Dr. P. SOMASUNDARAM
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Present Position

Professor, Department of Electrical and Electronics Engineering, College of Engineering Guindy, Anna University, Chennai from May-2015.

Previous Positions

- Associate professor, Department of Electrical and Electronics Engineering, College of Engineering Guindy, Anna University, Chennai during May-2012 and May-2015.
- Assistant Professor, Division of Power System, College of Engineering Guindy, Anna University, Chennai during May-2009 and May-2012.
- Lecturer Sr. Grade, Division of Power System, College of Engineering Guindy, Anna University, Chennai during May-2005 and May-2009.
- Lecturer, Division of Power System, College of Engineering Guindy, Anna University, Chennai during December-2003 and May-2005.
- Teaching Research Associate, Division of Power System, College of Engineering Guindy, Anna University, Chennai during November-2000 and December-2003.

Previous Additional Responsibility

- Professor Incharge Of Power Engineering And Manage, , Anna University, Chennai during January-2015 and January-2018.
- Zonal Officer, Office of the COE, Anna University, Anna University, Chennai during August-2008 and July-2017.
- Programme Officer, National Service Scheme, Anna University, Chennai during December-2004 and December-2007.
- Resident Counselor, Boys Hostel, Anna University, Chennai during January-2001 and May-2005.
- , , Anna University, Chennai.

Other Employment

- LECTURER, R.M.K. Engineering College for 1 year.

Degree

- M.E. in POWER SYSTEMS ENGINEERING , Faculty of Engineering, Annamalai University (1998 - 1999).
- B.E. in ELECTRICAL AND ELECTRONICS ENGINEERING , KSR College of Technology, Madras University (1994 - 1998).

Research Degree

- Ph.D. in Power Systems from Faculty of Electrical Engineering, College of Engineering, Guindy, Anna University (2000 - 2005).
  Title: Evolutionary Programming Based Algorithms for Security Constrained Economic Dispatch in Power Systems.

Area of Specialisation

- Power Systems
- AI Applications to Power System Problems
- Hybrid Microgrid
- Renewable Energy
- HVDC & FACTS

Membership in Professional Organization

- Indian Society for Technical Education (ISTE)

Research Guidance

Number of Ph.D Scholars Guided	: 11
Number of Ph.D Scholars Guiding	: 5
Number of M.E./ M.Tech. Projects Guided	: 30
Number of M.E./ M.Tech. Projects Guiding	: 12

Papers Published in Journals

Research Papers Published in International Journals	: 49
Research Papers Published in National Journals	: 0

1. Somasundaram P., Kuppusamy K. and Kumudini Devi R.P., " Economic dispatch with prohibited operating zones using fast computation evolutionary programming algorithm", International Journal of Electric Power Systems Research, published by Elsevier. Vol. 70, Issue 3, pp. 245-252 (2004).

2. Somasundaram P., Kuppusamy K. and Kumudini Devi R.P., "Evolutionary programming based economic dispatch with line flow constraints", International Journal of Computational Engineering Science, published by World Scientific Publishing Co. Vol. 5, Issue 1, pp. 81-90 (2004).

3. Somasundaram P., Kuppusamy K. and Kumudini Devi R.P., "Evolutionary programming based security constrained optimal power flow", International Journal of Electric Power Systems Research, published by Elsevier. Vol. 72, Issue 2, pp. 137-145 (2004).

4. Somasundaram P. and Kuppusamy K., "Application of Evolutionary programming to security constrained Economic Dispatch", International Journal of Electrical Power and Energy Systems, published by Elsevier. Vol. 27, Issue 5, pp. 343-351 (2005).

5. Somasundaram P., Lakshmiramanan R. and Kuppusamy K., "Hybrid Algorithm Based on EP and LP for Security Constrained Economic Dispatch Problem", International Journal of Electric Power Systems Research, published by Elsevier. Vol. 76, Issue 1, pp. 77-85 (2006).

6. Somasundaram P., Kuppusamy K. and Kumudini Devi R.P., " Fast Computation Evolutionary Programming Algorithm for the Economic Dispatch Problem", International Journal of European Transactions on Electric Power, published by Wiley . Vol. 16, pp. 35-47 (2006).

