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**Date of Joining** 01/12/2006  
**Department** Electrical Engineering  
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**Research Areas** Power Quality- Filters, Custom Power  
 Electronics Converters for Power  
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### Qualifications

Degree	Year	Specialization	Name of Institute
B. E./B. Tech.	2002	Electrical Engg.	Govt. Engg. College Jabalpur
M.E./M. Tech.	2004	Power Electronics and ASIC design	MNNIT Allahabad
Ph. D. (Submitted)	Nov. 2013 (2010-2013)	(Control Algorithms and configurations of DSTATCOM )	EED, I.I.T Delhi

### List of Publications

#### International Journals

Sr. No.	Paper
1	Bhim Singh and Sabha Raj Arya “Design and control of a DSTATCOM for power quality improvement using cross correlation function approach,” <i>International Journal of Engineering, Science and Technology</i> , vol. 4, no. 1, pp. 74-86, 2012.
2	Bhim Singh, G Bhubaneswari and Sabha Raj Arya “Review on power quality solution technology,” <i>Asian Power Electronics Journal</i> , vol. 6, no.2, pp.19-27, 2012.
3	Bhim Singh and Sabha Raj Arya“Implementation of single-phase enhanced phase-locked loop-based control algorithm for three-phase DSTATCOM,” <i>IEEE Transactions on Power Delivery</i> , vol. 28, no. 3, pp.1516-1524, July 2013.
4	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.
- 5 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.
- 6 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.
- 7 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.
- 8 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.
- 9 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.
- 10 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.1735.
- 11 Bhim Singh and Sabha Raj Arya "Neural Network based conductance estimation control algorithm for shunt compensation," *IEEE Transactions on Industrial Informatics*, vol.10, no.1, pp.569-577, Feb.2014.
- 12 Bhim Singh and Sabha Raj Arya"Adaptive control of four-leg VSC based DSTATCOM in distribution system,"accepted for publication in *International Journal of Emerging Electric Power Systems*.
- 13 Bhim Singh, Sabha Raj Arya and Chinmay Jain "Simple Peak Detection Control Algorithm of DSTATCOM For Power Quality Improvement,"accepted for publication in *IET power Electronics*.
- 14 Bhim Singh, Sabha Raj Arya, Chinmay Jain and Sagar Goel "Implementation of Four Leg Distribution Static Compensator,"accepted for publication in *IET Generation, Transmission and Distribution*.

### International Conferences

Sr. No.	Paper	Presented at	During
1	Sabha Raj Arya, and Bhim Singh, "Kurtosis driven variable learning adaptive filter for suppression of power quality problems, <i>Accepted for publication in INDICON 2013</i> , IIT Mumbai.	IIT Mumbai	Dec 2013
2	Bhim Singh, Sunil kumar, Sabha Raj Arya, Ambrish	Vienna Austria	Nov

