



Faculty Profile

Brief Profile (Few Paragraphs)

Dr. Hemalatha J N completed B.E engineering from Siddaganga Institute of Technology, M.E from UVCE, Bengaluru, Ph.D. from VTU. Total teaching experience of 24 years, started teaching at UVCE as a teaching assistant for 1 year, 2 years at Sapthagiri college of Engineering as Lecturer and presently working as Associate Professor at RVCE, since 2003.

Very passionate about teaching, taught many interesting courses like Fundamentals of Electrical Engineering, Logic Design, Power Electronics, Network Analysis, transmission and distribution, digital signal processing, microprocessors for UG students. For PG students Power semiconductor devices, power converters, Switchmode power converter. Areas of interest are renewable energy systems, power electronics and power converters. Guided many UG and PG projects. Published papers in reputed journals and conferences.

Involved as NBA co ordinator in the department, Faculty mentor for one of the innovative teams Krushi, BoE member at SIT Tumkur, Dayannada Sagar college of Engineering, Bengaluru.

Personal Information

- **Name:** Dr. HEMALATHA J N
- **Designation:** Associate Professor
- **Department:** Electrical & Electronics Engineering
- **Email:** hemalathajn@rvce.edu.in
- **Phone:** 9845190304

Google Scholar: <https://scholar.google.com/citations?user=NORHU-OAAAAJ>

Scopus Link: <https://www.scopus.com/authid/detail.uri?authorId=58343826700>

ORCID: <https://orcid.org/my-orcid?orcid=0000-0003-3493-8999>

Domain of Expertise

Research Focus

- **Primary Area:** Power Electronics and Renewable Energy Systems
- **Allied Areas:**
 - Solar PV and hybrid microgrid systems
 - Power Converters
 - Electric vehicles

Academic Qualifications

- **Ph.D.:** Electrical Engineering, VTU, 2022
- **M.Tech:** Power Electronics, UVCE, Bangalore University, 2001
- **B.E:** Electrical and Electronics Engineering, SIT, Tumkur, Bangalore University, 1997

Professional Experience

Experience			
S.No	Institute/College/Industry	Job Title	Duration (From- To)
1.	RVCE, Bengaluru	Associate Professor	From 08.09.2003 till date
2.	Sapthagiri College of Engineering	Lecturer	23.01.2001 to 10.08.2003
3.	UVCE, Bengaluru	Teaching assistant	1998-1999

Publications & Patents

Journal Publications

International journals

1. Hemalatha J N, Sunanda C," Design and development of dual mode on-board battery charger for electric vehicle", International Journal of Applied Power Engineering (IJAPE) Vol. 12,No. 2, June 2023, ISSN: 2252-8792, DOI: 10.11591/ijape.v12.i2.pp153-161
2. Spoorthi H B, Dr Hemalatha J N, "Methods of Thermal Management of Catalytic Converters in Gasoline-Based Engine Exhaust Systems", International Journal of Emerging Technologies and Innovative Research, ISSN:2349-5162, Vol.9, Issue 7, July-2022, page no.a773-a78