7. Somasundaram P., Lakshmiramanan R. and Kuppusamy K., "New approach with evolutionary programming algorithm to emission constrained economic dispatch", International Journal of Power and Energy Systems, published by ACTA Press. Vol. 26, Issue 3, pp. 291-295 (2006).

8. Ramesh Babu M., Somasundaram P., " PSO based pool strategies for deregulated power market", Journal of Electrical Engineering, published by Politehnica Publishing House. Vol. 9, Issue 1, pp. 46-55 (2009).

9. Prasanna T.S., Somasundaram P., " OPF with FACTS devices in Interconnected Power systems using fuzzy stochastic algorithms", International Journal of Power and Energy Conversion , published by Inderscience Publishers. Vol. 1, Issue 2, pp. 279 - 299 (2009).

10. Prasanna T.S., N.B.Muthuselvan, Somasundaram P., " Security Constrained OPF by Fuzzy Stochastic Algorithms in Interconnected Power Systems", International Journal of Electrical Systems, published by Mind Reader Publications. Vol. 5, Issue 1, pp. 1-16 (2009).

11. Prasanna T.S., Somasundaram P., " Multi-area security constrained economic dispatch by fuzzy - stochastic algorithms", International Journal of Theoretical and Applied Information Technology, published by Little Lion Scientific. Vol. 5, Issue 1, pp. 88-94 (2009).

12. Prasanna T.S., M.Devesh Raj, Somasundaram P., "DC OPF of Interconnected Power System using Fuzzified Evolutionary Algorithms", Iranian Journal of Electrical and Computer Engineering, published by IRIEE-ACECR. Vol. 8, Issue 2, pp. 126-132 (2009).

13. Muthu Selvan, N. B. and Somasundaram, P., "Application of Tabu Search Algorithm to Security Constrained Economic Dispatch", Journal of Theoretical and Applied Information Technology, published by Little Lion Scientific. Vol. 5, Issue 5, pp. 602-608 (2009).

14. Somasundaram, P. and Muthu Selvan, N. B., "A Modified Particle Swarm Optimization Technique for Solving Transient Stability Constrained Optimal Power Flow", Journal of Theoretical and Applied Information Technology, published by Little Lion Scientific. Vol. 13, Issue 2, pp. 154-164 (2010).

15. Jothi Swaroopan, N.M. and Somasundaram P., " A Novel Combined Economic and Emission Dispatch Control by Hybrid Particle Swarm Optimization Technique", Majlesi Journal of Electrical Engineering, published by ResearchBib. Vol. 4, Issue 2, pp. 19-24 (2010).

16. Silas Stephen, D. and Somasundaram, P., "Fuzzy Mutated Evolutionary Programming based Algorithm for Multi-Objective Reactive Power Optimization", International Journal of Electrical Engineering, published by RI publications. Vol. 3, Issue 3, pp. 137-146 (2010).

17. Jothi Swaroopan, N.M. and Somasundaram, P., " Fuzzified PSO Algorithm for DC-OPF of Interconnected Power System", Journal of Theoretical and Applied Information Technology, published by Little Lion Scientific . Vol. 17, pp. 1-10 (2010).

18. P. Somasundaram and N. M. Jothi Swaroopan, "Fuzzified Particle Swarm Optimization Algorithm for Multi-area Security Constrained Economic Dispatch", Electric Power Components and Systems, published by Taylor & Francis Group. Vol. 39, pp. 979-990 (2011).

19. Muthu Selvan, N. B., Devesh Raj, M. and Somasundaram, P., "Cauchy – Gaussian infused Particle Swarm Optimization for Economic Dispatch with Wind Power Generation", International Review of Electrical Engineering, published by Praise Worthy Prize. Vol. 6, Issue 1, pp. 387-395 (2011).

20. S. V. Anbuselvi, R. P. Kumudini Devi, P. Somasundaram, and T. S. Nargunadevi, "Small Signal Stability Analysis of Power System with VSC Based HVDC Link Employing Phase Angle Control", International Review on Modelling & Simulations, published by Praise Worthy Prize. Vol. 5, Issue 5, pp. 2251-2260 (2012).

