Dr. Sri Niwas Singh

JN Gupta and MD Gupta Chair Professor

Department of Electrical Engineering, Indian Institute of Technology, Kanpur (UP) - 208016, INDIA Tel: +91-512-2597009, Fax: +91-512-2590063 Email: snsingh@iitk.ac.in

Educational Qualifications

- Ph.D. Electrical (Power Systems), 1995, Indian Institute of Technology, Kanpur (India). *Topic: Voltage Security and Loss Minimization Studies in Electric Power Systems*.
- M. Tech. Electrical (Power Systems), 1989, Indian Institute of Technology, Kanpur (India). Cumulative Performance Index (CPI) 10.0/10.0. Got First Rank in M. Tech. (Power Systems).
 Topic: Performance Study of GTO Inverter in HVDC Link
- B. Tech. Electrical Engineering, 1987, Kamla Nehru Institute of Technology Sultanpur, India. Marks obtained 82.87 %. Got 2nd rank in the Class of 30.

Duration	Organization	Position
Aug. 8, 1988-	U.P. State Electricity Board, Lucknow	Assistant Engineer, Planning
July 1995	(UP), India	
July 1995 –	U.P. State Electricity Board, Lucknow	Assistant Engineer, Operation
June 13 1996	(UP), India	
June 14,1996 -	University of Roorkee, India	Assistant Professor
Jan. 1, 2001		
May 1997 –	Asian Institute of Technology,	Post Doctoral Fellow
Aug. 1997	Thailand	
Dec. 18, 1998-	H.K. Polytechnic University, Hong	Research Fellow
March 31, 2000	Kong	
Jan. 2, 2001 -	Asian Institute of Technology,	Assistant Professor
April 4, 2002	Thailand	
April 5, 2002 –	Indian Institute of Technology,	Associate Professor
Feb. 7, 2008	Kanpur, India	
June,05-Dec,05 +	University of Duisburg-Essen,	Humboldt Research Fellow
Dec 06-June 07	Germany	
July 2, 2009 to	Denmark Technical University,	Visiting Professor
June 30, 2010	Lyngby, Denmark	
Feb. 8, 2008 –	Indian Institute of Technology,	Professor
To Date	Kanpur, India	

Professional Experiences (See Annexure - A)

Research Interests

- Power System Restructuring /Deregulation
- HVDC Transmission & FACTS Technology
- Wind and Solar Power
- Power System Dynamics, Operation and Control
- Distributed Generation and Smart Grid
- AI Application in Power Systems.

Publications (See Annexure - B)

Refereed Journals	: 160
Conferences/ Seminars etc	: 202
Discussions/Short papers	: 12
Invited Papers/Lectures	: 12
Technical Reports	: 25
Papers Communicated	: 6

<u>Citation (Up to 11.08.2015)</u>

Citation indices	All	Since 2010
Citations	4503	3273
h-index	34	30
i10-index	107	81

Books, Book Chapters & Monograph

Book:

- * *Electric Power Generation, Transmission and Distribution*, Prentice Hall of India, (ISBN-978-81-203-3650-8), (First Edison: 2003, 2nd Edison: 2008).
- * *Basic Electrical Engineering*, PHI Learning Pvt Ltd, India, (ISBN-978-81-203-4188-3), 2011.
- * Operation And Management of Power System In Electricity Market, Narosa, India, 2010 (in progress).

Book Chapters:

- * B. Singh, S.N. Singh and E. Kyriakides, Intelligent Control of Power Electronic Systems for Wind Turbine, in Wind Power Systems: Applications of Computational Intelligence (Eds: L. Wang, C. Singh, and A. Kusiak), Springer Book Series on Green Energy and Technology, Springer-Verlag, pp. 255-295.
- * Bharat Singh, S. N. Singh and Lingfeng Wang. *Electric Grid Connections and System Operational Aspects of Wind Power Generation*" in a book entitled "Wind Energy Conversion System: Technology and Trend, *Berlin: Springer-Verlag*, 1-28, *Ed. S. M. Muyeen*, January 2012, ISBN 978-1-4471-2200-5.

- * R. K. Chauhan, Bharat Singh, S. N. Singh and F. M. Gonzalez-Longatt, DC Grid Interconnection for Conversion Losses and Cost Optimization in the book entitled, Renewable Energy Integration: Challenges and Solutions, Springer-Verlag (2014), pp. 327-346
- * Trapti Jain, Sri Niwas Singh and SC Srivastava, STATCOM Application for Enhancement of Available Power Transfer Capability in Transmission Networks in a book titled "Static Compensators in Power Systems" Springer Science + Business Media Singapore Pte Ltd (2014). Editors: Farhad Shahnia, Sumedha Rajakaruna and Arindam Ghosh.
- * P Pavani and SN Singh, *Reliability Evaluation of Distribution System with Network Reconfiguration and Distributed Generations*, in the book entitled, **Reliable and Sustainable Electric Power and Energy Systems Management**, Springer-Verlag (2015). Editors: Ajit Kumar Verma, Rajesh Karki, Jaeseok Choi.

Monograms:

- * Power System Operation and Control in Restructured Environment, QIP India, 2003.
- * Electric Power Distribution: Reforms, Automation and Management, CDTE, IITK, 2004.
- * Electric Power System Operation and Control: Modern Trends and Future Challenges, QIP, 2006.
- * Electric Power Quality: Monitoring, Analysis and Mitigation, IITK 2008.

Thesis Supervisions

Ph. D.	: 32 (24 completed, 2 submitted, 6 in progress)
M. E./ M. Eng.	: 42 (37 completed, 4 in progress)

Professional Membership

- * *Fellow*, Indian National Academy of Engineering (FNAE)
- * Fellow, The Institution of Engineering and Technology, UK- (FIET)
- * *Fellow* of The Institution of Engineers (India)- (FIE)
- * *Fellow* of The Institution of Electronics and Telecommunication Engineers -(FIETE)
- * Senior Member of The Institution of Electrical and Electronics Engineers- (SMIEEE)
- * *Life Member* of Indian Society of Continuing Education Engineering -(ISCEE)

Awards/Prizes

- 1. Got 2nd Rank in Bachelor of Technology (Electrical), KNIT Sultanpur, India, 1987
- 2. Stood First in M. Tech. (Power Systems) and got Cumulative Performance Index (CPI) 10.0 out of 10.0, IIT Kanpur, India, 1989.
- 3. Received Appreciation letter from the Chairman, U.P. State Electricity Board (India), 1990 for two Research Reports
- 4. Certificate of Merit award for a technical paper entitled *Reactive Power Planning for Secure Operation of Power System*, in the Ist International R&D Conference of CBIP, New Delhi, 9-12 October 1995.
- 5. Received C.B.I.P. Young Engineer Award 1996.
- 6. Khosla Research Award (Commendation) of University of Roorkee, India 1998.
- 7. Received INAE Young Engineer Award 2000.
- 8. Khosla Research Award (Gold) of Roorkee University, India, 2000.
- 9. Appreciation letter from Dean, SERD, AIT Bangkok for excellent services to Energy Program, 2002.
- 10. Humboldt Research Fellowship (2005, 2007)
- 11. Listed in Who's Who in Asia (2006) and Who's Who in World (2007)
- 12. Listed in Who's Who in Science & Engineering (2007)
- 13. 21st Century Award for Achievement by IBC Cambridge, England (2007)
- 14. Listed in Leading Engineers of the World 2007, IBC Cambridge, England (2007)
- 15. First Prize in a technical paper titled *Short-Term Zonal Load Forecasting in PJM Electricity Market Based on Adaptive Wavelet Neural Network*, in the IEEE Sponsored Student paper Contest and Technical Symposium (SPCTS-2007) at DA-IICT, Gandhinagar, 28-30 Sept 2007.
- 16. **Best Paper ward** of 14th International Conference on Intelligent System Application to Power Systems (ISAP07) held during Nov 4-8, 2007, Kaohsiung, Taiwan.
- 17. Otto Mønsteds Fond Award, Denmark (2009)
- 18. **2010 Clayton Griffin Student Paper Award** for SVM based Scheme to Prevent Distance Relay Mal-operation under Power Swing and Voltage Instability"
- 19. Three PhD Theses got **POSOCO Power System Award**, 2012
- 20. 2013 IEEE Educational Activities Board Meritorious Achievement Award in Continuing Education
- 21. Dr PS Nigam Power Sector Award 2013 and 2014 by IE(I), UP State Center
- 22. The Institution of Engineers (I), Certificate of Appreciation, 2013.
- 23. Two PhD Theses and One M.Tech thesis got **POSOCO Power System Award**, 2013
- 24. 2013 IEEE R10 Educational Activities Board Award, 2013
- 25. 2014 IEEE PES Chapter Outstanding Engineer Award.
- 26. Er Hari Mohan Memorial Award 2014 by IE(I), UP State Center
- 27. Emerald Literati Network 2015 Awards for Excellence by Emerald Publication UK.

Conference/Seminar/Course Organized

- * Organizing Secretary of All India Seminar on *Electric Energy System Management Indian Scenario* at IE (I) Roorkee Local Center, 4-5 September 1998.
- * Co-ordinator of Quality Improvement Program Course on Voltage Security and Stability Assessment using Artificial Neural Network at University of Roorkee, 11-25 June 1998 (Co-coordinator: Prof ID Sharma).
- * Organizing Committee Member of International Conference on *Computer Application in Electrical Engineering Recent Advances*, University of Roorkee, September 8-11, 1997.
- * Member Technical Review Committee, 9th National Power System Conference, IIT Kanpur, India, December 1996.
- * Member Technical Review Committee, 10th National Power System Conference, M.S. University, Vadodara, India, October 1998.
- Member Technical Sessions Committee, *National Conference on Biomedical Engineering*, April 21-22, 2000, Roorkee India.
- * Member Technical Review Committee, International Conference on *Computer Application in Electrical Engineering - Recent Advances*, University of Roorkee, February 21-23, 2002.
- * Resource person, workshop on Power System Transient Simulation & Its Applications, 11-14 December 2001, AIT Thailand.
- * Organizing committee member, Organization of the electric supply industry to enhance development, AIT Thailand, Feb. 8-9, 2002.
- * Coordinator of Quality Improvement Program Course on *Electric Power System Operation and Management under Restructured Environment* at IIT Kanpur, 21-25 July 2003 (*Co-coordinator: Prof SC Srivastava*).
- * Coordinator of Short-term workshop *Electric Power Distribution: Reforms, Automation* and Management at IIT Kanpur, May 10-14, 2004 (Co-coordinator: Prof SC Srivastava).
- * Coordinator of Quality Improvement Program Course on *Electric Power System Operation and Control: Modern Trends and Future Challenges* at IIT Kanpur, August 28- September 1, 2006 (*Co-coordinator: Prof SC Srivastava*).
- * Coordinator of Short-term Training course On *Recent Practices in Electric Power Distribution* at IIT Kanpur, November 27-29, 2007.
- * Coordinator of DST SERC School on *Power Quality: Monitoring, Analysis and Mitigation* at IIT Kanpur, April 7-11, 2008 (*Co-coordinator: Prof SC Srivastava*).
- * Coordinator of Quality Improvement Program Course on *Flexible AC Transmission Systems Controllers and Their Applications in Emerging Power Systems* at IIT Kanpur, March 23-27, 2009.
- * Coordinator of Quality Improvement Program Course on *Intelligent System Applications* to the Smart Electric Grid Solutions at IIT Kanpur, November 15-19, 2010.
- * Coordinator of Quality Improvement Program Course on *Operation and Management of Emerging Power Systems* at IIT Kanpur, November 21-25, 2011.
- * Coordinator of Training of Trainers of Partner Institutes on *Distribution Equipments: Technology and Applications* at IIT Kanpur, June 28, 2012.
- * Coordinator of Quality Improvement Program Course on *Power Market: Economics and Management*, at IIT Kanpur, October 29- November 2, 2012 (*Co-coordinator: Dr Vimal Kumar*).
- * Coordinator, of Quality Improvement Program Course on *Power System Economics* at IIT Kanpur, July 26-30, 2013 (*Co-coordinator: Dr Vimal Kumar*).

