

SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY, SURAT-395007

(DEPARTMENT OF ELECTRICAL ENGINEERING)

1 Name **DR. SABHA RAJ ARYA**



2 Official Address Associate Professor,
Electrical Engineering Department,
Sardar Vallabhbhai National Institute of
Technology (S.V.N.I.T.), Dumas Road,
Surat -395007 (Gujarat)

3 Email sabharaj1@gmail.com, sra@eed.svnit.ac.in
Phone No: 08511034177 (M) and 09512534809 (M)

4 Date of birth 03/10/1979

5 Research Area

- Power Quality - Custom Power Devices
- Power Electronic Converters for Power factor corrections
- Electric Vehicles Technology
- Optimization Algorithms
- Induction Motor and Synchronous Motor Drives
- DC/DC Converters and Soft Switching Techniques
- Application of PLLs, Soft Computing and Adaptive Algorithms
- Distributed Power Generation and Smart Grid Technology

6 Academic Qualifications

| Degree | Year | Specialization | Name of Board/Institute |
|------------------------|------------------------------|--------------------------------------|---|
| 10 th Class | 1994 | - | M.P. Boards (1 st Rank in School) |
| B. E./B. Tech. | 2002 | Electrical Engineering | Govt. Engg. College Jabalpur (M.P.) |
| M.E./M. Tech. | 2004 | Power Electronics and ASIC design | MNNIT Allahabad |
| Ph. D. | 2010-2013 (26 March 2014) | Electrical Power Quality | EED, I.I.T. Delhi |

7 Recognitions received

| Sr. No. | Name of award | Name of society/institute | Year |
|---------|--|---|------|
| (i) | Young Engineer Award-2014 | Indian National Academy of Engineering (INAE)- Delhi | 2014 |
| (ii) | POSOCO Power System Award (PPSA-2014) | Power System Operation Corporation (POSOCO) –A subsidiary of Power Grid Corporation of India Ltd (POWERGRID)-Delhi. | 2014 |
| (iii) | Amit Garg Memorial Research Award-2014 | From Indian Institute of Technology (IIT) Delhi for the High Impact Publication in a quality journal during the session 2013-2014 | 2014 |
| (iv) | IEEE-Senior Member | IEEE Industry Applications Society | 2015 |
| (v) | Associate Editor | IET <i>Renewable Power Generation</i> | 2018 |
| (vi) | Best Paper Award on “Talada Appala Naidu, Sabha Raj Arya , and Rakesh Maurya, "Control of DVR using Variable Step-size Griffith’s LMS with Optimized tuning of Proportional Integrator Gains” in Proc. International conference on power electronics applications and technology in present energy scenario (PETPES-2019) organized by Electrical and Electronics Engineering Department, NITK Surathkal, 29-31 August 2019. | | 2019 |
| (vii) | Best Paper Award on “Jayadeep Srikakolapu, Sabha Raj Arya and Rakesh Maurya, " DSTATCOM using Limit Cycle Oscillator FLL with Optimized Gains of Voltage Error Controllers," in Proc. 1st International Conference on Innovation in Electrical Power Engineering, Communication, and Computing Technology) for LNEE, Springer, Bhubaneswar, 13th-14th December 2019, pp.1-13 | | 2020 |
| (viii) | Guest Editor: Special Issue on “Control and Power Quality in Renewable Energy Systems” in <i>International Transactions on Electrical Energy Systems</i> , Wiley (Impact factor:1.692) from April 2020 to Dec 2020. | | 2020 |
| (ix) | Guest Editor: Special Issue on "Energy Storage-Design, Control, and Application in Modern Power Systems” in <i>Journal of Electrical Engineering, Springer</i> (SCI, I.F: 1.2)) from 8th July 2020 to 30 March 2021. | | 2020 |
| (x) | Guest Editors: Special Issue On “Power Electronics Applications in | | 2018 |

Smart Distribution Grids with Renewable Energy Sources” in International Journal of Emerging Electric Power Systems-IJEPS, (Scopus) from January 15, 2018 to August 2018.

- (xi) **Guest Editor:** Special Issue on “Green Energy Systems” in Journal of Green Engineering, (Scopus), from 15th April, 2017 to end of June 2017.

8 Details of Research and Development Projects

| Sr. No. | Name of Project | Funding Agency | Durations |
|---------|--|---|--|
| (i) | Development of Adaptive control algorithm for shunt compensator (Minor Project) (Role: Principal Investigator) | Gujarat Council on Science and Technology (GUJCOST) Gandhinagar (Gj.) -382011 (Completed) | Sanctioned for 2 Year (from: March 2016) |
| (ii) | Development of Control Algorithms for Shunt and Series connected Custom Power Devices (Role: Principal Investigator) | Science and Engineering Research Board -New Delhi (Under Extra Mural Research Funding Scheme) (Completed) | Sanctioned for 3 Year (from June :2016) |
| (iii) | Control of wind solar micro grid power generation in isolated system (Role: Co-Principal Investigator) | Research Promotion under Technical Education-STEM (Project No/CTE No: 2021ELE001) Gandhinagar (Gujarat) | Sanctioned for 3 Year (from April :2021) |

9 Positions held (from 2004 to present)

| Sr. No. | Name of Department/ Institute | Positions | Duration | Nature of work |
|---------|--|---------------------|--|--|
| (i) | (Electrical Engineering Department) Kalinga Institute of Industrial Technology-Patia (Deemed university)- Bhubaneswar-751024 | Lecture | 27th July 2004 to 27th Nov. 2006 | Teaching and Research (Supervisor for M.Tech. and B.Tech. students) |
| (ii) | (Electrical Engineering Department) S.V. National Institute of Technology, Dumas Road, Ichchhanath, Surat-395007 | Assistant Professor | 1st Dec.2006 to 27th January 2019 | Teaching and Research (Supervisor for Ph. D, M.Tech. and B.Tech. students) |
| (iii) | (Electrical Engineering Department) S.V. National Institute of Technology, Dumas Road, Ichchhanath, Surat-395007 | Associate Professor | 28th January 2019 | Teaching and Research (Supervisor for Ph. D, M.Tech. and B.Tech. students) |

10 Membership of professional bodies

| Sr. No. | Name of society | From | Grade /Member ship number |
|---------|---|----------------------------|-----------------------------------|
| (i) | Institute of Electrical and Electronics Engineers (IEEE) | 2012 to continuous | Senior Member (2015) /92074574 |
| (ii) | The Institution of Engineers (INDIA) | 2010 to continuous | Associate member /AM0984518 |
| (iii) | The System society of India | 2008 to continuous | Member/ LM28471 |
| (iv) | The Institution of Electronics and Telecommunication Engineers (IETE) | January 2016 to continuous | Member/LM 500011 |

