

RESUME



Dr. GEETHA R S

Professor

Dept. of Electrical and Electronics Engineering
B.M.S. COLLEGE OF ENGINEERING

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Presently working as a Professor in the Department of Electrical and Electronics Engineering at B.M.S.C.E. Obtained Ph.D. from VTU, Belagavi for the work carried out in the area of "Voltage Source Converter based DC systems". Guided several UG / PG projects and research projects in the area of Power Electronics Converters, HVDC systems, power quality, power converter controls, various topologies of Multilevel converters and renewable energy systems. I am a member (2016 till date) and secretary (2019 to 2023) of IEEE-SSIT professional society, Bangalore chapter. I have around 32 conference / journal publications.

Research Interests: HVDC transmission systems, FACTS controllers, Power Electronics converters, Renewable Energy systems.

List of Publications:

Conference Publications

1. Harini B, R.S. Geetha, "Performance Analysis of a Neutral-Point-Clamped Inverter" Conference on Electrical and Electronics Engineering", International conference on Electrical & Electronics Engineering, June 30th 2012, Organized by IPM, Orissa at Mysore.
2. R.S. Geetha, Ravishankar Deekshit, G.Lal, "Design and development of simulation models of Rectifier and Inverter for VSC based HVDC transmission system", National Conference on "Recent Investigations in Electrical Engineering using Experimental and Computational Techniques" [NCRE3CT-2011], during 14th october,2011.
3. R.S.Geetha, Ravishankar Deekshit, G.Lal, "Performance analysis of a Voltage Source Converter HVDC system connected to an Independent power generating station", IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2012), 16-19 Dec, 2012.
4. Soniya Agrawal and R.S. Geetha, "Controllers for Voltage Source Converters", IEEE international conference C2SPCA, at The Oxford College of Engineering,Bangalore, 10th & 11th October 2013.
5. R.S.Geetha, Ravishankar Deekshit, G. Lal, "Analysis of VSC-HVDC system connected to a weak AC system", IEEE international conference "INDICON 2013",at Indian Institute of Technology (IIT)Bombay, Mumbai , India, 13-15 December, 2013.

6. Kavitha, P. Meena, R.S.Geetha , “V/F Control Of Induction Motor Drives Using Novel Voltage Modulation Technique Of The Space Vector PWM”, National Conference on Recent Trends in Electrical Engineering RTEE, April-2013.
7. B. Venkatesh, R.S.Geetha, “Implementation of drive circuit for BMPII machine”, National conference on Electrical power system component, St. John Engg college, Chirala, AP , 2nd Feb 2013.
8. Nethravathi S., R.S.Geetha “Effective teaching of Power System Analysis course using PSCAD”, International conference on transformations in Engineering Education ICTIEE-2015, BMSCE, Bengaluru, 6-8 Jan, 2015.
9. Chaitanya L., R.S. Geetha, “Submodule voltage balancing in Modular Multilevel Converters”, IEEE international conference on Circuits, Control, Communications and Computing, 20th to 22nd November 2014.
10. Nethravathi S., R.S.Geetha, “Learning by doing : Implementing in Microcontroller course”, at Third International conference on Transformations in Engineering Education, ICTIEE 2016, Pune , 11th Jan 2016.
11. Pruthwi Kalari, R.S. Geetha, “Performance analysis of paralleled VSC-HVDC systems”,IEEE international conference MICROCOM 2016, NIT Durgapur, January 23rd to 25th, 2016.
12. R.S.Geetha, Ravishankar Deekshit, G. Lal, “Transient behaviour of VSC-HVDC in an AC-DC interconnected systems”, NIT Calicut, National workshop and paper presentation , RCPEPS-2016, 6th and 7th May 2016.