	Chandra and Kamal Al-Haddad , “An improved control algorithm of DSTATCOM for power quality improvement,” <i>in Proc. of 39th Annual Conference on IEEE Industrial Electronics Society</i> , pp. 1-6, 2013.		2013
3	Bhim Singh, Sabha Raj Arya “Adaptive control of four-leg VSC based DSTATCOM in distribution system,” <i>in Proc. of 5<sup>th</sup> International Conference on Computer Applications in Electrical Engineering (CERA)</i> , 2013, pp.1-5.	IIT Roorkee	Oct 2013
4	Bhim Singh, Sabha Raj Arya, Chinmay Jain and Sagar Goel“Multifunction capabilities of DSTATCOM in distribution system using four-leg voltage source converter,” <i>in Proc. of 5<sup>th</sup> International Conference on Power and Energy Systems</i> , 2013, pp1-9.	Kathmandu Nepal	Oct 2013
5	Bhim Singh, Sabha Raj Arya, Sunil Kumar, Ambrish Chandra and Kamal Al-Haddad “Implementation of DSTATCOM using neural network based radial basis function,” <i>in Proc. of IEEE Industry Applications Society Annual Meeting (IAS)</i> , 2013, pp.1-8	Orlando, Florida, USA	Oct 2013
6	Bhim Singh, Sabha Raj Arya, Ambrish Chandra and Kamal Al-Haddad “Variable step learning control algorithm for VSC Based Shunt,” <i>in Proc. of IEEE 4<sup>th</sup> International Symposium on Power Electronics for Distributed Generation Systems</i> , Rogers, Arkansas 2013, pp.1-6.	Rogers, Arkansas USA	July 2013
7	Bhim Singh, Sabha Raj Arya, Ambrish Chandra and Kamal Al-Haddad“Implementation of adaptive filter based control algorithm for distribution static compensator,” <i>in Proc. of Annual IAS meeting</i> , pp.1-8, 2012.	Lasvegas (USA)	Oct. 2012
8	Sabha Raj Arya, Bhim Singh, Ambrish Chandra, and Kamal Al-Haddad,“Control of shunt custom power device based on anti-hebbian learning algorithm,” <i>in Proc. of 38th Annual Conference on IEEE Industrial Electronics Society</i> , pp.1246-1251,2012.	Montréal Canada	Oct. 2012
9	Sabha Raj Arya, and Bhim Singh,“CTF control algorithm of DSTATCOM for power factor correction and zero voltage regulation,” <i>in Proc. of IEEE Third International Conference on Sustainable Energy Technologies</i> , pp. 157-162, 2012.	Kathmandu (Nepal)	Sept. 2012
10	Bhim Singh and Sabha Raj Arya,“Admittance Based Control Algorithm for Three-Phase Four-Wire DSTATCOM System,” <i>in Proc. of 2012 2nd International Conference on Power, Control and Embedded Systems</i> , pp.450-457,2012.	Allahabad	Dec. 2012
11	Sabha Raj Arya, Bhim Singh, Ambrish Chandra, and Kamal Al-Haddad,“Control of DSTATCOM using adjustable step least mean square control algorithm,” <i>in Proc. of IEEE Power India Conference</i> , pp.1-6,2012	Murthal	Dec. 2012
12	Sabha Raj Arya, Bhim Singh, Ambrish Chandra, and Kamal	Bengaluru	Dec.

- Al-Haddad, "Power factor correction and zero voltage regulation in distribution system using DSTATCOM," in *Proc. of 2012 IEEE International Conference on Power Electronics, Drives and Energy Systems*, December 16-19, 2012, pp.1-6 2012
- 13 Bhim Singh and Sabha Raj Arya, "Software PLL based control algorithm for power quality improvement in distribution system," in *Proc. of IICPE 2012*. Delhi Dec. 2012
- 14 M.R. Dhandhara, Sabha Raj Arya "Comparison between Peak current & Hysteresis current control input power factor correction techniques in rectifier system," *Proceedings of the international conference on Control, Automation, Communication and Energy conversion*, vol.-2, pp. 816-823, K.E.C., Perundurai, Erode, Tamilnadu Erode June 2012

#### National Conferences

Sr. No.	Paper	Presented at	During
1	Bhim Singh, Sabha Raj Arya, Chinmay Jain, Sagar Goel, Ambrish Chandra and Kamal Al-Haddad "Application of voltage source converter for power quality improvement," Accepted for publication in <i>National system Conference</i> , IIT Jodhpur.	IIT Jodhpur	Dec 2013
2	Bhim Singh and Sabha Raj Arya, "A new isolated topology of DSTATCOM with Unipolar Switching," in <i>Proc. of National Power System Conference</i> , pp.1-6, 2012.	BHU, IIT Varanasi	Dec 2012
3	Sabha Raj Arya and Bhim Singh, "MWLSE control algorithm of a DSTATCOM for power quality improvement," in <i>Proc. of National Electrical Engineering Conference (NEEC-2011) on Power and Energy Systems for Tomorrow</i> , pp.1-6, DTU, 2011.	DTU, Delhi	Dec 2011
4	Bhim Singh and Sabha Raj Arya, "Design and Control of a DSTATCOM for power quality improvement using cross correction function approach," in <i>Proc. of ETEEE</i> , PP.1-8, 2011.	KNIT Sultanpur	Nov 2011
5	M.R. Dhandhara and S.R. Arya, "Design, and Analysis of Border line Current Control Technique for Input Power Factor Correction," <i>Proceeding of the National Conference on Recent Advances in Electrical Engineering EAR</i> , Dec. 26 <sup>th</sup> & 27 <sup>th</sup> 2008, J.N.T.U. college of Engg. Anantpur.A.P	Anantpur.A.P	Dec 2008
6	M.R. Dhandhara and S.R. Arya, "Design, Analysis and Implementation Of Input Power Factor Correction Technique	Anantpur.A.P	Dec 2008