- * Coordinator, of Course on *Power Market & Economics* at IIT Kanpur, May 15-18, 2014 (*Co-coordinator: Dr Vimal Kumar*).
- * Main Resource Person of course on Power generation at Ambhabusi, Johannesburg, South Africa, June 9-13, 2014.
- * Coordinator, of Course on *Power Market & Economics* for POSOCO New Delhi at NPTI Faridabad, September 16-20, 2014 (*Co-coordinator: Dr Vimal Kumar*).
- * Coordinator of Quality Improvement Program Course on *Power Generation: Present Status and Future Directions*, at IIT Kanpur, December 1-5, 2014 (*Co-coordinator: Dr J Ramkumar*).
- * Coordinator of National Workshop on *Smart Micro-Grids for autonomous Zero-Net Energy Buildings*, at IIT Mandi, December 11-12, 2014 (*Co-coordinator: Dr Bharat Singh Rajpurohit*).
- * General Chair, International Conference on Energy, Economics & Environment, March 26-28, 2015 at GCET, Greater Noida India (Ist UP CON).
- * General Chair, International Conference on Advances in Computing and Communication Engineering, May1-2, 2015 at Tula's Institute Dehradun.
- * Coordinator, of Course on *Power System Economics and International Practices in Power Market Operation* for POSOCO New Delhi at PSTI Bangalore, May 11-15, 2015 (*Co-coordinator: Dr Vimal Kumar*).
- * Main Resource Person of course on *Power Generation* at Ambhabusi, Johannesburg, South Africa, August 24-28, 2015.
- * Coordinator, of Course on *Ancillary Services and Electricity Markets* for POSOCO New Delhi at IIT Kanpur, September 7-10, 2015.
- * Main Resource Person of course on 4 Day Mini-MBA in Power, Electricity & Industry Infrastructure, Abuja, Nigeria, October 17-20, 2015.
- * General Chair, IEEE Uttar Pradesh Section Conference on *Electrical, Computer & Electronics,* December 4-6, 2015 at IIIT Allahabad, India (2nd UP CON 2015).
- * General Chair, 'First International Conference on *Computing, Communication and Security* (ICCCS- 2015), Mauritius on Dec 4-5, 2015.

Personal Information

Father's Name (Shri)	:	Janak Raj Singh
Sex (Status)	:	Male (Married)
Nationality	:	Indian
Permanent Address	:	S/o Sri Janak Raj Singh Vill & P.O Kurmauta - Manjharia Distt Kushinagar (UP) - 274402, India

Name & Address of Referees

- Prof. S.C. Srivastava, Department of Electrical Engineering Indian Institute of Technology, Kanpur – 208 016, India Email: <u>scs@iitk.ac.in</u> Tel: +91 512 597625 (O)/591259, Fax: +91 512 590063/590007
- Dr. D. P. Kothari, FNAE, FNASc, Fellow-IEEE, Hon Fellow ISTE Director – Research, MVSR Engineering College, Hyderabad Nadergul (P.O), Hyderabad - 501510 Ph.no:-919885920361/7207457011/9993546078 Email to: <u>dpk0710@yahoo.com</u> <u>dpkvits@gmail.com</u>
- Prof F.S. Wen

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- Prof. D. Thukaram
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 Email: <u>dtram@ee.iisc.ernet.in</u>, <u>dtram_2001@yahoo.com</u>

Annexure-A

Work Experience

* <u>RESEARCH EXPERIENCE</u>

Worked as **Research Fellow** in the *Department of Electrical Engineering* at **Hong Kong Polytechnic University, Hong Kong** from 20.12.98 to 31.3.2000 on the problem of Dynamic security constrained congestion management of open access transmission systems in competitive power market. This is one the current area of Power Systems. Suitable location of FACTS devices in open power market has also been developed for congestion management.

Worked as **Post Doctoral Fellow** in Energy Program at *Asian Institute of Technology, Thailand* from *May 1997 to August 1997* on the problem of Assessment of Energy Efficient Options for Mitigating Emissions of Greenhouse Gases from Electricity Sectors funded by Swedish International Development Agency (SIDA). The Special objective of the research was to assess the Supply- and Demand-side options for greenhouse gases mitigation from electricity sectors with Integrated Resource Planning (IRP) Perspective.

Worked as **Humboldt Fellow** at University of Duisburg-Essen, Germany from June 2005 to December 2005 and December 2006 to June 2007 on the problem of impact of wind energy on power system operation and control. The effect of FACTS controllers on Power system loadability is also investigated.

Worked at **Visiting Professor** at Denmark Technical University, Denmark from July 2009 to June 2010 on the problem of real time balancing market in the Denmark with wind power trading and demand response sponsored by EcoGrid-EU and Engerginet.dk.

* TEACHING EXPERIENCE

Working as **Professor** in the Department of Electrical Engineering, *Indian Institute of Technology, Kanpur (UP), India* from **08.02.2008 to date.**

Worked as **Associate Professor** in the Department of Electrical Engineering, *Indian Institute* of *Technology, Kanpur (UP), India* from **05.04.2002 to 07.02.2008.** Received several appreciation letters from Director, IIT Kanpur for the best teaching in various courses

Worked as **Assistant Professor** in Electric Power System Management (Energy Program) at *Asian Institute of Technology, Bangkok, Thailand* from **02.01.2001 to 04.04.2002.** Received appreciation letter from President, AIT for the significant contribution in Energy Program

Worked as Assistant Professor in the Department of Electrical Engineering, *University of Roorkee (UP), India* from 14.06.96 to 01.01.2001. Received Kosala Research Award (Gold, 2000 & Commendation, 1996)

I. Theses Supervision

Ph. D.

- 1. ANN Approach to Voltage Security Assessment (Dr Laxmi Srivastava, MITS Gwalior)
- 2. Design of electricity utility restructuring model for Indian power system (**Dr KG Upadhyay**, *MMMEC Gorakhpur*)
- 3. ATC and Congestion Management in deregulated environment (**Dr Ashwani Kumar**, *NIT Kurukshetra*)
- 4. Development of Nonlinear Adaptive Damping Controllers for Improving Power System Stability (**Dr B Kalyan Kumar**, *IIT Madrad*).
- 5. Development of Market Monitoring System and Swarm Particle Intelligence Based Bidding Strategies in Electricity Market (**Dr Prabodh Bajpai**, *IIT Kharagpur*)
- 6. Enhancement of Power System Performance Using Advanced Unified Power Flow Controllers (**Dr Sudhir K. Srivastava**, *MMMEC Gorakhpur*)
- 7. Loading Sensitivity and Pricing based Indices for Placement of FACTS Controller to enhance Power System Performance (**Dr JG Singh**, *AIT Bangkok*)
- 8. Fast Available Transfer Capability Determination and Its Enhancement using FACTS Controllers (*Dr Trapti Jain*, *IIT Indore*)
- 9. Detection and Localization of Power Quality Events in Noisy Environment and Classification using Support Vector Machines (**Dr U D Dwivedi**, *RGIPT Raibareilly*)
- 10. Frequency Regulation Service and Reactive Power Management in Electricity Markets (**Dr Sanjoy K. Parida**, *IIT Patna*)
- 11. Reactive Power Capability and Performance Analysis of Grid Connected Unified DFIG for Wind Power Applications (*Dr Bharat Singh Rajpurohit, IIT Mandi*)
- 12. Forecasting of Short-Term Load, Operating Reserve & Price and Optimal Generation Portfolio Management in Electricity Markets (**Dr N. M. Pindoriya**, *IIT Gandhinagar*)
- 13. Application of Artificial Intelligence (AI) Tools for Load, Price and Bid Forecasting in Power System (**Dr MM Tripathi**, *DTU Delhi*)
- 14. Development of Adaptive Load Shedding and Distance relaying Scheme utilizing Synchophasor Technology (**Dr Seethalekshmi K.**, *BBDNITM Lucknow, Thesis received POSOCO Award 2013*)
- 15. Synchrophasor Assisted State Estimation and Voltage Stability Monitoring including Optimal PMU Placement (**Dr Ranjana Sodhi**, *IIT Ropar*)
- 16. Real Time Power System Stability and Prediction using Synchrophasor Based Wide Area Monitoring System (**Dr Praveen Tripathy**, *IIT Gowahati*).
- 17. Estimation of Stationary and Time-Varying Harmonics in Emerging Power Systems (**Dr** Sachin K Jain, *IIITDM Jabalpur. Thesis received POSOCO award 2013*).
- Monitoring and Classifications of Power Quality Events in Emerging Power System (Dr D Saxena, MNIT Jaipur, Thesis received POSOCO award 2014)
- 19. Swarm Intelligence Based DG and Capacitor Planning in Distribution Networks (**Dr** Naveen Jain, *COE Udaipur. Thesis received POSOCO award 2013*)
- 20. Development of Strategic Bidding of Supplier and Buyer in Electricity Markets (Dr Arvind K Jain, *RBSF Gwalior, Thesis received POSOCO award 2014*)
- 21. Wind Power Forecasting & Its Applications in Optimal Bidding and Optimal Reactive Power Dispatch of Wind Farms (**Dr Kanna Bhaskar**, *JNTU Hyderabad*, *Thesis received POSOCO award 2015*)
- 22. Generation Companies' Strategic Bidding In Day-Ahead Electricity Markets (**Dr Prerna Jain**, MNIT Jaipur)

- 23. Development of Control Schemes for Power Management and Operation of DC Microgrids (**Dr Mahesh Kumar**, *Thesis received POSOCO award 2015*)
- 24. Economic and Stability Analysis of Optimally Placed Distributed Generations in Distribution Systems (**Dr P Pavani**, IIT Kanpur)
- 25. Performance Analysis and Power Forecasting of Single-Stage Utility Scale Grid Connected PV System (submitted: **Mr Vivek Nandan Lal, IIT BHU**)
- 26. Hybrid State Estimation and Enhanced Monitoring of Power Systems Using Synchrophasors (Submitted: **Mr SK Mallik**)
- 27. (Under progress: Mr Anup Shukla)
- 28. (Under progress: Ms Debasmita Panda)
- 29. (Under progress: Mr DD Sharma)
- 30. (Under progress: Mr KK Tomar)
- 31. (Under progress: Ms Priyanka Gangwar)
- 32. (Under progress: Mr Aasim)

M. Tech.

- 1. Multi-Objective Generation Dispatch (RK Srivastava)
- 2. Determination of Degree of Insecurity of Power System using FLN (HK Katwani)
- 3. Unit Commitment Using Fuzzy Dynamic Programming (Daya Kishan)
- 4. Environmental Constrained Generation Expansion Planning (VP Singh)
- 5. Error Identification and State Estimation in Power Systems (Bijendra Kumar)
- 6. Green House Gas mitigation from Indian Power Sector (Priya Ranjan)
- 7. Integration of GPS/GIS in Electric Power Distribution Automation (M Rajender)
- 8. Design and tuning of power system stabilizer for Kaiga nuclear power plant (S.P Panda)
- 9. Voltage stability assessment & enhancement of Nepal power system (Bishnu P Sapkota)
- 10. Angular stability enhancement of Nepal power system using Stabilizing controllers (Mahendra AC)
- 11. Optimal placement & operation of distributed generators in power systems (G. C. Sethi)
- 12. Optimal bidding strategies in a competitive electricity market using a particle swarm optimization (Punna Shiv Kumar)
- 13. Application of self-organizing map and extended relation function method for power transformer fault diagnosis (Ch. Subhash Chandra)
- 14. Development of Adaptive Supplementary Feedback Controller for GUPFC (Praveen Tripathy)
- 15. Neuro-Fuzzy Based Automatic generation Control in Deregulated Power Systems (K Sudheer)
- 16. Classification of Power Quality Events Using Support Vector Machine (Robin Gupta)
- 17. Recursive DFT and Kalman Filter Application for Fast & Robust Detection and Estimation of Harmonics and Voltage Variations (Chirag Vrshney)
- 18. Dynamic Performance Evaluation of Unified DFIG Architecture for Wind Power Generation (V. Emmoji)
- 19. Compensation of Delay in Networked Control System in Deregulated Automatic Generation Control (Kamala Kant)
- 20. Artificial Intelligence Based Location and Classification of Power Quality Events (Deepti Shakya)
- 21. Wind, Thermal and Hydro Unit Commitment Using Advanced Particle Swarm Optimization (J. Yadagiri)

