

Name of Faculty Dr. N. Venkata phanendra babu  
 Designation Assistant Professor  
 Nature of Job/Appointment Regular  
 Date of Joining 24 -06-2019  
 E-mail phanendrababu\_eee@cbit.ac.in



| Education Qualifications | Name of the Degree                               | Class       |
|--------------------------|--------------------------------------------------|-------------|
| Ph. D                    | Doctor of Philosophy (Power Systems Engineering) | Awarded     |
| PG                       | M. Tech. (Power Systems Engineering)             | Distinction |
| UG                       | B. Tech. (EEE)                                   | Distinction |

#### Work Experience

Teaching 07 Years  
 Research 05 Years 6 Months  
 Industry --  
 Others --  
 Area of Specialization Wide-Area Measurement System Design & Protection, Optimization Techniques  
 Professional Memberships Member, IEEEE-PES. Membership: 96837330

Responsibilities held at Institution Level  
 1. R&E Coordinator, from 23-12-2019 to Till Date.  
 2. Tech GURU under Idea Lab, from 12-07-2022 to Till Date.  
 3. Member, Program Content Committee, from 31-01-2020 to Till Date.

Responsibilities held at Department Level  
 1. Member, BoS, 04-03-2021 to Till Date  
 2. Time Table In-charge, from 29-09-2021 to Till Date.  
 3. In-charge, Electrical Simulation Lab, April, 2021 to Till Date  
 4. Coordinator-BoS & Academic Council, from July, 2021 to Dec, 2021.  
 5. In-charge, Department Library, from July, 2019 to Till Date.  
 6. Member, Course Expert Group

Research Guidance --

Awards Received  
 1. Received MHRD Fellowship for the duration 2013-2018.  
 2. Received First position in Idea Pitching Completion, GREENINVENT-2022, Organized by IEEE-PES Kolkata Section, during Dec., 2022.

Courses Handled at Under Graduate / Post Graduate Level.  
PG:  
 1. Soft computing Techniques for Power Systems  
 2. Power system stability  
 3. Power System Dynamics  
UG:  
 1. Power System Operation and Control  
 2. Flexible AC Transmission Systems  
 3. Control Systems  
 4. Basic Electrical Engineering  
 5. Fundamentals of Electrical Engineering

No. of Papers Published National Journals – Nil International Journals – 13  
 National Conference – 07 International Conference – 15

Projects Carried out --

Patents --  
 Technology Transfer --

1. Delivered a lecture in a One-Day FDP on "Blackout Prevention and Quick Service Restoration of Power System with Wide Area Measurement Systems", at NIT Warangal.
2. Delivered a lecture in a One-Week National Level FDP on "Wide-Area Measurement System Design and Power System Protection" at Narayana Engineering College Gudur.
3. Session Chair, IEEE World Conference on Applied Intelligence and Computing, 2022.
4. Session Chair, 1st International Conference on "Smart Systems and Green Energy Technologies" (ICSGET-2022), organized by Vardhaman College of Engineering, Hyderabad, during 21st & 22nd of October, 2022.
5. Technical Program Committee Member and Reviewer for IEEE IAS GlobConHT 2023, held at The Maldives National University, Maldives, during March 11-12, 2023.

Invited Speaker

6. Program Committee Member and Reviewer for 5<sup>th</sup> International Conference on Communication and Computational Technologies (ICCCT 2023), Organized by RIET, Jaipur, during January 28-29, 2023.
7. Program Committee Member and Reviewer for IEEE World Conference on Applied Intelligence and Computing, 2022.
8. Technical Program Committee Member and Reviewer for National Power System Conference, 2022, organized by IIT Delhi.
9. Technical Program Committee Member and Reviewer for the International Conference on Intelligent Vision and Computing (ICIVC 2022), organized by NIT Agartala, November 26-27, 2022.
10. Technical Program Committee Member and Reviewer for the 4th International Conference on Communication and Intelligent Systems (ICCIS 2022), organized by National Institute of Technology Delhi, during December 19-20, 2022.

