

Dr Sajid Ahmad Khanday

PhD in Electrical Engineering

Power Electronics and Electric Drives

Department of Electrical Engineering

National Institute of Technology (NIT) Srinagar, India



 <https://scholar.google.com/citations?user=n6g5jdIAAAJ&hl=en>

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Summery and Objective

- Researcher in the domain of power electronics. I have made contributions to the subject via published works in journals and conferences. My proficiency in modeling and simulating power electronic converters has been evidenced by the successful execution of a real-time simulator (OPAL-RT). I have mentored several students, assisting them with their projects and promoting their academic development. Furthermore, I possess one and a half years of teaching experience in my technical discipline. I am seeking a position in a related field to connect academia with real-world applications.

Current Position

13 Oct 2025 – Present

- Assistant Professor (Contractual)
Department of Electrical Engineering
Islamic University of Science and Technology, J & K, INDIA.

Education

Mar 2020 – July 2025

- **National Institute of Technology Srinagar, India**
Ph.D, Power Electronics and Electric Drives.

Aug 2014 – Aug 2018

- **Islamic University of Science and Technology Pulwama, India**
B.Tech in Electrical Engineering CGPA: 8.76/10

2013

- **MM Govt Boys Higher Secondary School Pulwama, India**
Higher Secondary Part II Percentage: 83.2 %

Academic Experience

- Mar 2020 – Mar 2025  **Teaching Assistant**
Department of Electrical Engineering, National Institute of Technology Srinagar.
Gave tutorial lectures on Power Electronics.
Labs delivered to M.Tech students: Advanced Power Electronics Simulation Lab, Electrical Drives Lab, Modelling and Design of Machines Lab.
Labs delivered to B.Tech students: Power Electronics Lab, Computer Aided Design (CAD) Lab, High Voltage (HV) Lab.
- Mar 2022 – Mar 2025  **Senior Research Fellow (SRF)**
- Mar 2020 – Mar 2022  **Junior Research Fellow (JRF)**
- Sep 2018 – Dec 2019  **Lecturer** (Govt Polytechnic College, affiliated to Islamic University of Science and Technology, Pulwama).
Taught various subjects and conducted different labs.

Project Guidance

-  Door Proximity Sensor (*Diploma final year project*).
-  Improved Power Quality Converters (IPQC) (*B.Tech project: Guidance regarding Matlab simulation and mathematical analysis*).
-  AC-DC Matrix Rectifier (*M.Tech project: Guidance regarding Matlab simulation and computation analysis*).
-  Guided several B.Tech and M.Tech students on Matlab/Simulink and real-time simulations with OPAL-RT (OP4510).

Graduate Level Courses

-  Advanced Power Electronics
-  Electric Drives
-  High Voltage Direct Current (HVDC) Transmission
-  Power Quality Problems and Solutions
-  Power System Dynamics
-  Soft Computing
-  Power Electronics Simulation Lab

Academic Projects

- 2020  **Performance Investigations on Improved Modulation Techniques for Indirect Matrix Converters in AC Drive Applications.**
(*P.hD course work project*)

Academic Projects (continued)

- 2018  **Design of 50 MVA Medium Transmission line (pi-network) model to study Surge Impedance Loading (SIL).**
(B.Tech final year project)
- 2017  **Observer-controller design for speed control of separately excited DC motor.**
(B.Tech 3rd year project)

Areas of Interest

-  AC-AC Power Converters
(control of indirect matrix converter (IMC) using different modulation techniques for loads at different frequencies).
-  Pulse Width Modulation & Delta sigma Modulation Techniques (SPWM, CBPWM, SVPWM, DPWM, VFDSM).
-  Electric drives
(Field oriented control (FOC) of IMC based PMSM drive).
-  AC-DC matrix rectifiers

Academic Achievements/ Fellowships

-  Five year Doctoral Fellowship grant from the MHRD, GOI.
-  Qualified GATE 3-times (2019/2020/2025).