- 22. Transmission Cost Allocation Using Power Flow Tracing Method (Pratibha Gupta)
- 23. Loss Minimization in Electrical Distribution Systems Through Optimal Network Reconfiguration and Allocation of Distributed Generation (K. Uday Chandrika)
- 24. Modeling and Control of Grid Connected Photovoltaic System Using PSCAD/EMTDC (S Jayachandra Naidu)
- 25. Performance Study of Hybrid Wind-Fuel Cell System Connected to High Voltage Grid (N Nagraj)
- 26. Development of Optimal PMU Placement Strategy and Support Vector Machine based Fault Detection, Classification and Location (P Pavani)
- 27. Distribution System Reconfiguration considering Reliability and Power Loss (Amunah)
- 28. An application of Average and Marginal Participation Methods for Transmission Pricing (Najmul Islam Usmani)
- 29. Identification of Harmonic Sources and Optimal Placement of Filter for Harmonic Mitigation (S Bhowmik)
- 30. Cellular Neural Networks: Applications in Power Systems (Manesh K Meena)
- 31. Low Voltage Ride through Solutions for DFIG Wind Turbine (Amrendra Edpuganti)
- 32. Performance Study on the Techniques for Monitoring the Power System Oscillations (Sriniwas Chaturi)
- 33. Controller Design and Dynamic Analysis of PV System (M Sidhardha, *Thesis received* **POSOCO award 2014**)
- 34. Coherency Based Dynamic Equivalencing of Electric Power System (Shikha Chitora, *Thesis received POSOCO award 2015*)
- 35. Output Power Leveling of DFIG Using Battery Energy Storage System (Satakshi)
- 36. Zero Net Energy House Clusters: Protection and Energy Management (Gaurav Pandey)
- 37. Design and Modeling of VSC-HVDC Transmission System having Wind Farm (Nirjhar Roy)
- 38. Nitin Kumar
- 39. Ankit Jain
- 40. Sitanshu Mishra
- 41. Praveen K Nair

II. Teaching & Research Activities

(a) Sponsored Research Projects

NoAgencyinvestigate1.Demand Side Management & Distribution Automation SystemcompletedAICTERs 900000Dr MP Da Sri B. Gup Dr NP Pad2.Optimal location of FACTS devices in competitive power marketcompletedAITBaht 50000/3Electricity supply industry reform in ThailandcompletedCompletedBaht 12 millionsProf Surapong and others4Improvement of Operation performance of integrated AC/DC systemcompletedMHRDRs13.0 lakh
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3 Electricity supply industry reform in Thailand completed EGAT Baht 12 Prof 4 Improvement of Operation performance of integrated AC/DC system completed MHRD Rs13.0
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4ImprovementofOperationcompletedRs13.0performanceofintegratedAC/DCMHRDlakh
4 Improvement of Operation completed performance of integrated AC/DC system through multiple MHRD Rs13.0 lakh
performance of integrated AC/DC system through multiple MHRD lakh
system through multiple
controllable devices
5 Technology Development Mission completed Rs 28.0 Prof
–Contribution from Industry (DA) IITK lakhs Srivastava
and others
6 Strategies for Promotion of Energy completed Rs.10.0 Prof
Efficient and Cleaner Technologies AIT lakhs Srivastava
in the Power Sector and others
7 Enhancement of Power Systems' Rs. 18.4 Prof
performance using FACTS in Completed CPRI/ lakhs Srivastava
competitive power market. MoP
8 Assessment and Analysis of Rs 10.22 Prof
8AssessmentandAnalysisofRs 10.22ProfElectricPowerQualityProblemsDSTlakhsSrivastava
8AssessmentandAnalysisofRs 10.22ProfElectric Power Quality Problems using AI and Advanced DigitalcompletedDSTlakhsSrivastava
8 Assessment and Analysis of Electric Power Quality Problems using AI and Advanced Digital Signal Processing Techniques
8 Assessment and Analysis of Electric Power Quality Problems using AI and Advanced Digital Signal Processing Techniques completed DST Rs 10.22 lakhs Prof 9. Performance Analysis and Trading completed CPRI/ Rs 21.60
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	energy buildings				Others
15	A Multi-dimensional Smart Energy	In progress	DST-	134.961	YN Singh &
	Grids Analysis of Indian Scenario		SERI	lakhs	2 from IIT
					Mandi

(b) Consultancy Projects:

Sl.	Name of the project	Status	Spons.	Amount	Other
No.			Agency		invest.
1.	Technical report of MDI & low	completed	DVVNL	Rs 28060	-
	power factor of m/s Guatam		Banda		
	Cement, Hamırpur.				
2.	Study on demand & energy	completed	UP Sug.	Rs	
	charges against import of power		Mills	210675.0	
	during peak hours without drawl		Cogen		
	of active power		Asso.		
3	Third Party Quality checking of	completed	UPSIDC	Rs	-
	works of UPSIDC			112360.0	
4	Development of Transmission	completed	OERC	Rs.	Dr Anoop
	pricing scheme for Orissa Grid			294945.0	Singh
5	EHV/UHV Transmission system	completed	UP	Rs 40.0	Prof SC
	planning for UPPTCL- Study cell		PTCL	Lakhs	Srivastava
	IIT Kanpur.				& Dr N
					Gupta
6	BSES Rajdhani Power, New Delhi	completed	BSES	Rs 10.0	Prof SC
				lakhs	Srivastava
8	33 kV substation design and	completed	Sagar	Rs	Er Rajeev
	estimation of cost		Univ.	21.067	Garg
				lakhs	_
9	Studies on Voltage stability and	completed	GE,	Rs	Dr Saikat
	small signal stability		Bangalore	10.3933	Chakraborti
				lakhs	
10	Third Party Quality Inspection of	Ongoing	LDA	Rs 29.07	Dr Sudhir
	JP Narayan International Center,		Lucknow	lakhs	Mishra
	Gomati Nagar				

(c) Courses Taught

(At IIT Roorkee, 1996 to 2000)

- Power System Operation and Control (UG and PG)
- Extra High Voltage transmission (PG)
- Power Systems-I (UG)
- High Voltage Laboratory (UG)
- Power System Protection Laboratory/Tutorial (UG)
- Electrical Science (UG)
- Electro Magnetic Theory Tutorial (UG)

(At AIT Bangkok, 2001-2002)

- Power System Design and Operation (PG)
- Power System Dynamics and Stability (PG)
- Power Sector Management under Deregulation (PG)
- Rural Electrification and Distributed Generation (PG)

(At IIT Kanpur, 2002 onward)

- Economic Operation and Control of Power System (PG)
- Power Systems Lecture, tutorial (UG)
- Introduction to Electrical Engineering Lecture, Laboratory & Tutorial (UG)
- HVDC Transmission Systems (PG)
- Power System Operation & Management Under Restructured Environment (PG)
- Electric Machines and Energy Conversion-I & II, Lab & Lectures (UG)
- HVDC Transmission and FACTS (PG)
- Simulation of Modern Power Systems (PG)

(At DTU Denmark, 2010)

• Electric Power Network (PG)

(d) I	Invited	Lectures	Delivered	in	Workshop)S,	Courses	etc.
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S1.	Name of workshops, courses etc	Topic of Lectures	Hours
1	Industrial Energy Audit, April 23-May 11,	Transmission and Distribution	4.30
	2001, AIT Thailand		
2	Power System Transient Simulation & Its	1. Fundamentals of Digital	1.30
	Applications, 11-14 December 2001, AIT	Simulation Techniques.	1.0
	Thailand.	2. Subsynchrounous Resonance	1.0
3	Organization of the electric supply industry	Competitive power market:	1.0
	to enhance development, Feb. 8-9, 2002,	International experiences	
4	All Inaliand.	Active newson and frequency	5 15
4	13-17 2002 AIT Theiland	control Power System Security and	5.45
	15-17, 2002, M11 Thanand	Contingency Analysis	
5	Power System Planning. Operation and	Several topics on Power Systems	20.0
-	Management, July 1-19, 2002, AIT	Operation and Management under	
	Thailand.	deregulation.	
6	Rural electrification and Distributed	Rural electrification	5.30
	generation, Aug.21-23, 2002, AIT Thailand.		
7	Advanced Management Program, IIM	Recent Trends in Transmission	3.00
	Lucknow, September 2-21, 2002.	Technology	
8	HVDC Transmission and FACTS	Evolution of HVDC, Converter	6.00
	Technology, December 11-13, 2002, AIT,	configuation, Analysis, Faults and	
0	Inaliand Rumpl electrification and Distributed	Protection, FAC15 Role	5 15
9	generation July 9-11 2003 AIT Thailand	Rural electrification etc	5.45
10	Invited Lectures in Sea MTech of LIPTU	Neural Networks Power System	2x45
10	during June/July 2003, 2006	restructuring	2x 13, 60
11	Electric Power System Operation and	Deregulation, Review, Models,	6.30
	Management under Restructured	Market power, FACTS	
	Environment, 21-25 July 2003, IIT Kanpur.		
12	National Power System Conference at IIT	Power System Restructuring in	1:30
	Chennai during Dec 27-29 2004	Indian Context	
13	Democritus Univ. Xanthi, Greece during	Electric PS operation & dynamics	24:00
1.4	May 9-13, 2005	in restructured environment	04.00
14	Democritus Univ. Xanthi, Greece during	Voltage, Frequency and Power flow	24:00
15	Julie 4-8, 2007	Control III Electric Power Systems	11.00
13	during March 28-April 3 2011	rower system Restructuring	11:00
16	Asian Institute of Technology Thailand	Power System Management	20.00
10	during May 15-18, 2012	r ower system munugement	20.00
17	Power System Operation Corporation. New	Ancillary Services	3:00
	Delhi, June 15, 2012		
18	DCR Murthal, December 19, 2012	Emerging Trends in Power Systems	3:00
19	MPEC, Mandhana, Kanpur, Oct., 2013	Fundamentals of Power Systems	2:00
20	IMS Ghaziabad, October 25, 2013	Education and Ethics	1.30
21	Anna University, Chennai, May 21, 2015	Smart Grid Implementation	1:30

22	NIT Hamirpur, HP May 29-30, 2015	Smartgrid Technology: Present &	3 Hrs
		Future; Advances in Power Systems	
23	United College of Engg & Technology,	Emerging Trends in Power Systems	2 Hrs
	Allahabad, July 13, 2015		
24	Institution of Engineers (I), Kanpur Local	Smart Village	1 Hrs
	Center, Kanpur, August 9, 2015.	-	

* PRACTICAL EXPERIENCE

Worked as **Assistant Engineer** in U.P. State Electricity Board, at I.I.T. Kanpur Study Cell, India (A State Government Enterprise) from **08.08.88** to **03.07.95** and was responsible for R & D activities relating to Computer Application in Power Systems Planning, Operational & Control. The work was to carry out Power System Studies (i.e. Load Flow, Short Circuit, Stability studies etc.) of U.P. Power System, India where more than 20 research reports were compiled with other officers of Computer Study Cell, IIT Kanpur, India. The old Dec-Version programs were modified to make compatible with PC and user friendly. The Chairman, UP State Electricity Board, India had issued the **appreciation letter** for the work carried there.

