

Dr. Sheilaa Haran
Professor & Mentor
Velammal Engineering College
Chennai-66
Email: drsheilaaharan@velammal.edu.in



BIOGRAPHY

- ❖ Ph.D in Power Systems Engineering, **International University, Washington DC, USA, 2006.**
- ❖ MSc (Engg) Electrical Machines, **College of Engineering, Trivandrum, 1979.**
- ❖ BSc (Engg) Electrical, **College of Engineering, Trivandrum, 1976.**

RESEARCH INTERESTS

- ❖ High Voltage Engineering
- ❖ Electrostatic Field Distribution in Transformers

SUBJECTS TAUGHT

UG

- ❖ Electrical Machines - II
- ❖ Computer Technology
- ❖ Materials Science
- ❖ Power Apparatus II & III
- ❖ Electrical Machine Design & Drawing III
- ❖ Basic Engineering II
- ❖ Circuit Theory
- ❖ Power Systems II
- ❖ Electrical Machines-I
- ❖ High Voltage Engineering
- ❖ Protection & Switchgear
- ❖ Design of Electrical Apparatus

PG

- ❖ Power System Protection

RESEACH GUIDANCE

- ❖ M.E: 01
- ❖ B.E: 56

FELLOWSHIPS

- ❖ Fellow member, F-105947/1. The Institution of Engineers (India)
- ❖ Member, LM-8220 Indian Society for Technical Education.
- ❖ Senior Member, SM-40337357 Institute of Electrical and Electronics Engineers, Inc.
- ❖ Chartered Engineer.

AWARDS

- ❖ Awarded State Scholarship for 2 years in the academic years 1969-70 & 1970-71.
- ❖ Awarded Certificate of Merit by Ministry of Education, Govt. of India in recognition of the High Position secured in the list of meritorious candidates qualifying for awards from Kerala in 1969/70.
- ❖ Recipient of 'Distinguished Women Engineers Award' by Institution of Engineers (India) Tamil Nadu State Centre for the commendable contribution towards the Engineering Profession and Fraternity in 2001.

NOMINATION IN VARIOUS COMMITTEES

- ❖ Board Member, Madras University 1990 & 2000.
- ❖ Executive Committee Member, Institution of Engineers, Tamil Nadu State Centre 2001 & 2002
- ❖ Member – Syllabus Revision Committee, Anna University, 2003-2004.
- ❖ Chairman Technical Programme Committee, IEEE-Power Engineering Society, Madras Chapter 2002-2005.
- ❖ Member, Editorial Team, IEEE-MAS Link, Newsletter of IEEE Madras Section in 2005.
- ❖ Executive Committee Member, IEEE PES Madras Chapter, 2006-2012
- ❖ Member – Nominating Committee IEEE Madras Section, 2007 & 2009
- ❖ Co-ordinator – INAE Distinguished Visiting Professor Scheme.
- ❖ Member, Nomination Committee, Infosys Science Foundation since 2009.
- ❖ Chairperson for one Session, International Conference on Swarm, Evolutionary and Memetic Computic (SEMCCO 2010), December 16-18, 2010, organized by SRM University.
- ❖ Technical Advisory Committee Member, National Conference on "Modelling, Simulation, Design and Experimental Study of Electrical Systems", MOSDES- 2013 & 2016, organized by B.S Abdur Rahman University.
- ❖ Member, New Strategic Plan -2014, Velammal Engineering College.

PUBLICATIONS

BOOKS

- Synchronous Induction and Special Machines – Scitech Publications – 2001
- Electrical Machines-II – Scitech Publications – 2008

ARTICLES

- Published an article on 'Energy Audit' in College Magazine 1994 – 1995.

- Published two articles in the Staff Club Magazine 1998.
 - a. Abstract –Writing Techniques.
 - b. Meditation.
- Published an article on ‘English for Scientists – writing journal articles in college magazine 1998 – 1999.
- Published an article on ‘Presentation Skills’ in College Magazine 2000-2001.
- Published an article on ‘How we are able to maintain our status in academics and placement and why some of the senior colleges miserably failed’ in college Magazine 2005-2006.

