

# ***Dr. M S Nagaraj***

**Professor and Head**

**Department of E & E**

**BIET, Davangere**

**[msndvg@gmail.com]**



## ***Work Experience: 37 Years***

- Worked as a Lecturer in E&E Department of STJIT, Ranebennur from 1986-1991
- Promoted as Lecturer at BIET from 1991 to 1997
- Promoted as Senior Lecturer from 1998 to 2007
- Promoted as Assistant Professor from August 2007 to July 2008
- Promoted as Professor from September 2008 in the department of E & E
- Working as Professor and Head in the department of E& E since 2010

## ***Educational Qualification:***

- Ph.D (Electrical & Electronics Engineering) from Visvesvaraya Technological University, 2008.
- M.Tech (Power Systems) from NIE, Mysore , Mysore University , 1990
- B.E (E & E) from Government BDT College of Engineering, Davanagere, Mysore University, 1986

## ***Dissertation Details:***

“Development of Algorithm for Operational Planning in Power Distribution System using Artificial Neural Network and Fuzzy Logic”

## ***Roles and Responsibilities:***

- Working as Head of E&E Department

### ***Awards:***

- Awarded as a best teacher for several times from the college for achieving 100% result in the subjects handled.

### ***Membership:***

- Life Member of Indian Society for Technical Education (ISTE): LM7929
- Member of Institution of Engineers (MIE): M 1 2 7 6 5 4 / 3

### ***Core Subjects Taught:***

Basic Electrical Engineering, Network Analysis, Control Systems, Field Theory, Power Electronics, Signals & Systems, Digital Signal Processing, Power system Analysis, Artificial Neural Network, Computer Application to Power Systems, Power System Operation & Control

### ***Expert Lectures Delivered:***

- Technical Lecturing in Two day's workshop at STJIT, Ranebennur
- Technical Lecturing in Two day's workshop at UBTDTCE, Davanagere.
- Technical Lecturing in One day workshop at Shredevi Institute of Engineering, Tumkur.

### ***Seminars/Workshops/Events Organized:***

#### **Workshops / Conferences Conducted**

- Advanced Electrical Power Systems & Artificial Intelligent Techniques, from 11-12 Feb2011, BIET, Davangere.

#### **Short-Term Training Programe**

- Fuzzy Logic & it's Application to Power Systems, from 15-26, March 2004, BIET, Davangere

### ***Seminar/ Workshops Attended:***

- Energy Auditing & Demand side Management, from 26-27 Jan 1998, MCE, Hassan
- Power Systems Simulation, from 27-31 March 2001 SIT, Tumkur
- Teaching Computer Application to Power Systems using a Comprehensive & Illustrative Software Teaching Tools, from 23-24 Aug 2002, BV BCE, Hubli
- Intelligent System & its Application to Power Systems, from 8-10 April 2004, AIT, Chikmagalur
- SACOFERENCE Paper Presentation from 18-19 Aug 2005, Dr Sivanth Aditanar College of Engineering, Tiruchendur, Tamilnadu
- Power Transmission- Research Interest & Challenges, from 20-22 Dec 2005, CPRI, Bangalore
- CAD for Electrical Drawing, from 13-14 May 2005, BIT, Bangalore
- Power Systems Simulation, from 29-30 Sept & 01 Oct 2005, BIT, Bangalore
- Technology Trend in Electronic Packaging, from 19 Nov 2005, NIE, Mysore
- Electrical Infrastructure of Professional Institutions & Establishments, from 20-21 March 2006, SJCE, Mysore
- P C Based Power System Analysis, NIE, Mysore, from 17-31 July 1989
- Recent Trends & Application in High Voltage Insulation, from 13-24, Jan 2003, BIET, Davangere
- Fuzzy Logic & its Application to Power Systems, from 15-26, March 2004 BIET, Davangere
- Advances in Distribution Engineering: Distributed Generation, Micro-Grid & Renewable Integration” from 28-30 August, 2015 at NIE, Mysuru.
- Smart grid technologies: Recent initiatives, Challenges & Opportunities, from 27-28 Jan 2017, NIEIT, Mysuru.
- Online Faculty Development Program (FDP) on **“AI Applications to Power Systems”** organized by Department of Electrical and Electronics Engineering, Siddaganga Institute of Technology during 17<sup>th</sup> to 22<sup>nd</sup> January 2022.