Obtained Best paper Award

13. Subin Jose, R.S. Geetha “Integration of wind farms to VSC HVDC systems” , International Conference on Smart grids, Power and Advanced Control Engineering (ICSPACE), 17-19 Aug. 2017,
14. Gagan Nataraj, Jayanth K G, Ratnakar Patil, Shree Harsha K, Geetha R. S. “Newton-Raphson’s Successive approximation method based TCSC controller”, International Conference on Smart Grids, Power and Advanced Control Engineering (ICSPACE 2017), Global Academy of Technology, Bangalore, India from 17-19 August 2017.
15. Divya Nagesh Gouda, R.S.Geetha, Senthilkumar P.,“Modelling the P-V and I-V characteristics of solar cell and panel”, International conference on New trends in Engineering and Technology (ICNTET-2018) organized by GRT Institute of Engineering and Technology, Tiruttani, Chennai, Tamilnadu, 7th & 8th Sep 2018.
16. Divya Nagesh Gouda, R.S.Geetha, Senthilkumar P, “Design and Analysis of Interleaved Buck-Boost KY Converter”, Poster presentation, REV 2019, B.M.S.C.E., Bangalore, 3rd to 6th Feb 2019.
17. Divya Nagesh Gouda, R.S.Geetha, Senthilkumar P.,”Performance evaluation of Interleaved concept for Non isolated Technology”, in IEEE ICECCT 2019 held at SVS College of Engineering, Coimbatore, Tamilnadu, 20-22nd February 2019.
18. Arpita Ankalagi, Nishkala S, Rutuja Kale and Geetha R.S. “Design and Modelling of Multiple output DC-DC converter “, on 18th Oct 2019, GCAT 2019, IEEE BANGLORE SECTION, at Nagarjuna College Of Engineering & Technology.
19. Shyam Padmanabhan, R.S.Geetha, “Mathematical Modeling of Compensator for Power Factor Correction Converters” at ICEECOT conference, Mysuru, India, 13/12/2019
20. Gangambe, R.S. Geetha, “Voltage Oriented Control of Two Level and Three Level Neutral Point Clamped PWM Rectifiers “, Fifth International Conference on Advances

in Recent Technologies in Electrical and Electronics – ARTEE2020, Oct 29-30, 2020; Bhopal, India

21. Shilpashree S, Chiranjeevi V, R S Geetha, A N Nagashree, "Modelling and Simulation of HVDC and FACTS systems using 3DEXPERIENCE platform of Dassault Systems", i-SMaRT 2021, April 22-23, 2021
22. Ramachandra Rao C., Prema V., A.N. Nagashree and R.S. Geetha, "Development of Virtual Lab Module for Wind and Solar Energy Systems using 3DEXPERIENCE Platform of Dassault Systemes", i-SMaRT 2021, April 22-23, 2021
23. Chiranjeevi V, R.S. Geetha, "Optimized switching techniques for Multilevel Inverter with Reduced number of switches", IEEE CONECCT 2021 conference, July 9-10th, 2021.
24. K.R. Pushpa, R.S.Geetha, "Mathematical model and analysis of PV Converter - Inverter System ", GC-RDCT 2021, A J INSTITUTE OF ENGINEERING & TECHNOLOGY, Mangalore, Karnataka, India during 29-30, July 2021.
25. Shilpashree S and Dr. R S Geetha, "Cell Balancing and State of Charge Estimation of Lithium-Ion Cells for Electric Vehicle Applications" at "Sustainable Energy and Technological Advancements (ISSETA 2021)" international symposium, organised by Department of Electrical Engineering, NIT Meghalaya, Shillong, India, 25th Sept 2021.
26. Peeyush Kumar, Ankith, Gurukiran Kashyap Hegde, Divya S, R.S. Geetha "Preliminary Design and Simulation of the Electrical Power System for a CubeSat Using LTspice" in the 7th international conference on "Space Science & Communication (IconSpace2021) organized by Space Science Centre (ANGKASA), Institute of Climate Change (IPI) University Kebangsaan Malaysia (UKM) on 23rd-24th November 2021.
27. Varsha M, Stephen J, Divya S, R.S Geetha, " Design and development of an Electrical Power System for a 3U cubesat", ICSS-2022: International Conference on Small Satellites, Lovely Professional University, Punjab, India, April 29-30, 2022
28. Dongare Shubham*; RS Geetha; Mishra Priya R, "Optimal Design and Comparative Analysis of Different Bi-Directional DC-DC Converters for Energy Storage Applications", ICPCSES2022, B.M.S.C.E., 28th to 30th July 2022.
29. G A Abhishek*; RS Geetha, " Performance Analysis of Boost and Interleaved Boost Converter with A Novel Switching Technique", ICPCSES2022, B.M.S.C.E., 28th to 30th July 2022.
30. K R Pushpa*, RS Geetha, " PV integrated DC-DC converter and Inverter topologies for grid tied/standalone system", ICPCSES2022, B.M.S.C.E., 28th to 30th July 2022.
31. B Shruthi, R S Geetha, Arpitha H M, "Design of charging module for Energy Storage System", National conference on Electrical and Power Electronics (NCEPE-23), 23rd September 2023, Delhi.
32. Stella M S, R S Geetha "Design and Development of Bidirectional DC-DC Converter for Electric Vehicle Application" , 19th Dec 2023, AREEV-2023, NMAM Institute, Nitte, Karnataka.
33. Chandana S R Naik , R S Geetha , Ravichandran C , Bhoopendra Kumar Singh Vinod Chippalkatti, "Design And Implementation Of ZVS Half-Bridge DC-DC Converter for High Power Applications", Third International Conference on Advances in Electrical and Electronics Engineering (AEEE), 26th October 2024.

