

CURRICULUM VITAE

Name : **Dr. Rajesh Shankarrao Surjuse**
Date of Birth, Age : 30th August 1971
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Qualifications:

B.E.	Nagpur University, V.R.C.E. Nagpur	1994
M.Tech	V.N.I.T. Nagpur	2003
Ph.D.	M.N.I.T. Jaipur	2011

Teaching Experience:

Associate Professor & HoD, Department of Electrical Engineering, Govt. College of Engg. Nagpur	Since 31 st Aug. 2024
Associate Professor & Dean III & Placement, Department of Electrical Engineering, Govt. College of Engg. Nagpur	12/08/2021- 30/08/2024
Associate Professor & HoD, Department of Electrical Engineering, Govt. College of Engg. Chandrapur	16/02/2017 -11/08/2021
Associate Professor & HoD, Department of Electrical Engineering, Govt. College of Engineering, Jalgaon	01/10/16- 15/02/17
Lecturer (Selection Grade), Dept. of Elect. Engg., Govt. Polytechnic Nagpur	2014-2016
Lecturer (Selection Grade), Dept. of Elect. Engg., Govt. Polytechnic Bramhapuri	2010-2014
Lecturer (Senior Scale), Dept. of Elect. Engg., Govt. Polytechnic Nagpur	2000-2010
Lecturer, Dept. of Elect. Engg., Govt. Polytechnic Yavatmal	1995-2000

Teaching, Research & Development : 30 years

Present Status : HoD and Associate Professor,
Department of Electrical Engineering,
Govt. College of Engineering, Nagpur.

Research Paper Publications :

Publications	International Journal	National Journal	Book Chapters	International Conference	National Conf./Seminar	Total
No. of Papers	13	04	02	12	04	35

- **Main Area of Research**

Did Ph.D. from M.N.I.T. Jaipur (Formerly M.R.E.C. Jaipur).

The main area of research is Power Electronics, Drives and Control, Power Quality, dSpace hardware & software technique, Power System Stability and Control using static VAR Controller, PWM Inverter and other Converters, Steady-State, Transient, Stability and Harmonics analysis of the Drives using Conventional Control, Direct Torque Control, Vector Control, Sensor less and other control scheme, Artificial Intelligence based estimators and observers, Application of soft computational methods to power system, Solar PV Systems Grid connected / Standalone, Electric Vehicles, smart grid.

- **Ph.D. Candidates Registered Under Supervision**

S.No.	Name	Registration No.	Date of Registration	Research Title
1.	Manoj B. Deokate (Submitted Thesis)	No.GU/Exam/ Ph.D. Cell/ RRC/ Ph.D./ 382	03/03/2020	Distributed Optimal Power Flow Control in Hybrid System
2.	Maharudra S. Shinde	No.GU/Exam/ Ph.D. Cell/ RRC/ Ph.D./381	03/03/2020	High Reliable Electrical Vehicle Drive With Fast Charging System
3.	Manohar Kalgunde	No.GU/Exam/ Ph.D. Cell/ RRC/ Ph.D./ 998	14/01/2021	Optimum Co-ordination of Renewable Energy Sources and Electric Vehicles for Economic Operation
4.	Anurag Borkhede	No. RTMNU/PhD CELL/RRC/2023/R1/2058	20/01/2025	Some studies of freq. variation analysis due to renewable energy integration in islanded Microgrids

Any Other Information:

1. Additional Qualification

1. Master of Industrial Relation and Personnel Management (M.I.R.P.M.) from Nagpur University (1996).
2. Energy Auditor Certificate Examination by B.E.E. Channai.

2. No. of Awards/Certificates Received

1. Best paper award to the paper titled "ANFIS Based Intelligent Control of Vector Controlled Induction Motor Drive" in 2nd International Conference on Emerging Trends in Engineering and Technology (ICETET-09), Nagpur, India, 16-18 December, 2009.
2. Best paper award to the paper titled "Optimal Power Flow Control Using

Constraint Optimization” in the International Conference on Technological Innovations & Applications in Industry 4.0 (ICTIA-2024), Palloti College of Engineering Nagpur, 24-25 April 2024.

