

CURRICULUM VITAE

Manoj Kumar Kar

S/O-Kshirod Chandra Kar

At: Kani

Po: Bhatimunda

DIST: Cuttack, Odisha

Pin-754022

Phone: +91-7008542619, +91-8908581640

E-mail: manojkar132@gmail.com



Career Objective

To work in a competitive environment that effectively utilizes my analytical, interpersonal, leadership and organizational skills not only to meet organization's targets, but also allowing it to grow, thereby, enhancing my own skills as an individual and as a key player in its development.

Summary

- **Ph. D in Electrical Engineering Department at NIT Jamshedpur (Thesis Submitted)**
- **M. Tech. in Power Electronics and Control Drives from Veer Surendra Sai Institute of Science and Technology (VSSUT), Burla (2012-2014)**
- **B.Tech. in Electrical Engineering from Biju Patnaik University of Technology (BPUT), Odisha in the year 2010.**
- Acquired knowledge and understanding of subjects like **Electrical Engineering**.
- Team player with strong analytical and leadership skills.
- Abilities in handling multiple priorities, with a bias for action and a genuine interest in personal and professional development.
- Having the ability to adjust myself with the environment and can cope with adverse situations
- Confident & Smart worker having readiness to accept challenges.
- Organized, hardworking, enthusiastic and creative individual having flair to learn more and more in different fields

Achievement

- MHRD Scholarship for pursuing PhD
- MHRD Scholarship during M Tech
- Qualified GATE exam in 2012
- Qualified GATE exam in 2013

Publications:

BOOK PUBLISHED: -

- **Manoj Kumar Kar** “Speed Control of Multi-phase AC motor using Intelligent Technique”, *LAMBERT Academic Publishing*, ISBN: 978-6203923636, Published on 11th June, 2021.
- **Manoj Kumar Kar**, Bidyadhar Rout, Jayakrushna Moharana “Design, Analysis and Simulation of D-STATCOM for power factor Improvement”, *LAMBERT Academic Publishing*, ISBN: 978-620-0-28822-6, Published on 21st Aug, 2019.

INTERNATIONAL JOURNALS: -

- **M.K. Kar**, S. Kumar, A.K. Singh and S. Panigrahi, “A modified sine cosine algorithm with ensemble search agent updating schemes for small signal stability analysis”, *International Transactions on Electrical Energy Systems*, p.e13058, 2021. (SCIE)
- **M.K. Kar**, S. Kumar, A.K. Singh and S. Panigrahi, “Reactive power management by using a modified differential evolution algorithm” *Optimal Control Applications and Methods*, 2021 (SCIE)
- **M.K. Kar**, S. Kumar, and A.K. Singh, “Moth flame optimization based Reactive power planning”, *International Journal of Innovative Technology and Exploring Engineering*, vol.9, issue 3, pp 1528-1533, 2020.
- S K Gupta, L. Kumar, **M.K. Kar**, S. Kumar, and G. Singh, “Active and Reactive loadability improvement using BBO algorithm with FACTS devices”, *International Journal of Innovative Technology and Exploring Engineering*, vol.9, issue 4, pp 157-162, 2020.
- **M.K. Kar**, B.D. Rout, J. K. Moharana “Improvement of power factor of a grid connected load system using a static compensator” *International Journal for Foundations and Applications of Physics*, Vol.1, No. 1, 2014, pages 5-10 (Google Scholar Indexing)

BOOK CHAPTERS: -

- **M.K. Kar**, P. Giri, N.K. Gupta and A.K. Singh, 2021. Control of a Three-Phase Diode Clamped Multilevel Inverter Using Phase Disposition Modulation Scheme. In *Recent Advances in Power Electronics and Drives* (pp. 59-66). Springer, Singapore. https://doi.org/10.1007/978-981-15-8586-9_6

