Faculty Profile

Name: Dr D S Naga Malleswara Rao B.Tech, M.Tech, Ph.D-NIT Jamshedpur

About me:

Dr D S N M RAO, Associate Professor of Electrical & Electronics Engineering Department, Completed his Ph.D from NIT Jamshedpur and has over 13 years of Academic and Research experience. His Ph.D work was carried out on Cost Effective Load Dispatch Solutions of Power System Using Intelligent Techniques under the guidance of Prof. Niranjan Kumar. Prior to PhD, he had earned Bachelors of Technology in Electrical & Electronics Engineering from JNTUH and Master of Technology in Power Electronics (EEE) form JNTUK.

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Courses Taught:

Electrical machines-I,II & III, Basic Electrical Engineering, Power systems I & II, Switchgear & Protection, HVDC Transmission, Electrical measurements & Instrumentation, Utilization of Electrical Energy, HVDC Transmission Systems, Embedded Systems, Electronics Design.

Achievements:

- Got Best Researcher Award from GRIET in the year 2021 and 2022 Consecutively.
- Got Academic Excellence & Best Researche Award from Vignan's University, Guntur in the year 2019.
- Ratified by the JNTU Hyderabad in the year August 2019.
- Ratified by the Vignan's University, Guntur in the year December 2018.
- Ratified by the JNTU Kakinada in the year August 2012.
- Qualified in GATE examination in 2012, Organized by IIT Delhi.
- Successfully completed 15 online certification courses from COURSERA.
- Co-Coordinated Two Week AICTE Funded International FDP Phase-II "Sustainable Technologies for Electric Transportation System" in July 2021.

Publications:

Scopus Profile Link:

https://www.scopus.com/authid/detail.uri?authorId=57193886970

Journal Publications:

1. Sireesha NV, **DSNMRAO**, Gatla, R.K., Kshatri, S.S, "Performance analysis of proton exchange membrane fuel cell during transient operations using Artificial Intelligence", *Journal of New Materials for Electrochemical Systems,* Vol. 26, No. 3, pp. 184-195, 2023. (**SCIE)**

2. PC Babu, **DSNMRAO**, DG Kumar, et al, "Modeling and Performance Analysis of a Grid Connected Photovoltaic System with Advanced Controller considering Varying Environmental Conditions", *International Journal of Energy Research*, Vol. 2023, pp 1-23. **(SCIE)**

3. Devineni Gireesh Kumar, **DSNMRAO**, Nagineni Venkata Sireesha, et al, "Modelling of symmetric switched capacitor multilevel inverter for high power appliances", *Journal of New Materials for Electrochemical Systems,* Vol. 26, pp 18-25, 2023. **(SCIE)**

4. Devineni Gireesh Kumar, **DSNMRAO,** Neerudi Bhoopal, Aman Ganesh, et al, "Implementation of an asymmetric multilevel inverter for solar photovoltaic applications using N-R approach", *Journal of New Materials for Electrochemical Systems,* Vol. 26, pp 7-17, 2023. **(SCIE)**

5. Sainadh Singh Kshatri, **DSNMRAO**, Nagineni Venkata Sireesha, , Ranjith Kumar Gatla, "Reliability Assessment of Hybrid Silicon-Silicon Carbide IGBT Implemented on an Inverter for Photo Voltaic Applications", *Journal of New Materials for Electrochemical Systems,* Vol. 26, pp 1-6, 2023. **(SCIE)**

6. Neerudi Bhoopal, **DSNMRAO**, Nagineni Venkata Sireesha, Idamakanti Kasireddy, Ranjith Kumar Gatla, "Modelling and performance evaluation of 18w PEM Fuel Cell considering H2 pressure variations", *Journal of New Materials for Electrochemical Systems*, Vol. 25, pp 1-6. 2022. **(SCIE)**