3. Best paper award to the paper titled “Smart Bi-Directional Liquid Pump” in the Int. Conference on Tech trends in Science, Engineering and Management (ICTTSEM), Suryodaya College of Engineering Nagpur, 15-16 April 2024.
4. Best paper award to the paper titled “Optimal Co-ordination of Wind Farm and Electric Vehicle for Economical Operation of Grid” in the Int. Conference on Research & Innovative Perspectives in Engineering (ICRIPE-2025), Govt. College of Engineering Nagpur, 23rd-24th January 2025.

3. Project completed

1. Completed project titled “Modernization of Electrical Machine and Instrumentation Laboratory” under MODROB, AICTE scheme in 2003-2004 at Electrical Engineering Department, Govt. Polytechnic Nagpur (amount sanctioned Rs. 4 lacs).

4. Membership of Professional body/Society

S.No.	Name of Profession body/society	Type of Membership	Membership No.
1.	I.S.T.E.	Life Member	LM22278
2.	I.E.E.E.	Student Member	90567059
3.	International Journal of Engineering Research and Industrial Applications (IJERIA)	Life Member	LM:2098
4.	International Association of Engineers (IAENG)	Member	100040
5.	International Association of Computer Science and Information Technology (IACSIT)	Member	80332545

5. Academic / Administrative Experience

Worked as:

1. Rector/ Asstt. Rector Boy’s hostel.
2. Controller of Examination MSBTE Examination.
3. Officer In-charge MSBTE Examination.
4. Officer In-charge Regional Assessing Center (RAC) MSBTE.
5. Co-ordinator Application Receipt Center (ARC) for first year admission to Diploma, B.E., MBA, B.Form, MCA.
6. Sports In-charge IEDSSA.
7. Officer In-charge Examination (Confidential) in Autonomous Institution.
8. In-charge Head, Dept. of Electrical Engineering, Govt. Polytechnic Bramhapuri (2010 to 2013).
9. Member of MSBTE Examination Vigilance Committee.
10. Member of MSBTE Academic Monitoring Committee.
11. Member of Scrutiny Committee for new proposal for AICTE/Non-AICTE institute.
12. Faculty In-charge Annual Social Gathering.
13. Expert member for curriculum revision project 2011 for Elect. Engg. of MSBTE.
14. Expert member for preparation of Teacher’s guide for G-Scheme curriculum in Elect. Engg. of MSBTE.
15. Adviser Institute of Engineers IE(I), Students chapter, Govt. Polytechnic Nagpur.
16. Co-coordinator, for organizing Regional Level Technical Quiz Competition

