

Paramjeet Singh Jamwal

Gender: **Male** • Date of birth: **09 Nov 1988** • Status: **Married**

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Career Objectives

- ✓ To improve and enhance my technical skills for the betterment of students and society.
- ✓ To simplify the electrical engineering concepts for the easy understanding of students.

Education

2018-2023 PhD in Electrical & Instrumentation Engineering

Sant Longowal Institute of Engineering and Technology, Longowal, Punjab, India

- ✓ Thesis Title: *Multilevel Inverter fed Induction Motor Drive for Battery Electric Vehicle*
- ✓ Carried out research work on various *control schemes* for induction motor (IM) drive, *controller optimization* for various driving cycle, and *fault-tolerant (FT) operation* of three-level (3L) inverter using MATLAB Simulink.
- ✓ Control schemes were validated on Typhoon HIL (404) and laboratory experimental setup using dSPACE CLP1104 real-time (RT) controller.
- ✓ Attended: 5 conferences and 8 short term courses.

2013-2015 M.Tech in Instrumentation & Control Engineering (7.73 CGPA)

Sant Longowal Institute of Engineering and Technology, Longowal, Punjab, India

- ✓ Thesis Title: *Design and Simulation of Improved Power Quality Buck-Boost Converter for Permanent Magnet Synchronous Motor (PMSM) Drive*
- ✓ Carried out research work on *indirect current vector control* of PMSM drive using MATLAB Simulink.
- ✓ Attended: 2 conferences and 2 short-term courses.

2007-2011 B.Tech in Electrical & Electronics Engineering (64.64%)

College of Engineering Roorkee, Roorkee, Uttarakhand, India

- ✓ Project Title: *Medical Image Compression*
- ✓ Carried out project work on region of interest in medical images using MATLAB.
- ✓ Attended 1 Conference.

Experience

2024-25 Assistant Professor (Temporary) in the Electrical Engineering Department

(11 Months) Maulana Azad National Institute of Technology, Bhopal, Madhya Pradesh, India

- ✓ **Theory:** Machine Design, and Power System.
- ✓ **Labs:** Network Lab, EMEC-II Lab, and Basic Electrical and Electronics Engineering Lab.

2023-24 Temporary Faculty in the Electrical Engineering Department

(9 Months) National Institute of Technology, Hamirpur, Himachal Pradesh, India

- ✓ **Theory:** High Voltage Engineering and Basic Electrical Engineering.
- ✓ **Labs:** Power System Simulation Lab, Power System Analysis Lab, Electrical Machine-II Lab, Network Analysis and Synthesis Lab, and Electrical and Electronics Engineering Lab.

2016-17 Assistant Professor in Electrical & Electronics Engineering Department

(11 Months) Phonics Group of Institutions, Roorkee, Uttarakhand, India

- ✓ **Theory:** Basic Electrical Engineering, Electric Drives, Network Analysis and Synthesis, and Electro-Mechanical Energy Conversion-I.

2011-13 Lecturer in Electronics & Communication Engineering Department

(2 Years) Guru Nanak Education Trust Group of Institutions, Roorkee, Uttarakhand, India

- ✓ **Theory:** Network Analysis and Synthesis, Electronic Measurement and Instrumentation, Electromagnetic Field Theory, and Digital Image Processing.
- ✓ **Labs:** Basic Electrical Engineering Lab and Basic Electronics Engineering Lab.

Publications

Journals

1. **P. S. Jamwal**, S. Singh, and S. Jain, "A Modified Indirect Current Vector-Controlled CHB Three-Level Inverter-fed Induction Motor Drive for Electric Vehicle," *IETE Journal of Research*, Vol. 70, No. 5, pp. 5364-5379, 2024. **[SCIE, Q3, 0.34]**
2. **P. S. Jamwal**, S. Singh, and S. Jain, "Controller Optimisation under Different Drive Cycles for Induction Motor Driven Electric Vehicle fed through Multilevel Inverter," *Int. J. of Power Electronics*, Vol. 19, No. 1, pp. 53-78, 2024. **[Scopus, Q3, 0.22]**
3. **P. S. Jamwal**, S. Singh, and S. Jain, "Fault-Tolerant Operation of the Cascaded H-Bridge Three-Level Inverter for Electric Vehicle Application," *International Journal of Ambient Energy*, 2023. **[Scopus, Q2, 0.43]**
4. **P. S. Jamwal** and S. Singh, "Comparative Analysis of Hysteresis and PWM Current Controllers for PMSM Drive," *MR International Journal of Engineering and Technology*, Vol. 7, No. 2, December 2015, pp. 24-28.