11 Short term courses /Seminars Organized at SVNIT (work as Coordinator and Delivered Expert Lecture)

- 1) Advancement in Electric vehicle Technology: A step towards Development of sustainable Transportation System 18th February to 22ed February 2021
- 2) Power Electronics for Electrical Vehicles & Energy Systems (PEEVES-2020), 28th September to 03rd October 2020 jointly organized by (MMMUT & SVNIT), financially sponsored by TEQIP-III, MMMUT, Gorakhpur.
- 3) Application and Control of Power Electronic Converters for Sustainable Living, 18-22 September, 2020
- 4) Control of Power Electronic converters for on Grid and off Grid systems (online mode), 3rd August 2020 to 07th August 2020.
- 5) Power Electronics for Distributed Generation and Electrical Drives 2nd march 2020 to 06th March -2020.
- 6) Organized on week short term course on smart energy systems: operational and control (SESOC-2019), Dec 2019, at MMMUT –Gorakhpur (worked as course coordinator)
- 7) Expert talk from Prof. (Dr.) D.P. Kothari , Ex head and Professor, Centre for energy studies, IIT Delhi, in the area of power system and power electronics, (06 May 2019)
- 8) Power Electronics For Distribution System and Electric Drives, June-July 2018
- 9) Power Quality and Distributed Power Generation, Dec. 2017
- 10) Design and Control of Power Electronic Circuits using OPAL- Real Time Simulators- March 2017

- 11) Power conditioning and Distributed Power Generation-Dec.-2016
- 12) Power Electronic: Circuits and Control-Dec.2015
- 13) Power Electronics: System and Control –Dec. 2014
- 14) Power Filter Technology and Control- June 2014
- 15) Advance Control System Education – Feb.2014

12 Complete lists of refereed Journal papers and papers presented in Conferences

(A) Summary of Publication in International/National Journals

| IEEE Transactions | IET-UK | Elsevier | Other International Journals (SCI/SCOPUS) | Total | |
|---|---|-----------------------------|--|-----------|-----------|
| 41 | | | 04 | 37 | 82 |
| TIE-3, TPE-6 TII-1, TPWD-1, TIA-4, JESTPE-4,CPSST-1 , CSEE-2, CJEE-3 JESTIE-1 | IET(PEc) -5 IET(GTD) -6 IET(RPG)-3 IET (EPA)-1 | EPSR-1 IJEPES-1 REF-2 | ITEES-7,JAPE-2 IJEST-1 ,IJEEPS-7 EPCS-6,IEIB-2,JGE-5, JCSE-1, IJPEC-2, JES-3, JA-1,IJICA-1, IJCTA-1 | | |

(B) Summary of Publication in International/National conferences and communicated papers

| International / National conferences | Book Chapters | Communicated Papers in Journals/ conferences | Total |
|--------------------------------------|---------------|--|-----------|
| 53 | 03 | 10 | 66 |

(i) Publications in IEEE Transactions /IET Journals =41

- [1] **Sabha Raj Arya**, Rakesh Maurya, Talada Appala Naidu and B. Chitti Babu, "Adaptive Observer for dynamic voltage restorer with optimized proportional integral gains, **Accepted for Publication in** IEEE Chinese Journal of Electrical Engineering, Feb. 2021.

- [2] Talada Appala Naidu, **Sabha Raj Arya**, Rakesh Maurya and Sanjeevikumar Padmanabhan, "Performance of DVR using Optimized PI Controller based Gradient Adaptive Variable Step LMS Control Algorithm", ***Accepted for Publication in IEEE Journal of Emerging and Selected Topics in Industrial Electronics***, Dec. 2020.
- [3] Talada Appala Naidu, **Sabha Raj Arya**, Rakesh Maurya, Sanjeevikumar Padmanabhan, "Variable fractional power- least mean square based control algorithm with optimized PI gains for the operation of dynamic voltage restorer" ***Accepted for Publication in IET power Electronics***, Oct. 2020.
- [4] Jayadeep Srikakolapu, **Sabha Raj Arya** and Rakesh Maurya, "Distribution Static Compensator using an Adaptive observer based control algorithm with Salp Swarm Optimization Algorithm, ***Accepted for Publication in IEEE CPSS Transactions on Power Electronics and Applications for publication***, Sept 2020.
- [5] Sayed Javed Alam, **Sabha Raj Arya** and Ranjan Kumar Jana," Biogeography Based Optimization strategy for UPQC PI tuning on Full Order Adaptive Observer based Control, ***Accepted for Publication in IET Generation, Transmission and Distribution***, Sept 2020.
- [6] Aliva Routray, Khyati D Mistry, Sabha Raj Arya and B. Chittibabu, "Power output evaluation of a wind-solar farm considering the influence parameters," ***Accepted for Publication in IET Renewable Power Generation***, Sept 2020.
- [7] Amritha. K, V. Rajagopal, K. Narasimha Raju and **Sabha Raj Arya**, "Ant Lion algorithm for optimized controller gains for power quality enrichment of off grid wind power harnessing unit," ***IEEE- Chinese Journal of Electrical Engineering***, vol. 6, no. 3, pp. 85-97, Sept. 2020.
- [8] Sayed Javed Alam and **Sabha Raj Arya**, "Control of UPQC based on steady state linear Kalman Filter for Compensation of power quality problems," ***IEEE-Chinese Journal of Electrical Engineering***, vol. 6, no. 2, pp. 52-65, June 2020.
- [9] **Sabha Raj Arya**, Sayed Javed Alam and Papiya Ray, "Control algorithm based on limit cycle oscillator-FLL for UPQC-S with optimized PI gains,"

- IEEE-CSEE Journal of Power and Energy Systems*, vol. 6, no. 3, pp. 649-661, Sept. 2020.
- [10] Talada Appala Naidu, **Sabha Raj Arya**, Rakesh Maurya and Veramalla Rajgopal "Compensation of Voltage based Power Quality Problems using Sliding Mode Observer with Optimized PI controller Gains," *IET Generation, Transmission & Distribution*, vol. 14, no. 14, pp. 2656-2665, July 2020.
- [11] Jyoti Gupta, Rakesh Maurya and **Sabha Raj Arya**, "Improved Power Quality On-Board Integrated Charger with Reduced Switching Stress, *IEEE Transactions on Power Electronics*, vol. 35, no. 10, pp. 10810-10820, Oct. 2020.
- [12] Jyoti Gupta, Rakesh Maurya and **Sabha Raj Arya**, "On-Board EV Battery Charger with Improved Power Quality and Reduced Switching Stress, *IET Power Electronics*, vol. 13, no. 13, pp. 2885-2894, Oct. 2020.
- [13] Ashutosh k. Giri, **Sabha Raj Arya**, Rakesh Maurya and B Chitti Babu, "Control of Voltage Source Converter for Enhancement of Power Quality in off-Grid Distributed Power Generation," *IET Renewable Power Generation*, vol. 14, no. 5, pp. 771-778, 2020.
- [14] Ashutosh K Giri, **Sabha Raj Arya**, Rakesh Maurya, and B. Chitti Babu, "VCO less PLL Control Based VSC for Power Quality improvement in Distributed Generation System," *IET Electric Power Applications*, vol. 13, no. 8, pp. 1114-1124, 2019.
- [15] Talada Appala Naidu, **Sabha Raj Arya** and Rakesh Maurya, " Dynamic Voltage Restorer with Quasi Newton Filter based Control Algorithm and Optimized values of PI Regulator Gains, *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 7, no. 4, pp. 2476-2485, Dec. 2019.
- [16] Ashutosh K. Giri, **Sabha Raj Arya** and Rakesh Maurya, "Compensation of Power Quality Problems in Wind based Renewable Energy System for Small Consumer as Isolated loads, *IEEE Transactions on Industrial Electronics*, vol. 66, no. 11, pp. 9023-9031, Nov. 2019.
- [17] T. Appala Naidu, **Sabha Raj Arya** and Rakesh Maurya, "Multi-Objective