- **M.K. Kar**, M.I.H. Mansoori, S. Kumar and S.K. Gupta, 2021. Harmonic Elimination of a T-Type Multilevel Inverter Based on Multistate Switching Cell. In *Recent Advances in Power Electronics and Drives* (pp. 89-99). Springer, Singapore. https://doi.org/10.1007/978-981-15-8586-9_9
- N.K. Gupta, **M.K. Kar** and A.K. Singh, 2021. Load Frequency Control of Two-Area Power System by Using 2 Degree of Freedom PID Controller Designed with the Help of Firefly Algorithm. In *Control Applications in Modern Power System* (pp. 57-64). Springer, Singapore. https://doi.org/10.1007/978-981-15-8815-0_5
- P.V. Rajesh Varma, **M.K. Kar** and A.K. Singh (2021) Transient Analysis of a Standard IEEE-9 Bus Power System Using Power World Simulator. In: Reddy M.J.B., Mohanta D.K., Kumar D., Ghosh D. (eds) *Advances in Smart Grid Automation and Industry 4.0. Lecture Notes in Electrical Engineering*, vol 693. Springer, Singapore. https://doi.org/10.1007/978-981-15-7675-1_22.
- S.S. Tripathi, **M.K. Kar** and A.K. Singh, 2022. Comparative THD Analysis of Multi-level Inverter Using SPWM Scheme. In *Smart Structures in Energy Infrastructure* (pp. 41-47). Springer, Singapore. https://doi.org/10.1007/978-981-16-4744-4_5

INTERNATIONAL CONFERENCES: -

- **M. K. Kar**, S. R. Satpathy, J. K. Moharana "Design, Analysis and Simulation of a D-STATCOM" *IEEE sponsored International Conference on Computation of Power, Energy, Information and Communication (ICCPEIC-14)*, organized by Dept. of EEE, Adhiparasakthi Engineering College, Melmaruvathur, Tamilnadu, India during 16th and 17th April 2014.
- S. Raj, **M. K. Kar**, A. K. Singh "Phase Disposition Modulation Scheme for the Control of a Three Phase Diode Clamped Multilevel Inverter" *International Conference on Electrical, Communication, Electronics, Instrumentation and Computing (ICECEIC-2019)* organized by Sri Chandrasekharendra Saraswati Viswa Mahavidyalaya, Kanchipuram, Tamilnadu, India during 30th and 31st, January 2019.
- **M. K. Kar**, L. Kumar, S. Kumar and A. K. Singh, "Efficient Operation of Power System with FACTS controllers using Evolutionary Techniques," *2020 7th International Conference on Signal Processing and Integrated Networks (SPIN)*, Noida, India, 2020, pp. 962-965, doi: 10.1109/SPIN48934.2020.907090.
- A. Tripathy and **M. K. Kar**, "Voltage Profile Enhancement of a 33 Bus System Integrated with Renewable Energy Sources and Electric Vehicle," *2021 8th International Conference on Signal Processing and Integrated Networks (SPIN)*, 2021, pp. 281-286, doi: 10.1109/SPIN52536.2021.9566111.
- R. Yadav, **M. K. Kar** and A. K. Singh, "Controlling Speed of a Permanent Magnet Synchronous Machine using Closed Loop Control Scheme," *2021 Emerging Trends in Industry 4.0 (ETI 4.0)*, 2021, pp. 1-6, doi: 10.1109/ETI4.051663.2021.9619448.
- L. Kumar, **M. K. Kar** and S. Kumar, "Reactive Power Management by Optimal Positioning of FACTS Controllers using MFO Algorithm," *2021 Emerging Trends in Industry 4.0 (ETI 4.0)*, 2021, pp. 1-6, doi: 10.1109/ETI4.051663.2021.9619433.