- **JOURNALS**

International Journals

1. ‘Mitigation of Current Quality Issues in a DG integrated Shunt Active Filter with Hysteresis Control’ - International Journal of Applied Engineering Research, Vol.10, Issue.10, pp-9660-9665, 2015.

- **CONFERENCES**

International Conference

1. ‘Energy audit – a case study’- International conference on ‘Demand side load management’ organized by Central board of Irrigation & Power, Mumbai on 21-22 Jan’99.
2. ‘Energy conservation using microprocessor based power factor measurement and control’ – International conference on ‘Demand side load management’ organised by Central Board of Irrigation & Power Mumbai on 21 – 22 Jan’99.
3. ‘A novel method of measurement and control by Electrical Parameters using intranet for efficient energy management’. – International conference on ‘Demand Side load management’ organized by Central board of Irrigation & Power, Mumbai on 21 – 22 Jan’99.
4. ‘Recent Trends in Maintenance Technologies of EHV Transmission Lines’ – International Conference on Recent Trends in Maintenance Technologies of EHV Transmission Lines organized by Central Board of Educational Power, New Delhi on 29 – 30 April 2002.
5. ‘Voltage Collapse Prediction and Voltage Stability Analysis in Stressed Power System Network’ – Second International Conference on Intelligent Systems and Control organized by Karpagam College of Engineering, Coimbatore on 1-2 February 2008.
6. ‘Modeling of Wind Energy Based SSSC for Voltage Stability Enhancement’ – Fourth International Conference on Swarm, Evolutionary and Memetic Computing Conference (SEMCCO) & Fuzzy and Neural Computing Conference (FANCCO) 2013 organised by SRM University, Kattankulathur on 19-21 December 2013.
7. ‘Power System Stability Studies Using Fuel Cell as STATCOM’ – Fourth International Conference on Swarm, Evolutionary and Memetic Computing Conference (SEMCCO) & Fuzzy and Neural Computing Conference (FANCCO) 2013 organised by SRM University, Kattankulathur on 19-21 December 2013.

8. 'Congestion Management Assessment for IEEE 14 bus system using Power World Simulator' – Joint International Conference on ICCPT 2015 & ICAIECE 2015, organized by Department of EEE, Velammal Engineering College on 22-23, April 2015.
9. 'Optimization of Impedance Mismatch in Distance Protection of Transmission line with TCSC' – Joint International Conference on ICCPT 2015 & ICAIECE 2015, organized by Department of EEE, Velammal Engineering College on 22-23, April 2015.
10. 'Analysis of Parallel Active Power Filter using Instantaneous PQ theory' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
11. 'Shunt Active Filter Integrated with Renewable Source for Current Quality Enhancement' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
12. 'Network Reconfiguration in a radial distributed system using Ant colony optimization' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
13. 'Compensation of Reactive Power in Radial Distribution Networks with Unified Power Quality Conditioner Allocation Using Particle Swarm Optimization' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
14. 'Application of UPFC over two area system for Power oscillation damping' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
15. 'Contingency analysis for maintaining power system security' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
16. 'Optimal Placement Of Capacitor In A Radial Distributed System For Improvement Of Voltage Stability' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
17. 'MPPT for DFIG fed standalone wind energy conversion system' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
18. 'Combined Operation Of Photovoltaic System With DVR Configuration' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
19. 'State Estimation In Power System With Facts Devices by using phasor Measurement Units' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
20. 'Notch filter based PLL less control for grid interfaced solar PV generation system' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.
21. 'Protection Of Stand Alone Wind Energy Conversion System And Transmission Lines Using Over Current Relay' - IEEE International Conference on Innovations in Information Embedded and

Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.

22. 'Simulation Modeling of PV Based UPQC for Voltage Sag Mitigation' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.

23. 'Voltage sag and reactive power compensation using Synchronous reference frame based PV supported UPQC' - IEEE International Conference on Innovations in Information Embedded and Communication Systems (ICIIECS'16), organized by Karpagam College of Engineering, Coimbatore on 17 March 2016.