No. of Books/Chapter Published with details

1. One Chapter in the Book Titled "Advances in Intelligent Systems and Computing", SPRINGER, 2019.
2. One Chapter in the Book Titled "Algorithms for Intelligent Systems", SPRINGER, 2021.
3. One Chapter in the Text Book Titled "Wide Area Power Systems Stability, Protection, and Security", SPRINGER NATURE, 2021.

Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops. Other Trainings (Attended and/or Organized).

1. Coordinated a National Level Technical Fest "ELECTRET" under the banner of "SUDHEE-22", CBIT, Hyderabad, 23-24, March, 2022.
2. Coordinated an International Conference on "Emerging Trends in Circuit branch Technologies and Applications" (ETCTA-2021), CBIT, Hyderabad, 03-04, April, 2021.
3. Coordinated a National Level Technical Fest "ELECTRET" under the banner of "SUDHEE-21", CBIT, Hyderabad, 03-04, March, 2021.
4. Coordinated an AICTE-Sponsored STTP "Trends & Challenges of Hybrid Electric Drive Utilities in Transport Sector (Phase-II)", CBIT, Hyderabad, 22-27 February 2021.
5. Coordinated an AICTE-Sponsored STTP "Trends & Challenges of Hybrid Electric Drive Utilities in Transport Sector (Phase-III)", CBIT, Hyderabad, 02-07 November 2020.
6. Organized an online webinar on "Trends and Challenges in the Progress of E-Mobility in India" in association with Pantech on 20-06-2020.

7. Coordinated A Two-Week Training/Internship Program on "Vidyut Prasikshana" VIPRA-2020 on online during 08-06-2020 to 20-06-2020.
8. Coordinated A One-Week STTP on "Introduction to Research Methodologies and MATLAB Programming for Optimization Techniques", Chaitanya Bharathi Institute of Technology, Hyderabad, 25<sup>th</sup> -30<sup>th</sup> November, 2019.
9. Coordinated an International Conference on "Vedic Mathematics" in Association with IAVM during 29-08-2019 to 31-08-2019.
10. Attended "IEEE Virtual Authorship Workshop", IEEE India Council, 15th October, 2020
11. Attended an STTP on "Fractional Order Robust Control System Design (Series-I)", Vardhaman College of Engineering, Hyderabad, 26th-31th, October, 2020
12. Attended an STTP on " Applications of MATLAB in Control System, Image Processing, Fuzzy Logic and GUI", NITTTR, 21st-25th, September, 2020
13. Attended an IEEE International Conference "POWERCON2020", IEEE-PES & Chinese Society of EE, Bangalore, 14th-16th, September, 2020
14. Attended an STTP on "Linear Control System Analysis and Fuzzy Logic Control using MATLAB", NITTTR, 14th-18th, September, 2020
15. Attended a one-day International webinar on "Protection Asset Management System", ETAP, 16th July-2020.
16. Attended an International Short Term Course on "Microgrid Opportunity: Renewable Energy Resources and Buildings", Dayalbagh Educational Institute, Dayalbagh, Agra, 16th-20th, June, 2020
17. Attended a One-week FDP on " Implementation and Simulation of Electrical Engineering Applications Using PLECS Tool", Vaagdevi college of Engineering & PLEXIM, Switzerland, 25th-29th, May, 2020
18. Attended a one-day webinar on "Smart-DC grid solutions for remote area electrification", Central University of Haryana, 28th May-2020.
19. Attended a one-day webinar on " DCS and its applications in power sector", Central University of Haryana, 24th May-2020.
20. Attended a one-day International webinar on "Arc-Flash Auto Evaluation", ETAP, 24th May-2020.
21. Attended a one-day International webinar on " Intelligent Microgrids-II", ETAP, 23rd May-2020.
22. Attended a one-day International webinar on " Intelligent Microgrids-I", ETAP, 06th May-2020.
23. Attended a one-week STTP on "Development of laboratory instruction and Manual", NITTTR, Kolkata, Feb., 4-8, 2019.
24. Attended a five-day CEP on "Research Simulation and Analysis of Modern Power systems Issues", National Institute of Technology Warangal, Nov., 05-09, 2018.
25. A five-day workshop on "Effective teaching and learning of Artificial intelligence techniques for smart grid applications", National Institute of Technology Warangal, April 03-07, 2018.
26. A one-week GIAN FDP on "Wide Area Monitoring and Control of Cyber Power System", National Institute of Technology Warangal, December 26-30, 2017.
27. Attended a two-week Faculty Development Program on "Intelligent Signal Processing and Control System Design using Bio-inspired Algorithms", National Institute of Technology