- Dynamic Voltage Restorer with Modified EPLL Control and Optimized PI Controller Gains," *IEEE Transactions on Power Electronics*, vol. 34, no. 3, pp. 2181-2192, March 2019
- [18] Ashutosh K Giri, **Sabha Raj Arya**, Rakesh Maurya and Ramakanta Mehar, "Variable Learning Adaptive Gradient Based Control Algorithm for VSC in Distributed Generation," *IET Renewable Power Generation*, vol. 12, no. 16, pp. 1883 – 1892, 2018.
- [19] **Sabha Raj Arya**, Rakesh Maurya and Talada Appala Naidu, "Amplitude Adaptive Notch Filter with Optimized PI Gains for Mitigation of Voltage based Power Quality Problems," *IEEE-CPSS Transactions on Power Electronics and Applications*, vol. 3, no. 4, pp.313-323, December 2018.
- [20] Sanjay Kumar Patel, **Sabha Raj Arya**, Rakesh Maurya and B. C. Babu, "Control Scheme for DSTATCOM based on Frequency Adaptive Disturbance Observer," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 6, no.3, pp. 1345-1354, 2018.
- [21] Ashutosh K. Giri, **Sabha Raj Arya**, Rakesh Maurya and B. C. Babu, "Power Quality Improvement in Stand-alone SEIG based Distributed Generation System using Lorentzian Norm Adaptive Filter," *IEEE Transactions on Industry Applications*, vol. 54, no. 5, pp. 5256-5266, March 2018.
- [22] B. R. Ananthapadmanabha, Rakesh Maurya and **Sabha Raj Arya**, "Improved Power Quality Switched Inductor Cuk Converter for Battery Charging Application," *IEEE Transactions on Power Electronics*, vol. 33, no.11, pp. 9412-9423, 2018.
- [23] Ashutosh K. Giri ,Amin Qureshi, **Sabha Raj Arya**, Rakesh Maurya and B.Chitti Babu,"Features of Power Quality in Single Phase Distributed Power Generation using Adaptive Nature Vectorial Filter,"*IEEE Transactions Power Electronics*, vol. 33 No.11 pp. 9482-9495, 2018.
- [24] Sanjay Kumar Patel, **Sabha Raj Arya**, Rakesh Maurya,"Nonlinear adaptive volterra filter for control of distribution static compensaton," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 5, no. 1, pp.559 - 567, March 2017.
- [25] **Sabha Raj Arya**, Bhim Singh, Ram Niwas, Ambrish Chandra and Kamal Al-Haddad, "Power quality enhancement using DSTATCOM in distributed

- power generation system," *IEEE Transactions on Industry Applications*, vol. 52, no. 6, pp. 5203-5212, Nov.-Dec. 2016
- [26] Sanjay Kumar Patel, **Sabha Raj Arya**, Rakesh Maurya and Bhim Singh, "An interior point algorithm for optimal control of DSTATCOM under distorted supply voltage conditions," *IET Generation, Transmission and Distribution*, vol. 10, no. 8, pp. 1778-1791, 2016.
- [27] **Sabha Raj Arya** and Bhim Singh "Implementation of kernel incremental meta-learning algorithm in distribution static compensator," *IEEE Transactions Power Electronics*, vol.30, no.3, pp.1157-1169, March 2015.
- [28] Sabha Raj Arya, Ram Niwas, Krishan Kant, Bhim Singh, Ambrish Chandra and Kamal Al-Haddad " Power quality improvement in isolated distributed generation system using DSTATCOM," *IEEE Transactions on Industry Applications*, vol. 51, no.06, pp. 4766-4774, Nov/Dec. 2015
- [29] Bhim Singh, Krishan Kant Bhalla and **Sabha Raj Arya**, "Notch filter based fundamental frequency component extraction to control DSTATCOM for mitigating current related power quality problems" *IET power Electronics*, vol.8, no.9, pp.1758-1766, 2015.
- [30] **Sabha Raj Arya** and Bhim Singh, "Neural Network based conductance estimation control algorithm for shunt compensation," *IEEE Transactions on Industrial Informatics*, vol.10, no.1, pp.569-577, Feb. 2014.
- [31] **Sabha Raj Arya**, Bhim Singh, Ambrish Chandra, and Kamal Al-Haddad "Learning based Anti-Hebbian learning algorithm for control of distribution static compensator," *IEEE Transactions on Industrial Electronics*, vol. 61, no.11, pp. 6004-6012, Nov. 2014.
- [32] Bhim Singh and **Sabha Raj Arya**, "Back-Propagation control algorithm for power quality improvement using DSTATCOM," *IEEE Transactions on Industrial Electronics*, vol.61, no.3, pp.1204-1212, March 2014.
- [33] Bhim Singh, **Sabha Raj Arya**, Ambrish Chandra, and Kamal Al-Haddad "Implementation of adaptive filter based control algorithm for distribution static compensator," *IEEE Transactions on Industry Applications*, vol. 50, no.5, pp.3026-3036, Sept / Oct 2014.