## **Publications:**

### **Inter National Journal**

1. “Optimum Generation Scheduling for Thermal Power Plants using Artificial Neural Network”, International Journal of Electrical and Computer Engineering (IJECE), Vol.1, No.2, December 2011, pp 135-139.
2. “Neuro-Fuzzy Intelligent Controller For LFC of a Four-Area Power System”, International Journal of Engineering Technologies and Management Research October 2022 9(10), pp.50–60, ISSN (Online): 2454-1907
3. “An Optimal Artificial Neural Network Controller for Load Frequency Control of a Four-Area Interconnected Power System,” International Journal of Electrical and Computer Engineering, vol. 12, no. 5, October 2022, pp. 4700–4711, (SCOPUS, doi.org/10.11591/ijece.v12i5.pp4700-4711).
4. “Load Frequency Control of Two-area Interconnected Power System Using Optimal Controller, PID Controller and Fuzzy Logic Controller”, Peer Reviewed Bimonthly International Journal– Helix -The Scientific Explorer (E-ISSN: 2319- 5592; P-ISSN: 2277-3495) Vol. 10, Issue No. 03, pp. 30-35, July, 2020(doi.org/10.29042/2020-10-3-30-35)
5. “Price elasticity Matrix based Demand response for demand side Management with optimal integration of Distributed generation”, International Journal of Science, Technology, Engineering and management. A VTU Publications, Sept 2021.
6. “Demand Side Management for Integration of Distributed Generators in Distribution System Based on Cost and Reliability Analysis”, International Journal of Emerging Technologies and Innovative Research, ISSN:2349-5162, Volume 6 Issue 6, June, 2019 page no. 946-950.
7. “Optimal Distributed Generation Sizing and Placement Via Single-Objective Optimization”, International Journal of Emerging Technologies and Innovative Research, ISSN: 2349-5162, Volume-6, Issue-6, June 2019, Page No. 820-826.
8. “Enhanced StatCom and Adaptive Neuro Fuzzy Logic Control at Grid Integrated FSIG Type Wind Farms under Asymmetrical Fault Condition”, ISSN /ISBN number 2348-

4845, International Journal & Magazine of Engineering, Technology, Management And Research (IJMETMR)

9. “Security Concern To Simulate The Smart grid”, International Journal of Management, Technology And Engineering, Vol.8, Issue- XII, DECEMBER/2018, ISSN No: 2249-7455
10. “Optimization of Demand Side Management and DG Placement in the Distribution System with Demand Response”, International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249-8958, Vol.10 Issue-1, October 2020
11. “Novel Decision Based Modeling of Minimizing Usage Cost of Electricity in Smart Grid” , Springer International Publishing AG 2017 Advanced in intelligent system and computing 573, ISSN 2194-5367(electronics), ISBN978-3-319-57261-1(eBook), DOI 10.1007/978-3-319-57261-1-14 (**SPRINGER**)
12. “Advancement Trends In Existing Smart Metering Over Smart Grid”, International Journal of Advanced Computer Science and Applications, ISSN:2156-5570(On line), ISSN:2158-107X(Print) (**SCOPUS**)
13. “Online Static Security Assessment Module using Artificial Neural Network on IEEE 30 Bus System”, International Journal of Computer Science and Mobile computing, ISSN 2320-0888X, Vol. 3, December 2014, pp.20-29
14. “Identification of DG Location through Sensitivity Factors under Line Outage Condition”, International Journal of Grid and Distributed Computing (IJGDC) (**ESCI & Thomson Reuters Indexed Journal**)
15. “A Review on Electrical Power System Contingency Ranking Using Artificial Intelligence Techniques”, IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN: 2278-1676, p-ISSN: 2320-3331, Vol. 12, Issue. 4 Ver. II (July-Aug. 2017), pp. 06-10
16. “Power Management Algorithm for Standalone Operated Renewable Distribution Generator with Hybrid Energy Backup in Microgrid”, International Journal of Power Electronics and Drive Systems (IJPEDS), Vol. 14, No. 2, June 2023, pp. 1249~1259. ISSN: 2088-8694, DOI: 10.11591/ijpeds.v14.i2.pp1249-1259