Worked as **Assistant Engineer** in Control and Instrumentation Maintenance Division of U.P. State Electricity Board, Obra Thermal Power House, Sonebhadra (UP), India (A State Government Enterprise) from **10.07.95 to 13.06.96**. The main work was to look after the control and instruments of 2x200 MW units during operation shift-C. Since the control and instruments are the heart of any power plant and any trouble/problem may cause tripping of unit, the duty was very important from proper operation of the plant.

* ADMINISTRATIVE EXPERIENCE

(At IIT Roorkee, 1996-2001)

- 1. Member Post Graduate Academic Program Committee (From Dec. 1996 to Dec. 1998)
- 2. Officer in Charge Power System Protection Laboratory (Dec. 1996 to Oct. 1997)
- 3. Officer in Charge M.E. (Power System Engg.) Class (From Dec. 1996 to Dec. 1998)
- 4. Member Post Graduate Admission Committee (From Dec. 1996 to Dec. 98 & From April 2000 to Dec. 2000)
- 5. Member Planning Committee of EE Department (From Nov. 1997 to Dec. 1998)
- 6. Officer in Charge UG Training Program (From Nov. 1997 to Dec. 1998)

(At AIT Bangkok, 2001-2002)

7. Member, IT Committee (From May 2001 to March 2002) in AIT, Bangkok

(At IIT Kanpur, 2002 onward)

- 8. Member, DPGC (From May 2002 to 2005, 2010 to 2014)
- 9. Convener, PhD Admission 2003
- 10. Convener M. Tech. admission, 2002
- 11. Member, Institute Works Advisory Committee (From March 2005 to June 2009)
- 12. Warden-in-charge, Hall VIII (From May 2006 to July 2009)
- 13. Member, Advisory committee for Energy Management (From August 2007 to June 2009)
- 14. Vice-Chairman, Council of Wardens, IITK (September 2010 to August 2011)
- 15. Member, CEMMC, IIT Kanpur (September 2010 to December 2012)
- 16. Chairman, Council of Wardens, IITK (August 2011 to December 2012)
- 17. Professor-in-Charge, Electrical Works, IIT Kanpur (January 2013 to date)
- 18. Member, Board of Governors, IIT Kanpur (January 2012 to December 2013)

- 19. Member, Green Cell, IIT Kanpur (2014 to date)
- 20. Member, Environmental Advisory Committee, IIT Kanpur (2014 to date)

• Professional Experiences

- Coordinator, IEEE R10 Conference and Technical Seminar (2015-2016)
- Executive Committee Member, IEEE UP Section, IITK Kanpur (2003-to date)
- Chairman, IEEE UP Section, IITK Kanpur (2013-2014)
- Chairman, IEEE PES/IAS Chapter, IEEE UP Section (2012-2013)
- Member Senate, MNNIT Allahabad (March 2013 to date)
- Member Senate, MANIT Bhopal (January 2013 to date)
- Member Senate, IIT Mandi (January 2013 to date)
- Chairman, Institution of Engineers (India), Kanpur Local Center (2010-2012)
- Vice-Chairman, IEEE UP Section, IITK Kanpur (2011-2012)
- Executive Committee Member, IE (India), Kanpur Local Center (2006-2014)
- Executive Committee Member, IE (India), UP State Center (2010-2012)
- Treasurer, IEEE UP Section, IITK Kanpur (2005)
- Administrator, IEEE Online Communities (January 2006 to date)
- Moderator, IEEE Online Communities (April 2003 to date)
- Editorial Board member, International Journal of Electricity Sector Management, UK
- Editorial Board member, International Journal of Electrical and Power Engineering
- Associate Editor, International Journal of Electrical Energy Systems
- Editor, International Journal of Systems Signal Control and Engineering Application
- Editorial Board Editor, International Journal of Renewable Energy Technology
- Honorary Editorial Board Member, Int. Journal of Bio-Sciences and Technology.
- Associate Editor (Electrical), Int. Journal of Engineering, Sciences and Technology
- Co-Guest Editor, Int. J. of Engineering, Sciences and Technology (2009/10, 2010/11)
- Co-Guest Editor, International Journal of Electricity Sector Management (2009-10)
- Co-Guest Editor, International Journal of Energy Technology and Policy (2005-06, 2007)
- Proof Editor, Asian Journal of Geo-informatics (from Jan 2001 to Sept 2002).
- Reviewer of IEEE Transaction on Power Systems, Power Delivery, Energy Conversion, IET Proceeding: Generation, Transmission and Distribution, International Journal of Computer and Electrical Engineering, International Energy Journal, International Journal of Electric Power and Energy Systems, European Transaction on Electric Power, Electric Power Systems Research.

Annexure-B

LIST OF PUBLICATIONS

Publications in Journals:

- SN Singh and SC Srivastava, Improved Voltage and Reactive Power Distribution Factors for Outage Studies, IEEE Trans. of Power Systems, Vol.- PWRS-12, No.3, pp. 1085-1093, August 1997. This paper received the Khosla Research Award of University of Roorkee, India (1998).
- 2. SN Singh and SC Srivastava, *Corrective Action Planning to Achieve Feasible Optimal Load Flow Solution*, IEE Proc., Part-C, Generation, Transmission and Distribution, Vol. 142, No.6, pp. 576-582, November 1995.
- 3. SN Singh, PK Kalra and SC Srivastava, Novel Non-Iterative Load Flow for Voltage Contingency Analysis, International Journal of Electrical Power & Energy System, Vol. 16, No. 1, pp. 11-16, 1994.
- 4. JK Malhotra, AK Mitra and **SN Singh**, *Analysis of Distribution Losses of Lucknow City*, **published in Journal of The Society of Power Engineers (INDIA)**, Vol. 40 No. 3 & 4, pp. 10-15, July/Oct. 1992.
- 5. SN Singh and SC Srivastava, Improved Contingency Selection Algorithm for Voltage Security Analysis, Journal of Electrical Machines and Power Systems, Vol. 26, No.8, 1998, pp. 855-871.
- L Srivastava, SN Singh and J Sharma, Parallel Self-Organizing Hierarchical Neural Network Based Fast Voltage Estimation, IEE Proc. Part -C, Vol. 145, No. 1 1998, pp. 98-104.
- L Srivastava, SN Singh and J Sharma, *Knowledge Based Neural Network for Voltage Contingency Selection and Ranking*, IEE Proc. Part-C, Vol. 146, No. 6, November 1999, pp. 649-656. This paper received the Khosla Research Award (Gold Medal) from University of Roorkee (2000).
- 8. L Srivastava, **SN Singh** and J Sharma, *Modular Neural Network Based Fast Voltage Contingency Selection*, **the Journal of Institution of Engineers (India)**, Electrical Engg. Division, Vol. 80, No.-EL-3, pp. November 1999, pp.118-125.
- 9. L Srivastava, SN Singh and J Sharma, A hybrid Model for Fast Voltage Contingency Screening and Ranking, International Journal of Electric Power and Energy Systems, Vol. 22, No.1, January 2000, pp. 35-42.
- 10. L Srivastava, SN Singh and J Sharma, *Estimation of Loadability Margin using Parallel* Self Organizing Hierarchical Neural Network, International Journal of Computer and Electrical Engineering, Vol. 26, No. 2, February 2000, pp. 151-167.

- 11. KN Srivastava, SN Singh and SC Srivastava, *Effect of Multiple Equilibria on Power System Stability*, Electric Power Systems Research, Vol. 55, No. 3, September 2000, pp. 165-172.
- 12. L Srivastava, **SN Singh** and J Sharma, *Comparison of Feature Selection Techniques for ANN Based Voltage Estimation*, **Electric Power Systems Research**, Volume 53, No. 3, March 2000, pp. 187-195.
- 13. SN Singh, L Srivastava and J Sharma, *Fast Voltage Contingency Screening and ranking using Cascade Neural Network*, Electric Power Systems Research, Volume 53, No. 3, March 2000, pp. 197-205.
- 14. SN Singh and AK David, *Towards Dynamic Security Constrained Congestion Management in Open Power Market*, IEEE Power Engineering Review, August 2000, pp.45-47.
- 15. SN Singh and AK David, *Optimal Transmission Dispatch with Optimizing FACTS Device Locations in Open Power Market*, Journal of Automation of Electric Power Systems (China), Vol. 25, No.4, February 2001, pp. 20-25.
- 16. SN Singh and AK David, *Optimal Location of FACTS Devices for Congestion Management*, Electric Power Systems Research, Vol. 58, No.2, July 2001, pp. 71-79.
- 17. SN Singh and KN Srivastava, *Evolving Artificial Neural Network Models for Voltage Contingency Ranking*, European Transaction on Electric Power (ETEP), Vol. 12, No.2, March/April, 2002, pp. 127-133.
- 18. SN Singh, Estimation of Degree of Insecurity of Power System Using Functional Link Network, Science and Engineering Journal (Brazil), Vol. 9, No.2, July/December 2000, pp. 10-15.
- 19. SN Singh, *Challenges and Initiatives in Power Engineering Education*, IEEE Computer Applications in Power, Vol. 14, No. 2, April 2001, pp. 36-41.
- 20. KS Verma, SN Singh and HO Gupta, *Optimal Location of UPFC for Congestion Management*, Electric Power Systems Research, Vol. 58, No.2, July 2001, pp. 89-96.
- 21. SN Singh and NK Triptahi, *Writing and Publishing a Research Paper in Professional Journals: A Systematic Approach*, Asian Journal of Geoinformatics, Vol. 1, No. 3, March 2001, pp. 87-90.
- 22. L Srivastava, SN Singh and J Sharma, *Parallel Self-Organising Hierarchical Neural Network Based* Fast Real Power Flow Estimation" Journal of the Institution of Engineers (India), Vol. 82, May 2001, pp. 16-20.

- 23. SN Singh and AK David, A New Approach for Placement of FACTS Devices in Open Power Market, IEEE Power Engineering Review, Vol. 21, No. 9, September 2001, pp. 58-60.
- 24. SN Singh and KN Srivastava, Degree of Insecurity Estimation of Power System Using Functional Link Network, European Transaction on Electric Power, Vol. 12, No. 5, September/October 2002, pp. 353-360.
- 25. SN Singh and AK David, *Dynamic Security in Open Power Market Dispatch*, Electric Power Components and Systems, Vol. 30, No.3, 2002, pp 315-330.
- SN Singh and AK David, Optimal Dispatch in Dynamic Security Constrained Open Power Market, International Journal of Electrical Power and Energy Systems, Vol. 24, No. 5, August 2002, pp. 363-369.
- 27. SN Singh and GK Singh, *Performance Study of GTO Inverter in HVDC Link*, the Science and Engineering Journal, Vol. 10, No.2, July/December 2001, pp. 29-38.
- 28. SN Singh, "*Emerging Issues and New Challenges in Electric Power Systems*", International Energy Journal, Vol. 2, No.2, December 2001, pp.53-66.
- 29. SN Singh, KG Upadhyay and DS Chuahan, *Investigation into Generation Excitation Effect* on *Electricity Pricing in Open Power Market*, the Science and Engineering Journal, Vol. 11, No.1, January/June 2002, pp. 111-116.
- SN Singh and AK David, Congestion Management in Dynamic Security Constrained Open Power Markets, International Journal of Computer and Electrical Engineering, Vol. 29, No. 5, July 2003, pp. 575-588.
- 31. L Srivastava, **SN Singh** and J Sharma, *Parallel Self-Organising Hierarchical Neural Network based Estimation of Degree of Voltage Insecurity*, **International Journal of Computer and Electrical Engineering**, Vol. 29, No. 5, July 2003, pp. 589-602.
- 32. SN Singh, A Practical Approach to Teach Power System Transients into the Electrical Engineering Curriculum, International Journal of Electrical Engineering Education, UK, Vol. 40, No.2, April 2003, pp. 144-157.
- 33. T Jain, L Srivastava and SN Singh, *Fast Voltage Contingency Screening using Radial Basis Function Neural Network*, IEEE Trans. on Power Systems, Vol. 18, No. 4, November 2003, pp. 1359-1366.
- 34. Ashwani Kumar, SC Srivastava and **SN Singh**, A Zonal Congestion Management Approach Using Real and Reactive Power Scheduling, **IEEE Trans. on Power Systems**, Vol. 19, No. 1, February 2004, pp. 554-562.
- 35. Ashwani Kumar, SC Srivastava and **SN Singh**, *Available Transfer Capability Assessment in a Competitive Electricity Market using Bifurcation Approach*, **IEE Proc. on Generation**, Transmission and Distribution, Vol. 151, No. 2, March 2004, pp. 131-140.