Software/ Hardware Skills

-  **MATLAB/Simulink, RT-Lab (OPAL-RT), LATEX, MS Word Office, MS EXCEL, MS Power Point, Visio etc**
Modelling and simulation of AC-AC Indirect matrix converter with different control strategies.
-  **RT-Lab (OPAL-RT)**
-  **LATEX**
-  **MS Word Office, MS EXCEL, MS Power Point, Visio etc.**

Publications

2023-24

Journal papers:

1. **S. A. Khanday**, A. H. Bhat and O. C. Sekhar "Multiple load operation of indirect matrix converter for different frequencies using symmetrical space vector modulation", *International Journal Of Circuit Theory And Applications*, Jun 2023. **(SCI Indexed)**
2. **S. A. Khanday**, A. H. Bhat and O. C. Sekhar "Enhancing Performance of In-direct Matrix Converter through Improved PWM Techniques for Reduced Switching Loss and Optimal DC-link Voltage", *International Journal Of Circuit Theory And Applications*, Oct 2024. **(SCI Indexed)**
3. **S. A. Khanday**, A. H. Bhat and O. C. Sekhar "Delta Sigma Modulation for Indirect Matrix Converters Enhancing Performance in Multiple Load Operations", *International Journal Of Circuit Theory And Applications*, Jul 2025. **(SCI Indexed)**

2022-23

Conference papers:

1. **S. A. Khanday**, O. C. Sekhar and T. N. Mir, "Comparative Study of Three Phase AC/AC In-direct Matrix Converters: A Review", *IEEE 2022 International Conference for Advancement in Technology (ICONAT)*, pp. 1-6, Jan 2022.
2. **S. A. Khanday**, A. H. Bhat and O. C. Sekhar "Performance Analysis of Space Vector Approach Based Field Oriented Control of Indirect Matrix Converter Fed PMSM Drive", *IEEE 2023 7th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA)*, pp. 1-6, Oct 2023.

Industrial Training/ Internship

Jan 2018 - Feb 2018

Awantipora Grid Station Division Pampore. JKPDCL - Jammu and Kashmir Power Development Corporation Ltd.

Workshops/Short-Term Courses

November 2021

Participated in **ONLINE WORKSHOP ON ADVANCED DRIVES SETUP WITH WAVECT CONTROLLER: A RCP SYSTEM- JNTUHYD & ENTUPLE TECHNOLOGIES**, 26th November, 2021.
Department of Electrical and Electronics Engineering, JNTUH College of Engineering Hyderabad, India.

Workshops/Short-Term Courses (continued)

- November 2020
- TEQIP-III sponsored five-day workshop on “**Application of MATLAB in Engineering**”, IET On Campus, (26th November, 2020 – 30th November, 2020).
National Institute of Technology Srinagar, J& K, India.
- August 2020
- DST SERB CRG research project, One-Week Workshop on “**Multi Physics Analysis of Electrical Machine Using ANSYS Software and PLECS Simulation Tool for Power Electronics Applications**” from October 25th-29th, 2021.
Department of Electrical Engineering, NIT Srinagar.
 - Participated in short term course on “**Distinguished Lecture on Converters in EV and Micro Grid**” by Dr. Sanjeevikumar Padmanaban, Department of Energy Technology at Alborg University, Denmark.
IEEE Jamia Millia Islamia.
- July 2020
- TEQIP-III Sponsored, One week Online Faculty Development Program on “**Soft Computing Techniques (SCT-2020)**” from 25-30 July’ 2020.
Electrical Engineering Department, National Institute of Technology Srinagar, J& K, India.
- March 2020
- Participated in Workshop at NIT Srinagar on “**Scientific and Technical Documentation using Latex**”
National Institute of Technology Srinagar, J& K, India.

Personal Profile

- Name:** Dr. Sajid Ahmad Khanday
- DOB:** 01-12-1995
- Marital Status:** Unmarried
- Languages Known:** English, Urdu, Kashmiri.
- Hobbies:** Teaching, Cricket, Volleyball.

References

- Prof. Obbu Chandra Sekhar (Ph.D Co-supervisor)
Professor, Department of Electrical Engineering
National Institute of Technology Delhi, India
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- Prof. Abdul Hamid Bhat (Ph.D Supervisor)
Professor, Department of Electrical Engineering
National Institute of Technology Srinagar, India
Email: bhatdee@nitsri.ac.in