17. "A Review of the Effect of Harmonics Due to Switching Devices in The Field of Power Electronics and Its Applications", International Journal of Emerging Technology and Research, **IF : 0.997**, Vol. 2, Issue 2, pp. 44 -50, March- April 2015.
18. "Harmonic Problems in the Switching Devices with respect to Electrical Power Quality Point of View", International Journal of Science, Technology and Management , ISSN(P) 2394-1529 ISSN(O) 2394-1537, **IF 2.012**, Vol. 04, Issue 03, pp.17-34, March 2015
19. "Harmonics Analysis of High Power PWM Converters Connected to Grid Using Sequential Sampling State Vector Modulation Method in SS Model", International Journal of Engineering Research in Electrical & Electronic Engineering, Vol.2, Issue 8, Aug 2016.
20. "Analysis of the Effect of Harmonics Due to Switching Devices with respect to Experimental and Simulation Point of View", International Journal of Innovative Research in Computer and Communication Engineering, **I F: 4.447**, ISSN (Online): 2320-9801, ISSN (Print):2320-9798, Vol. 3, Issue 3, DOI: 10.15680/ijirce.2015.0303008, paper id 8, pp.1454-1461, March 2015.
21. "Design and Implementation of Harmonic Trap Filter in Conjunction with a Line Reactor Using Simulink", Seventh Sense International Group Research Journals (SSRG), International Journal of Electrical and Electronics Engineering (SSRG-IJEEE), E-ISSN: 2348 - 8379 and P-ISSN: 2349 - 9176, Vol. 3, Issue 9, pp. 7 - 16, 2015.
22. "Novel Design of a Neuro-Fuzzy (ANFIS) Controller to Improve the Power Dynamics for Minimization of Harmonics Using a Hybrid Scheme", International Journal of Advanced Research in Electrical Electronics and Instrumentation Engineering. Vol. 5, Issue 9, Sept. 2016.
23. "Simulation of a 3- $\phi$ , 2-Level Inverter with a Discrete 3- $\phi$  PWM Generator to Reduce the Harmonics and Improve the Power Quality", International Journal of Innovative Science, Engineering & Technology, Vol. 3 Issue 9, September 2016.

24. "Design and Implementation of a Boost Type Converter for Harmonic Elimination", International Journal of Emerging Technology & Research Volume 3, Issue 5, Sept. - October, 2016.
25. "An Improved Steady-State Model of an Interline Power Flow Controller for the Multi-Transmission System", International Journal of Grid and Distributed Computing (IJGDC) Vol.9, No.5, May 2016, pp.13-24, ISSN 2005-4262. (EI Compendex Indexed Journal)
26. "Effect of TCSC on Line Voltage Stability Indices under Single Line Outage Condition", International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering (IJIREEICE), Vol.3, Issue 8, August 2015, pp.101-105, ISSN 2321-2004, **Impact Factor 3.885**.
27. "Development of a New Model of PFC for Power Flow in Multi-Transmission Lines", International Journal of Computer Applications (IJCA) Vol.84, No.5, December 2013, pp.33- 37, ISSN: 0975-8887, **Impact Factor: 0.82**.
28. "TCSC Incorporated Voltage Stability Assessment under Contingency Condition", International Journal of Grid and Distributed Computing (IJGDC), ISSN 2005-4262, Vol.10, No.7, pp.27-40, May 2017. (**ESCI & Thomson Reuters Indexed Journal**)
29. "Generation Management through Sensitivity Factors for a DG Installed Power System", IOSR-Journal of Electrical and Electronics Engineering (IOSR-JEEE) ISSN 2320-3331, **I F: 3.26**, Vol.2, pp.16-20, SMART-2016.
30. Hybrid Neural Network Model for Short Term Load Forecasting, Journal of Current Sciences for International Publication of Society, Vol.3, N0.1, 2003, Dumaka.