21. Ramesh Babu M., Somasundaram P., "Risk invoked self-scheduling of a genco in the day-ahead energy market", ARPN Journal of Engineering and Applied Sciences, published by Asian Research Publishing Network. Vol. 7, Issue 2, (2012).

22. Silas Stephen, D. and Somasundaram, P., "Solution for Multi-Objective Reactive Power Optimization using Fuzzy Guided Tabu Search", Arabian Journal of Science and Engineering, published by Springer. Vol. 37, Issue 8, pp. 2231-2241 (2012).

23. Ramesh Babu M., Somasundaram P., "Profit based self scheduling of the genco's by using particle swarm optimization", U.P.B. Scientific. Bulletin., Series C : Electrical Engineering, published by University Politehnica of Bucharest. Vol. 74, Issue 2, pp. 205-222 (2012).

24. Ramesh Babu M., Somasundaram P., "Risk invoked emission constrained self-scheduling of a genco: a multi objective approach", International Review Of Electrical Engineering, published by Praise Worthy Prize. Vol. 7, pp. 4271-4282 (2012).

25. Muthu Selvan, N. B. and Somasundaram, P., "Particle Swarm Optimization Technique using Gaussian and Cauchy Probability Distribution Function for Optimal Power Flow Problem", International Journal of Power and Energy Conversion, published by Inderscience. Vol. 3, Issue 1, pp. 42-53 (2012).

26. Silas Stephen, D. Devesh Raj, M. and Somasundaram, P., " Solution for Multi-Objective Reactive Power Optimization Problem using Fuzzified Particle Swarm Optimization Algorithm", International Review of Electrical Engineering, published by Praiseworthyprize. Vol. 7, Issue 1, pp. 3486-3494 (2012).

27. Silas Stephen, D. Devesh Raj, M. and Somasundaram, P., "Fuzzy based Stochastic Algorithms for Multi-Objective Reactive Power Optimization including FACTS Devices", International Journal of Electrical Engineering and Informatics, published by School of Electrical Engineering and Informatics. Vol. 4, Issue 2, pp. 245-260 (2012).

28. Ramesh Babu M., Somasundaram P., "Risk-invoked self-scheduling of a genco in a day-ahead energy and spinning reserve market", IEEJ Transactions on Electrical and Electronic Engineering, published by Wiley. Issue 8, pp. 40-48 (2013).

29. S. Abdul Rahman and P. Somasundaram, "Voltage sag and swell compensation using AC/DC converters", Australian Journal of Electrical and Electronics Engineering , published by Engineers Australia. Vol. 11, Issue 2, pp. 186-194 (2014).

30. M. Devesh Raj, N. B. Muthuselvan & P. Somasundaram, " Swarm-Inspired Artificial Bee Colony Algorithm for Solving Optimal Power Flow with Wind Farm", Arabian Journal for Science and Engineering, published by Springer. Vol. 39, Issue 6, pp. 4775-4787 (2014).

31. S.Vimalraj and P.Somasundaram, "Fault Detection, Isolation And Identification Of Fault Location In Low-Voltage Dc Ring Bus Microgrid System", Advanced Research in Electrical, Electronics and Instrumentation Engineering , published by IJAREEIE. Vol. 3, Issue 2, pp. 570-582 (2014).

32. NEKKANTI S S S CHANDRA and P.SOMASUNDARAM, " Fast Control Strategy For Stabilizing Fixed Speed Wind Turbines in an Islanded Distributed System", Advanced Research in Electrical, Electronics and Instrumentation Engineering , published by IJAREEIE. Vol. 3, Issue 2, pp. 344-354 (2014).

33. M. Chandran , S. Ravindra kumar and P. Somasundaram, " Smart and Adaptive Over Current Protection for Distribution System with Distributed Generation", Advanced Research in Electrical, Electronics and Instrumentation Engineering , published by IJAREEIE. Vol. 3, Issue 2, pp. 102-111 (2014).

34. S. Abdul Rahman, P. Somasundaram & P.A. Janakiraman, "Mitigation of Voltage Sag and Swell Using Direct Converters with Minimum Switch Count", Journal of Power Electronics, published by The Korean Institute of Power Electronics . Vol. 14, Issue 6, pp. 1314-1321 (2014).