7. R. Jegadeesan, A. Beno, S. P. Manikandan, **DSNMRAO**, Bharath Kumar N, et al "Stable Route Selection for Adaptive Packet Transmission in 5G-Based Mobile Communications", *Wireless Communications and Mobile Computing,* Vol. 2022, pp 1-10, 2022. **(SCIE)**

8. M Uma Maheswara Rao, **DSNMRAO**, C Subba Rami Reddy, P Lakshmi Narayana, "Stability improvement in microgrids using hybridization of RSFCL along with fuzzy based SAPF", *International Journal on Interactive Design and Manufacturing,* Vol. 2022, pp 1-8, 2022. **(SCIE)**

9. Ranjith Kumar Gatla, **DSNMRAO**, Sainadh Singh Kshatri, Patthi Sridhar, , Devineni Gireesh Kumar, "Impact of Mission Profile on Reliability of GridConnected Photovoltaic Inverter", *Journal Européen des Systèmes Automatisés,* Vol. 55, pp 119-124, 2022 **(Scopus Indexed)**

10. **DSNMRAO,** D Raveendhra, N Bharath Kumar, P Srividya Devi, D Gireesh Kumar, "Comparison Investigation on Power System Optimization and Constraint Based Generator Load Scheduling using Meta heuristic Algorithms", *ECTI Transactions on Electrical Engineering, Electronics, and Communications,* Vol. 19, pp 200-219, 2021**(Scopus Indexed)**

11. Devineni Gireesh Kumar, **DSNMRAO**, Aman Ganesh, Neerudi Bhoopal, "Evolutionary Algorithms for Real Time Engineering Problems: A Comprehensive Review", *Ingénierie des Systèmes d'Information*, Vol. 26, pp 179-190, 2021 **(Scopus Indexed)**

12. **DSNMRAO,** Ch. Pushpa Latha, N. Bharath kumar and PM Venkatesh, "Economical Load Scheduling and Advanced Planning of Generators of Power System Network with Valve Point Loading by Oppositional TLBO Algorithm", *Journal Européen des Systèmes Automatisés (JESA), Vol. 52, no. 5, pp. 535-540,* 2019. (**Scopus indexed**)

13. **DSNMRAO** and Niranjan Kumar, "An enhanced reactive power dispatch with finest location of dg using PSO algorithm", *Modelling, Measurement and Control A,* vol. 91, no. 3, pp. 139- 144, 2018. (**Scopus indexed**)

14. **DSNMRAO** and Niranjan Kumar, "Optimal Placement of DG for Optimal Reactive Power Dispatch using PSO Algorithm" *International Journal of Engineering & Technology (UAE),* vol. 7, no. 4.24, pp. 137- 141, 2018. (**Scopus indexed**)

15. **DSNMRAO** and Niranjan Kumar, "Optimal Load Dispatch Solution of Power System using Enhanced Harmony Search Algorithm," *European Journal of Electrical Engineering, Vol. 4, pp.469-483, 2018. (**Scopus indexed**)*

16. **DSNMRAO** and Niranjan Kumar, "Comparable Investigation on TLBO Algorithm for Power System Optimization," *European Journal of Electrical Engineering,* Vol. 5, pp. 559-571, 2018. (**Scopus indexed**)