3. Vanditha G, Hemalatha J N, "Operational Logic Development and Deployment of Factory Automation using PLC", International Research Journal of Engineering and Technology", vol8 Issue 6, June 2021
4. M D Asif, Hemalatha J N, Anil Bay, "Constant on Time Controller for Voltage Regulator with and without Adaptive Voltage Positioning", International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Volume-9 Issue-10, August 2020
5. Banashankari Hosur , Hemalatha J N," Design and Simulation of Zeta Converter for Speed Control of BLDC Motor," International Journal of Emerging Technologies in Engineering Research (IJETER) Volume 7, Issue 6, June (2019) www.ijeter.everscience.org
6. Balachandra, Hemalatha J N "A New Multi Input Converter Configuration For Renewable Energy Systems", International Journal Of Engineering Research & Technology IJERT, Vol 1 Issue 4 June 2012
7. Sidray Somapur, Hemalatha J N"Implementation of nine level H bridge multilevel inverter with DC link switches using ATMEGA 32" International Journal Of Engineering Research & Technology IJERT, Vol 1 Issue 4 June 2012
8. Ashwathy K S , Hemalatha J N," A New Inverter Design For Facts Applications", IOSR Journal of Engineering (IOSRJEN) www.iosrjen.org ISSN (e): 2250-3021, ISSN (p): 2278-8719 Vol. 04, Issue 07 (July. 2014)
9. Hemalatha .J.N, Sunanda C,"Development of sensorless MPPT for Wind Energy Conversion System using Z source converters", International Journal of Advance Research in Engineering, Science & technology, e-ISSN: 2393-9877, p-ISSN: 2394-2444 Volume 3, Issue 1, January-2016.
10. Hemalatha J N & Sunanda C "Implementation Of Space Vector PWM Technique For A Two Level 3 Phase Bridge Inverter Using DSP", International Journal Of Electrical And Electronics Engineers(IJEEE), Vol 8, Issue 2, July-December 2016, pp 11-23,ISSN(O)-2321 2055, ISSN(P)-2321 2015.
11. Apoorva V, Hemalatha J N, "Design of Three Phase Three Wire Power Monitoring System for Healthcare Units", International Journal of Scientific Development and Research (IJSDR)August 2017 IJSDR | Volume 2, Issue 8, ISSN: 2455-2631
12. Hemalatha J N, Dr Hariprasad and Dr G S Anitha , "Analysis and Evaluation of Performance Parameters of Modified Single Ended Primary Inductance Converter", International Journal of Power Electronics and Drive Systems (IJPEDS), vol 8, 2017, pp 1585-1594
13. Hemalatha J N, Dr Hariprasad and Dr G S Anitha , "Design and Implementation of Two Input Modified Single Ended Primary Inductance Converter for Micro grid application", International Journal of Emerging Technologies in Engineering Research (IJETER) Volume 7, Issue 5, May 2019
14. Hemalatha J N, Dr Hariprasad and Dr G S Anitha, " Control Strategy to Generate PWM Signals with Stability Analysis for Dual Input Power Converter System", Indonesian Journal of Electrical Engineering and Informatics (IJEI) Vol. 7, No. 4, Dec 2019, pp. 609~619.
15. K. Gajalakshmi¹, Sumithra C V², Bagya³, C. Sunanda⁴, Hemalatha J N⁵, Usha Padma⁶, "Agricultural Land suitability Analysis for Four Major Crops Using Satellite Imagery and GIS Techniques", Journal of Computational Analysis and Applications VOL. 33, NO. 5,

2024

16. Hema J P¹, Dr. Madhu B R², Dr. Hemalatha J N³, “ Design and Implementation of Two Parallel Interleaved DC-DC Converter for EV Fast Charging”, International Research Journal of Engineering and Technology (IRJET), Volume: 11 Issue: 09 | Sep 2024
17. R Rakshith, Dr. Hemalatha J N, “Design and Implementation of H-Bridge Multilevel Inverter for Grid Integration”, International Research Journal of Engineering and Technology (IRJET), Volume: 11 Issue: 09 | Sep 2024
18. Harsha Bhan Giri Hemalatha J N, “Automated Testing Framework for Capital Project Management Software”, International Journal of Innovative Research in Science, Engineering and Technology, vol1 12, Issue 6 year 2024
19. Hemalatha J N, Sunanda C,” Design and development of dual mode on-board battery charger for electric vehicle”, International Journal of Applied Power Engineering (IJAPE) Vol. 12, No. 2, June 2023, ISSN: 2252-8792, DOI: 10.11591/ijape.v12.i2.pp153-161