35. Thiyagarajan V. and Somasundaram P., "Optimization of Grid – Connected Solar Array Using P & O Based MPPT Algorithm with Current Reference Converter", International Journal of Applied Engineering Research, Vol. 10, Issue 4, pp. 3782-3786 (2015).

36. S. Abdul Rahman, P.A. Janakiraman and P. Somasundaram, " Voltage Sag and Swell Mitigation based on Modulated Carrier PWM", International Journal of Electrical Power and Energy Systems, published by Elsevier. Vol. 66, pp. 78-85 (2015).

37. Karthikeyan A., Thiyagarajan V.,Somasundaram P., " Comparative analysis of PWM techniques for Photovoltaic application with HERIC inverter", Journal of Advances in Chemistry, Vol. 12, Issue 16, pp. 4950-4955 (2016).

38. Thiyagarajan V. and Somasundaram P., "Performance Analysis of Photovoltaic Array with H5 Inverter under Partial Shading Conditions", International Journal of Innovation and Scientific Research, Vol. 22, Issue 1, pp. 164-177 (2016).

39. S.V. Anbuselvi, P. Somasundaram, and R.P. Kumudini Devi, "Impact of current controller dynamics in small signal stability analysis of two terminal VSC-HVDC system employing grid voltage vector orientation control", NTERNATIONAL TRANSACTIONS ON ELECTRICAL ENERGY SYSTEMS, published by John Wiley & Sons, Ltd.. Vol. 26, pp. 730-749 (2016).

40. V. Thiyagarajan & P. Somasundaram, "Analysis of Multicarrier PWM techniques for Photovoltaic fed Cascaded H-Bridge Multilevel Inverter", Journal of Electrical & Electronics Engineering , published by University of Oradea. Vol. 10, Issue 1, pp. 85-90 (2017).

41. V. Thiyagarajan & P. Somasundaram, " New Asymmetric Seven Level Inverter with Minimum Number of Voltage Sources and Switches", Journal of Electrical Engineering , published by Politehnica Publishing House. Vol. 17, Issue 3, pp. 354-359 (2017).

42. V. Thiyagarajan & P. Somasundaram, "Modeling and Analysis of Novel Multilevel Inverter Topology with Minimum Number of Switching Components", Computer Modeling in Engineering & Sciences, published by Tech Science Press. Vol. 113, Issue 4, pp. 461-473 (2017).

43. V. Thiyagarajan & P. Somasundaram, "Modified Seven Level Symmetric Inverter with Reduced Switch Count", Advances in Natural and Applied Sciences, published by BYAENSI Publication. Vol. 11, Issue 7, pp. 264-271 (2017).

44. S.V. Anbuselvi, P. Somasundaram, and R.P. Kumudini Devi, "Loss minimization in wind farm integrated AC/DC system by optimal injections and droop settings of VSC-MTDC systems", Turkish Journal of Electrical Engineering and Computer Sciences, published by The Scientific and Technological Research Council . Vol. 25, Issue 3, pp. 1693-1711 (2017).

45. Thiyagarajan V. and Somasundaram P., "Modified Nine Level Inverter with Reduced Number of Switches", International Journal of Control Theory and Applications, published by International Science Press. Vol. 10, Issue 2, pp. 217-225 (2017).

46. V. Thiyagarajan & P. Somasundaram, "Multilevel Inverter Topology with Modified Pulse Width Modulation and Reduced Switch Count", Acta Polytechnica Hungarica, published by Óbuda University. Vol. 15, Issue 2, pp. 141-167 (2018).

47. V. Thiyagarajan & P. Somasundaram, "A New Seven Level Symmetrical Inverter with Reduced Switch Count", International Journal of Power Electronics and Drive Systems, published by Institute of Advanced Engineering and Science. Vol. 9, Issue 2, pp. 921-925 (2018).

48. V. Thiyagarajan & P. Somasundaram, "DESIGN OF NEW SYMMETRICAL NINE LEVEL INVERTER WITH REDUCED NUMBER OF SWITCHES ", Revue roumaine des sciences techniques, published by Romanian Academy. Vol. 63, Issue 2, pp. 196-201 (2018).