Journal Publications

1. R.S.Geetha, Ravishankar Deekshit, G.Lal "A Novel Dynamic Power Controller Based VSC-HVDC Line for Power Evacuation from Independent Power Producer", The Journal of CPRI, Vol. 10, No. 1, March 2014.
2. Gayithri C., R.S. Geetha, "Active power and current control for a Modular Multilevel Converter (MMC) based system", IJRET: International Journal of Research in Engineering and Technology, Vol 3., Issue 6, eISSN: 2319-1163 | pISSN: 2321-7308, July 4, 2014
3. R.S.Geetha, Ravishankar Deekshit, G. Lal "Converter Topologies in VSC-HVDC Systems-an overview". IJERT, ISSN:2278-0181
4. R.S.Geetha, Ravishankar Deekshit, G. Lal "Controllers For A VSC-HVDC Link Connected To A Weak AC System", IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE), e- ISSN: 2278-1676, p- ISSN: 2320-3331, Jan-Feb 2015.
5. Sathya K., R. S. Geetha, "Implementation of Industrial Communication Protocol for Power Electronic Device", International Journal of Advance Research and Innovation, Volume 3, Issue 2 (2015) 416-420, ISSN 2347 – 3258, June 15, 2015.
6. Nethravathi S. R.S.Geetha, "Effective Teaching of Power System Analysis Course using PSCAD", Journal of Engineering Education Transformations, eISSN 2394-1707, Special Issue, January 2015
7. Nethravathi S. R.S.Geetha, "Learning by doing: implementing in microcontroller course", Journal of Engineering Education Transformations, Special Issue, 2016, eISSN 2394-1707, DOI: 10.16920/jeet/2016/v0i0/85641
8. Soumya, A.N. Nagashree, R.S. Geetha," Comparison of Voltage Stress Across the MOSFET Switch of a Flyback Converter with Various Snubbers", International Journal of Innovative Science and Research Technology, Volume 5, Issue 6, June – 2020, ISSN No:-2456-2165, June 2020
9. Soumya, R.S. Geetha, B.L. Santosh, Bhoopendra Kumar Singh, Vinod Chippalkatti, "Design and implementation of multiple output forward converter with Mag-amp and LDO as post regulators for space application", International Journal of Engineering, Science and Technology, Vol. 12, No. 3, pp. 43-56. doi: 10.4314/ijest.v12i3.5, 24th August 2020
10. Gangambe S.B. R.S. Geetha, "Voltage Oriented Control of Two Level and Three Level Neutral Point Clamped PWM Rectifiers", Grenze International Journal of Engineering and Technology, Jan Issue 2021, Grenze ID: 01.GIJET.7.1.503, © Grenze Scientific Society, 2021
11. Ramachandra Rao C., Prema V., A.N. Nagashree and R.S. Geetha, "Development of Virtual Lab Module for Wind and Solar Energy Systems using 3DEXPERIENCE Platform of Dassault Systemes", April 2021.
12. S. Shilpashree, V. Chiranjeevi, R.S. Geetha A.N.Nagashree, "Modelling and simulation of HVDC and FACTS systems using 3DEXPERIENCE platform of Dassault Systemes", Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2021.05.607>, 28th May 2021
13. Pushpa K.R., R.S. Geetha, "Mathematical model and analysis of PV Converter - Inverter System", IOP publishing: Materials Science and Engineering, doi:10.1088/1757-899X/1187/1/012019, July 2021
14. Shilpashree S and R S Geetha, "Cell Balancing and State of Charge Estimation of Lithium-Ion Cells for Electric Vehicle Applications", Book chapter published in "Advances in Sustainability Science and Technology", pp 559-573, https://doi.org/10.1007/978-981-16-9033-4_41, 25th March 2022 (First online)
15. Pushpa K.R., R.S. Geetha, Performance Evaluation of isolated and non-isolated panel