- 'Electro-Quiz-2014' held on 20/09/2014 at Govt. Polytechnic Nagpur.
17. OSD to RBTE Nagpur to co-ordinate the Examination related activity of Nagpur Region.
 18. Co-coordinator, for organizing one week training program for MES(Air Force JE) on "Testing and Maintenance of Electrical Equipments" during 27/01/2015 to 31/01/2015 at Govt. Polytechnic Nagpur.
 19. Co-coordinator, for organizing State Level Technical Paper Presentation Competition 'ETEE-2015' held on 21/02/2015.
 20. Head of Dept., Electrical Engineering, Govt. College of Engineering Jalgaon from 1/11/2016 to 15/02/2017.
 21. Coordinator, for organizing sttp on "Orientation of NAAC and grade calculation Methodology" held on 2nd and 3rd Dec 2016 under TEQIP-II at Govt. College of Engineering Jalgaon.
 22. Coordinator, for organizing workshop on 'Skill Enhancement Program' for lab. Assistant held on 20/12/2016 to 22/12/2016 under TEQIP-II at Govt. College of Engineering Jalgaon.
 23. Coordinator, for organizing National Level Technical Paper Presentation Competition 'Techno-vision-2017' held on 20, 21/01/2017 under TEQIP-II at Govt. College of Engineering Jalgaon.
 24. Coordinator, for organizing one week STTP on "Advancement in Renewable Energy and Energy Storage Devices" under TEQIP-II organized by Electrical Engineering Department, GCoE Jalgaon in association with Electrical Engineering Department, VNIT Nagpur from 30th Jan 2017 to 04th Feb 2017.
 25. Member of BOS (from 2017-2020) Electrical Engineering and Chairman BOS (from 2020-21) Electrical Engineering at Gondwana University Gadchiroli.
 26. Head of Dept., ENTC Engineering, Govt. College of Engineering Chandrapur from 10/05/2019 to 28/11/2019.
 27. Head of Dept., Electrical Engineering, Govt. College of Engineering Chandrapur from 29/11/2019 to 11/08/2021.
 28. Coordinator, for organizing DTE Sponsored, one week STTP on "Engineering Optimization-Theory & Practice" organized by Electrical Engineering Department, GCoE Chandrapur from 6th Jan 2020 to 10th Jan 2020.
 29. Head of Dept., Electrical Engineering, Govt. College of Engineering Nagpur from 12/08/2021 to 12/10/2021.
 30. Dean (Ill & Placement), Govt. College of Engineering, Nagpur from 12/10/2021 to 30/08/2024.
 31. Expert for conducting Academic Audit at Elect. Engineering Department, on 24th May 2024 at Govt. College of Engineering Amravati.
 32. Academic Expert in Programme Advisory Committee (PAC) in Electrical Engineering at NIT Polytechnic, Nagpur.
 33. Head of Dept., Electrical Engineering, Govt. College of Engineering Nagpur from 31/08/2024 to till date.
 34. Coordinator, for organizing DTE Sponsored, one week STTP on "Next-Gen Energy: Electric Vehicles, Hydrogen Fuel Cell and Energy Storage" organized by Electrical Engineering Department, GCoE Nagpur from 16th Dec. 2024 to 20th Dec. 2024.
 35. Sponsorship Chair, for International Conference on Research & Innovative Perspectives in Engineering (ICRIPE-2025) organized by GCoE Nagpur from 23rd Jan. 2025 to 24th Jan. 2025.

36. Member of BOS Electrical Engineering since 2024 at KDK College of Engineering, Nagpur.
37. Coordinator, for organizing AICTE ATAL Academy Sponsored, one week STTP on "Future of Green Energy: Electric Vehicles, Hydrogen Fuel Cell and Energy Storage Systems" organized by Electrical Engineering Department, GCoE Nagpur from 27th Jan. 2025 to 01st Jan. 2025.

6. Expert Lecture delivered

1. 'Wind Energy System' in MSBTE approved STTP Basics of Renewable Energy Sources at Govt. Polytechnic Gadchiroli on 22/01/2013.
2. 'Principle of Vector Control' at Department of Electrical Engineering, Govt. Polytechnic Gadchiroli on 22/01/2013.
3. 'Power Electronics & Drives' at Department of Electrical Engineering, Govt. Polytechnic Yeotmal on 18/02/2013.
4. 'Train Lighting' at Department of Electrical Engineering, Maharashtra Institute of Polytechnic, Betala, Bramhapuri on 28/08/2013.
5. 'Energy Audit' at Department of Electrical Engineering, Dharampeth Polytechnic, Nagpur on 27/08/2014.
6. 'Data Acquisition System (DAS)' at Department of Electrical Engineering, Dharampeth Polytechnic, Nagpur on 26/12/2014.
7. 'Energy Audit' at Department of Electrical Engineering, Dharampeth Polytechnic, Nagpur on 18/07/2015.
8. 'Impact of e-Vehicles on Distributed Generation' in MSBTE sponsored FDP on 'Green Energy Technologies' at Govt. Polytechnic Bramhapuri on 16/03/2021.
9. 'Battery Technology for Electric Vehicles' in AICTE-ISTE approved STTP on 'Green Energy Generation for Sustainable Development' at RCERT Chandrapur on 18/01/2022.
10. 'Battery Storage Systems' in MSBTE sponsored FDP on 'Electric Vehicles- The Emerging Trends' at Govt. Polytechnic Gondia on 25/01/2022.
11. 'Flexible AC Transmission System Devices' at Department of Electrical Engineering, Govt. Polytechnic, Nagpur on 19/04/2025.