- 36. Ashwani Kumar, SC Srivastava and **SN Singh**, *Available Transfer Capability (ATC)* Determination in a Competitive Electricity Market using Distribution Factors, Electric Power Components and Systems, Vol. 32, No.1, September 2004, pp. 927-939.
- 37. Ashwani Kumar, SC Srivastava and SN Singh, A Zonal Congestion Management Approach Using AC Transmission Congestion Distribution Factors, Electric Power System Research, Vol. 72, No. 1, December 2004, pp. 85-93.
- 38. JG Singh, V Pant and SN Singh, *Modeling of Generalized UPFC for Suitable Location and Power Flow Control*, Iranian Journal of Electrical and Computer Engineering, Vol. 3, No.2, pp.103-110, 2004.
- 39. SN Singh and SC Srivastava, *Status and Future Directions of Electric Power Industry Restructuring in India*, CPRI R&D Journal, Vol. II, No.1, 2005.
- 40. SN Singh and AK David, Dynamic Security Constrained Pool Dispatch in Competitive Power Market, International Journal of Power and Energy Systems, Vol. 25, No.1, 2005, pp. 6-13.
- 41. Gaurav Nanda, Sangeeta Yamgar, S.C. Srivastava, **SN Singh**, Praveen Gupta, Dharam Paul and R.M. Shrestha, *Implications of Carbon Tax on Generation Expansion Plan & GHG Emission: A Case Study on Indian Power Sector*, **International Journal of Emerging Electric Power Systems**, Vol. 3, No.1, 2005.
- 42. Ashwani Kumar, **SN Singh** and SC Srivastava, *Congestion Management in Competitive Power Market: A Bibliographical Survey*, **Electric Power Systems Research**, Vol. 76, No. 1-3, pp 153-164, 2005.
- 43. B Kalyan Kumar, **SN Singh** and SC Srivastava, *Optimal Control Strategy Using Pseudo-*Decentralization for Coordination of Power System Stabilizer and FACTS in a Multimachine System, **International Energy Journal**, **AIT Bangkok**, Vol. 6, No. 1, 2005.
- 44. JG Singh, SN Singh and SC Srivastava, A Sensitivity Based Approach for Optimal Location of Multi-Converter Unified Power Flow Controller Considering Its Impact on Generation and Wheeling Costs, International Journal of Energy Technology and Policy (IJETP), Vol. 4, No. 3/4, 2006, pp. 394-409.
- 45. SN Singh, *Flexible AC Transmission Systems Controllers: An Overview*, International Journal of Energy Technology and Policy (IJETP), Vol. 4, No. 3/4, 2006, pp. 236-254.
- 46. SN Singh, Present and Future of Flexible AC Transmission Systems (FACTS) Controllers in the Power Systems, (Editorial) International Journal of Energy Technology and Policy (IJETP), Vol. 4, No. 3/4, 2006, pp. 229-235.
- 47. SK Srivastava, KG Upadhyay and SN Singh, *Performance Analysis of Unified Power Flow Controller Using Fuzzy-PI Control*, The Journal of CPRI, Bangalore, Vol. 3, No. 1, September 2006, pp 37-44.

- 48. B. Kalyan Kumar, **SN Singh** and SC Srivastava, *A decentralized nonlinear feedback controller with prescribed degree of stability for damping power system oscillations*, **Electric Power Systems Research**, Vol. 77, No. 3-4, March 2007, pp. 204-211.
- 49. M. Rajender and SN Singh, *GIS/GPS Integration in Electric Power Distribution Automation*, International Journal of Geoinformatics, Vol. 3, No.1, March 2007, pp. 19-27.
- B. Kalyan Kumar, SN Singh and SC Srivastava, Placement of SVC, TCSC and UPFC using Controllability Index Method to Damp Out Inter-Area Oscillations, IEE Proc. Generation, Transmission & Distribution, Vol. 1, No.2, March 2007, pp. 209-217.
- 51. Ashwani Kumar, SC Srivastava and **SN Singh**, *Available Transfer Capability in Competitive Power Market: A Bibliographical Survey*, **CPRI R&D Journal**, Vol. 3, No.2, March 2007, pp. 151-172.
- 52. SK Srivastava, KG Upadhayay and SN Singh, Impact of Internal Operating Constraints of GUPFC on Power Flow Control, International Review of Electrical Engineering, April 2007.
- 53. JG Singh, **SN Singh** and SC Srivastava, *An Approach for Optimal Placement of Static VAr Compensators based on Reactive Power Spot Price*, **IEEE Trans. on Power Systems**, Vol. 22, No.4, November 2007, pp. 2021-2029.
- 54. P Bajpai and **SN Singh**, *Fuzzy Adaptive Particle Swarm Optimization for Bidding Strategy in Uniform Price Spot Market*, **IEEE Trans. on Power Systems**, Vol. 22, No.4, November 2007, pp. 2152-2160.
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- 316. SK Agrawal, AK Mitra, SN Singh, DV Singh, KL Kakkar, Power System Studies for Expansion Planning, published in the Conference on T & D Losses organized by Power Finance Corporation of India and USAID during January 21-22 1994, Vol. E-2, pp. 1-8.
- 317. SN Singh and SC Srivastava, An Optimal Load Flow Model in Indian Context and its Solution using Genetic Algorithm, Proc. of 8th National Power System Conference, New Delhi (India) 14-17 Dec 1994, pp. 663-668.
- 318. SN Singh and SC Srivastava, *Contingency Selection Algorithm for Voltage Security Analysis*, Proc. of 9th National Power System Conference, I.I.T. Kanpur (India), 19-21 December 1996, pp. 479-486.
- 319. L Srivastava, SN Singh and J Sharma, *Estimation of Loadability Margin Using Parallel* Self-Organising Hierarchical Neural Network, Proc. of 10th National Power System Conference, 14-16 October 1998, Vadodara, pp. 311-316.
- 320. SN Singh and SC Srivastava, *Genetic Algorithm and its Applications to Power System problems*, Proc. of 10th National Power System Conference, 14-16 October 1998, Vadodara, pp. 289-297.
- 321. Daya Kishan and SN Singh, Environmental Constrained Unit Commitment Using Fuzzy Dynamic Programming, Proc. of All India Seminar on Electric Energy System Management Indian Scenario, 4-5 September 1998, Roorkee, pp. 79-85.
- 322. L Srivastava, SN Singh and J Sharma, New Feature Selection Technique for Voltage Prediction, Proc. of All India Seminar on Electric Energy System Management -Indian Scenario, 4-5 September 1998, Roorkee, pp. 122-128.
- 323. L Srivastava, **SN Singh** and J Sharma, *Fast Line Flows Estimation Using Parallel Self-Organising Hierarchical Neural Network*, 11th **National Power System Conference**, 20-22 December 2000, Bangalore, India.

- 324. KG Upadhyay, KS Verma and SN Singh, *Restoration Problem Key Issues and Constraints*, National conference on Trends in Industrial electronics, transducers, controls and communication (TIET.COM 2000), Patiala, November 14-15, 2000, pp. 104-109.
- 325. KG Upadhyay, SN Singh, DS Chuahan and GS Srivastava, *Restructuring and Privatization* of Electricity Utilities- An Overview, National conference on Trends in Industrial electronics, transducers, controls and communication (TIET.COM 2000), Patiala, November 14-15, 2000, pp. 110-115.
- 326. T Jain, L Srivastava, M Pandit and SN Singh, Radial Basis Function Neural Network Based Fast Voltage Contingency Ranking, 12th National Power System Conference, December 27-29, 2002, IIT Kharagpur (India), pp. 791-795.
- 327. SK Srivastava, KG Upadhyay and SN Singh, "FACTS Devices and Their Controllers", 12th National Power System Conference, December 27-29, 2002, IIT Kharagpur (India), pp. 468-473.
- 328. JG Singh and SN Singh, Optimal Power Flow Control Using Generalized Unified Power Flow Controller, National Conference on Modern aspect of FACTS and its Applications at Coimbatore, August 29-30, 2003, pp. 89-97.
- 329. T Jain, L Srivastava and SN. Singh, Voltage Security assessment using Unsupervised and Supervised Learning, Proceedings of All India Jamia Electrical Engineering Conference 2003, Jamia Millia Islamia, New Delhi, Aug 16-17,2003.
- 330. T Jain, L Srivastava and SN Singh, *Feature Selection Techniques for Voltage Contingency Ranking using RBFN*, Proceedings of Conference on Services through I.T. Enabled Systems (SITES-2003) Gwalior, April 19-20, 2003, pp 175-180.
- 331. SK Srivastava, KG Upadhyay, S Khalid and SN Singh, *Simulink Based d-q Axis Model of Unified Power Flow Controller*, National Conference on Control, Communication and Information Systems (CCIS2004), Goa, January 23-24, 2004.
- 332. Praveen Traipathy, SN Singh and SC Srivastava, Power Flow Analysis with Optimally Placed D-STATCOM in Distribution System, 13th National Power System Conference, IIT Madras (Chennai), December 27-30, 2004, pp. 128-133.
- 333. OP Dwivedi, JG Singh and SN Singh, Simulation and Analysis of Unified Power Flow Controller Using SIMULINK, 13th National Power System Conference, IIT Madras (Chennai), December 27-30, 2004, pp. 1048-1054.
- 334. P Bajpai and **SN Singh**, *Bidding and Gaming in Competitive Power Market: An Overview and Key Issues*, 13th **National Power System Conference, IIT Madras (Chennai)**, December 27-30, 2004, pp. 338-346.

- 335. J Krishna, L Srivastava, M Pandit and SN Singh, On-line Contingency Analysis Using Counterpropagation Neural Network, 13th National Power System Conference, IIT Madras (Chennai), December 27-30, 2004, pp. 333-337.
- 336. SK Srivastava, LN Giri, KG Upadhyay and SN Singh, Analysis of Internal Operating Limits of UPFC for Power Flow Control, 13th National Power System Conference, IIT Madras (Chennai), December 27-30, 2004, pp. 890-895.
- 337. JG Singh, SN Singh and SC Srivastava, Optimal Placement of TCSC for Enhancing Power System Loadability, National Conference on Electric Power Technology, Management and IT Application, MMMEC Gorakhpur, February 17-18, 2006.
- 338. MM Tripathi, SN Singh and KG Upadhyay, Artificial Intelligence Technique for Load Forecasting, Bid Forecasting and Market Clearing Price Prediction in Power Systems: An Overview, National Conference on Electric Power Technology, Management and IT Application, MMMEC Gorakhpur, February 17-18, 2006.
- 339. SK Srivastava, KG Upadhyay and SN Singh, FACTS Technology in Deregulated Electricity Market: An Overview, National Conference on Electric Power Technology, Management and IT Application, MMMEC Gorakhpur, February 17-18, 2006.
- 340. JG Singh, SN Singh and SC Srivastava, *Optimal Placement of TCPAR for Enhancing Power System Loadability*, National Conference on Technical Challenges in Power Systems, KNIT Sultanpur, March 24-25 2006, pp. 207-211.
- 341. Deepti Shakya, UK Dwivedi and SN Singh, Simulation of Power Quality Problems for Analysis and Characterization, National Conference on Technical Challenges in Power Systems, KNIT Sultanpur, March 24-25 2006, pp. 1-10.
- 342. JG Singh and SN Singh, Enhancing Power Systems' Security Using FACTS Controllers, National Seminar on Voltage Stability (SVC'06), at Arulmigu Kalasalingam College of Engineering, Tamil Nadu, October 13-14, 2006. (Keynote Paper).
- 343. Bharat Singh Rapurohit and SN Singh, An Efficient Adaptive Hysteresis Band Current Controller For Active Power Filters, 15th IEEE Annual Symposium 2006, 24-25 Nov 2006.
- 344. T Jain, **SN Singh** and SC Srivastava, "Fast Available Transfer Capability Determination using Artificial Neural Network, **National Conference on Advances in Electrical Engineering (AEE 2006)**, Gwalior, November 29-30, 2006, pp. 509-513.
- 345. GC Sethi P Tripathy, **SN Singh** and SC Srivastava, *A Sensitivity Based Approach for Optimal Placement of Distributed Generators in Power System*, **Proceedings of National Power Systems Conference, IIT Roorkee (India)**, December 27-29, 2006.
- 346. NM Pindoriya, **SN Singh** and SK Singh, *Short-Term Zonal Load Forecasting in PJM Electricity Market Based on Adaptive Wavelet Neural Network*, **IEEE Sponsored Student**

paper Contest and Technical Symposium (SPCTS-2007) held in DA-IICT, Gandhinagar, India during 28-30 September 2007 (Got First Prize).