Book Chapters

1. **P. S. Jamwal**, V. Kumar and S. Singh, "Fault-tolerant operation of electric vehicles," *Electric Vehicle Components and Charging Technologies: Design, modeling, simulation and control*, pp 183–199, IET, 2023. **[BKCI-S]**
2. R. Arora, **P. S. Jamwal**, and U. K. Kalla, "Regulations and standards of electric vehicles" *Electric Vehicle Components and Charging Technologies: Design, modeling, simulation and control*, pp 333–346, IET, 2023. **[BKCI-S]**
3. **P. S. Jamwal**, S. Singh, and S. Jain, "Three-Level Inverters with Volt Per Hz Control for Induction Motor Driven Electric Vehicles," In: Dwivedi, S., Singh, S., Tiwari, M., Shrivastava, A. (eds) *Flexible Electronics for Electric Vehicles. Lecture Notes in Electrical Engineering*, 2023, vol 863, pp. 101-111. Springer, Singapore. **[Scopus, Q4, 0.15]**
4. V. Kumar, **P.S. Jamwal**, S. Singh, S. Jain, "Optimal Selection of Modulation Index and Gain for Nine-Level Symmetric T-Type Cross-Connected Source Inverter Fed EV," In: Dwivedi, S., Singh, S., Tiwari, M., Shrivastava, A. (eds) *Flexible Electronics for Electric Vehicles. Lecture Notes in Electrical Engineering*, 2023, vol 863, pp. 289-298, Springer, Singapore. **[Scopus, Q4, 0.15]**
5. **P. S. Jamwal**, S. Singh, and S. Jain, "Indirect current vector controlled three-level inverter for induction motor driven electric vehicle," In: Kumar, S., Singh, B., Singh, A.K. (eds) *Recent Advances in Power Electronics and Drives. Lecture Notes in Electrical Engineering*, 2022, vol. 852, pp. 575-585, Springer, Singapore. **[Scopus, Q4, 0.15]**
6. **P. S. Jamwal**, and S. Singh, "Speed Controller Optimization for PMSM Drive Using PSO Algorithm. In: Pant, M., Deep, K., Bansal, J., Nagar, A., Das, K. (eds) *Proceedings of Fifth International Conference on Soft Computing for Problem Solving. Advances in Intelligent Systems and Computing*, 2016, vol 436. Springer, Singapore. **[Scopus]**

Proceedings

1. **P. S. Jamwal**, R. Arora, D. Kumar, and S. Singh, "An Indirect Current Vector Controlled 3-level VSC fed Induction Motor Driven EV under Extra Urban Driving Cycle," *IEEE 11th Power India International Conference (PIICON)*, Jaipur, India, 2024, pp. 1-6.
2. **P. S. Jamwal**, R. Arora, D. Kumar, and S. Singh, "Induction Motor Drive for Low Cost EV with Improved Performance using A Three-Level VSC," *IEEE 1st International Conference on Green Industrial Electronics and Sustainable Technologies (GIEST)*, Imphal, India, 2024, pp. 1-5.
3. **P. S. Jamwal**, S. Singh and S. Jain, "Comparative Performance Analysis of Cascaded H-Bridge Three-Level Inverter fed Induction Motor Drive with Various Control Schemes," *IEEE Renewable Energy and Sustainable E-Mobility Conference (RESEM)*, Bhopal, India, 2023, pp. 1-6.
4. V. Kulkarni, S. Singh, and **P. S. Jamwal**, "Optimized Field Oriented Control for Induction Motor Driven Electric Vehicles," *IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT)*, Hyderabad, India, 2022, pp. 1-6.
5. A. Juneja, S. K. Bansal, and **P. S. Jamwal**, "Comparative Analysis of PWM and Hysteresis Current Controllers for Unbalanced Non-Linear Load using DSTATCOM," *IEEE Emerging Trends in Industry 4.0*, Raigarh, India, 2021, pp. 1-7.
6. **P. S. Jamwal**, S. Singh and S. Jain, "Three-Level Inverters for Induction Motor Driven Electric Vehicles," *IEEE 3rd International Conference on Energy, Power and Environment: Towards Clean Energy Technologies*, Shillong, Meghalaya, India, 2021, pp. 1-6.

Video Playlist

1. **P. S. Jamwal**, Basics of MATLAB Programming **[INFO4EEE]**. YouTube. Retrieved April 10, 2023, from https://youtasube.com/playlist?list=PL9JVQL_o-6m_cduyeXDOG6vErkDg576BY
2. **P. S. Jamwal**, Basics of MATLAB Simulink **[INFO4EEE]**. YouTube. Retrieved April 10, 2023, from https://youtube.com/playlist?list=PL9JVQL_o-6m8YQt6eJgSVYZ9XitxLscK8
3. **P. S. Jamwal**, Power Electronics Using MATLAB Simulink **[INFO4EEE]**. YouTube. Retrieved April 10, 2023, from https://youtube.com/playlist?list=PL9JVQL_o-6m_Hw3aF9d81M7SzmmqPfPFN

Achievements

- 2024** : Received **Best Paper Award** in GIEST-2024 organized by NIT Manipur.
2023 : Received **Best Paper Award** in RESEM-2023 organized by MANIT Bhopal.
2021 : Received **Best Paper Award** in EPREC-2021 organized by NIT Jamshedpur.
2013 : Qualified **GATE-2013** Exam [GATE Score: 327 & 406, All India Rank: 13206 out of 152381].
2010 : Qualified **GATE-2010** Exam [GATE Score: 340, All India Rank: 6939 out of 52246].

Hobbies

Content Creation

Book Reading

References

Dr. Bharat Bhushan Sharma

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Dr. Shailendra Jain

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Personal Details

Name of Father : **Mr. Kishor Singh**
Name of Mother : **Mrs. Asha Devi**
Name of Wife : **Mrs. Pankita Kumari**
Name of Children : **Nivritti Jamwal & Nirbhay Jamwal**
Languages known : **Hindi, English, Punjabi**

I hereby declare that the facts given above are correct.



Date: **03.07.2025**

Place: **Hamirpur, Himachal Pradesh**

PARAMJEET SINGH JAMWAL