### **National Journal**

31. Short Term Electrical Load Forecasting using Clustered Data - Journal of the Institution of Engineers (India), Vol-89, 19<sup>th</sup> September 2008, pp 28-30

### International Conference

32. Capacitor Placement and Replacement for Reactive Power Control in Radial Distribution System, IEEE TENCON-06, International Conference, 14-17<sup>th</sup>, Nov. 2006, Hong Kong.
33. Capacitor Placement for Voltage Drop and Power Loss Reduction in Radial Distribution Systems, International Seminar on Power Transmission Research & Challenges, 20-22<sup>nd</sup>, Dec. 2005, Central Power & Research Institute, Bangalore.
34. Fuzzy Based Capacitor Placement & Sizing on Radial Power Distribution Systems, Central Board for Power & Irrigation, 4<sup>th</sup> International Conference, January 2003, Aurangabad
35. Multi Objective Bi-Directional Search Algorithm for Distribution Network Optimization, International Conference, CIIC- 2001, December 2002, Kolkatta, pp139-142.
36. A Fuzzy Expert System for Service Restoration of Primary Distribution System, International Conference, CIIC-2001, December 2002, Kolkatta, pp 121-125.
37. Distribution System Fault Location using Expert System & Automatic Location, International Conference, CIIC-2001, December 2002, Kolkatta, pp 203-208.
38. ANN Based Contingency Analysis of Electrical Power System, Proceedings of International Conference on Cognition & Recognition, ICCR-05, 22<sup>nd</sup>-23<sup>rd</sup>, December 2005, Mysore, India, pp 302-308.
39. Genetic Algorithm Solution to Unit Commitment & Economic Dispatch, Proceedings of International Conference on Cognition & Recognition, ICCR-05, 22<sup>nd</sup>-23<sup>rd</sup>, December 2005, Mysore, India, pp 335-342.
40. Hourly Load Forecasting Using Artificial Neural Network, NSC-2005, 16-17<sup>th</sup> December 2005, I I T B, Bombay
41. Optimal Capacitor Placement & Sizing on Radial Distribution System using Fuzzy Expert System, 12<sup>th</sup> NPSC2002, 27-29<sup>th</sup> December 2002, IIT, Kharagpur, pp274-278.
42. Reliability Studies for Distribution System using Fuzzy Expert System, 12<sup>th</sup> NPSC2002, 27- 29<sup>th</sup>, December 2002, I I T, Kharagpur, pp 669-672.



43. "Development of an Online Static Power System Security Assessment Module Using Artificial Neural Networks in 118- Bus Test System", IJMCS, ISSN: 2320-7868 (Online), Vol. 2, Issue 6, December 2014.
44. "Design and implementation of Zigbee based smart grid system for power management" International Conference On Smart Technologies For Smart Nation (SmartTechCon 2017) i.e IEEE CONFERENCE ON 17-19 August 2017, REVA University, Bangalore, India (on publication)
45. "Optimal Distributed Generation Planning in Distribution system for Demand Side Management using demand response", International conference (ICCTSAI- 2021) April 21. Shortly getting published in Springer
46. "Load Frequency Control of Three Area Interconnected Power System using Conventional PID, Fuzzy Logic and ANFIS Controllers," 2021 2nd International Conference for Emerging Technology (INCET-2021), **IEEE Xplore**, (E-ISBN: 978-1-7281-7029-9, P- ISBN:978-1-7281-7030-5), pp. 1-6, 22 June 2021, ([doi.org/10.1109/INCET51464.2021.9456120](https://doi.org/10.1109/INCET51464.2021.9456120)).
47. "Line Congestion Relief Using UPFC," IEEE- International Conference in Power Energy and Control (ICPEC-2013), Dindigul, Tamil Nadu, India, 6-8 February, 2013, pp.58-63, ISBN 978-1-4673-6029-6.
48. "Sensitivity Factor based Improvement Studies Incorporating Facts Devices Under Line Outage Contingency", IEEE- International Conference in Power Energy and Control (ICPEC-2013), Dindigul, Tamil Nadu, India, 6-8 February, 2013, pp.64-68, ISBN 978-1-4673-6029-6.
49. "Design and Development of VSI for Harmonic Reduction Using 2-Stage IGBT's and Diode's using PWM", International Conference on Innovations in Computer, Electrical and Electronics Engineering and Technology (ICEEET-2016), Singapore, Dec. 2016.
50. "Harmonic Elimination System using a Novel Type of Pulse Width Modulation Scheme in Matlab/Simulink Environment", IEEE International Conference on Signal Processing, Communication, Power and Embedded Systems (SCOPE-2016), Centurion University of Technology and Management, Odisha, India. Nov 2016.