- [34] Bhim Singh, **Sabha Raj Arya** and Chinmay Jain “Simple peak detection control algorithm of DSTATCOM for power quality improvement,” *IET power Electronics*, vol. 7, no.7, pp. 1736-1746, 2014.
- [35] Bhim Singh, **Sabha Raj Arya**, Chinmay Jain and Sagar Goel “Implementation of four leg distribution static compensator,” *IET Generation, Transmission and Distribution*, vol.8, no.6, pp. 1127-1139, 2014.
- [36] Bhim Singh, Sunil kumar, Sabha Raj Arya, “Hyperbolic tangent function-based least mean-square control algorithm for distribution static compensator”*IET Generation, Transmission and Distribution*, vol.8, no.12, pp.2102-2113, 2014.
- [37] **Sabha Raj Arya** and Bhim Singh,“Performance of DSTATCOM using leaky LMS control algorithm,” *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 1, no.2, pp.104-113, June 2013.
- [38] **Sabha Raj Arya** and Bhim Singh,“An Implementation of DSTATCOM for power quality enhancement using learning vector quantization,” *IET Generation, Transmission and Distribution*, vol. 7, no.3, pp.1244-1252, 2013.
- [39] Bhim Singh and **Sabha Raj Arya**,“ Implementation of single-phase enhanced phase-locked loop-based control algorithm for three-phase DSTATCOM,”*IEEE Transactions on Power Delivery*, vol. 28, no. 3, pp.1516-1524, July 2013.
- [40] Bhim Singh and **Sabha Raj Arya**, “Adaptive theory-based improved linear sinusoidal tracer control algorithm for DSTATCOM,”*IEEE Transactions on Power Electronics*, vol. 28, no.8, pp.3768-3778, Aug. 2013.
- [41] Bhim Singh and **Sabha Raj Arya**,“Composite observer-based control algorithm for distribution static compensator in four-wire supply system,” *IET Power Electronics*, vol. 6, no.2, pp. 251-260, Feb. 2013.

(ii) Publications in other Journals =41

- [42] Prashant Kumar, **Sabha Raj Arya** and Khyati D Mistry, "Optimized neural network and adaptive neuro-fuzzy controlled dynamic voltage restorer for

- predicting power quality performance," **Accepted for publication in International Journal of Emerging Electric Power Systems (IJEEPS).**
- [43] Jayadeep Srikakolapu, **Sabha Raj Arya** and Rakesh Maurya, "An algorithm for DSTATCOM with optimized values of PI Gain using adaptive internal mode," Accepted for publication in **Journal of Electrical Power and System Components.**
- [44] Talada Appala Naidu, **Sabha Raj Arya**, Ahmed Al-Durra and Tarek H. M. El-Fouly, "Comparative Performance of DVR using adaptive control algorithms with optimized error regulator gains," Accepted for publication in **International Transactions on Electrical Energy Systems, Nov. 2020.**
- [45] **Sabha Raj Arya**, Mittal M. Patel, Sayed Javed Alam, Jayadeep Srikakolapu and Ashutosh K. Giri, Classical Control Algorithms for Permanent Magnet Synchronous Generator driven by Diesel Engine for Power Quality, Accepted for publication in **International Journal of Circuit Theory and Applications, Dec 2020.**
- [46] Sayed Javed Alam and **Sabha Raj Arya**, Compensation of Power Quality Problems through UPQC-S using Enhanced Complex Coefficient Filter, Accepted for publication in **International Transactions on Electrical Energy Systems, Nov. 2020.**
- [47] Aliva Routray, Khyati D Mistry, **Sabha Raj Arya** and B. Chittibabu, "Applied Machine Learning in Wind Speed Prediction and Loss Minimization in Unbalanced Radial Distribution System, **Accepted for publication in Journal Energy Sources, Part A: Recovery, Utilization, and Environmental effects, Dec. 2020.**
- [48] Akhil Raj, **Sabha Raj Arya**, Jyoti Gupta, "Solar PV array-based DC-DC converter with MPPT for low power applications," **Journal of Renewable Energy Focus**, vol.34, pp.109-119,(Elsevier), September 2020.
- [49] **Sabha Raj Arya**, Rakesh Maurya, Ashutosh K Giri, Amin Qureshi, Chitti Babu Baladhanautham, "Power quality solutions for effective utilization of single-phase induction generator using voltage source converter," Accepted for publication in **Journal of Energy Sources, Part A: Recovery, Utilization, and Environmental effects, 2020.**

(<https://doi.org/10.1080/15567036.2020.1772414>)

- [50] P. Akhil Raj and **Sabha Raj Arya**, "Solar supplied two-output DC-DC converters in the application of low power," Accepted for publication in **Journal of Automatika** (Taylor & Francis Group), 2020.
- [51] Aliva Routray, Khyati D Mistry and **Sabha Raj Arya**, "Wake Analysis on wind farm power generation for loss minimization in radial distribution system," **Journal of Renewable Energy Focus**, vol.34, pp.99-108,(Elsevier), September 2020.
- [52] Nitesh Tiwari, Shekhar Yadav and Sabha Raj Arya, "Speed control of battery and super capacitor powered EV/HEV using PID and Fuzzy Logic Controller" Accepted for publication in **International Journal of Innovative Computing and Applications**. (Joint work with MMMUT Gorakhpur-U.P.)
- [53] Nitesh Tiwari, Shekhar Yadav and **Sabha Raj Arya**, "Battery and super capacitor powered energy management scheme for EV/HEV using Fuzzy Logic Controller and PID Controller," Accepted for publication in **International Journal of Power Electronics** (Joint work with MMMUT Gorakhpur-U.P.)
- [54] Aliva Routray, Khyati D Mistry and **Sabha Raj Arya**, "Power loss minimization in radial distribution systems with obstructed solar astronomical model and temperature effect using GWO technique," Accepted for publication in **Journal Energy Sources, Part A: Recovery, Utilization, and Environmental effects**.
- [55] Sayed Javed Alam and **Sabha Raj Arya**, "Observer based control for UPQC-S with Optimized Gains of PI Controller," **International Transactions on Electrical Energy Systems**, 2020. <https://doi.org/10.1002/2050-7038.12406>
- [56] **Sabha Raj Arya**, Mittal M. Patel, Sayed Javed Alam, Jayadeep Srikakolapu and Ashutosh K. Giri, "Phase lock loop–based algorithms for DSTATCOM to mitigate load created power quality problems," **International Transactions on Electrical Energy Systems**, 2019; e12161. <https://doi.org/10.1002/2050-7038.12161>.

- [57] Ashutosh K. Giri¹, **Sabha Raj Arya**, Rakesh Maurya and B. Chitti Babu, "Mitigation of power quality problems in PMSG-based power generation system using quasi-Newton-based algorithm," *International Transactions on Electrical Energy Systems*, 2019, DOI:e12102. <https://doi.org/10.1002/2050-7038.12102>
- [58] Talada Appala Naidu, **Sabha Raj Arya** and Rakesh Maurya, "Phase Locked Loop based on Third Order SSI for Compensation of Voltage Related Power Quality issues using DVR," *Journal of Electrical Power and System Components*, vol. 47, no. 4-5, pp.329–344, 2019.
- [59] Sanjay K. Patel, **Sabha Raj Arya** and Rakesh Maurya, "Control of three phase DSTATCOM using optimal step LMS algorithm," *Journal of Electrical Power and System Components*, vol. 47, no. 8, pp. 704–720, 2019.
- [60] **Sabha Raj Arya**, Nunsavath Sharath Kumar, Ashutosh Giri and Amin Qureshi, "Fuel Cell Integration with Grid using Voltage Source Converter and its Control," *International Journal of Power and Energy Conversion*, vol.11,no.2,pp.132-151, 2020.
- [61] **Sabha Raj Arya**, Rakesh Maurya and Talada Appala Naidu, "Phase Locked Loop based Techniques for Compensation of Voltage Based Power Quality issues in Distribution System," *International Journal of Emerging Electric Power*, vol. 19, no.5, 2018. (DOI: <https://doi.org/10.1515/ijeeps-2017-0278>)
- [62] **Sabha Raj Arya**, Rakesh Maurya and Ashutosh K Giri, "Enhancement of Power Quality in Wind based Distributed Generation System using Adaptive Vectorial Filter," *International Journal of Emerging Electric Power*, vol. 19, no.5, 2018. (DOI: <https://doi.org/10.1515/ijeeps-2018-0008>)
- [63] B.R. Ananthapadmanabha, Rakesh Maurya, **Sabha Raj Arya** and B.Chitti Babu, "Smart Battery Charging Station for Electric Vehicle using Half Bridge Power Converter," *International Journal of Emerging Electric Power*, vol. 19, no.4, 2018. (DOI: <https://doi.org/10.1515/ijeeps->