- in Uncontrolled Rectifier System,”*Proceeding of the National Conference on Recent Advances in Electrical Engineering EAR*, Dec.26<sup>th</sup> &27<sup>th</sup> 2008, J.N.T.U. college of Engg. Anantpur.A.P
- 7 Sabha Raj Arya and Rakesh Maurya,“Analysis of Chopper Fed D.C. Drive with pwm and Hysteresis Current Control Scheme,”*31<sup>st</sup> National Systems Conference*, P-133, M.I.T. Manipal , 2007 Manipal Dec 2007
- 8 RakeshMaurya, S.R.Arya and S.P.Srivastava, “Analysis of Grid Connected Power Converter for Variable Speed Wind EnergyConversion,”*31<sup>st</sup> National Systems Conference*, p-147, M.I.T. Manipal, 2007 Manipal Dec 2007
- 9 Sabha Raj Arya and P.Samuel, “Harmonic Power Flow Analysis And suppression of Harmonics Using Harmonic filter,” *Proceedings of the National Conference on Soft Computing and Machine*, C.O.B. Bhubaneswar ,24<sup>th</sup> to 26<sup>th</sup> march 2006 C.O.B. Bhubaneswar March 2006
- 10 Biswajit Nayak, S. R. Arya,“Analysis of chopper fed DC drive with PID and Fuzzy logic controller,”*Proceedings of the National Conference on Soft Computing and Machine*, C.O.B. Bhubaneswar ,24<sup>th</sup> to 26<sup>th</sup> march 2006 . C.O.B. Bhubaneswar March 2006

### Conference/Seminars Attended

Sr. No.	Conference /Seminars	Organized By	Sponsor	During	Day	Week s
1.	Short term course on <b>Modern Optimization Technique in Power system</b>	University College of Engineering Burla (Orissa)	-	19-31 Dec.-2005	12	2
2.	<b>Testing in Electrical Engg</b>	SVNIT –Surat	-	3 <sup>rd</sup> -5 <sup>th</sup> January 2007	3	-
3.	National workshop on <b>Power Electronics</b>	IIT- Bombay	-	6-7 <sup>th</sup> september2007	2	-
4.	Short term course on <b>VLSI And Embedded System</b>	Cental Institute of Tool design , Hyderabad (A.P.)	-	Dec17-22, 2007	5	1
5.	Short term course on <b>Electric power quality: monitoring, analysis and mitigation</b>	IIT Kanpur	-	April 07-11 ,2008	5	1
6.	Staff training program <b>infrastructural and curricular development of</b>	N.I.T. Warangal (A.P.)	-	24-26 <sup>th</sup> September 2008	3	-

	<b>electrical drives laboratory</b>				
7.	Participation certificate <b>Tutorials PEDES2010</b>	IIT Delhi	20 <sup>th</sup> Dec 2010	1	0
8.	Short term course on <b>Building Integrated Photovoltaic Thermal System</b>	IIT Delhi	8-14 <sup>th</sup> Feb 2011	7	1

### **Membership of professional bodies**

the IE, the IEEE and the SSI

### **Reviewer for the Journals**

IEEE Transaction on Industrial 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

### **Present Administrative Duties**

Warden-in-Charge, Bhabha Bhavan, SVNIT Surat

Co- in-Charge Power Electronics Lab. and Drives Lab., SVNIT Surat