- 347. Seethalekshmi K., SN Singh and SC Srivastava, Wide-Area Protection and Control: Present Status and Key Challenges, 15th National Power System Conference (NPSC08), IIT Bombay, during December 16-18, 2008, pp. 169-175.
- 348. T Jain, SN Singh and SC Srivastava, Dynamic Available Transfer Capability Evaluation Considering Hopf Bifurcation Limit, 15th National Power System Conference (NPSC08), IIT Bombay, during December 16-18, 2008, pp. 55-60.
- 349. BS Rapurohit and **SN Singh**, *Renewable Energy Status and Vision in India*, **National Seminar on Non-Conventional Energy Resources & Its Application (NCERU09)**, February 27-28, 2009, KNIT Sultanpur, pp. 20-29.
- 350. SN Singh, J Østergaard and Naveen Jain, *Distributed Generation in Power System: An Overview and Key Issues*, 24rth Indian Engineering Congress, NIT Surathkal, Kerala, December 10-13, 2009.
- 351. Naveen Jain, **SN Singh** and SC Srivastava, *Particle Swarm Optimization Based Optimal Sitting and Sizing of Multiple Distributed Generations*, **16th National Power Systems Conference, Hyderabad**, December 15-17, 2010.
- 352. K Bhaskar and **SN Singh**, *Wind Speed Forecasting using Multu-resolution Analysis based Adaptive Wavelet Neural Network*, **16th National Power Systems Conference**, **Hyderabad**, December 15-17, 2010.
- 353. Sachin K Jain and SN Singh, AWNN based Harmonic Estimation in Renewable Energy Sources, National Seminar in Recent Advances in Electrical Power and Energy System Management (RAEPESM-2011), March 25-26, 2011, MMMEC Gorakhpur (got Best Paper Award).
- 354. D Saxena, SN Singh and KS Verma, *Denoising of Power Quality Events Using Wavelets*, National Seminar in Recent Advances in Electrical Power and Energy System Management (RAEPESM-2011), March 25-26, 2011, MMMEC Gorakhpur.
- 355. D Saxena, SN Singh and KS Verma, *Characterization of Power Quality events with wavelet transform*, National Seminar in Recent Advances in Electrical Power and Energy System Management (RAEPESM-2011), March 25-26, 2011, MMMEC Gorakhpur (got Best Paper Award).
- 356. P Pavani and SN Singh, Cost Benefit Analysis of Distributed Generations Placed in Distribution Systems, Annual Technical Session of 94th Annual General Meeting, IE(I), UP State Center, Lucknow. November 29, 2014. (Got Er Hari Mohan Memorial Award).

- 357. VN Lal and **SN Singh**, PQ Capability Curve of a Single-Stage Utility Grid Connected PV System, **94th Annual General Meeting**, IE(I), UP State Center, Lucknow. November 30, 2014. (Got Dr PS Nigam Power Sector Award-2014).
- 358. Sanjeev Mallik, Saikat Chakrabarti and SN Singh, An Investigation on the Numerical Illconditioning of Hybrid State Estimators, 18th National Power Systems Conference, IIT Guwahati, December 18-20, 2014.
- 359. Shiv Singh, Bibhu Padhy, Saikat Chakrabarti, SN Singh, Amol Kolwalkar and Shekhar Kelapure, Development of Dynamic Test Cases in OPAL-RT Real-time Power System Simulator, 18th National Power Systems Conference, IIT Guwahati, December 18-20, 2014.
- 360. Vivek Lal, SN Singh, Single-Stage Utility-Scale PV System with PSO Based MPPT Controller, 18th National Power Systems Conference, IIT Guwahati, December 18-20, 2014.
- Debasmita Panda, SN Singh and Vimal Kumar, Risk Constrained Profit Maximization under UI Mechanism in India, 18th National Power Systems Conference, IIT Guwahati, December 18-20, 2014.
- 362. Shikha Chittora and SN Singh, Coherency Based Dynamic Equivalencing of Electric Power System, 18th National Power Systems Conference, IIT Guwahati, December 18-20, 2014.

Short Papers/Discussions in Refereed Journals:

- 363. SN Singh et al, *Engineer and Expert System in Information Age*, Seminar on Information Age, The Institution of Engineers (India), Computer Division, April 6-7, 1991, Lucknow.
- 364. SC Srivastava, PK Kalra and **SN Singh**, 'Discussion to the paper by M. Norooziaan and G. Anderson, *Power Flow Control by use of Controllable series Component*, **IEEE Trans on Power Delivery**, Vol. 8 No. 3, pp. 1420-1429, July 1993.
- 365. KN Srivastava, SK Joshi and **SN Singh**, Discussion of IEEE paper #WM 064-6~PWRD titled *Damping of Power System Oscillations by Use of Controllable Components*, **IEEE T-PWRD Oct 1994**.
- 366. KN Srivastava, **SN Singh** and SK Joshi, Discussion of IEEE paper #SM 515-7~PWRS titled A Generation Rescheduling Method to Increase the Dynamic Security of Power System, **IEEE T-PWRS Feb 95**.
- 367. KN Srivastava, SK Joshi and **SN Singh**, Discussion of IEEE paper # WM 245-1~PWRS titled *Computation of a Practical Method to Restore Power Flow Solvability*, **IEEE T-PWRS Feb 95**.

- 368. SK Joshi, A Chandramouli, **SN Singh** and KN Srivastava, Discussion of IEEE paper # 94 WM 219-6~PWRS titled *Static Security in Power System Operation in Fuzzy Real Load Conditions*, **IEEE T-PWRS Feb 95.**
- 369. SC Srivastava, KN Srivastava, SN Singh and SK Joshi, Discussion of IEEE paper # 94 SM 578-5 PWRS titled On Bifurcation, Voltage Collapse And Load Modeling, IEEE T-PWRS Feb 1995.
- 370. SN Singh, KN Srivastava and SK Joshi, Discussion of IEEE paper # SM 535-5 PWRS titled Parallel Implementation of Power System Transient Stability Analysis, IEEE T-PWRS Vol.10, No.3, pp. 1226-1233, August 1995.
- 371. SN Singh, KN Srivastava and SK Joshi, Discussion of IEEE paper # SM 537-1 PWRS titled A *Hybrid Tool to Assist the Operator in Reactive Power/Voltage Control and Optimization*, **IEEE T-PWRS** May Vol-10, N0.2, pp. 753-759, May 1995.
- 372. SC Srivastava, KN Srivastava, **SN Singh** and SK Joshi, Discussion of IEEE paper # 94 SM 578-5 PWRS titled *Effects of Load Dynamics on Power System Damping*, **submitted to IEEE T-PWRS** May Vol-10, N0.2, pp. 1022-1028, May 1995.
- 373. SC Srivastava, KN Srivastava, SN Singh and SK Joshi, Discussion of IEEE paper # 94 SM 514-0 PWRS titled New Methods for Computing a Saddle Node Bifurcation Point for Voltage Stability Analysis, IEEE T-PWRS May Vol-10, N0.2, pp. 978-989, May 1995.
- 374. **SN Singh** and KN Srivastava, Discussion of IEEE paper # PE-278 EC 98 titled *A Neural Network Based Power System Stabilizer Suitable for On-line Training – A Practical Case Study for EGAT System*, **IEEE T-EC**, Vol. 15, No.4, December 2000, pp. 494.

Invited Lectures/papers

- 375. SN Singh, *Role of FACTS Devices in Competitive Power Market*, Workshop on Deregulation in Power Industry organized by IIT Bombay, November 18-19, 2002.
- 376. SN Singh, *Power System Restructuring Models*, Workshop on Deregulation in Power Industry organized by IIT Bombay, November 18-19, 2002.
- 377. SN Singh, Power System Restructuring: An Introduction, QIP sponsored short term course on Electric Power System Operation and Management in Restructured Environment, IIT Kanpur, 21-25 July 2003, pp. A.1-A.14.
- 378. SN Singh, *Electric Utility Restructuring: International Experiences*, **QIP sponsored short** term course on Electric Power System Operation and Management in Restructured Environment, IIT Kanpur, 21-25 July 2003, pp.A.15-A.38.
- 379. SN Singh, Power System Restructuring Models, QIP sponsored short term course on Electric Power System Operation and Management in Restructured Environment, IIT Kanpur, 21-25 July 2003, pp. A.39-A.56.

- 380. SN Singh, *Market Power*, QIP sponsored short term course on Electric Power System Operation and Management in Restructured Environment, IIT Kanpur, 21-25 July 2003, pp.A.57-A70.
- 381. SN Singh, *Role of FACTS Devices in Competitive Power Market*, QIP sponsored short term course on Electric Power System Operation and Management in Restructured Environment, IIT Kanpur, 21-25 July 2003, pp.A.71-A.104.
- 382. SN Singh, Future of FACTS Controllers in Restructured Power System, National Conference on Modern aspect of FACTS and its Applications at Coimbatore, August 29-30, 2003, pp. I-XI (Keynote paper).
- 383. SN Singh, Evolutionary Computation, ISTE sponsored short term course on ANN and Fuzzy Logic Application to Electrical Engineering at MITS Gwalior, January 19-25, 2004.
- 384. SN Singh, Artificial Neural Network: An Introduction, ISTE sponsored short term course on ANN and Fuzzy Logic Application to Electrical Engineering at MITS Gwalior, January 19-25, 2004.
- 385. SN Singh, *Power System Restructuring: An Introduction*, ISTE sponsored short term course on ANN and Fuzzy Logic Application to Electrical Engineering at MITS Gwalior, January 19-25, 2004.
- 386. SN Singh, Power System Security in Deregulated Environment", National Seminar on Voltage Stability (SVC'06), at Arulmigu Kalasalingam College of Engineering, Tamil Nadu, October 13-14, 2006 (Keynote Paper).

Papers Communicated/under preparation:

- 387. J G Singh, SN Singh, S C Srivastava and Lennart Soder, An Approach for Congestion Management by FACTS Controller in Power System,
- 388. J G Singh, SN Singh, S C Srivastava and Lennart Soder, An Approach for Power System Security Enhancement by Optimal Placement of UPFC, EPSR.
- 389. Luis Conde-López, G. Gutiérrez-Alcaraz and S. N. Singh, *Generating Adequacy Analysis* of Mexico's National Interconnected Power System, **The Electricity Journal**.
- 390. Naveen Jain, SN Singh and SC Srivastava, PSO Based Placement of Multiple Wind DGs and Capacitors utilizing Probabilistic Load Flow Model, IEEE Trans on Industrial Electronics.
- 391. P Tripathy, SC Srivastava and **SN Singh**, 'A Modified Prony Method for Identifying Low Frequency Oscillations in Power Systems utilizing Synchrophasor Measurements, **IET GTD.**
- 392. P Tripathy, SC Srivastava and SN Singh, Transient Angular Stability Prediction Using Online Computation of Potential Energy using Shyncrophasor Measurements, IEEE Trans on Smart Grid (Rev-I).