- integrated DC-DC converter based on switching characteristics, J. Electrical Systems Vol 18 Issue 4 Dec 2022 p533-555 (Q3), Dec 2022
16. PUSHPA K R, R S GEETHA "PV integrated DC-DC converter and Inverter topologies for grid tied/standalone systems", [River Publishers Series in Proceedings](#) International Conference on Power, Control, and Sustainable Energy Systems (ICPCSES-2022), Published during February 2023
 17. Abhishek G A , R S Geetha, "Performance Analysis of Boost and Interleaved Boost Converter with a novel switching technique ", [River Publishers Series in Proceedings](#) International Conference on Power, Control, and Sustainable Energy Systems (ICPCSES-2022), Published during February 2023
 18. Shubham Dongare , R S Geetha , Priyaranjan Mishra, "Optimal Design and Comparative Analysis of Different BiDirectional DC-DC Converters for Energy Storage Applications", [River Publishers Series in Proceedings](#) International Conference on Power, Control, and Sustainable Energy Systems (ICPCSES-2022), Published during February 2023
 19. Varsh, Stephen, Divya S, R S Geetha, Book chapter titled "Design and Development of an Electrical Power System for a 3U Cubesat" pp 127–146 in the Smart Small Satellites: Design, Modelling and Development, Part of the Lecture Notes in Electrical Engineering book series (LNEE, volume 963), Proceedings of the International Conference on Small Satellites, ICSS 2022
 20. Sujatha, B. C., Usha, A., Geetha, R. S. ., & Poornima, E., Impact of Various Load Models for Combined Assignment of DG Source and D-STATCOM Device in the Radial Distribution System. Distributed Generation & Alternative Energy Journal, 38(04), 1149–1176. <https://doi.org/10.13052/dgaej2156-3306.3844> , published on 18/5/2023
 21. Sujatha, B.C., Usha, A. & Geetha, R.S. Dynamic fuzzy learning based hybrid GWO-CSA for optimal planning of PV, BESS and DSTATCOM with network reconfiguration. Discover Applied Sciences 6, 59 (2024) <https://doi.org/10.1007/s42452-024-05684-w> published on 07/02/2024
 22. B. C., Sujatha.; A., Usha.; R. S. Geetha. Optimal Planning of PV Sources and D-STATCOM Devices with Network Reconfiguration Employing Modified Ant Lion Optimizer. Energies 2024, 17, 2238. <https://doi.org/10.3390/en17102238>. Published on 7/5/2024
 23. K. R. Pushpa, , R. S. Geetha, International Journal of Power Electronics and Drive Systems (IJPEDS), Vol. 15, No. 4, December 2024, pp. 2155~2167, ISSN: 2088-8694 DOI: 10.11591/ijpeds.v15.i4.pp2155-2067, Accepted for publication in December 2024

Professional Society activities

1. IEEE, IEEE SSIT, IEEE PES member
2. IEEE SSIT secretary (Feb 2019 to 2023)

Invited lectures

1. Delivered technical talk on "HVDC Light" in a Five day workshop on "VSC based HVDC transmission" at SSIT, Tumkur on 10/01/2017.
2. Delivered technical talk on "Modelling of Electrical systems" in a Two-week workshop at Dept. of Mechanical Engineering, BMSCE on 24/07/2017.
3. Delivered technical talk on " HVDC transmission systems-An overview" in a Five day workshop at SSIT, Tumkur on 2/06/2018.
4. Delivered technical talk on "Microprocessor & microcontrollers as applied to automation system", on 31/07/2019 during Faculty Development Programme on "Deep Dive Sessions on Industrial Automation Systems and Controls" at Department of Mechanical Engineering, BMSCE.
5. Conducted a session with hands-on on "Solar PV simulators" during a Four days workshop

on "Introduction to Renewable Energy and Power Electronics", at Dept. of EEE", B.M.S.C.E., on 23rd Oct 2019.

6. Delivered an Invited lecture on " Modeling of Electrical and Electronics systems using MATLAB Simulink" during a three-week workshop on "MATLAB in Interdisciplinary Engineering Research" held from 14th December 2020 to 02nd January 2021, organized by the Department of Mechanical Engineering, Vimal Jyothi Engineering College, Kannur, Kerala, in association with B.M.S. College of Engineering.
7. Delivered an Invited lecture on "Mathematical modelling using MATLAB/Simulink" during a Two week Value added course on "Modelling, Simulation, Robotics & Automation", Organized by Department of Electrical and Electronics Engineering & Department of Electronics and Instrumentation Engineering during 21/3/2022 to 1/4/2022 at B.M.S.C.E.

List of Courses Handled

UG Courses

Basic Electrical Engineering (BEE)/ Elements of Electrical Engineering, Digital Electronics Circuits (DEC), Linear Integrated Circuits (LIC), 8051 Microcontrollers, C++ programming, Data structures and algorithms, Renewable Energy Resources

PG Courses

HVDC transmission systems, FACTS controllers, Modelling and Simulation of Power Electronics systems (MSPE), PWM Converters and Applications

Additional Responsibilities

- QIP PhD and ADF coordinator, AICTE (July 2024 – till date)
- EMS auditor at Institution level (2023-till date)
- IEEE-SSIT secretary (2019 to 2023)
- SEE Audit coordination team member (2021-2023)
- TEQIP III MIS Nodal officer (March 2019 to Jan 2022)
- In charge of "Design of Electric Power System for BMSCE UPAGRAHA"- an institution level project. (2020-2022)
- DAC member (2018 - 2019)
- Department Academic Audit Committee member (2015-2018)
- Deputy chief coordinator for III Sem UG valuation unit (Dec 2016)