Warangal, 22-31 May, 2017.

28. Attended a two-day workshop on "Free and Open Source Software in Teaching and Learning ", National Institute of Technology Warangal, 4-5 March, 2017.

29. Attended a one-week Short-term training program on "Advanced Engineering Optimization through Intelligent Techniques", Sardar Vallabhbhai National Institute of Technology Surat, 6-10 February, 2017.

#### Details of Journal Publications/ Conferences (**National and International**)

##### **International Journals:**

1. Babu, N. V., Babu, P. S., Roy, S., Babu, T. S., & Bharadwaj, A. (2022). A Synchrophasor-Based Line Protection for Single Phase-Ground Faults. *Journal of Electrical Engineering & Technology*, 1-12. **(SCOPUS) (SCIE)**
2. Anil Bharadwaj, C., Murali Krishna, T., Phanendra Babu, N. V., & Maiti, S. (2022). Performance Evaluation and Techno-Economic Analysis of Modular Multilevel STATCOM with Hybrid Storage for Renewable Power Dominated Grids. *IETE Technical Review*, 1-17. **(SCOPUS) (SCIE)**
3. Chowdhury, S. B. R., Gayen, P. K., Roy, S., & Babu, N. V. (2022). A Novel MPPT algorithm for PV systems under variable Shading Conditions using Horse Herd Optimization. *Journal of Electrical Systems*, 18(1). **(ESCI) (SCOPUS)**
4. Al-Ogaili, A. S., Al-Shetwi, A. Q., Al-Masri, H. M., Babu, T. S., Hoon, Y., Alzaareer, K., & Babu, N. P. (2021). Review of the Estimation Methods of Energy Consumption for Battery Electric Buses. *Energies*, 14(22), 7578. **(SCOPUS) (SCIE)**
5. N V Phanendra Babu, P Suresh Babu, D V S S Siva Sarma, "Critical Elements based Optimal PMU Placement Considering Substation Coverage", *International Journal of Electrical Engineering and Informatics (IJEEI)*, Volume 12, No. 3, 2020. **(SCOPUS)**
6. Saptarshi Roy, P Suresh Babu, N V Phanendra Babu, " Intelligent Coordination of Over current and Distance Relays using Meta Heuristic Algorithms", *International Journal Electrical Engineering Informatics (IJEEI)*, Volume 10, No. 4, PP.675-703, 2018. **(SCOPUS)**
7. N V Phanendra Babu, P Suresh Babu, D V S S Siva Sarma, "Binary cuckoo search based optimal PMU placement scheme for united Indian grid - A case study", *International Journal of Engineering, Science and Technology (IJEST)*, Vol. 10, No. 2, 10-24, ISSN: 2141-2839. 2018. **(Peer reviewed)**
8. N. V. Phanendra Babu, P. Suresh Babu, D. V. S. S. Siva Sarma, "A Novel Placement of Phasor Measurement Units Using Binary Bat Algorithm", *Journal of Electrical Engineering (JEE)*, Vol. 17(4), NO. 30. **(SCOPUS)**
9. Saptarshi Roy, P Suresh Babu, N V Phanendra Babu, "A synchrophasor measurement based fault locator with novel fault detection technique", *Journal of Electrical Systems (JES)*, Vol.13, Issue 3, pp.457-471, 2017 **(ESCI) (SCOPUS)**
10. Saptarshi Roy, P Suresh Babu, N V Phanendra Babu, " An Efficient Fault Locating Technique with Backup Protection Scheme Using Wide Area Measurement for Power System with Simultaneous Faults", *International Journal Electrical Engineering Informatics (IJEEI)*, Volume 9, No. 1, PP.100-124, 2017. **(SCOPUS)**
11. N V Phanendra Babu, P Suresh Babu, D V S S Siva Sarma, " A New Technique for Restoration based WAMS Partition", *Engineering Technology and Applied Science Research (ETASR)*, Vol. 7, No. 4, 2017. **(ESCI)**
12. N V Phanendra Babu, P Suresh Babu, "A Robust Wide-Area Measurement System for Southern Region of Indian power Grid Using Binary Cuckoo Search (BCS): A Case Study", *Journal of electrical systems (JES)*, 12-1(2016), 45-67. **(ESCI) (SCOPUS)**
13. N V Phanendra Babu, P Suresh Babu, D V S S Siva Sarma, "A Reliable Wide-Area Measurement System Using Hybrid Genetic Particle Swarm optimization (HGPSO)", *International Review of Electrical Engineering (IREE)*, Vol. 10, No. 6, 2015. **(SCOPUS)**