Studies/Reports

- 1. S.N. Singh, Sachchidanand and G.K. Dubey: "Performance Study of HVDC Link with GTO Inverter", Technical Report No. DOE/IITK/7/89/3, Department of Electrical Engineering, IIT Kanpur, 1989.
- S.N. Singh, "Mitigation of Greenhouse Gases From Power Sector in India Through Efficient Demand Side Options: An Integrated Resource Planning Perspective" Energy Program, School of Environment, Resources and Development, Asian Institute of Technology, Bangkok, Thailand, August 1997.
- 3. S.N. Singh, "Optimal location of FACTS devices in Competitive Power Market" Asian Institute of Technology, Bangkok, Thailand, March 2002.
- 4. S.N. Singh and S.C. Srivastava, "Enhancement of Power Systems' Performance using Flexible AC Transmission Systems (FACTS) in Competitive Power Market", Central Power Research Institute Bangalore, India, June 2006.
- 5. SN Singh and SC Srivastava, Assessment and Analysis of Electric Power Quality Problems using Artificial Intelligence and Advanced Digital Signal Processing Techniques, DST New Delhi, June 2008.

Following studies were carried out and reports were compiled with other officers of U.P. State Electricity Board, India.

- 6. Power System Analysis for Complex Primary Transmission and Transformation System. (1989)
- 7. State Electricity Board System Studies: Anapara- Unnao 765 kV Line. (1989)
- 8. Capacitor Requirement of U.P.S.E.B in year 1991-92. (1990)
- 9. Evacuation System of Tehri-Koteshwar Hydro Complex. (1990)
- 10. Fault Analysis of Complete U.P. Power System: 552 Transformation Buses of Primary Systems. (1990)
- 11. System Studies for 1994-95. (1990)
- 12. Analysis of Distribution Losses of Lucknow Electricity Supply Undertaking System, India. (1991)
- 13. Transmission System Requirement for Evacuation of Anapara-B Project Power. (1991)
- 14. Transmission System for Evacuation of Power from Singrauli and Rihand Super Thermal Power Station of National Thermal Power Corporation.(1991)
- 15. Short Circuit Studies of 2000 AD. (1991)
- 16. Power Loss in Transmission System for 1991-92. (1991)
- 17. Evacuation System for Belthara Road Power Station of 2000 AD. (1992)
- 18. Fault Level of Tehri Hydro Development Corporation along with U.P.S.E.B System. (1992)
- 19. Substation requirement of U.P. Power System with NTPC. (1992)
- 20. Start-up Power for Obra, Anapara and Singrauli Thermal Power Station. (1992)
- 21. Evacuation System of Anapara-C. (1993)
- 22. MW Power Flow Sultanpur 220 kV Substation for M/s Usha Rectifier. (1993)
- 23. 8th Five Year Plan (1996-97) Power System. (1994)

- 24. Revised Northern Capital Region System Power Evacuation. (1994)25. Short Circuit Studies for year 2001-02. (1995)

Conferences/Courses/Symposia/Workshops Attended

- 1. One month thermal training at Thermal Training Institute, Obra and one month management training at Staff College Dehradun (UP).
- 2. National Seminar on Multi-Phase System, organized by IE (INDIA) & IIT Kanpur, March 17-18, 1989, IIT Kanpur.
- 3. National workshop on Emerging Technology and their Application in Power Apparatus and Systems, December 12-14, 1989, IIT Kanpur.
- 4. Fifth Indian Engineering Congress, December 16-18, 1990, IIT Kanpur.
- 5. Seminar on Role of Professional Engineers in Emerging Information Age, April 6-7, 1991, I.E. Lucknow.
- 6. Short Term Course on Recent Advances in Power System and Use of Computer Technology, Sponsored by UPSEB Training & HRD Directorate Lucknow, May 6-11, 1991, IIT Kanpur.
- 7. Symposium on Compensation Techniques, October 22-23, 1991, Bharat Heavy Electrical Ltd. (BHEL), Bhopal.
- 8. Fifth National Workshop on HVDC Transmission, Oct 13-17, 1992, IIT KANPUR.
- 9. A one-week short-term course on Artificial Neural Network Applications to Power Systems conducted at Indian Institute of Technology, Kanpur.
- 10. 58th R & D Session of Central Board of Irrigation and Power (CBIP), April 18-22, 1993, Banglore.
- 11. All India seminar on Grid Stability and Load Management with MW & MVAR Control (GRIDSAFE-93), October 29-30, 1993, Nagpur.
- 12. Seventeenth National System Conference organized by Indian Institute of Technology, Kanpur, December 24-26, 1993.
- 13. 59th R & D Session of CBIP, February 1-4, 1994, Calcutta.
- 14. All India Seminar on Digital Protection of Power Apparatus and Systems organized by Indian Institute of Technology, Kanpur, March 11-12, 1994.
- 15. A two-day workshop on New Perceptions in Power System Stability conducted at Indian Institute of Technology, Bombay, July 28-29, 1994.
- 16. Eighth National Power System Conference at Indian Institute of Technology, New Delhi, December 14-17, 1994.
- 17. An Intensive Course on Modern Trends in Power System Protection organized by Indian Institute of Technology, Kanpur, May 8-13, 1995.
- 18. National workshop on Voltage Instability in Electric Power System and FACT Technology organized by IEEE UP-Section and CBIP New Delhi at I.I.T. Kanpur (INDIA), July 20-22, 1995.
- 19. International Conference on Water & Energy 2001 in the 60th R & D session of C.B.I.P., New Delhi, October 9-12, 1995.
- 20. Ninth National Power System Conference at Indian Institute of Technology, Kanpur, Dec. 17-21, 1996.
- 21. International Conference on Computer Application in Electrical Engg. A Recent Advances (CERA97) organized by University of Roorkee, India, 8-11 September 1997.
- 22. 2nd International R& D Conference of C.B.I.P. New Delhi at Vadodara, 21-24 October 1997.
- 23. All India Seminar on Electric Energy System Management- Indian Scenario, at Roorkee University, Roorkee, September 4-5, 1998.
- 24. 10th National Power System Conference at M.S. University Vadodara, October 14-16, 1998.
- 25. Symposium on Open Access at H.K. Polytechnic University, Hong Kong, June 1, 1999.
- 26. Workshop on Power System Restructuring at China Light and Power Co. Hong Kong, 1999.
- 27. 3rd IEEE International Conference on Power Electronics and Drive Systems, Hong Kong, July 26-29, 1999.
- 28. IEEE Power Engineering Society, Winter Power Meeting, 2000, Singapore, January 23-27, 2000.
- 29. National Conference on Biomedical Engineering, April 21-22, 2000, Roorkee India.
- 30. Power Quality Synergy[™] Asia 2001, May 14-16, Bangkok, Thailand

- 31. IEEE Power Engineering Society, Summer Power Meeting, Vancouver, Canada, July 15-19, 2001.
- 32. Asia Regional Seminar on Market transformation: capitalizing on energy Efficient Technologies, Organized by International Institute of Energy Conservation, Thailand, 23-24 July 2001, Bangkok.
- 33. Siemens Open House (invited), Thailand, August 30, 2001,
- 34. 4^{rth} IEEE International Conference on Power Electronics and Drive Systems, Bali, Indonesia, October 22-25, 2001.
- 35. 1st Eco-Energy and Materials Science and Engineering Symposium, November 22-23, 2001, Rajamangala Institute of Technology, Thailand.
- 36. Power System Transient Simulation & Its Applications, 11-14 December 2001, AIT Thailand. (Resource Person)
- 37. Organization of the electric supply industry to enhance development, Feb. 8-9, 2002, AIT Thailand. (Resource Person)
- 38. National Conference on Modern aspect of FACTS and its Applications at Coimbatore, India, August 29-30, 2003. (Keynote Speaker)
- 39. 12th ISAP03, Lemnos, Greece, 31st August- 3rd September 2003.
- 40. ISTE sponsored short term course on ANN and Fuzzy Logic Application to Electrical Engineering at MITS Gwalior, January 19-25, 2004. (Keynote Speaker)
- 41. International Conference on Electric Utility Deregulation and Restructuring and Power Technologies, Hong Kong during 5-8 April 2004. (**Panelist**)
- 42. International Conference on Power System during Nov 3-5, 2004 in Kathmandu, Nepal,
- 43. 13th National Power System Conference, IIT Madras (Chennai), December 27-30, 2004 (**Tutorial Speaker**).
- 44. ISAP05, Washington, USA, November 6-10, 2005.
- 45. International Conference on Future Power System, Netherlands, November 16-18, 2005.
- 46. National Conference on Electric Power Technology, Management and IT Application, MMMEC Gorakhpur, February 17-18, 2006 (**Keynote Speaker**)
- 47. National Conference on Technical Challenges in Power Systems, KNIT Sultanpur, March 24-25 2006. (Tutorial Speaker)
- 48. IEEE Power India Conference Delhi, April 10-12, 2006 (Session Chairman)
- 49. International Conference on Energy, Efficiency and Environment, UPTU Lucknow, June 10-11, 2006 (Organizing committee member, Technical Committee Chairman, Session Chairman)
- 50. IEEE Power Engineering Society, General Meeting, Montreal, Canada, June 18-22, 2006. (Panelist)
- 51. National Seminar on Voltage Stability (SVC'06), Arulmigu Kalasalingam College of Engineering, Tamil Nadu, October 13-14, 2006. (**Keynote Speaker**)
- 52. Workshop on Laboratory Teaching in Electrical Engineering (LTEE-06), KNIT Sultanpur, India, November 24-26, 2006 (Guest of Honor, Valedictory session).
- 53. AICTE Sponsored National Conference on Advances in Electrical Engineering, MITS Gwalior, Indian, November 29-30, 2006. (Keynote Speaker, Inaugural Session)
- 54. Short-term course on Power System Control, Stability and Operation, Andhra University College of Engineering, Vishakhapattanam, October 25-27, 2007, (Guest Lectures)
- 55. 14th International Conference on Intelligent System Applications to Power Systems (ISAP07), 5 8 November, 2007, Kaohsiung, Taiwan (**Best Paper Award**).
- 56. 2nd International Conference on Power Systems (ICPS2007), CPRI Bangalore, 12-14 December 2007 (Session Chairman)
- 57. 2nd Workshop on Laboratory Teaching in Electrical Engineering (LTEE-08), KNIT Sultanpur, India, Feb 28-29, 2008 (**Key Note speaker**).
- 58. AICTE-ISTE course on "Recent Trends in Power System' at NERIST, Nirjuli, Itanagar, June 23-27, 2008. ((Key Note speaker).
- 59. All India Seminar on "Energy Management in Indian Perspective; Efficiency Improvement and Energy Conservation in Power & Utilities & Emerging Technologies in the Alternative Energy for Power Generation" on October 17-19, 2008 at IE(I), Lucknow (**Key Note speaker**).