51. "Reduction of Harmonic Component in Voltage Sourced Circuits Using IGBT's and Diode's Using PWM Technique", IFERP's International Conference on Chip, Circuitry, Current, Coding, Combustion and Composites (i7c), 83-87, Bangalore, December 2016.
52. "Performance Index Based Contingency Ranking under Line Outage Condition Incorporating IPFC", IEEE-International Conference on Electrical, Electronics & Optimization Techniques, Dept. of EEE, DMI College Engineering, Chennai, India, March 2016, pp.2589-2593.
53. "Condition Number Based Contingency Ranking under Line Outage Condition Incorporating IPFC", International Conference on Renewable Energy Utilization, Dept. of EEE, Coimbatore Institute of Technology, Coimbatore, India, 6 -8, January 2016.
54. "Artificial Neural Network Application for Prediction of Reactive Power Compensation Under Line Outage Contingency," IEEE- International Conference in Power Energy and Control (ICPEC-2013), Dindigul, Tamil Nadu, India, 6-8 February, 2013, pp.355-359, ISBN 978-1-4673-6029-6.

### **National Conference**

55. "Short Term Load Forecasting using Artificial Neural Network", Proceedings of the SACOE FERENCE, National Conference, 18-19<sup>th</sup> August 2005, Dr. Sivanthi Aditanar College of Engineering, Tiruchendur, Tamil Nadu, India, pp 19-23.
56. "Distribution System Line Loss Evaluation using ANN", Proceedings of National Conference on Recent Trends & Emerging Technologies in Electrical Systems, ELCON-05, 06<sup>th</sup> –07<sup>th</sup>, October-2005, Kovilpatti, Tamil Nadu, India, pp 60-66.
57. "Experimental Determination of THD for different Lighting Loads", National Conference on Advances in Electrical Engineering (NACEE-09), 25-26<sup>th</sup> September, 2009, NMAMIT, NITTE.
58. "Optimal Load Dispatch for Different Branch Outage Contingencies in Power System", National Conference on Developments in the Domain of Electrical

Engineering (NCDDEE-2013), Tumkur, Karnataka, 19-20 September 2013, ISBN 978-81-927765-0-1.

59. “Comparative Study of Reduction of the THD Using Different Switching Devices with Different Methodologies Developed in Matlab / Simulink Environment”, Two day national conference on challenges and issues in operation of competitive electricity markets (CIOCEM’ 2016), Power Systems Division, Central Power Research Institute (CPRI), Bangalore, December 2016.

**Extra / Co-curricular Activities:**

- Dean -Training & Placement(2018-2021)
- Member-Local Inspection Committee, VTU, Belagavi
- Chairman Board of Examiners (2020-21)
- Member of Board of Studies of VTU(2012-14)
- Member of Board of Examiners of VTU(2011)
- Member of BOS & BOE of Kuvempu University
- Member of BOS & BOE of Davangere University
- Worked as Internal & External Deputy Chief Superintendent
- Worked as Staff Convener for Student Association (2016-17)
- Worked as Electrical Maintenance in-charge- BIET Campus.