2017-0257)

- [64] Papia Ray, **Sabha Raj Arya** and Debari Prasad Mishra, "Intelligence Scheme for Fault Location in a Combined Overhead Transmission Line and Underground Cable," *International Journal of Emerging Electric Power*, vol. 19, no.5, 2018. (DOI: <https://doi.org/10.1515/ijeeps-2017-0277>)
- [65] Ashish Patel, **Sabha Raj Arya** and Ashutosh Giri, "Isolated power generation system using permanent magnet synchronous generator with improved power quality," Accepted for Publication in *Institution of Engineers Section-B*, vol. 99, no. 3, pp,281–292, June 2018.
- [66] B.R. Ananthapadmanabha, Rakesh Maurya and **Sabha Raj Arya**, "Hybrid converter for electric vehicle battery Charging with power quality features," Accepted for Publication in *International Journal of Computational Systems Engineering* (<https://doi.org/10.1504/IJCSYSE.2019.098416>)
- [67] Vishal E. Puranik and **Sabha Raj Arya**, "Load conductance estimation based control algorithm for shunt connected custom power devices," *Asian Power Electronics Journal*, Vol. 11, No. 1, pp. 14-20, July 2017.
- [68] Sanjay Kumar Patel, **Sabha Raj Arya**, Rakesh Maurya, Chinmay Jain and Bhim Singh, "Control of distributed static compensator using extended structure enhanced phase-locked loop–based algorithm under nonideal AC mains," *International Transactions on Electrical Energy Systems*, DOI 10.1002/etep.2354, pp. 1-10, 2017.
- [69] **Sabha Raj Arya** and Bhim Singh, "Power quality improvement under nonideal AC mains in distribution system," *Journal of Electric Power System Research*, vol.106, pp.86-94, 2014.
- [70] Sanjay Kumar Patel, **Sabha Raj Arya**, Rakesh Maurya and Bhim Singh, "Control of DSTATCOM using three phase enhanced phase-locked loop," *Journal of Electrical Power and System Components*, vol. 44, no. 13, pp. 1515-1529, 2016.
- [71] Bhim Singh, **Sabha Raj Arya** and Pankaj K. Verma "An implementation of double-frequency oscillation cancellation technique in control of

- DSTATCOM," *International Transactions on Electrical Energy Systems*, DOI 10/1002/ETEP, 2013.
- [72] Bhim Singh and **Sabha Raj Arya**, "Adaptive control of four-leg VSC based DSTATCOM in distribution system," *International Journal of Emerging Electric Power Systems*, vol. 15, no.1, pp. 93-99, 2014.
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- [74] Bhim Singh and **Sabha Raj Arya**, "Design and control of a DSTATCOM for power quality improvement using cross correlation function approach," *International Journal of Engineering, Science and Technology*, vol. 4, no. 1, pp. 74-86, 2012.
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- [80] J. Bangarraju, V. Rajagopal, **Sabha Raj Arya** and B. Subhash, "Enhancement of PQ Using adaptive theory based improved linear tracer

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- [82] **Sabha Raj Arya** and Nunsavath Sharath Kumar, “Grid connected fuel cell based distributed power generation system,” *Journal of Green Engineering*, vol. 7, no.1 & 2, pp. 285-310, January 2017.

(iii) Publications in International/National Conferences = 53

- [83] **A. Routray**, K. D. Mistry and **S. Arya**, “Implementation of Black Widow Optimization Algorithm for Loss Minimization in an Unbalanced Radial Distribution System”, in Proc. International Online Conference on Smart Grid Energy Systems and Control (SGESC-2021), pp. 1-6, March 19-21, 2021,NIT Kurukshetra.
- [84] Aliva Routray, Khyati D. Mistry and **Sabha Raj Arya**, “Implementation of Black Widow Optimization Algorithm for Loss Minimization in an Unbalanced Radial Distribution System,” International Online Conference On Smart Grid Energy Systems and Control (SGESC-2021),pp. 1-6,March19-21, 2021
- [85] Talada Appala Naidu, **Sabha Raj Arya**, Rakesh Maurya, Bhim Singh and Ahmed Al-Durra, Combined Variable Step Size LMS for DVR with Error Regulator Gain Tuning Through Ant-Lion Optimization, **Accepted for publication in Industrial Automation and Control Committee, IAS Meeting 2020.**
- [86] Sayed Javed Alam and **Sabha Raj Arya**,“Control of UPQC Through Observer Based System Integrated with Frequency Adaptive Loop and Optimized PI Gains,” in Proc. **9th IEEE Power India International Conference (PIICON-2020)**,March 2020, pp.1-6.
- [87] Ashutosh K. Giri, **Sabha Raj Arya** and Rakesh Maurya, "Transformer based Passive Neutral Current Compensation Techniques in Distributed Power Generation System," in Proc. **First International Conference on Power, Control and Computing Technologies**

(**ICPC2T**), Raipur, India, 2020, pp. 379-384.