17. **DSNMRAO** and Niranjan Kumar, "A Non Convex Cost Function Based Optimal Load Dispatch using TLBO Algorithm," *Journal of Engineering Science and Technology Review,* vol. 10, no. 1, pp. 155- 159, 2017. (**Scopus indexed**)
18. **DSNMRAO** and Niranjan Kumar, "An Enhanced Harmony Search Algorithm Based Power Flow Solution to Non Convex Load Dispatch Problem," *International Journal of Applied Engineering Research,* vol. 12, no. 13, pp. 3837-3843, 2017. (**Scopus indexed**)
19. **DSNMRAO** and Niranjan Kumar, "Comparisional Investigation of Load Dispatch Solutions with TLBO," *International Journal of Electrical and Computer Engineering,* vol. 7, no. 6, pp. 3246-3253, 2017. (**Scopus indexed**)
20. DSNMRAO, PM Venkatesh, M Kannan, AR Vijaya babu, and N Bharath Kumar, "Design and Fabrication of AQUA Sailence for Pollution control" *International journal of Disater Recovery and Business Continuity,* Vol. 11, no. 1, pp. 1143-1151, 2020. **(ESCI Indexed)**
21. **DSNMRAO**, N. Bharath Kumar and P.M. Venkatesh "Oppositional TLBO Algorithm for Optimum Generating Scheduling of Power System Network with Valve Point Loading Effect" Journal of Mechanic of Continua and Mathematical Sciences (JMCMS), vol. 14, no. 16, pp. 855-863, 2019. (**Indexed in Web of science**)
22. **DSNMRAO**, N. Bharath Kumar and P.M. Venkatesh "Design & Analysis of High Gain Chopper with Different Levels Of Inverter", *Journal of Mechanic of Continua and Mathematical Sciences (JMCMS),* vol. 14, no. 16, pp. 864-878, 2019. (**Indexed in Web of science**)
23. **DSNMRAO**, P.M. Venkatesh and N. Bharath Kumar "CFD analyses of natural ventilation for building", *Journal of Mechanic of Continua and Mathematical Sciences (JMCMS),* vol. 14, no. 16, pp. 855-863, 2019. (**Indexed in Web of science**)
24. **DSNMRAO** and K. Mahesh Babu and, "A Novel Approach for Improvement of Power Quality By UPFC: (Series Shunt Compensator)," *International Journal of Engineering & Science Research,* vol. 3, no.7, pp. 4313-4318, 2013. (Indexed journal)
25. **DSNMRAO** and PS Sujatha, "Modeling & Analysis of Shunt Active Power Filter using IRP Theory Fed to Induction Drive," *International Journal of Engineering Research and Applications,* vol. 4, no. 10, pp.121- 126, 2014. (Indexed journal)
26. **DSNMRAO** and R Harika, "A Novel Technique for Reducing the Fault Currents and Over Voltages and Enhancing the Security of Electric Power System Through Active SFCL," *International Journal of Advanced Engineering and Global Technology,* vol. 2, no. 12, pp. 182-186, 2014. (Indexed journal)

Conferences Publications:

27. Satyabrata Sahoo, **DSNMRAO**, Bharath Kumar Narukullapati, Idamakanti Kasireddy, Dola Gobinda Padhan, "Control System Engineering through MATLAB-A Case Study on Project based Learning", 2023 2nd Edition of IEEE Delhi Section Flagship Conference (DELCON-2023)**(Scopus Indexed)**

28. M. Kalaiyarasi**,** **DSNMRAO**, S. Saravanan, Balaji R, S. Karthi, "Estimation of Deforestation Rate and Forest Land Use Land Cover Change Detection", 2023 IEEE International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF-2023)**(Scopus Indexed)**

29. M. Kalaiyarasi, **DSNMRAO**, S. Saravanan, Bharath Kumar Narukullapati, Idamakanti Kasireddy, "Analysis of SAR Images Despeckling using a Bilateral filter and Feed Forward Neural Networks", *2023 IEEE Second International Conference on Electrical, Electronics, Information and Communication Technologies (ICEEICT-2023)* **(Scopus Indexed)**

30. K. Mahesh, **DSNMRAO**, V. Joshi Manohar, Devineni Gireesh Kumar, M. Prameela, K. Ramakrishna, S. Saravanan, "Design of 20 kwp Solar PV System with Different Tracking Systems Using PVsyst and Sketch-Up", *Springer Conference on Smart Energy and Advancement in Power Technologies 2022.* **(Scopus Indexed)**

31. Gaddala Jayaraju, **DSNMRAO**, Idamakanti Kasireddy, "ANN Controller based Single Phase Cascade Thirty-One Level Grid-Tied Inverter for Power Quality Improvement", "2022 IEEE International Conference on Current Development in Engineering and Technology (CCET-2022)**(Scopus Indexed)**