49. V. Thiyagarajan & P. Somasundaram, "New Asymmetric 21-Level Inverter with Reduced Number of Switches", The Journal of Engineering Research, published by Sultan Qaboos University. Vol. 16, Issue 1, pp. 18-27 (2019).

Sponsored Projects Completed

1. "Power Evacuation Studies for Grid Integrated Wind Energy Conversion System", funded by Centre for Wind Energy Technology (February-2010 - February-2013). Project Cost: 1600800.00.

2. "Study to Assess the Consumption of Agricultural and Hut Services And T&D Loss in the TANGEDCO Grid", funded by TANGEDCO (December-2011 - December-2012). Project Cost: 1000000.00.

Programme Chaired

1. Chairman, International level conference titled "International Conference on Electrical Energy Systems - ICEES 2014" conducted by SSN College of Engineering from 08-Jan-2014 to 08-Jan-2014.

2. National level conference titled "Recent Trends in Power and Energy Engineering (RTPEE-2014)" conducted by SSN College of Engineering from 10-Apr-2014 to 10-Apr-2014.

Programme Organized

1. Coordinator , National level workshop on "Microcontroller Based Circuit Design" from 01-Dec-2006 to 02-Dec-2006.

2. Coordinator , National level Short Course on "FDP on Power System Analysis" from 03-Dec-2007 to 15-Dec-2007.

3. Coordinator , National level Short Course on "FLEXIBLE AC TRANSMISSION SYSTEMS" from 27-Sep-2010 to 29-Sep-2010.

4. Coordinator , National level Short Course on "Grid Integration of Renewable Energy Sources and Reactive Power Management & CDM" from 20-Jan-2011 to 22-Jan-2011.

5. Coordinator , National level Short Course on "Integration of Renewable Energy into Grid, Smart Grid Concepts and Embedded System Application" from 24-Nov-2011 to 26-Nov-2011.

6. Coordinator , National level Short Course on "Digital Simulation of Power Systems" from 07-Mar-2012 to 09-Mar-2012.

7. Coordinator, National level Short Course on "SEVEN DAYS FDTP ON FLEXIBLE AC TRANSMISSION SYSTEMS" from 02-Dec-2014 to 08-Dec-2014.

8. Coordinator, National level workshop on "TWO DAYS WORKSHOP ON MODERN POWER SYSTEM ANALYSIS TOOLS" from 12-Feb-2015 to 13-Feb-2015.

9. Convener, National level conference on "UGC Sponsored National Conference on Smart Grid and Renewable Energy Sources" from 20-Mar-2015 to 21-Mar-2015.

10. Coordinator, National level workshop on "TEN DAYS WORKSHOP ON ELECTRICAL SYSTEM SIMULATION TOOLS" from 15-Jun-2015 to 25-Jun-2015.

11. Coordinator, National level workshop on "ONE DAY WORKSHOP ON SIMULATION OF POWER SYSTEM TRANSIENTS: EMTP-RV" from 24-Jul-2015.

Programme Attended

1. Attended a National level Short Course on "Power Electronics" organized by Anna University, INDIA from 01-Jun-2009 to 07-Jun-2009.

2. Attended a National level Short Course on "Advance Control Systems" organized by Anna University, INDIA from 08-Jun-2009 to 14-Jun-2009.

3. Participated in a National level workshop on "Recent Trends in Crystal Growth" organized by Anna University, INDIA from 30-Mar-2010 to 30-Mar-2010.

4. Attended a National level Short Course on "Electromagnetic Theory" organized by Anna University, INDIA from 07-Jun-2010 to 13-Jun-2010.

5. Attended a National level Short Course on "Power Quality" organized by Anna University, INDIA from 01-Dec-2010 to 07-Dec-2010.

6. Participated in a National level workshop on "PSCAD Power System Simulator" organized by Anna University, INDIA from 11-Aug-2011 to 12-Aug-2011.

7. Attended a National level Short Course on "Soft Computing With AI" organized by Sri Sairam Institute of Technology, INDIA from 15-Sep-2011 to 28-Aug-2011.

