulation, prototyping, and high-voltage electrical systems. Passionate about innovation, collaboration, and delivering high-impact solutions.

Core Competencies

- Innovative thinker with proven problem-solving skills and a proactive attitude.
- Experienced in converter design, modulation strategies, and drive control systems.
- Exposure to HVDC, FACTS systems, and power semiconductor devices.
- Expertise in MATLAB/Simulink, PSCAD, and PLECS simulation environments.
- Highly communicative, collaborative, and capable of working in international teams.
- Strong organizational and multitasking capabilities with structured execution.
- Promotes openness, respect, safety, and integrity in team environments.

Professional Experience

- Assistant Professor & Head, Electrical Engineering Department

Lokmata Devi Ahilyabai Holkar Rajkiya Engineering College, Mainpuri (Dec 2017 – Present)

- Managed academic, research, and administrative functions as Department Head since 2021.
- PI of a UP government-funded ₹18.58 Lakh project on acoustic-based intelligent bearing fault detection for EV motors.
- Established advanced laboratories including a Center of Excellence in Renewable Energy.
- Played key role in faculty recruitment, student registration, and policy compliance.

Research & Innovation

Key Research Areas:

- Fault diagnosis and condition monitoring of motors using AI and signal processing.
- Design and simulation of PMSM, Induction Motors, and flux switching machines.

- Application of vector control and rotor flux-oriented control for EV drives.
- Proposal development for industry and defense-oriented power electronic solutions.

Education

- Ph.D., Electrical Engineering – IIT Mandi
- M.S. (Research), Electrical Engineering – IIT Mandi
- B.Tech, Electrical Engineering – UPTU

Technical Skills

- Power Electronics: Converter design, modulation, HVDC, FACTS, inverter topologies.
- Electrical Machine Design
- Fault diagnosis and condition monitoring of motors, AI and signal processing Simulation Tools: MATLAB/Simulink, PSCAD, LabVIEW, Typhoon HIL, Opal-RT, Tina-TI, Ansys Electronics Suite.
- Motor Drives: Vector control, rotor flux-oriented control, sensorless techniques.
- Hardware Development: PCB design, prototype testing, EMI/EMC compliance.

Publications & Outreach

Google Scholar Profile: <https://scholar.google.com/citations?user=nRLyABIAAAAJ&hl>

Journal Papers

1. Rajesh M. Pindoriya, **Anshul K. Mishra**, Bharat S. Rajpurohit & Rajeev Kumar, An Experimental Investigation of Acoustic Noise and Vibration of PMSM Induced by Power Electronics Converters, *Electric Power Components and Systems*, vol. 48(19-20) pp. 2005-2018, 2021 DOI: 10.1080/15325008.2021.1921885. **(SCI; Impact Factor:1.424)**
2. **A. K. Mishra.**, B.S. Rajpurohit, and R. Kumar “Revampment of surface permanent magnet synchronous motor design for ameliorated torque profile in e-mobility applications”. *IET Electrical Systems in Transportation*, vol. 11, pp. 99-108, 2020. <https://doi.org/10.1049/els2.12007> **(SCI; Impact Factor:2.387)**
3. **A. K. Mishra**, B. S. Rajpurohit and R. Kumar, "Induction Machine Drive Design for Enhanced Torque Profile," in *IEEE Transactions on Industry Applications*, vol. 54, no. 2, pp. 1283-1291, March-April 2018, doi: 10.1109/TIA.2017.2766585. **(SCI; Impact Factor:4.5)**
4. A. Sharma, **A.K. Mishra**, and **B. S. Rajpurohit**, "Stability Analysis of Selective Inter-harmonic Compensation Approach for Light Flicker Mitigation" in *International Journal of Power Electronics*, vol. 20, no. 2, pp. 93-112, March-2024,. **(Scopus)**

5. A. Sharma, **A.K. Mishra**, "Impact of electric vehicles charging on existing power grid distribution system." In *Intet J Syst Assur Eng Manag* **16**, 835–844 (2025). <https://doi.org/10.1007/s13198-024-02690-4> (Scopus)
6. A. Sharma and **A.K. Mishra**, "Simplified Sign Algorithm based Intelligent control for power quality enhancement of DSTATCOM" in *International Journal of Power Electronics*, 2025 (ACCEPTED),. (Scopus)
7. A. Sharma and **A.K. Mishra**, "Sign algorithm based power quality enhancement at distribution side of power system" in *International Journal of Power Electronics*, 2025 (ACCEPTED),. (Scopus)