Conference Papers

International Conferences

1. Rachana , Hemalatha J N " Modeling and Simulation of PV Wind Energy based Integrated Power System", International Conference Information & Communication Engineering (ICICE2013) at Bangalore on 28th June 2013.
2. Hemalatha J N, Dr Hariprasad S A, Dr G S Anitha, “Performance Evaluation Of Single Ended Primary Inductance Converter For Photo Voltaic Applications” , July 24th to 26th 2014, International Conference on Magnetics, Machines & Drives, AICERA-2014 ICMMD.
3. Swagatha, Hemalatha" A Flexible and Reconfigurable Controller Design for Buck Converters" July 24th to 26th 2014, International Conference on Magnetics, Machines & Drives, AICERA-2014 ICMMD.
4. Hemalatha J N, Swetaleena "Comparative study of performance of non isolated Dc-dc converters implemented for Wind energy Conversion System", 7th International Conference on Advanced Energy Conversion Technologies AECT 2015, 23-24 January, 2015, MIT Manipal
5. Hemalatha J N & Sunanda C “Implementation Of Space Vector PWM Technique For A Two Level 3 Phase Bridge Inverter Using DSP”, 4th International Conference on Recent Trends in Engineering Science and Management (ICRTESM - 2016) ISBN: 978-93-86171-01-6 Date: 7th August 2016.
6. Hemalatha J N, Hariprasad S A, G S Anitha, “Performance parameters evaluation & comparison of basic non-isolated dc-dc converters for wind energy conversion Systems”, International Conference on Advances in Recent Technologies in Electrical and Electronics ARTEE-2016
7. Danamma, Hemalatha J N, Dr Hariprasad S A, Dr G S Anitha,” Design and Analysis of Dual Input SEPIC Converter for Renewable Energy Sources”, International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT-2015) be held during 17 th –18 th December – 2015. ICERECT-15
8. Shruthi B N, Hemalatha J N “ Design and Development of Dual input Cuk-ZETA converter” International Conference ACT2016 on 12-08-2016 at Hyderabad.
9. Apoorva V, Hemalatha J N, “Steps involved while Introducing a New Product into A Healthcare Organisation”, Proceedings of the IEEE 2017 International Conference on Computing Methodologies and Communication (ICCMC).

10. Hemalatha J N, Dr Hariprasad and Dr G S Anitha "Performance Parameters Evaluation & Comparison Of Basic Non-Isolated Dc-Dc Converters For Wind Energy Conversion Systems", International .Conference on Advances in Recent Technologies in Electrical and Electronics ARTEE-2016
11. S. Ali, S. C and H. J N, "Epilepsy Prediction using Machine Learning," 2022 4th International Conference on Artificial Intelligence and Speech Technology (AIST), Delhi, India, 2022, pp. 1-5, doi: 10.1109/AIST55798.2022.10065163.
12. Hemalatha J N, Bhavana, " Design and implementation of 45W power delivery module for automotive applications", CSITSS-2023, RVCE, Bengaluru
13. Hemalatha J N, Bhavana, "Design and Development of Dual DC motor control module for Remote tilt control of Antenna, 2024 IEEE 11th Power India International Conference (PIICON 2024), organized at Malaviya National Institute of Technology Jaipur, India
14. Jayanth A Kanago, Mustaq Ahmed, Hemalatha J N, "Advanced Metering Infrastructure Survey on Security: Vulnerabilities, Attacks, and Countermeasures for a 5kW PV Microgrid, 2025 Emerging Technologies for Intelligent Systems (ETIS)
15. Hemalatha J N, Sunanda, Mohit Kulkarni, Pranav," Empowering Engineering Training: A Portable PyQt5-Based GUI for System Validation with Simulink DLLs", 2023 7th International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS), pages 1-5, IEEE published
16. S. Ali, S. C and H. J N, "Epilepsy Prediction using Machine Learning," 2022 4th International Conference on Artificial Intelligence and Speech Technology (AIST), Delhi, India, 2022, pp. 1-5, doi: 10.1109/AIST55798.2022.10065163.

National Conference:

1. Hemalatha.j.n, sunanda c, "Closed loop bidirectional speed and position control of dc motor Atmega 32 microcontroller", 19th and 20th September, 2013. SSIT, tumkur. ISSN: 978-81-927765-0-1.
2. Sidray Somapur, Hemalatha J N, "Implementation of nine level H bridge multilevel inverter with DC link switches using ATMEGA 32" NCRAE-12, 22nd and 23rd June, 2012. Sanjeevan engineering and technology, Institute, panhala, Kolhapur, Maharashtra
3. shruthi. B. N, Hemalatha. J. N, "Design and Development of Dual input CUK-ZETA converter", National Conference on engineering technology and management, RVCE, Bangalore, 24th to 25th April 2015. 22nd April 2016.
4. Poornima Durgi, Hemalatha J N, "Electric power steering using DC Servo motor with PID controller for Heavy vehicle application", Proceedings of National conference on knowledge dissemination of PG students and research works" on 09/05/2018.
5. Harsh Bhan Giri, Harshad Biradar, Nihal Gupta, Pranav V Jirali, Dr. J.N. Hemalatha, "Pothole Detection Using Image Processing And Data Logging", in the National Conference organized by the Department of Electronics & Telecommunication Engineering, RV College of Engineering, Bengaluru on the occasion of "World Telecommunication & Information Society Day" held at RV College of Engineering, Bengaluru, Karnataka, during 17-18 May, 2023