##### **International Conferences:**

1. Barman, P. K., Subrahmanyam, N., Roy, S., & Babu, N. P. (2022, August). A Statistical Feature-Based Transmission Fault Identification and Classification. In *2022 IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT)* (pp. 1-6). IEEE. GRIET, Hyderabad
2. Bhukya, S., Bharadwaj, A., Babu, N. P., & Maiti, S. (2022, March). Performance Evaluation of Dual Active Bridge Converter for Energy Storage Integration With STATCOM. In *2022 Second International Conference on Power, Control and Computing Technologies (ICPC2T)* (pp. 1-6). IEEE. NIT Raipur
3. Bhukya, S., Bharadwaj, A., Babu, N. P., & Malleshm, G. (2022, March). Control and Performance Analysis of Multifunctional Two Level STATCOM fed with Battery Storage System. In *2022 Second International Conference on Power, Control and Computing Technologies (ICPC2T)* (pp. 1-6). IEEE. NIT Raipur
4. Reddy, N. N., Moorthi, S., Pitchaimuthu, R., Babu, N. P., & Roy, S. (2021, December). Enhancement of

- Power Transfer Capability using Dynamic Model of Unified Power Flow Controller. In 2021 IEEE 18th India Council International Conference (INDICON) (pp. 1-5). IEEE. IIT Guwahati
5. Babu, N. P., & Sumanth, M. (2021, December). Optimal Placement of PMUs using Binary Bat Algorithm. In 2021 IEEE 18th India Council International Conference (INDICON) (pp. 1-5). IEEE. IIT Guwahati
  6. Roy, Saptarshi, NV Phanendra Babu, P. Suresh Babu, and N. Nageswar Reddy. "Correlation Factor-based Fault-Phase Detection for Series Compensated Transmission Line." In 2020 IEEE-ASPCON, Jadavpur University, pp. 344-348. IEEE, 2020
  7. N.V. Phanendra Babu, P. Suresh Babu, "Optimal Identification and selection of Phasor Measurement Units- A Methodology", presented in 8<sup>th</sup> IEEE-ICPS-2019, MNIT Jaipur, Rajasthan, 20-22 Dec., 2019.
  8. Rakesh Gajjela, Suresh Babu P, Phanendra Babu N V and Saptarshi Roy," A New Approach For Wide-Area Back-Up Protection Of Transmission Lines", presented in IEEE-ICITE2018, Osmania University, Hyderabad, 11-13 April, 2018.
  9. Saptarshi Roy, Dr.P.Suresh Babu and N.V.Phanendra Babu," Intelligent Overcurrent and Distance Relays Coordination: A Comparative Analysis using GA,PSO and TLBO", presented in IEEE International Conference ICEES 2018, SSN College of Engineering, Tamil Nadu, 7-9 Feb 2018.
  10. Saptarshi Roy, Dr.P.Suresh Babu and N.V.Phanendra Babu," Optimal Combined Overcurrent and Distance Relays Coordination using Teaching Learning based Optimization", INDICON 2017, 15-17 Dec 2017, IIT Roorkee.
  11. Ajay Prakash Singh, Bhokya Nagu, N V Phanendra Babu, "Minimum Connectivity Based Technique for PMU Placement in Power Systems", 8th ICCCNT, IEEE, IIT Delhi, July 3-5, 2017