- P. V. R. Varma, **M. K. Kar** and A. K. Singh, "Optimal Sizing and Location of DG for Power Loss Reduction and Voltage Improvement of Distribution System using IHSA Algorithm," 2021 IEEE 2nd International Conference on Applied Electromagnetics, Signal Processing, & Communication (AESPC), 2021, pp. 1-5, doi: 10.1109/AESPC52704.2021.9708496.
- **M. K. Kar**, S. Kumar, and A.K. Singh "Power Quality Improvement of an interconnected Grid system using PWM technique of DSTATCOM" 2nd International Conference on Electric Power and Renewable Energy Conference (EPREC- 2021) organized by Electrical Engineering Department, NIT Jamshedpur during 28th -30th May, 2021.
- R. Yadav, **M. K. Kar** and A. K. Singh "Speed control of three phase IM with closed loop control scheme" 2nd International Conference on Electric Power and Renewable Energy Conference (EPREC- 2021) organized by Electrical Engineering Department, NIT Jamshedpur during 28th -30th May, 2021.
- S.S. Tripathi, **M.K. Kar** and A.K. Singh "Comparative THD analysis of Multilevel Inverter using different multicarrier PWM schemes" 2nd International Conference on Electric Power and Renewable Energy Conference (EPREC- 2021) organized by Electrical Engineering Department, NIT Jamshedpur during 28th -30th May, 2021.
- Shweta Kumari, **M. K. Kar**, L. Kumar, and S. Kumar "Optimal siting of FACTS controller using Moth flame optimization technique" 2nd International Conference on Electric Power and Renewable Energy Conference (EPREC- 2021) organized by Electrical Engineering Department, NIT Jamshedpur during 28th -30th May, 2021.
- **M.K. Kar** and B.N. Patra "Design and Analysis of MPPT charge controller" 2021 International conference on Simulation, Automation & Smart Manufacturing (SASM) organized by GLA university, Mathura during 20-21 Aug, 2021.
- Shweta Kumari, L. Kumar, **M. K. Kar**, and S. Kumar "Application of PSAT for voltage stability improvement using FACTS devices" 1st International Conference on Smart Energy and Advancement in Power Technologies (ICSEAPT- 2021) organized by Electrical Engineering Department, NIT Jamshedpur during 6th -8th Sept, 2021.
- **M.K. Kar**, U. Mohanty, and Y. Dash "Optimal allocation of capacitors for loss reduction in distribution system" 3rd Electric Power and Renewable Energy Conference (EPREC-2022) organized by Electrical Engineering Department, NIT Jamshedpur during 27th -29th May, 2022. (Accepted)
- G. Kumar, L. Kumar, **M. K. Kar**, and Sanjay Kumar "Bid based Economic load Dispatch in coordination with Virtual Power Plant" 3rd Electric Power and Renewable Energy Conference (EPREC-2022) organized by Electrical Engineering Department, NIT Jamshedpur during 27th -29th May, 2022. (Accepted)

NATIONAL CONFERENCES / SEMINARS:

- **M. K. Kar**, J. K. Moharana, B.D. Rout "Design, Analysis and Simulation of a STATCOM for Improvement of Power factor" *National Conference on Power, Energy and Control (NCPEC-2014)* organized by DRIEMS, Cuttack, Odisha during 3rd and 4th February, 2014.
- **M.K. Kar**, J.K.Moharana, B.D.Rout "Design, Analysis and Simulation of a D-STATCOM for Power Quality Improvement" *All India seminar on Modern Trends*

in *Power System Operation, Control and Management* organized by The Institution of Engineers (India), Odisha State Centre, Bhubaneswar, Odisha under the aegis of Electrical Engineering Division Board, The Institution of Engineers(India) during February 16-17,2014.

- **M.K. Kar**, B.D. Rout, J.K. Moharana “Power Factor Improvement of a Grid Connected System Using PWM Technique Of D-STATCOM” *Recent Advances and Innovations in Electrical Engineering (RAIEE-2014)*, The National level Conference organized by Dept. of Electrical Engineering, VSSUT, Burla during 6th-7th April,2014.
- A. Paikray, S.R. Satpathy, **M.K. Kar**, G. R. Biswal “Challenges in Power System Planning in India and It’s Strategies” *The National Level Annual Technical Symposium RESONANCE-13* organized by Dept. of EE & EEE, VSSUT, Burla on 6th April, 2013.

Short Term Course / Workshop/ Webinar Attended: -

- Participated in a Mission10X Dale-Carnegie training program: A workshop on “**High Impact Teaching Skills**” conducted by WIPRO at DRIEMS, Tangi, Cuttack from 11th-15th July, 2011.
- Participated in the NaMPET Sponsored Short Term Course on “**Power Electronics Systems & Applications (PESA 2014)**” organized by Department of Electrical Engineering, National Institute of Technology Rourkela during 4th to 6th April 2014.
- Attended the Short-Term Course on “**Power Electronics for Grid Connected Renewable Energy System (PEGCRES-2015)**” conducted by the Department of Electrical Engineering, National Institute of Technology Calicut, under the aegis of NaMPET Phase II, Deity, Govt. of India, during the period from 14th to 16th May 2015.
- Attended the Short-Term Course on “**Modeling & Simulation of Hybrid Power Generation System (MSHPGS-2015)**” organized by VSSUT, Burla during 14-19th December, 2015 under the sponsorship of Quality Improvement Programme, AICTE, Govt. of India
- Participated in the GIAN course “**HVDC TRANSMISSION AND FACTS**” organized by Department of Electrical Engineering, Indian Institute of Technology Roorkee during 17th to 21st December, 2018.
- Participated in the TEQIP-3 Sponsored Short Term Course “**Recent Trends in Microgrid and its Real Time Application using OPAL-RT**” organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur during 27th May – 1st June, 2019.
- Participated in the TEQIP-3 Sponsored Short Term Course “**Recent Advancements in HVDC and FACTS**” organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur during 23rd -28th September, 2019
- Participated in AICTE Training and Learning (ATAL) Academy FDP on “**Internet of Things (IoT)**” from 9th -13th October, 2019 at NIT Jamshedpur.
- Attended 4-day e FDP on “**Role of Artificial Intelligence in future Microgrid Control**” conducted by the Department of Electrical Engineering, Silicon Institute of Technology Sambalpur, during the period from 17th to 20th June 2020.
- Attended one day webinar on “**Scientific writing for Journals**” conducted by Springer Nature held on 27th July 2020.
- Attended one week workshop on “**Use of LATEX in typesetting technical documents**” conducted by the Department of Physics, Dr. B.R. Ambedkar NIT Jalandhar, Punjab, during the period from 31st August to 4th September 2020.
- Attended one week FDP on “**Recent Advances in Renewable Energy Integration to**