National Conferences:

1. "Static frequency converter for A.C. Motor speed control' National Seminar on 'Electrical Power Equipment and Control of Machines' on 4 - 5 Dec'93, at Ahmed Nagar.
2. 'Fault tolerant control system for Aircraft Engines" proceedings of IX National Convention of Aerospace Engineers 13 Feb'94 at Madras.
3. "Microprocessor based 3-axes Robotic arm" IX National Convention of Electronics & Telecommunication Engineers at Roorkee, 31 March'94.
4. "Efficient Control System for fly ash removal in Power Plant" National Seminar on "Modern Trends in Treatment & Disposal of Industrial wastes" organized by IE (India) at Bombay on 21st, 22nd Oct'94.
5. "Intelligent Controller for MOSFET based UPS" National Seminar on Computer & Multimedia", at Lucknow on 11 – 12. Nov'95.
6. "Microprocessor based conveyor control for tyre industry" National Conference on 'Signals – Data systems' at Bhatkal, on 28 – 30 Nov'95.
7. "Energy in Small Scale Industries – A case study" – National Conference on 'Energy audit & efficient Management', at Mumbai, on 19 – 20 Feb'98.
8. "Amorphous Metal Core Transformers' National Seminar on "Electrical Engineering Materials' organized by IE (India), at Chennai on 19 Sep'98.
9. "PC based maximum demand induction and control with real time recording'. National Seminar on "Electrical Engineering Materials" organized by IE(India), Chennai on 19 Sep'98.
10. "Power factor Optimization of wind driven induction generator' X National Power System Conference MS University of Baroda, Vadodara, on 14 -16 Oct'98.
11. "PC based analysis at generator end' 'National Seminar on Power Quality, the Problems & Solutions' organized by Institute for Design of Electrical Measuring Instruments (IDEMI), Mumbai, on 19-20 Nov'98.
12. "Computer aided design and cost estimation of substation, 'National seminar on Modern trends in the transmission systems', at IIT, Kanpur, on 10-12 Dec'98.
13. "Microprocessor based frequency activated load shedding' – National seminar SORT – GENUINE'99 organized by the Institution of Engineers (India) and IGCAR, Kalpakkam on 6-8 Jan'99.
14. "Development of Multidrop network compatible measurement & control modules' – National seminar SORT – GENUINE'99 organized by the Institution of Engineers (India) and IGCAR, Kalpakkam on 6-8 Jan'99.

15. "Microcontroller based frequency and Voltage Relays" – National seminar SORT – GENUINE'99 organised by the Institution of Engineers (India) and IGCAR, Kalpakkam on 6-8 Jan'99.
16. "The art of preparing / writing a research article" – National seminar on 'Challenges of Engineering Education for the 21st century'. organised by the Institution of Engineers (India) on 5 – 6 Feb'2000.
17. "Achieving the increasing quality power demand – A challenge" - – National Workshop on Power Quality – PQ – 2000: Issues & Options organised by Central Power Research Institute, Bangalore on 5 – 6 July'2000.
18. "Student Branch Operations" IEEE student Congress – 2000 on 'IT and Education' organised by IEEE, India Council and Madras Section on 7-9 July 2000.
19. 'Energy Efficient Motors' – National Conference on Emerging Trends in Engineering Technology and Management organized by ISTE Chapter, Adhiyaman Engineering College, Hosur on 8 – 9 September 2003.
20. 'Maintenance Scheduling of Power Generating Units' – National Conference on Recent Trends in Electrical Engineering (RTEE'05) organized by K.S.Rangasamy College of Technology, Tiruchengode on 29-30 August 2005.
21. 'Optimal Restoration of Distribution Cold Load Pick-up using Swarm Intelligence'- National Conference on Recent Trends in Instrumentation and Signal Processing' organized by Velammal Engineering College, Chennai on 5th October 2007.
22. 'Simulation Tool for Optimization in Power Plant Engineering' - National Conference on Recent Trends in Instrumentation and Signal Processing' organized by Velammal Engineering College, Chennai on 5th October 2007.
23. 'A Novel Wavelet-Based Algorithm for Discrimination of Internal Faults from Magnetizing Inrush Current in Power Transformers' - National Conference on Recent Trends in Instrumentation and Signal Processing' organized by Velammal Engineering College, Chennai on 5th October 2007.
24. 'Image Enhancement using Wavelet Algorithm' - National Conference on Recent Trends in Instrumentation and Signal Processing' organized by Velammal Engineering College, Chennai on 5th October 2007.
25. 'Optimal Location of TCSC for minimizing the losses' - National Conference on Innovative Techniques in Power Engineering & Drives' organized by Velammal Engineering College, Chennai on 14th March 2008.
26. 'Voltage Profile Improvement by SVC' - National Conference on Innovative Techniques in Power Engineering & Drives' organized by Velammal Engineering College, Chennai on 14th March 2008.
27. 'An Improved Genetic Algorithm Solution of Economic Load Dispatch with Valve- Point' - National Conference on Innovative Techniques in Power Engineering & Drives' organized by Velammal Engineering College, Chennai on 14th March 2008.
28. 'Linear Estimation Technique for Outage Studies in Power System Planning and Operation' - National Conference on Innovative Techniques in Power Engineering & Drives' organized by Velammal Engineering College, Chennai on 14th March 2008.
29. 'Power Quality Improvement with RS-UPQC in Distribution System' – NCIEEE, organized by Sathyabama University on 7-7, February 2014.
30. 'Power Quality Augmentation with RS-UPQC under Distorted Input Condition' – National Conference on Intelligent Power Electronics Technology' organized by RMD Engineering College on 24th March 2014.