7. List of Publications

International Journal

- [1] Rajesh Kumar, R. A. Gupta and Rajesh S. Surjuse "A vector controlled induction motor drive with neural network based space vector pulse width modulator" Journal of Theoretical and applied information technology, vol. 4, No.7, July 2008, pp 577-584. **(ISSN:1817-3195, SCOPUS INDEX)**

- [2] Rajesh Kumar, R. A. Gupta and Rajesh S. Surjuse "ANN based over-modulated space vector pulse width modulator for VCIM drives" Journal of Electrical Engineering (JEE), vol. 8, edition 3, 2008, pp 104-111. **(ISSN:1582-4594, SCOPUS INDEX)**
- [3] Rajesh S. Surjuse, Rajesh Kumar and R. A. Gupta, "Speed sensorless estimation schemes for induction motor drive: A Survey" International Journal of Engineering Research and Industrial Applications (IJERIA), vol.1, No.VI (2008), pp 173-193. **(ISSN:0974-1518)**
- [4] Rajesh Kumar, R. A. Gupta and Rajesh S. Surjuse "Adaptive Neuro-Fuzzy Speed Controller for Vector Controlled Induction Motor Drive" Asian Power Electronics Journal (APEJ), Vol. 3, No. 1, Sept 2009, pp 8-14. **(ISSN:1995-1051)**
- [5] Rajesh Kumar, R. A. Gupta and Rajesh S. Surjuse "High-Performance SVPWM-VCIM Drive with Adaptive Neuro-Fuzzy Speed Controller" International Journal of Computer and Electrical Engineering (IJCEE), Vol. 2, No. 1, Feb. 2010, pp 162-169. **(ISSN:1793-8163)**
- [6] R. S. Surjuse et al "Transformer Parameter Measurement and Protection By Using Wireless System" International Research Journal of Engineering and Technology (IRJET), Vol. 7, No. 2, Feb. 2020, pp 2209-2213. **(ISSN:2395-0072)**
- [7] R. S. Surjuse et al "Wireless Charging of Battery" International Journal of Scientific Research in Engineering and Management (IJSREM), Volume: 06 Issue: 04, April – 2022, pp 01-05 **(ISSN: 2582-3930)**.
- [8] Manoj B. Devkate and Rajesh S. Surjuse, "ADMM for Distributed Optimal Power Flow" in Journal of Technology, Volume 11 Issue 10, October 2023, Pages 49-61, **(ISSN: 1012-3407)**.
- [9] Durgesh Munne, Harsh Jiwankar, Himanshu Dhote, Vivek Dongare and Rajesh S. Surjuse "Modelling and Control of a Multi-input Converter Based EV Charging Station", International Journal of Innovations in Engineering and Science, Vol. 8, No. 7, 2023, PP. 42 -44, **(e-ISSN: 2456-3463)**.
- [10] Tejas Asole, Rahul Karsal, Vishal Kanakdande, Rikhil Mate and Rajesh S. Surjuse "Design and Implementation of Versatile Universal Converter", in the International Journal of Innovations in Engineering and Science, Vol. 8, No. 7, 2023, PP. 45 -48, **(e-ISSN: 2456-3463)**.
- [11] Tejas Dakhole, Gaurav Malewar, Anubodhi Bunde, Prajakta Sawarkar, Shreyash Ramteke and Rajesh S. Surjuse, "Development of a Firefighter Drone system" in the International Journal of Novel Research and Development, Volume 9, Issue 4, April 2024, Pages 404-409, **(ISSN: 2456-4184)**.
- [12] Manoj B. Devkate and Rajesh S. Surjuse, "Formulation of Distributed Optimal Power Flow Control Using Partitioning Strategy" in International Journal of Intelligent Systems and Applications in Engineering, Volume 12 No. 3, March 2024, Pages 666-

672, **(ISSN: 2147-6799, SCOPUS INDEX)**.