- Modern Power System (RAREIMPS-2020)**” conducted by the Department of Electrical Engineering, GCE, Kalahandi, Bhawanipatna, during the period from 30th September to 4th October 2020.
- Attended one day webinar on **“Electrical Power systems, Renewable Energy, Smart Grids & Switchgear Protection using Neplan simulation Software”** conducted by the Department of Indiasoft Technologies(P) Ltd, Pune held on 20th October 2020.
 - Participated in the TEQIP-3 Sponsored Short Term Course **“Recent Trends in Microgrid (RTM-2020)”** organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur during 27th – 31st October, 2020.
 - Attended one day webinar on **“Research Simplified with Elsevier; Plan Effectively; Read Quality...Publish Quality”** conducted by ELSEVIER held on 2nd November 2020.
 - Attended one day webinar on **“Model Based Development (MBD)”** conducted by the Centre of Excellence Embedded System, CMR Institute of Technology, Bengaluru held on 7th November 2020.
 - Participated in the Short-Term Course **“Recent Trends in FACTS and Renewable Energy Sources (RTFRES-2020)”** organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur during 24th –29th November, 2020.
 - Participated in AICTE Training and Learning (ATAL) Academy FDP on “Electric Vehicles” from 7th -11th December, 2020 at Bhilai Institute of Technology, Durg.
 - Attended 30 days Masterclass on **“Matlab Simulink”** conducted by Pantech prolabs India Pvt. Ltd., during the period from 23rd Nov- 22nd Dec 2020.
 - Participated in AICTE Training and Learning (ATAL) Academy FDP on **“Electrical & Computer Engineering”** from 4th - 8th January, 2021 at National Institute of Technology, Raipur.
 - Participated in AICTE Training and Learning (ATAL) Academy FDP on **“Electrical & Computer Engineering”** from 8th -12th February, 2021 at National Institute of Technology, Patna.
 - Participated in AICTE Training and Learning (ATAL) Academy FDP on **“AI solution for optimum utilization of Power and Energy”** from 5th - 9th July, 2021 at National Institute of Technology, Srinagar.
 - Participated in AICTE Training and Learning (ATAL) Academy FDP on **“Electrical Distribution System Analysis with Renewable Energy Sources”** from 12th - 16th July, 2021 at National Institute of Technology, Kurukshetra.
 - Attended one day National webinar on **“Design and Fabrication of Power Electronics Converters for High Power Industrial Drives”** organized by the Department of EE, EEE & ENTC, DRIEMS Autonomous Engineering College held on 18th July 2021.
 - Participated in AICTE Training and Learning (ATAL) Academy FDP on **“Nature Inspired Optimization Techniques”** from 19th - 23th July, 2021 at National Institute of Technology, Delhi.
 - Attended 2-days online workshop on **“Advance MATLAB Tools and SIMULINK for Power System Applications”** conducted by the Department of Electrical Engineering, Silicon Institute of Technology Sambalpur, during the period from 26th to 27th July 2021.
 - Participated in AICTE Training and Learning (ATAL) Academy FDP on **“Faculty Development Program on Precision Health Technology (FDP PHT-2021)”** from 4th - 8th Aug, 2021 at National Institute of Technology, Jamshedpur.
 - Participated in AICTE Training and Learning (ATAL) Academy FDP on **“Faculty Development Program on Energy Storage: Science & Technology”** from 20th - 24th Sept, 2021 at Motilal Nehru National Institute of Technology, Allahabad.