- [88] Ashutosh K. Giri, **Sabha Raj Arya** and Rakesh Maurya, "Hybrid Order Generalized Integrator based Control for VSC to Improve the PMSG Operation in Isolated Mode," in Proc. **First International Conference on Power, Control and Computing Technologies (ICPC2T)**, Raipur, India, 2020, pp. 373-378
- [89] Jayadeep Srikakolapu, **Sabha Raj Arya** and Rakesh Maurya, "DSTATCOM using Limit Cycle Oscillator FLL with Optimized Gains of Voltage Error Controllers," in Proc. **1st International Conference on Innovation in Electrical Power Engineering, Communication, and Computing Technology) for LNEE, Springer, Bhubaneswar, 13th-14th December 2019, pp.1-13 (Best Paper Award)**
- [90] Talada Appala Naidu, **Sabha Raj Arya** and Rakesh Maurya, "Control of DVR using Variable Step-size Griffith's LMS with Optimized tuning of Proportional Integrator Gains," in Proc. of **IEEE Power Electronics Applications & Technology in Present Energy Scenario (PETPES 2019)**, 2019, pp.1-7. **(Best Paper Award)**
- [91] Akhil Raj P. and **Sabha Raj Arya**, "Solar-Fed Single-Input Three-Output DC-DC Converters for Low Power applications," in Proc. **1st International Conference on Innovation in Electrical Power Engineering, Communication, and Computing Technology) for LNEE, Springer, Bhubaneswar, 13th-14th December 2019, pp.1-12.**
- [92] Aliva Routray, Khyati D. Mistry and **Sabharaj Arya**, "Loss minimization in a radial distribution system with dg placement using jaya optimization technique," in Proc. of **IEEE International Conference on Sustainable Energy Technologies and Systems (ICSETS), 2019, pp.1-6**
- [93] **Sabha Raj Arya**, Rakesh Maurya, Ashutosh K. Giri, Amin Qureshi and B.Chitti Babu, "Control Approach to Improve the Power Quality for Effective Utilization of Single Phase Induction Generator," in Proc. of **IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP2019), IIITDM Kancheepuram,**

- Chennai – 600127, 2019, pp.1-6.**
- [94] Akhil Raj P. and **Sabha Raj Arya**, “Solar Fed DC-DC Converter for Small Power Applications,” in **Prof. of IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP2019),IIITDM Kancheepuram, Chennai – 600127, 2019, pp.1-6.**
- [95] Jayadeep Srikakolapu, **Sabha Raj Arya** and Rakesh Maurya. “ Algorithm for DSTATCOM using Cascaded Delayed Signal Cancellation effect in Three Wire System,” in **Prof. of IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP2019),IIITDM, Kancheepuram, Chennai– 600127, 2019, pp.1-6.**
- [96] Aliva Routray Khyati D. Mistry and **Sabha Raj Arya**, “ Analysis of Wake Effect on Wind Power Generation for Loss Minimization in Distribution System,” in **Prof. of IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP2019), IIITDM Kancheepuram, Chennai– 600127, 2019, pp.1-6.**
- [97] Aliva Routray Khyati D. Mistry and **Sabha Raj Arya**,”Loss Minimization in Distribution System Considering Hourly Data Driven Probabilistic Solar Astronomical Model with GWO Technique,” in **Prof. of IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP2019), IITDM Kancheepuram, Chennai – 600127, 2019, pp.1-6.**
- [98] Papia Ray, Debani Prasad Mishra and **Sabha Raj Arya**, “An Intelligent Approach for Protection Coordination of Overcurrent Relay in Smart grid,” in **Prof. of IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP2019), IIITDM Kancheepuram, Chennai– 600127, 2019, pp.1-6.**
- [99] Debani Prasad Mishra, Papia Ray and **Sabha Raj Arya**, “Comparative Analysis Of Classification And Location Of Faults In A Long Transmission Line Using Random Forest Technique,” in **Prof. of IEEE 1st International Conference on Energy, Systems and Information Processing (ICESIP2019), IIITDM Kancheepuram, Chennai –**

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- [100] Aliva Routray, Khyati D. Mistry and **Sabharaj Arya**, "Loss minimization in a radial distribution system with dg placement using Jaya optimization technique," **in Proc. of IEEE International Conference on Sustainable Energy Technologies and Systems (ICSETS), 2019, pp.1-6.**
- [101] Sanjay K. Patel, **Sabha Raj Arya** and Rakesh Maurya, "Harmonic Mitigation Technique for DSTATCOM using Continuous Time LMS Adaptive Filter," **in Proc. 3rd IEEE Uttar Pradesh Section International Conference on Electrical, Computer and Electronics (UPCON), 2016, pp. 1-8.**
- [102] Ashish Patel, **Sabha Raj Arya** and Anjana Jain, "Variable step learning based control algorithm for power quality in PMSG based power generation system," **in Proc. IEEE Power India Conference (PIICON), 2016, pp. 1-7.**
- [103] Parlee Doley, Sanjay K Patel and **Sabha Raj Arya**, "Control algorithm based on amplitude adaptive filter for DSTATCOM," **in Proc. IEEE Power India Conference (PIICON), 2016, pp.1-7.**
- [104] J.Bangarraju, V. Rajagopal, Sabha Raj Arya, B. Subhash and V. Nagamalleswari, "Control of DVR Using SPLL Strategy in Distribution System" **in Proc. IEEE Power India Conference (PIICON), 2016, pp. 1-6.**
- [105] Ashish Kumar Patel and **Sabha Raj Arya**, "Distributed power generation system using PMSG with power quality features," **in Proc. International Conference on Next Generation Intelligent Systems, 2016, pp. 1-7.**
- [106] Krishan Kant, **Sabha Raj Arya** and Bhim Singh, "A current sensorless control algorithm of DSTATCOM for power quality improvement," **in Proc. of Annual IEEE India Conference (INDICON), 2015, pp.1-6.**
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- [108] Sabha Raj Arya, Krishan Kant, Ram Niwas, Bhim Singh, Ambrish Chandra and Kamal Al-Haddad“ Power quality improvement in isolated distributed generation system using DSTATCOM,”*in Proc. of IEEE Industry Applications Society Annual Meeting (IAS)*, 2014, pp.1-8.
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- [114] Bhim Singh, Sunil kumar, Sabha Raj Arya, Ambrish Chandra and Kamal Al-Haddad, “A comparative study of adaptive control algorithm in distribution static compensator,”*in Proc. of 39th Annual Conference on IEEE Industrial Electronics Society*, 2013, pp. 1-6.
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- [119] **Sabha Raj Arya**, Bhim Singh, Ambrish Chandra, and Kamal Al-Haddad“Control of DSTATCOM using adjustable step least mean square control algorithm,”*in Proc. of IEEE Fifth Power India Conference*, Dec.2012, pp.1-6.
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- [126] Bhim Singh, **Sabha Raj Arya**, Chinmay Jain, Sagar Goel, Ambrish Chandra and Kamal Al-Haddad "Application of voltage source converter for power quality improvement," *in Proc. of National system Conference, IIT Jodhpur*, 2013, pp.1-6.
- [127] Bhim Singh and **Sabha Raj Arya**, "A New Isolated Topology of DSTATCOM with Unipolar Switching," *in Proc. of National Power System Conference, 2012*, IIT-BHU Varanasi, pp.1-6.
- [128] Bhim Singh and **Sabha Raj Arya**, "Design and control of DSTATCOM for power quality improvement using cross correlation function approach," *in Proc. of National Electrical Engineering Conference*, 2011, KNIT Sultanpur, pp.1-8.
- [129] **Sabha Raj Arya** and Bhim Singh "MWLSE control algorithm of DSTATCOM for power quality improvement," *in Proc. of National Electrical Engineering Conference (NEEC-2011) on Power and Energy Systems for Tomorrow*, 2011, DTU Delhi, pp.1-6.
- [130] M.R. Dhandhara and **S.R. Arya**, "Design, and Analysis of Border line Current Control Technique for Input Power Factor Correction," *in Proc. of National Conference on Recent Advances in Electrical Engineering*, Dec. 26th and 27th 2008, J.N.T.U. college of Engg. Anantpur.
- [131] M.R. Dhandhara and **S.R. Arya**, "Design, analysis and implementation of input power factor correction technique in uncontrolled rectifier system," *in Proc. of National Conference on Recent Advances in Electrical Engineering*, Dec. 26th and 27th 2008, J.N.T.U. college of Engg. Anantpur.