Books/Book Chapters

1. Hemalatha J N, Sunanda C, “Design and Development of Dual-Mode on-Board Battery Charger with Cuk Converter for Electric Vehicle (37-50), vol 9, chapter 2 , Theory and Applications of Engineering Research, I edition, © 2024 BP International

R & D Grants & Consultancy Projects

Ongoing & Completed Consultancy Projects

- Involved in conducting internship programs under centre of competence “Smart Vidyuth and Sustainable solutions” for both undergraduate and post graduate students in partnership with ARCADIS, Bengaluru and ANN training
- One of the organiser of 3 month certification course on “power system substation design” in collaboration with ARCADIS.
- Faculty co- coordinator of one of the Innovative club of RVCE, “Krusha”, guiding students in development of low HP tractor and Independent Hybrid tractor.
- One of the faculty in “ Bhuwalka Consultancy Project” for the work titled “ Energy Auditing and Energy Conservation for BCFL, Kolar” for Rs 6.00 lacs

Patents: [Filed / Published / Granted]

1. [PIEZOELECTRIC VIBRATION ENERGY HARVESTING DEVICE], [384557-001], [2023].
2. [SOLAR INVERTER] [364441-001] [2022]
3. [BATTERY THERMAL MANAGEMENT DEVICE FOR ELECTRIC VEHICLES] [6384687] [2024]

Professional Memberships

- Indian Society of Technical Education (ISTE)– LIFE MEMBER– LM
- IEEE –PELS member: Membership Number:**93380674**

Awards & Recognitions

- *Received Excellence Educator Award from Global Principal Education 2024*
- *Invited as one of the Jury for 9th National project Expo at Dr Ambedkar college of Engineering*
- *Delivered lectures on Virtual lab usage at Govt Poly technique college, Mandya, UVCE Bengaluru and and AMC college of Engineering Bengaluru.*
- *Received Merit Certificate for FDP on Development Program on Moodle & its Features for Teaching - Learning and Evaluation Process during 27th – 31st July 2020.*

- College has recognised for achievements like for publishing patents, papers
- Incharge for power electronics, power converter, digital signal processing lab

Student Supervision

- Undergraduate Research Mentees: 24

Teaching

Core Courses: [Current semester]

- Digital Signal Processing and applications (EE362IA)
- Power Electronic Converter-2 (MPEE211IA)

Advanced/Lab Courses:

- Power Converter lab
- DSP lab

Professional Roles

Responsibilities

- Skill lab Coordinator (4th semester Department level)
- Department PG NBA Coordinator
- Department Major Project Coordinator
- Served as department Time Table officer for 5 years.
- Member of Centre of Competence-“Centre of Smart Vidyut and Sustainable Solutions” in the department of Electrical and Electronics.
- Technical committee chair in 7th International conference CSITSS- Bengaluru 2023
- Conducted many FDPs as one of the coordinator Attended many FDP's , workshop and Short term courses from renowned institutions.
- Served as department library in-charge for more than 15 years
- Panel member for UG and PG major, minor project evaluation
- One of the member of Academic Monitoring committee at department and Institute level.
- Accompanied students to various industrial visits.
- Organized exhibition and poster presentation with monograph release of PG major project
- Served as BoE member in the department for more than 10 years
- One of the BoS members in the department.

External Connect

- Reviewer for many International conferences like *IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)*, 2024.
- Session chair of International conferences held at SIT and RVCE
- BoS member at REVA university, UVCE Bangalore
- BoE member at SIT, UVCE, Dayanada Sagar college of Engineering.
- Evaluation of PhD thesis at PES University.
- Invited for many lab exams from various institutions
- Question paper setter for various Institutions