32. Ardhala Bala Krishna, **DSNMRAO**, M Srinivasa Sesha Sai, Vikram Kumar Kamboj, Sobhit Saxena, "AGC of Deregulated Electric Network using Slime Mould Optimization Search Strategy", *2022 IEEE International Conference on Current Development in Engineering and Technology (CCET-2022)* **(Scopus Indexed)**

33 P. Chandra Babu, **D.S. Naga Malleswara Rao**, B. Venkata Prasanth, Gireesh kumar D, "Performance Comparison of Various SPV Module Connections in Partial Shading Conditions", *2022 IEEE 8th International Conference on Smart Structures and Systems (ICSSS-2022)* **(Scopus Indexed)**

34. **D.S. Naga Malleswara Rao**, Rishi Sundara, R. Vamshi Krishna, M. Ayyan Varma, "State-of-the-art Analysis on the Design Parameters of Distributed Transformer using IoT", *2022 IEEE 6th International Conference on Intelligent Computing and Control Systems (ICICCS-2022)* **(Scopus Indexed)**

35. Ranjith kumar Gatla, **DSNMRAO**, A. Satish Kumar, P. Sridhar, Devineni Gireesh Kumar, "Differential Protection of SinglePhase Transformer using LabVIEW", *2022 IEEE International Conference on Intelligent Controller and Computing for Smart Power (ICICCSP-2022)* **(Scopus Indexed)**

36. Ranjith Kumar Gatla, **DSNMRAO**, N. V Prasad K, Devineni Gireesh Kumar, "Performance Evaluation of CMLI with Various Fault Conditions", *2022 IEEE Fourth International Conference on Advances in Electronics, Computers and Communications (ICAECC-2022)* **(Scopus Indexed)**

37. Sainadh Singh Kshatri, **D.S Naga Malleswara Rao**, P. Chandra Babu, Devineni Gireesh Kumar, "Reliability Evaluation of PV Inverter Considering Impact of Reactive Power Injection", *2022 IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT-2022)* **(Scopus Indexed)**

38. M. Uma Maheswara Rao, **D S Naga Malleswara Rao**, C. Subba Rami Reddy " Protection of microgrids using Resistive Type Superconducting Fault Current limiter(RSFCL)", 2022 IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT-2022) **(Scopus Indexed)**

39. Devineni Gireesh Kumar, Aman Ganesh, **D S Naga Malleswara Rao**, Nagineni Venkata Sireesha, "Grid Integration of Photovoltaic System with a Single-Phase Reduced Switch Multilevel Inverter Topology", 2022 IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT-2022) **(Scopus Indexed)**

40. **DSNMRAO,** Chiranjeevi Anil Kumar Tulluri, Bharath Kumar Narukullapati, "A Nonconvex Constrained based Optimal Load Scheduling of Generators with Multiple Fuels using meta-heuristic Algorithms", *2021 IEEE International Conference on Computing, Communication and Green Engineering (CCGE-2021)* **(Scopus Indexed)**

41. **DSNMRAO**, D Gireesh Kumar, Aman Ganesh, "Optimal Sizing and Placement of DGs to Reduce the Fuel Cost and T& D Losses by using GA & PSO optimization Algorithms", IEEE International Conference on SeFeT, 2021. **(Scopus Indexed)**

42. **DSNMRAO**, D Gireesh Kumar, Aman Ganesh, "Design and Analysis of a Novel Cascaded 15-Level Asymmetric Inverter Using PSO and Whale Algorithms", IEEE International Conference on SeFeT, ISBN No. 2021. **(Scopus Indexed)**

43. Gireesh Kumar Devineni, Aman Ganesh, Neerudi Bhoopal, **DSNMRAO,** "THD Optimization with Low Switching Frequency Control for 15-Level Reduced Switch Asymmetric Multilevel Inverter", *Springer International Conference on Power Electronics and Renewable Energy Systems-2021***(Scopus Indexed)**