- [132] **Sabha Raj Arya** and Rakesh Maurya, "Analysis of chopper fed D.C. Drive with PWM and hysteresis current control scheme," *in Proc. of 31st National Systems Conference*, P-133, 2007.
- [133] Rakesh Maurya, **S.R.Arya** and S.P.Srivastava, "Analysis of grid connected power converter for variable speed wind energy conversion," *in Proc. of 31st National Systems Conference*, p-147, 2007.
- [134] **Sabha Raj Arya** and P.Samuel, "Harmonic power flow analysis and suppression of harmonics using harmonic filter," *in Proc. of National Conference on Soft Computing and Machine*, C.O.B. Bhubaneswar, 24th to 26th march 2006.
- [135] Biswajit Nayak and S. R. Arya, "Analysis of chopper fed DC drive with PID and Fuzzy logic controller," *in Proc. of National Conference on Soft Computing and Machine*, C.O.B. Bhubaneswar, 24th to 26th march 2006.

(iii) Publication as Book Chapters =03

- [136] **Sabha Raj Arya** and Sayed Javed Alam, "Phase Lock Loops For UPQC In Distribution system along with optimized PI-Controller Gains," Accepted Book Chapter in **Nova Science Publishers, Inc, NY:11788-3619, USA**
- [137] Bhim Singh, **Sabha Raj Arya**, Chinmay Jain, Sagar Goel, Ambrish Chandra and Kamal Al-Haddad, "Application of voltage source converter for power quality improvement," *Lecture Notes in Electrical Engineering*, vol. 327, Chapter 29, pp.335-346, Springer India, New Delhi.
- [138] Ashutosh K Giri, **Sabha Raj Arya**, Rakesh Maurya and Papia Ray, "Performance of Control Algorithms in Wind-Based Distributed Generation System with Power Quality Features: A Review," *Microgrid: Operation, Control, Monitoring and Protection*, Lect. Notes Electrical Eng., Vol. 625, Papia Ray and Monalisa Biswal (Eds), chapter-3, **Springer Nature Singapore Pvt. Ltd. 2020**

**(iv) Communicated in International/National Journals/
Conference = 10**

- [1] Prashant Kumar, **Sabha Raj Arya**, Khyati D Mistry and Shekhar Yadav, "A Self-Tuning ANFIS DC Link and ANN-LM Controller based DVR for Power Quality Enhancement Application," **Communicated to *Electrical Power and System Components***.
- [2] Talada Appala Naidu, **Sabha Raj Arya** and Rakesh Maurya "Compensation of Voltage based Power Quality in Problems using Forward Backward LMS Control Algorithm in DVR" **Communicated IEEE journal of Emerging and Selected Topics in Power Electronics**.
- [3] **Sabha Raj Arya**, Rakesh Maurya and Jayadeep Srikakolapu, "Compensation of Power Quality Problems through DSTATCOM using various Phase Locked Loops," **Communicated to Journal of Electrical Engineering**.
- [4] Sayed Javed Alam, **Sabha Raj Arya** and Rajasekharareddy Chilipi, "Adaptive Filtering for Power Quality Features with Optimized PI Gains in Four Wires UPQC" **International Journal of Emerging Electric Power Systems (IJEEPS)**
- [5] Jayadeep Srikakolapu, **Sabha Raj Arya** and Rakesh Maurya "DSTATCOM with Variable Step Size Normalized Least Mean Square Algorithm and Optimized PI Gains" **Communicated to CSEE Journal of Power and Energy Systems**
- [6] Jayadeep Srikakolapu, **Sabha Raj Arya** and Rakesh Maurya "Robust Iteration Dependent Least Mean Square based Distribution Static Compensator using Optimized PI Gains" **Communicated to IEEE Chinese Journal of Electrical Engineering**
- [7] Prashant Kumar, ***Sabha Raj Arya** and Khyati D Mistry, "Optimized Neural Network and Adaptive Neuro-Fuzzy Controlled Dynamic Voltage Restorer for

Power Quality Performance,” **Communicated to International Journal of Emerging Electric Power Systems (IJEEPS)**

- [8] Prashant Kumar, **Sabha Raj Arya** and Khyati D Mistry, “Control of DVR using GRNN Machine Learning Based on Self-Tuning in Distribution Network,” **Communicated to IEEE Journal of Emerging and Selected Topics in Power Electronics**
- [9] Sayed Javed Alam, **Sabha Raj Arya** and B.Chitti Babu, “Control Algorithm of UPQC-S for Power Quality in Distribution System,”**Communicated to Journal of Electrical Power and System Components.**
- [10] Prashant Kumar, **Sabha Raj Arya**, Khyati D Mistry and Ashutosh K. Giri, “Hybrid Self-Learning Controller for Restoration of Voltage Power Quality using Optimized Multilayer Neural Network,”**Communicated to International Journal of Circuit Theory and Applications after revision**

13 Conference/Seminars/Short term course Attended

| Sr. No. | Conference /Seminars | Organized By | Sponsor | During | Day | Weeks |
|---------|--|--|---------|--------------------|-----|-------|
| 1 | Short term course on Modern Optimization Technique in Power system | University College of Engineering Burla (Orissa) | - | Dec.,19-31, 2005 | 12 | 2 |
| 2 | Testing in Electrical Engg. | SVNIT –Surat | - | January, 3-5 2007 | 3 | - |
| 3 | National workshop on Power Electronics | IIT- Bombay | | September,6-7 2007 | 2 | - |
| 4 | Short term course on VLSI And Embedded System | Cental Institute of Tool design , Hyderabad (A.P.) | | Dec17-22, 2007 | 5 | 1 |
| 5 | Short term course on Electric power quality: monitoring, analysis and | IIT Kanpur | | April 07-11 ,2008 | 5 | 1 |