- 60. 3rd National Frontiers in Engineering, Oct. 24-25, 2008, IIT Madras. Theme IV Infrastructure (Participants).
- 61. Colloquium for Humboldt Alumni in the Engineering Sciences in India, New Delhi / INDIA, 31 October - 2 November, 2008.
- 62. IEEE Conference & Exhibition on Control, Communication and Automation, INDICON 2008, IIT Kanpur, 11-13 December, 2008 (Session Chairman)
- 63. 15th National Power System Conference, IIT Bombay (Mumbai), December 16-18, 2008.
- 64. GRIDTECH 2009 Conference and Exhibition, PGCIL, New Delhi, January 29-30, 2009 (Invited attendee).
- 65. National Seminar on Non-Conventional Energy Resources & Its Application (NCERU09), February 27-28, 2009, KNIT Sultanpur (**Keynote Speaker, Panelist**)
- 66. IEEE General Meeting, July24-28, Calgary, Canada (Panelist).
- 67. NWPC 2009, September 10-11, Bornholm, Denmark.
- 68. 15th International Conference on Intelligent System Applications to Power Systems (ISAP07), 8-12 November, 2009, Curitiba, Brazil.
- 69. Course on MATLAB Application to Electrical Engineering, 14-16 December 2009, KNIT Sultanpur (**Guest Speaker**).
- 70. International Conference on Autonomous and Intelligent Systems (AIS 2010) June 21-23, 2010, Povoa de Varzim, Portugal.
- 71. International Conference on the European Energy Markets (EEM10), June 23-25, 2010, Madrid, Spain.
- 72. IEEE General Meeting, July25-29, 2010, Minneapolis, USA (**Organizing Chairman of one Panel**, **Panelist in two other panels**).
- 73. 4rth IASTED Power and Energy Conference, Phuket, Thailand, Nov. 24-26, 2010 (Session Chairman)
- 74. Two-day Indo-Canadian Workshop on Urban Electric System Integration with PHEV Charging stations and solar farms, Anna University, Chennai, Jan 6-7, 2011 (**Invites Speaker**)
- 75. Workshop On *Data Mining---Research Issues, Recent Trends & PASW Modeler 12.0(R) Based Implementation, IP University, Delhi, March 4-5, 2011 (Keynote Speaker)*
- 76. National Conference on *Emerging Trends in Engineering and Technology*, Shree L R Tiwari College of Engineering, Mumbai, March 11,2 2011 (Guest of Honor).
- 77. National Conference in *Recent Advances in Electrical Power and Energy System Management*, MMMEC Gorakhpur, March 25-26, 2011 (Keynote speaker)
- 78. IEEE General Meeting, July 24-28, 2011, Detroit, USA (Two research papers, one panel).
- 79. 2nd AIT-PEA International Conference & Utility Exhibition on Power and Energy Systems: Issues and Prospects for Asia (ICUE 2011), September 28-30, Pattaya, Bangkok (**Keynote speaker**)
- 80. Training program on **Ancillary Services in Power System**, organized by National Load Dispatch Center, New Delhi during September 21-22, 2011.
- 81. All India Seminar on Power System Management at IE(I) Guwahati during October 14-15, 2011 (Keynote Lecture).
- 82. International Workshop on "Power Quality Issues and Challenges" (PQ Issues in Electrical Systems and challenges for RE sources in Grid Integration), November 18-19, 2011, CPRI Bangalore (**Key Note Speaker**).
- 83. Workshop on Electrical and Power Engineering during 9-13 December 2011, Jamia Milia Islamia Univ. Delhi (**Expert Lecture**).
- 84. STC on "Electricity Market and design", MNIT Jaipur, December 19-23, 2011 (Expert Lecture).
- 85. STC on Renewable Energy & Energy Security: Trends and challenges (under TEQIP), 16-20 Jan 2012, MANIT Bhopal (Expert Lecture).
- 86. National Conference on "Emerging Trends in Electrical, Instrumentation & Communication Engineering (ETEIC-2012)" 6th & 7th April 2012, Anand College of Engineering, Agra (**Key Note Speaker**).

- 87. Workshop on Ancillary Services in Indian System, organized by POSOCO, New Delhi during June 15, 2012 (**Expert Lecture**).
- 88. DST-NWO Workshop on Smart Energy Systems held during September 24-28, 2012 at TU Deft, Netherlands (**Invited Speaker**).
- 89. 2012 International Conference on Renewable Energy and Policy held during 11-15 November 2012 at National Taiwan University in Taipei (**Invited Guest**)
- 90. 17th National Power Systems Conference (NPSC-2012) held during December 12-14, 2012 at Department of Electrical Engineering, IIT (BHU) Varanasi (Session Chairman).
- 91. 2nd International Conference on Power, Control and Embedded Systems (ICPCES-2012) held during December 17-19, 2012 at Motilal Nehru National Institute of Technology, Allahabad (**Key Note speaker, Session Chairman**)
- 92. 5th IEEE Power India 2012 Conference held during 18-22 December at DCRUST, Murthal, Sonepat, (Tutorial speaker).
- 93. India-UK Workshop on Smart Grid, DTU Delhi, 18th Feb 2013 (Resource Person).
- 94. IEEE R-10 meeting, Chiang Mai, Bangkok during March 2-3, 2013. (IEEE UP Section chairman)
- 95. National seminar on "Future of Electric Power Sector: Issues and Challenges, 'FEPSIC2013' Galgotias College of Engineering and Technology, Greater Noida, 16 March 2013 (Key note speaker)
- 96. Seminar on Emerging Trends on Engineering and Technology, Vishwasaraiya Group of Institutions, Dadri, March 16-17, 2013 (Guest of Honor, Inaugural function & Chief Guest, valedictory function)
- 97. International Scientific Seminar India-UK on Exploring Beyond the Frontiers to Build A smarter Grid, Coventry University, 19-20 March 2013 (**Speaker**)
- 98. Workshop on Advanced Power Systems Operation Protection and Control, RVCE Bangalore, March 25-28, 2013 (Chief Guest of Inaugural function and Key note speaker)
- 99. Workshop on Industry-Academia Relation, IEEE PES Bangalore Chapter (REVA college), 26th March 13 (**Panelist**)
- 100. GRIDTECH 2013 Conference and Exhibition, PGCIL, New Delhi, April 3-5, 2013 (Invited attendee).
- 101. National Conference on Trends in Signal Processing & Communication, BIT Muzaffarnagar, 12-14, 2013 (Chief Guest and Key note speaker).
- 102. 2nd Students' Conference on Engineering and Systems (SCES 2013), MNNIT Allahabad, April 12-14, 2013 (**Expert Lecture**).
- 103. National Conference on Microwaves Antennas and Remote Sensing (MARS), GEHU, Dehradun, June 7-8, 2013 (Guest of Honor).
- 104. 17th International Conference on Intelligent System Applications to Power Systems (ISAP13), 1-4 July 2013, Tokyo Japan (Session Chairman).
- 105. 1st Annual International conference on Power, Energy and Electrical Engineering (PEEE), Singapore during August 26-27, 2013 (**Keynote Speaker, Editor-in-Chief**).
- 106. Workshop on Distributed Generation and Power System Restructuring, August 30-31, 2013, Udaipur (Chief Guest, Keynote speaker)
- 107. National Seminar on "Advances in Power Systems (NSAPS-2013), September 07, 2013, KNIT Sultanpur, (Guest of Honor, Keynote speaker)
- 108. Seminar on Renewable Energy Based Power Generation: Options and Challenges, September 14, 2013, MITS Gwalior (Chief Guest, Keynote speaker)
- 109. Seminar on Distributed Generation: The Power Paradigm for New Millennium, September 28-29, 2013, UEM, Kolaghat, (**Guest of Honor, Keynote speaker**)
- 110. International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA13) October 3-5, 2013, IIT Roorkee (**Plenary Speaker and Session Chairman**)
- 111. 5th International Conference on Power and Energy Systems (ICPS), October 28-30, 2013, Kathmandu, Nepal (**Session chairman**).
- 112. Indicon13, IIT Bombay, December 13-16, 2013 (Special Invitee)

- 113. 2013 International Conference on Control, Automation, Robotics and Embedded Systems (CARE 13), IIITDM Jabalpur, December 15-17, 2013 (**Keynote Speaker and Session Chairman**)
- 114. National Conference on Electric Power, and Intelligent Control Systems (EPICS), Galgotias College of Engineering and Technology, Greater Noida during March 28-29, 2014 (Chief Guest, Keynote speaker)
- 115. National Conference on Computer Intelligence and Robotics (NICCIR-14)" ABES Engineering College, April 4-5, 2014 (Key Note Speaker)
- 116. Seminar on Power Quality, ABESIT Noida during May 3-5, 2014 (Guest of honor, Keynote speaker)
- 117. Three-day Residential Training Program on "Power Procurement Strategy & Power Exchanges" July 28-30, 2014 at IIT Kanpur (**Resource Person**)
- 118. Workshop on Power System Operation and Electricity Market in India, POSCOCO, New Delhi on August 01, 2014 (**Keynote Speaker**)
- 119. Workshop on MATLAB for Engineers, BSACET, Mathura, 29-30 September 2014 (Chief Guest and Key Note Speaker).
- 120. 3rd International Conference on Reliability, Infocom Technology and Optimization (ICRITO'2014) during Oct 8-10, 2014 at Amity University, Noida, India (**Chief Guest**)
- 121. National Conference on Electrical, Electronics, and Computer Engineering, IEEE CALCON2014, 7-8 November 2014, Kolkata (**Key Note Speaker**).
- 122. 6th IEEE Power India International Conference (PIICON-2014), during 5-7 December 2014, Delhi Technological University (DTU), New Delhi, India (**Session Chair**).
- 123. 3rd International Conference on Power, Control and Embedded Systems (ICPCES-2014) held during December 26-28, 2014 at Motilal Nehru National Institute of Technology, Allahabad (**Key Note speaker**)
- 124. IEEE R10 Technical Seminar on 25th January, Kathmandu Nepal (**Organizing Coordinator**).
- 125. Workshop on "Advances in Optimization Techniques and Their Applications in Power Systems (WAOTAPS-2015), February 20-21, 2015, KNIT Sultanpur, (Keynote Speaker)
- 126. International Conference of Science and Technology-2015, Feb. 27-28, 2015 at SRMS College of Engineering & Technology, Bareilly (**Keynote speaker**)
- 127. Technical Seminar in American International University-Dhaka, Bangladesh, 9th March, 2015, (Keynote Speaker)
- 128. International Conference on Advances in Computer Engineering & Applications-2015, IMS Engineering Ghaziabad, March 19-20, 2015 (Guest of Honor)
- 129. First UP Section Conference International Conference on Energy Economics and Environment ICEEE2015), During March 26-28, 2015 at Galgotias College of Engineering & Technology Greater Noida, (General Chair, Tutorial Speaker)
- 2nd National Conference on Recent Advances in Communication, Electronics and Electrical Engineering (RACE-2015) from 27th-28th March, 2015 at I.T.S Engineering College, Greater Noida (Invited Speaker)
- GRIDTECH 2015, 5th Conference and Exhibition, PGCIL, New Delhi, April 8-10, 2015 (Session Chair)
- 132. 2nd National Conference on Advances in Power and Energy Systems, April 10-11, 2015, KNIT Sultanpur (**Keynote Speaker**).
- 133. Workshop on Transmission Systems, May 18-20, 2015, PMTI BHEL Noida (Keynote Speaker).
- 134. National Workshop on Computation Intelligence Application to Smart grid, May 28-30, 2015, IIT Mandi (Keynote Speaker).
- 135. TEQIP-II sponsored Faculty Development Programme on Recent Advances and Challenges in Power & Energy for Sustainable Growth, June 1 –5, 2015 at Electrical Engineering Department of DTU (**Guest of Honor and Invited Speaker**)
- IEEE R10 Student, Young Professional & Women in Engineering Congress (SYWC 2015), July 9-12, 2015 Colombo Sri Lanka (Invited Speaker)
- 137. IEEE Panel of Conference Organizers (IEEE POCO), July 16-18, 2015, Glasgow, UK (Invited Attendee from R10).

138. International Conference on Smart Grid Technologies 2015 (ICSTG 2015), August 6-8, 2015, Amritanagar, Coimbatore (**Tutorial Speaker & Guest of Honor**).

Dr SN Singh

13-Aug-15