[13] Manohar Kalgunde, Rajesh Surjuse and Amol Kalage, "Economic Load Dispatch for Thermal Power Plants using Excel Solver" In the Panamerican Mathematical Journal, Vol 34 No. 2 (2024), **(ISSN: 1064-9735, SCOPUS INDEX)**.

National Journal

[14] Manoj B. Devkate and Rajesh S. Surjuse, "Analyzing Active and Reactive Power Sharing Techniques of Distributed Optimal Power Flow" In the Indian Journal of Technical Education, Volume 48, Special Issue No. 2, March 2025, Pages 206-209 **(ISSN: 0971-3034)**.

[15] Manohar Kalgunde and Rajesh S. Surjuse, "Optimal Co-ordination of Wind Farm and Electric Vehicle for Economical Operation of Grid" In the Indian Journal of Technical Education, Volume 48, Special Issue No. 2, March 2025, Pages 242-246 **(ISSN: 0971-3034)**.

[16] Maharudra S. Shinde and Rajesh S. Surjuse, "PV-Powered BLDC Motor Drive System for EV Using an Improved KY DC-DC Converter" In the Indian Journal of Technical Education, Volume 48, Special Issue No. 2, March 2025, Pages 242-246 **(ISSN: 0971-3034)**.

[17] A. D. Borkhade and Rajesh S. Surjuse, "Optimizing Frequency Regulation: A Comparative Assessment of Energy Storage Technologies Based on Key Performance Parameters" In the Indian Journal of Technical Education, Volume 48, Special Issue No. 2, March 2025, Pages 223-227 **(ISSN: 0971-3034)**.

Book Chapters

[18] Maharudra S. Shinde and Rajesh S. Surjuse, "Fast Charging Electric Vehicles Using Photovoltaic Energy Generation and Improved Zeta Converter" In book: Proceedings of Third International Symposium on Sustainable Energy and Technological Advancements (ISSETA 2024), 20 December 2024, **Lecture Notes in Electrical Engineering, vol 1254, Springer, Singapore**, https://doi.org/10.1007/978-981-97-7018-2_7

[19] Manoj B. Devkate and Rajesh S. Surjuse, "Optimal Power Flow Control Using Constraint Optimization" In book: Technological Innovations & Applications in Industry 4.0, 1st Edition, 2025, **Taylor & Francis eBooks, CRC Press**, eBook ISBN 9781003567653, <https://doi.org/10.1201/9781003567653>

International Conference

[20] R. A. Gupta, Rajesh Kumar, and Rajesh S. Surjuse "An adaptive neural integrator for improving flux estimation in field-orientation control of induction motor

drives" In the Proceeding of International conference on Electrical Energy Systems & Power Electronics in Emerging Economies (ICEESPEEE-2009), SRM University, Chennai, 16-17 April 2009, pp 810-815.

[21] R. A. Gupta, Rajesh Kumar, and Rajesh S. Surjuse "A Neuro-Fuzzy based MRAS observer for speed sensorless vector controlled induction motor drive" In the Proceeding (supplement) of International conference on emerging and futuristic system and technology (ICE-FST'09), LIET Alwar, 9-11 April 2009, pp 92-97.

[22] R. A. Gupta, Rajesh Kumar, and Rajesh S. Surjuse "An Adaptive Neuro-Fuzzy Based Stator Current MRAS Observer for Speed Sensorless Induction Motor Drives" In the Proceeding of Indian 4th International Conference on Artificial Intelligence (IICAI-09), SIT Tumkur, Bangalore, 16-18 Dec. 2009, pp 862-878.

[23] R. A. Gupta, Rajesh Kumar, and Rajesh S. Surjuse "ANFIS Based Intelligent Control of Vector Controlled Induction Motor Drive" In the Proceeding of 2nd International Conference on Emerging Trends in Engineering and Technology (ICETET-09), GHRCE Nagpur, 16-18 Dec. 2009, pp 674-680.