44. **DSNMRAO** and Niranjan Kumar, "A TLBO Algorithm Based Optimal Load Scheduling of Generators for Power System Network," *IEEE International Conference on Power, Control, Signals and Instrumentation (IEEE-ICPCSI-2017),* Chennai, India, pp. 114-119, ISBN No. 978-1-5386-0813-5, 2017. **(Scopus Indexed)**

45. **DSNMRAO** and Niranjan Kumar, "A Review on Trends of Management for Congested Transmission Lines in Restructured Environment," *National Conference on Challenges and Issues in Operation of Competitive Electricity Market (CIOCEM-2016),* CPRI Bangalore, 2016.

46. **DSNMRAO** and C Rambabu, "Improving Transient Performance of multi machine power system using UPFC," *International Conference on Nanoscience, Engineering & Advanced Computing (ICNEAC2011),* Swarndhra College of Engg. & Tech, AP, pp: 497-501, 2011.

Patents Published:

- Published a patent on "Distribution Transformer Fuse Failure Detection and Information Passing System" in 2023.
- Published a patent on “Three Phase Fault Analysis with Auto Reset Temporary Fault and Permanent Trip” in 2023.
- Published a patent on “ IOT-Based Simulation of Three Phase Multilevel Inverter with Fever Switches” in 2023.
- Published a patent on “Design and fabrication of Electric Smart Bike with Voice Recognition” in 2020.

Text Books Published:

- Published Two textbooks titled “Measurement and Instrumentation”, and Recent Trends in Renewable Energy with Power Electronics by Notion Press Publication, Chennai, India in 2022.

Workshops/Short-Term Courses Attended:

- Completed 15 Course in Coursera for skill development and got certificates
- Participated in 1 Week FDPs/Workshops (AICTE) more than 50 during lockdown period and got certificates.
- Participated in One day work shop on Arduino at Gokaraju Rangaraju Institute of Engineering & Technology, Organized by IIT Bombay, 08-02-2020.
- Participated in 3 days short term course on “Faculty Development Program for Student Induction (FDP-SI)” at G Pulla Reddy Engg College Kurnool, Organized by AICTE, 21-23/12/2019.
- Participated in 6 days short term course on “Outcome Based Education”, Organized by AICTE, 02-07/12/2019.
- Acted as Co-chair in International Conference (IPEICS-19) at VFSTR University, A.P, India, 08-09 Aug, 2019.
- Participated in short term course on "Power converters design”, organized by Department of Electrical and Electronics Engineering, VFSTR University, A.P, India, 27-31 May, 2019.
- Participated in short term course on "Emerging Trends and Future Challenges in Power System Operation and Control- (ETFCPSOC)", organized by Department of Electrical and Electronics Engineering, NIT Jamshedpur, Jharkhand, India, 20-24 June, 2016.
- Participated in short term course on "Gradient Based Numerical Optimization Algorithms", organized by Department of Mathematics, IIT Kharagpur, West Bengal, India, 7-11 Dec, 2015.
- Participated in one day workshop on "Practical Power Flow Controller Brings Benefits for Power Electronics to the Grid", organized by Department of Electrical and Electronics Engineering, NIT Jamshedpur, Jharkhand, India, 9 Nov, 2015.
- Participated in one day workshop on “Faculty Development Programme on Research Methodology & Innovation”, organized by QIS College of Engineering & Technology Ongole, 29 Nov, 2014.
- Participated in two days workshop on “Faculty Development Programme on Research Methodology”, organized by QIS College of Engineering & Technology Ongole, 19-20 Oct, 2013.

Area of Academic/Research Interest:

- Power system operation and control, Power Electronic applications to smart grid, protection of micro grid, electric drives, electric vehicles, and applications of soft computing techniques in Power Electronics and grid-connected renewable energy resources.