  12. Abhishek Kumar, P Suresh Babu, N V Phanendra Babu, Saptarshi Roy, "Taylor-Kalman-Fourier Filter Based Back-up Protection for Teed-transmission Line", 8th ICCCNT, IEEE, IIT Delhi, July 3-5, 2017.
  13. Abhishek Kumar, P Suresh Babu, N V Phanendra Babu, Saptarshi Roy, "A Back-up Protection of Teed-transmission Line Using Taylor-Kalman-Fourier Filter", IEEE Third International Conference on Sensing, Signal Processing and Security, Chennai, May 4-5, 2017.
  14. N V Phanendra Babu, Dr. P Suresh Babu, Prof. D V S S SivaSarma, "A Wide-Area Prospective On Power System Protection: A State-of-Art", IEEE International Conference on Energy, Power and Environment (ICEPE-2015), NIT Meghalaya.
  15. N.V. Phanendra Babu, P. Suresh Babu, Saptarshi Roy, "A Novel Approach for Faulty Phase Detection of Series Compensated Transmission Line", International Conference in Computer Science, Electronics and Communications Engineering (ICCECE), November-2014.

#### **National Conferences:**

1. Bhukya, S., Bharadwaj, A., Babu, N. P., Malleshm, G., & Maiti, S. (2021, December). Control of Asymmetrical Multilevel STATCOM with Hybrid Energy System. In 2021 National Power Electronics Conference (NPEC) (pp. 1-6). IEEE. IIT Bhubaneswar
2. Saptarshi Roy, Dr.P.Suresh Babu and N.V.Phanendra Babu," Intelligent coordination of Over current and Distance Relays using meta-heuristic techniques", presented in National conference on power converters and power systems, National Institute of Technology Warangal, 14 Dec., 2018.
3. N V Phanendra Babu, Dr. P Suresh Babu, "A New Technique for Designing Restoration Based Reliable WAMS Structure", IEEE-20<sup>th</sup> National Power Systems Conference (NPSC-2018), NIT Trichy, 14<sup>th</sup>-16<sup>th</sup> Dec., 2018.
4. N V Phanendra Babu, P Suresh Babu, "A New Optimal PMU Placement Scheme for Monitoring Power System under Both Normal and Line/PMU Failure Conditions", 40<sup>th</sup> National Systems Conference, National Institute of Technology Warangal, 4-6 Nov, 2016
5. M Lohith, P Suresh Babu, N V Phanendra Babu, Saptarshi Roy, K V Ramana Reddy," Synchro-phasor Based Transmission Line Fault Location Technique", National Conference on Power System Protection, Central Power Research Institute, Bangalore, 27-28 Feb, 2015.
6. Saptarshi Roy, P Suresh Babu, N V Phanendra Babu, M Lohith, K V Ramana Reddy," Distance Relay Performance Evaluation on Series-Compensated Transmission Line Protected with Metal Oxide Varistor under Faulted Conditions", National Conference on Power System Protection, Central Power Research Institute, Bangalore, 27-28 Feb, 2015.
7. N V Phanendra Babu, Dr. P Suresh Babu, Prof. D V S S SivaSarma, "Importance of Phasor Measurements in Wide Area Protection of Power System: A Review", National Conference on Power System Protection, Central Power Research Institute, Bangalore, 27-28 Feb, 2015.