Conference Papers

1. R. M. Pindoriya, **A. K. Mishra**, B. S. Rajpurohit and R. Kumar, "Performance analysis of control strategies of permanent magnet synchronous motor," *2016 IEEE Region 10 Conference (TENCON)*, Singapore, 2016, pp. 3224-3227, doi: 10.1109/TENCON.2016.7848645. (IEEE Conference)
2. R. Krishan, **A. K. Mishra** and B. S. Rajpurohit, "Real-time parameter estimation of single-phase transformer," *2016 IEEE 7th Power India International Conference (PIICON)*, Bikaner, India, 2016, pp. 1-6, doi: 10.1109/POWERI.2016.8077315.
3. A. Sharma, **A. K. Mishra**, B. S. Rajpurohit and K. N. Srivastava, "Power quality enhancement at PCC for PMSM based adjustable speed drive load," *2017 7th International Conference on Power Systems (ICPS)*, Pune, India, 2017, pp. 364-369, doi: 10.1109/ICPES.2017.8387321. (IEEE Conference)
4. R. M. Pindoriya, **A. K. Mishra**, B. S. Rajpurohit and R. Kumar, "FPGA Based Digital Control Technique for BLDC Motor Drive," *2018 IEEE Power & Energy Society General Meeting (PESGM)*, Portland, OR, USA, 2018, pp. 1-5, doi: 10.1109/PESGM.2018.8586472. (IEEE Conference)
5. R. M. Pindoriya, **A. K. Mishra**, B. S. Rajpurohit and R. Kumar, "An Analysis of Vibration and Acoustic Noise of BLDC Motor Drive," *2018 IEEE Power & Energy Society General Meeting (PESGM)*, Portland, OR, USA, 2018, pp. 1-5, doi: 10.1109/PESGM.2018.8585750. (IEEE Conference)
6. S. Yadav and **A. K. Mishra**, "Performance Evaluation in IFOC Induction Motor Drive with various PWM Techniques," *2020 International Conference on Electrical and Electronics Engineering (ICE3)*, Gorakhpur, India, 2020, pp. 65-70, doi: 10.1109/ICE348803.2020.9122877. (IEEE Conference)
7. **A. K. Mishra** and B. S. Rajpurohit, "Modeling of 3-phase induction motor including slot effects and winding harmonics," *2014 6th IEEE Power India International Conference (PIICON)*, Delhi, India, 2014, pp. 1-6, doi: 10.1109/POWERI.2014.7117740. (IEEE Conference)
8. **A. K. Mishra**, B. S. Rajpurohit and R. Kumar, "Design and development of efficient induction machine drive for reduced torque pulsations," *2016 IEEE 6th International Conference on Power*

- Systems (ICPS)*, New Delhi, India, 2016, pp. 1-6, doi: 10.1109/ICPES.2016.7584078. **(IEEE Conference)**
9. **A. K. Mishra**, A. Gangwal, R. Singh, R. Trivedi, B. S. Rajpurohit and R. Kumar, "Design and comparison analysis of speed controllers for PMSM," *TENCON 2017 - 2017 IEEE Region 10 Conference*, Penang, Malaysia, 2017, pp. 1772-1777, doi: 10.1109/TENCON.2017.8228145. **(IEEE Conference)**
 10. Yadav, S., **Mishra, A.K.**, Tripathi, J.M., Chandel, A. (2022). Lower Order Harmonic Torque Reduction in v/f Controlled Induction Motor Drive. in *Advances in Micro-Electronics, Embedded Systems and IoT in Lecture Notes in Electrical Engineering*, vol 838. Springer, Singapore. https://doi.org/10.1007/978-981-16-8550-7_15. **(SCOPUS)**
 11. Sharma, A., **Mishra, A.K.**, Chandel, A., Dwivedi, R.S. (2023). VSC for DG Integration and Harmonics Reduction in *Smart Energy and Advancement in Power Technologies. Lecture Notes in Electrical Engineering*, vol 927. Springer, Singapore. https://doi.org/10.1007/978-981-19-4975-3_57 **(SCOPUS)**
 12. **Mishra, A.K.**, Sharma, A., Chandel, A. (2023). A Critical Analysis of Control Approach for DSTATCOM. In: Dash, R.N., Rathore, A.K., Khadkikar, V., Patel, R., Debnath, M. (eds) *Smart Technologies for Power and Green Energy in Lecture Notes in Networks and Systems*, vol 443. Springer, Singapore. https://doi.org/10.1007/978-981-19-2764-5_2 **(SCOPUS)**
 13. Sharma A. **Mishra, A.K.**, ,(2024) **Supraharmonics Analysis of Distribution Side Power Quality Enhancement Network**. in *5th International Conference on Electrical and Electronics Engineering (ICEEE 2024)*, on September 11-12, 2024, at Swinburne University of Technology, Melbourne, Australia.
 14. A. Sharma, **A. K. Mishra** and K. Singh, "Interharmonics and supraharmonics analysis of Electric Arc Furnace," 2025 IEEE International Conference on Computer, Electronics, Electrical Engineering & their Applications (IC2E3), Srinagar Garhwal, India, 2025, pp. 1-6, doi: 10.1109/IC2E365635.2025.11166935.
 15. **A. K. Mishra**, A. Sharma, J. Pratap, N. Yadav, N. Singh and K. Prajapati, "Diagnosis of Induction Motor Bearing Faults via Frequency Spectrum Based Current Signatures," *2025 9th International Conference on Inventive Systems and Control (ICISC)*, Coimbatore, India, 2025, pp. 1798-1802, doi: 10.1109/ICISC65841.2025.11187613.

Professional Traits

- Target-oriented and self-driven with strong ownership and integrity.
- Respectful, communicative, and encouraging team player.
- Able to thrive in uncertain or evolving technical/business contexts.
- Committed to continuous learning and fostering collaborative innovation.