[24] R. A. Gupta, Rajesh Kumar, and Rajesh S. Surjuse "An Adaptive Neuro-Fuzzy Based Speed Sensorless Induction Motor Drives" In the Proceeding of World Congress on Nature and Biologically Inspired Computing (NABIC'09), Coimbatore, 08-11 Dec. 2009, pp 397-402.

[25] R. A. Gupta, Rajesh Kumar and Rajesh S. Surjuse "Implementation of An Adaptive Neuro-Fuzzy Based Speed Controller For VCIM Drive" In the Proceeding of 4th International Conference on Computer Applications in Electrical Engineering – Recent Advances, CERA-09, Indian Institute of Technology Roorkee, 19-21 Feb. 2010.

[26] Manoj B. Devkate and Rajesh S. Surjuse, "Distributed Optimal Power Flow Control Topology" In the Proceeding of International Conference on Electronics and Renewable Systems (ICEARS 2022), Tuticorin, Tamil Nadu, India, 16-18, March 2022, ISBN: 978-1-6654-8425-1.

[27] Manoj B. Devkate and Rajesh S. Surjuse, "AC Optimal Power Flow Formulation Of Distribution System" In the Proceeding of Trans-disciplinary International Conference on Integrated Approach in S&T for Sustainable Future (ICIASTSF-2022), ISBN No. 978-93-91322-04-5.

[28] Manoj B. Devkate and Rajesh S. Surjuse, "Optimal Power Flow Control Using Constraint Optimization" International Conference On Technological Innovations & Applications In Industry 4.0: (ICTIA-2024), 24th -25th April 2024.

[29] Vishal Kauskar, Anisha Sarode, Pratik Bhingardive, Rudraksh Mandhare, and Rajesh S. Surjuse, "Design and Analysis of a Phase-Shift Full-Bridge Converter for Wide Input Range and Constant Output Voltage" In the Proceeding of International

Conference on Research & Innovative Perspectives in Engineering (ICRIPE-2025) 23rd-24th January 2025.

[30] Atharva Patil, Yash Raut, Harshada Watkar, Anoop Pawar and Rajesh S. Surjuse, "Design of Half Bridge LLC Resonant Converter Using SPICE" In the Proceeding of International Conference on Research & Innovative Perspectives in Engineering (ICRIPE-2025) 23rd-24th January 2025.

[31] Rajesh S. Surjuse, Prachi Hadke, Neha Diwate, Sanjana Dhage and Chanchal Kharabe "Comparative Study of Various MPPT Techniques" In the Proceeding of International Conference on Research & Innovative Perspectives in Engineering (ICRIPE-2025) 23rd-24th January 2025.

National Conference

[32] S. V. Bhangale, Rajesh Kumar, R. A. Gupta and Rajesh S. Surjuse "Stator flux estimation algorithm for direct torque controlled induction motor drive" In the Proceeding of 2nd National conference on Power Electronics and Intelligent Control (NCPEIC 2008), MNIT Jaipur, 13-14 Sept. 2008, pp 1-5.

[33] R. A. Gupta, Rajesh Kumar, Rajesh S. Surjuse and S. V. Bhangale, "ANN speed sensorless estimator based vector controlled induction motor drive" In the Proceeding of 2nd National conference on Power Electronics and Intelligent Control (NCPEIC 2008), MNIT Jaipur, 13-14 Sept. 2008, pp 89-93.

[34] R. A. Gupta, Rajesh Kumar and Rajesh S. Surjuse, "A Survey on: Application of Model Reference Adaptive System (MRAS) to Induction Motor Drives", In the Proceeding of National conference on Recent Advances in Electrical and Electronics Engineering (RAEEE-2009), NIT Hamirpur, 23-24 Dec. 2009, pp 247-255.

[35] A. P. Gandhi, N. H. Adkine and R. S. Surjuse, "Three level modular multilevel converter based STATCOM", In the Proceeding of National conference on Advances in Engineering and Technology for Sustainable Development, Govt. Polytechnic Nagpur, 27th Feb. 2015, pp 62.



(Dr. Rajesh S. Surjuse)