31. 'Double Stage Grid Interfaced Solar PV Generating System with PLL-Less Control' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
32. 'Synchronization Of Grid Voltage In Distributed Generation System Using PLL' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
33. 'Enhancement Of Power System Reliability By Contingency Analysis' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
34. 'Protection Of Stand Alone Wind Energy Conversion System And Transmission Lines Using Over Current Relay' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
35. 'State Estimation In Power System With Facts Devices By Optimal Placement of Phasor Measuring Units' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
36. 'Combined Operation Of Photovoltaic System With DVR Configuration' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
37. 'Damping of Inter Area Oscillation Over Two Area System Using UPFC' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
38. 'Loss Minimization In A Radial Distribution System Using Network Reconfiguration And Ant Colony Optimization' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
39. 'Design Of Control Topology For Stand Alone Wind Energy Conversion System' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
40. 'Optimal Placement Of Capacitor In A Radial Distributed System For Improvement Of Voltage Stability' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
41. 'Unified Power Quality Conditioner Allocation using particle Swarm Optimization for the Compensation of Reactive Power in Radial Distribution Networks' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
42. 'Analysis And Implementation Of Shunt Active Power Filter Using Instantaneous PQ Theory' - National Conference on Emerging Trends and Developments in Power System, Power Electronics and Drives organized by RMK College of Engineering and Technology on 7th March 2016.
43. 'Protection of Stand Alone Wind Energy Conversion System and Transmission Lines using Fault Current Limiters' - Innovative Techniques in Power Engineering and drives ITPED '16 organized by Department of EEE, Velammal Engineering College on 20th April 2016.

GUEST LECTURES

Expert Lecture Delivered

- 'English for Scientists – writing Journal articles' at Crescent Engg. College on 6 May 1993.
- 'Latest trends in cable manufacturing' at the Institution of Engineers (India) Tamil Nadu State Centre on 22 Dec'94.
- 'How to write a research paper' at Academic Staff College, University of Madras on 10 June 1999.
- 'Vector control of induction motor' at the Institution of Engineers (India), Tamil Nadu State

OTHERS

FDP / STTP / Workshop Organised

1. AICTE Sponsored FDP on "VLSI Systems and its Applications to Power Electronics" was conducted during 5- 19, May 2014.
2. A National level Workshop and Hands on Training on "Soft Computing Techniques in Power Converters Using MATLAB& PSCAD" was conducted during 29- 30, October 2015.
3. Workshop on '-Research Prospective – An insight to Proposals and Patents' was conducted on 23, Jan 2016.
4. National Level Workshop and Hands on Training on "Power Electronics Applications to Renewable-Energy Sources using MATLAB and PSIM" was conducted during 29- 30, April 2016.