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|----|--|------------------------|---|---|---|---|
| | mitigation | | | | | |
| 6 | Staff training program infrastructural and curricular development of electrical drives laboratory | N.I.T. Warangal (A.P.) | - | September-24-26, 2008 | 3 | - |
| 7 | Short term course on Application of mathematical sciences and soft computing | SVNIT | - | Dec, 8-12, 2008 | 5 | 1 |
| 8 | Short term course on Advance Engineering Optimization Through Intelligent Techniques | SVNIT | - | Dec, 14-18, 2009 | 5 | 1 |
| 9 | Participation certificate Tutorials PEDES2010 | IIT Delhi | | 20 th Dec 2010 | 1 | 0 |
| 10 | Short term course on Building Integrated Photovoltaic Thermal System | IIT Delhi | | Feb., 8-14, 2011 | 7 | 1 |
| 11 | Short term course on Research Methodology and Intellectual Property Rights (IPR) | EQUATE | - | Feb.,4-7, 2014 | 5 | 1 |
| 12 | Short term course on Application of Evolutionary Computation Techniques on Power System | SVNIT | - | July, 14-18, 2014 | 5 | 1 |
| 13 | Short term course on Mathematical Modeling in Science and Engineering | SVNIT | - | June,23-27, 2014 | 5 | 1 |
| 14 | Short term course on Power Electronics Applications for Renewable Integration | IITK | | 30 th March,30 to April, 1, 2015 | 3 | - |
| 15 | Short term course on Advance Power | MANIT – | | 3 rd to 7 th Jan | 5 | 1 |

| | | | | | | |
|----|--|------------------|--|---|---|---|
| | Electronics and Electrical Drives | Bhopal | | 2016 | | |
| 16 | Short term course on Mathematical Modeling, Optimization, Fractional Calculus and their Computations in Engg. and Science | SVNIT – Surat | | 21 st -25 th June 2016 | 5 | 1 |

14 Supervision of M. Tech students in the area of Power Electronics

(A) Total number of student supervised up to 2020 = 17

| Sr. No. | Thesis title | Year |
|---------|--|------|
| 1 | Simulation study of Field oriented Control of Induction Motor Drives | 2020 |
| 2 | Design and Implementation of Solar fed Single-Input Multi-Output DC-DC Converters | 2019 |
| 3 | Design and Implementation Power Converters for Electric Vehicles | 2019 |
| 4 | Distribution Static Compensator and its application in Distributed Power Generation | 2018 |
| 5 | Wireless Charging System for an Electric Vehicle Battery Charging | 2018 |
| 6 | Fuel Cell based DPG System | 2017 |
| 7 | Solar Based power generation system with Power Quality | 2017 |
| 8 | Single phase SEIG with Power Quality Features | 2017 |
| 9 | Power Generation System using Permanent Magnet Synchronous Generator with Power Quality Features | 2016 |
| 10 | Design and Control of Shunt Connected Custom Power Devices | 2016 |
| 11 | Design and implementation of shunt and series connected custom power devices | 2015 |
| 12 | Solar system with power quality features and its application in water pumping | 2015 |
| 13 | Analysis of load performance and power quality improvement in | 2010 |

| | | |
|----|--|------|
| | inverter fed induction fed induction motor drives | |
| 14 | Design and analysis of input power factor correction converters for low and medium power application in AC/DC converters | 2009 |
| 15 | Design and analysis of input power factor correction technique in uncontrolled rectifier system | 2008 |
| 16 | Design and Analysis Chopper Fed DC drives | 2006 |
| 17 | Design and analysis of single phase full bridge SPWM inverter | 2006 |

(B) Number of M. Tech student supervision ongoing (2020-2021) = 01

15 Supervision of Ph D. students in the area of Power Electronics/ Electrical Power Quality

(i) Number of Ph. D student supervision ongoing up to 2020 = 14+ 05 (Completed)

| Sr. No. | Name of student/ research scholar | Topic/ Research Area | Year of registration | Guide/ Co-Guide |
|---------|---------------------------------------|--|------------------------------------|----------------------|
| (1) | Sanjay Kumar Patel (D14EL002) | Control Algorithms for DSTATCOM to Mitigate Power Quality Problems | 2014-2018 (Completed) | as a Principal Guide |
| (2) | B. R. Ananthapadmanabha (D14EL009) | Improved Power Quality Converters for Electric Vehicle Battery Charging | 2014-2019 (Completed) | as a Co-Guide |
| (3) | Ashutosh Giri (D16EL006) | Control Algorithms for Power Quality Improvement in Wind based Distributed Power Generation System | 2016-2019 (QIP) (completed) | as a Principal Guide |
| (4) | T A Naidu (DS16EL001) | Control Algorithms for Dynamic Voltage Restorer to Mitigate Voltage based Power Quality Problems | 2017-2019 (JRF) (completed) | as a Principal Guide |

| | | | | |
|------|--|--|--|---------------------------------|
| (5) | Aliva Routray (DS16EL002) | Solar and Wind energy driven Distributed Generation interface for loss minimization in Radial Distribution System | 2017-2021 (Submitted) | as a Co-Guide |
| (6) | Alam Sayed Javed | Design and control of UPQC | 2017 (Under Progress) | as a Guide |
| (7) | Jayadeep Srikakolapu Manikyala Rao | DSTATCOM and its Application in DG system | 2017 (Under Progress) | as a Principal Guide |
| (8) | Jyoti Gupta | Battery charging and discharging system | 2018 (Under Progress) | as a Co-Guide |
| (9) | Bindra Dawar | Wind based Distributed Power Generation System | 2018 (QIP) | as a Guide |
| (10) | Hardik Pandya | Power Electronics and Power Quality | 2019 (PEC) (Under Progress) | as a Guide |
| (11) | Hareesh K. Kairumkonda | Power Electronics and Power Quality | 2019 (PEC) | as a Guide |
| (12) | Vamireddy Malleswari | DVR control | 2019 (PEC) | as a Guide |
| (13) | Prashant Kumar | Design and control of DVR using Soft computing | 2019 | as a Principal Guide |
| (14) | Riucha Dubey | Control of Induction Motor Drives | 2019 (PEC) | as a Co-Guide |
| (15) | Nitesh Tiwari (from MMMUT Gorakhpur-U.P) | Electric Vehicles | 2019 | as a Co-Guide |
| (16) | Chinmay V. Deshpande | Adaptive control of DVR | 2020 | as a Co-Guide |
| (17) | Pudari Mahesh | Induction Motor Drives | 2020 | as a Guide |

| | | | | |
|------|---------------------|----------------------|------|------------|
| (18) | Tathe Vishal Laxman | AC micro-grid System | 2021 | as a Guide |
| (19) | Chaitanya Deshpande | DC micro-grid System | 2021 | as a Guide |

16 Reviewer for the Journals

IEEE Transactions on Industrial Electronics

IEEE Transactions on Power Electronics

IET Power Electronics

International Transactions on Electrical Energy Systems

IEEE Journal of Emerging and Selected Topics in Power Electronics

Journal of Electric Power Components and Systems

Journal of Electric Power System Research

Place – Surat (India)

Date: 05-04-2021

Dr. Sabha Raj Arya