- Participated in AICTE Training and Learning (ATAL) Academy FDP on “**Statistical and Optimization Techniques using software packages**” from 25th - 29th Oct, 2021 at Aligarh Muslim University.
- Participated in AICTE Training and Learning (ATAL) Academy FDP on “**Power Electronic Converters and Control for Renewable Power & microgrid systems**” from 14th - 18th Dec, 2021 at IIT Goa.
- Participated in AICTE-ISTE sponsored “**Smart Grid Technology (SGT-2022)**” held during 3rd -8th January, 2022 at DRIEMS Autonomous Engineering College, Odisha.

REVIEWER: -

- Contributed as a reviewer of papers for IBSSC-2021, organized by IEEE Bombay section and ABV-IIITM Gwalior.
- Contributed as a reviewer of papers for 1st International Conference on Smart Energy and Advancement in Power Technologies (ICSEAPT- 2021) organized by Electrical Engineering Department, NIT Jamshedpur during 6th -8th Sept, 2021
- Contributed as a reviewer of papers for 2nd Electric Power and Renewable Energy Conference (EPREC-2021), organized by Electrical Engineering Department, NIT Jamshedpur during 28th -30th May, 2021.
- Contributed as a reviewer of papers for 1st Electric Power and Renewable Energy Conference (EPREC-2020), organized by Electrical Engineering Department, NIT Jamshedpur during 28th -29th May, 2020.

Workshop Conducted

- Coordinated in workshop on “**Industrial Automation- PLC & SCADA**” an outreach workshop of Technex’16, IIT Varanasi in association with Innovians Technologies held at National Institute of Science and Technology, Berhampur on 19th & 20th Feb, 2016.
- Student Coordinator in the TEQIP-3 Sponsored Short Term Course “**Recent Trends in Microgrid and its Real Time Application using OPAL-RT**” organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur during 27th May – 1st June, 2019
- Student Coordinator in the TEQIP-3 Sponsored Short Term Course “**Recent Advancements in HVDC and FACTS**” organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur during 23rd -28th September, 2019.
- Student Coordinator in the TEQIP-3 Sponsored Short Term Course “**Recent Trends in Microgrid (RTM-2020)**” organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur during 27th – 31st October, 2020.
- Student Coordinator in the Short-Term Course “**Recent Trends in FACTS and Renewable Energy Sources (RTFRES-2020)**” organized by Department of Electrical Engineering, National Institute of Technology, Jamshedpur during 24th –29th November, 2020.

Teaching Experience

- Worked as Lecturer at **DRIEMS Engineering College, Tangi** during 3rd Sept 2010 – 25th August 2012.
- Worked as Assistant Professor at **Gandhi Institute of Excellent Technocrats (GIET), Bhubaneswar** during 25 June 2014 – 9 Aug 2014.
- Worked as an Assistant Professor at **National Institute of Science and Technology (NIST) Berhampur** during 11 Aug 2014 – 19 July 2018.
- **Assigned Lecture class for UG Course:** Basic Electrical Engineering, Network Theory, Electrical Machine, Energy Conversion Device, Power Electronics, Electrical Drives, Control System Engineering, Advanced Control System Engineering, Signals and Systems.
- **Assigned Lecture class for PG Course:** Advanced Power Electronics.
- Active team member in my previous institution in **NAAC** accreditation
- Active member in my previous institution in **NBA** accreditation

Extracurricular activities

- Active participation in school annual function
- Actively participated in Red Cross.
- Actively participated in organizing workshop, conference at NIT Jamshedpur.

Personal Details

- | | |
|---------------------|---|
| ■ Date of Birth | : 16 th Feb, 1988 |
| ■ Sex | : Male |
| ■ Father's name | : Kshirod Chandra Kar |
| ■ Marital Status | : Single |
| ■ State of Domicile | : Odisha |
| ■ Nationality | : Indian |
| ■ Languages known | : English, Oriya, Hindi |
| ■ Hobbies | : Reading scientific Journals, Watching Cricket |

Declaration

I hereby declare that the information furnished above is true to the best of my knowledge.

Date: 1st May, 2022
Place: Jamshedpur

Manoj Kumar Kar
Signature