8. Attended a National level Short Course on "Fundamentals of Nanoscience and Technology" organized by Anna University, INDIA from 07-Dec-2011 to 21-Dec-2011.

9. Attended a National level seminar on "Electrical Drives and Embedded Control" organized by CEG, Anna University, INDIA from 17-Dec-2012 to 21-Dec-2012.

10. Participated in a International level workshop on "Renewable Energy, Climate Change & Energy Management" organized by CEG, Anna University, INDIA from 24-Jan-2013 to 25-Jan-2013.

11. Participated in a International level workshop on "Second International Workshop on Advanced Functional Nanomaterials (SIWAN - 2013)" organized by Centre for Nanoscience and Technology and Centre for International Affairs, Anna University, INDIA from 28-Jan-2013 to 30-Jan-2013.

12. Attended a National level Short Course on "Internal Quality Assurance" organized by CEG, Anna University, INDIA from 12-Mar-2013.

13. Attended a National level Short Course on "Computational Intelligence in Smart Electric Power Grid" organized by SRM University, INDIA from 01-Apr-2013 to 06-Apr-2013.

14. Attended a National level Short Course on "FACTS Controller Application in Transmission Line" organized by Adhiparasakthi Engineering College , INDIA from 12-Jun-2013 to 25-Jun-2013.

15. Attended a National level Short Course on "Design of Electrical Machines" organized by CEG, Anna University, INDIA from 13-Dec-2013 to 20-May-2013.

16. Attended a National level Short Course on "Optimization of Different FACTS Control Parameter in Power System Network" organized by Adhiparasakthi Engineering College , India from 14-Jul-2014 to 19-Jul-2014.

17. Participated in a International level conference on "SOFTWARE DEFINED NETWORKING" organized by CEG, ANNA UNIVERSITY, India from 09-Aug-2019 to 10-Aug-2019.

Honours

1. "Best Paper Award" given by VIT University, Vellore from INDIA (2013).

Invited Lectures

1. Delivered a Lecture on "Economic Dispatch" in Anna University Sponsored FDTP on Power System Operation and Control organized by Easwari Engineering College, Chennai - 600089 (04-Jun-2010).

2. Delivered a Lecture on "Fuzzy Logic Application to Power System" in Application of Intelligent Techniques in the analysis and design of Electrical Systems organized by K.S.R College of Engineering, Tiruchengode - 637215 (29-Apr-2011).

3. Delivered a Lecture on "Recent Trends in Power Sys. Operation and Control" in Special Lecture organized by RMK College of Engineering and Technology, Puduvoyal, Chennai (14-Jul-2012).

4. Delivered a Lecture on "Assessment of PQ Characteristics of Wind Farms" in 12th National Training Course on Wind Energy Technology organized by Centre for wind Energy Technology, Chennai (19-Jul-2012).

5. Delivered a Lecture on "Assessment of PQ Characteristics of Wind Farms" in 9th International Training Course on Wind Turbine Technology and Applications organized by Centre for wind Energy Technology, Chennai (17-Sep-2012).

6. Delivered a Lecture on "Assessment of PQ Characteristics of Wind Farms" in 13th National Training Course on Wind Energy Technology organized by Centre for Wind Energy Technology, Chennai (12-Dec-2012).

7. Delivered a Lecture on "Recent Trends in Solar Photovoltaic Energy Convers" in CSIR sponsored national level workshop organized by Nandha Engineering College, Erode (20-Apr-2013).

8. Delivered a Lecture on "Artificial Intelligence and Fuzzy Logic in Power Systems" in One Day Technical Seminar organized by Meenakshi Sundararajan Engg. College, Chennai (16-Aug-2013).

9. Delivered a Lecture on "HVDC Transmission and FACTS" in FDTP on Transmission and Distribution (EE2303) organized by Eswari Engineering College, Chennai (28-Jun-2014).

10. Delivered a Lecture on "microgrid Control Strategies" in International conference for Phoenixes on Emerging Current Trends in Engineering And Management organized by Panimalar Engineering College, Chennai (10-Feb-2018).