National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty

Curriculum Vitae

Brief Profile: 1-2 paragraphs (not exceeding 500 words)

1. Name: Kalpana R
2. Designation: Associate Professor
3. Office Address: MN 003, Department of Energy and Environment, NIT Tiruchirappalli.
4. Telephone (Direct) (Optional): 91-431-2503132
   Telephone : Extn (Optional):
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5. Email (Primary): kalpana@nitt.edu Email (Secondary) : dr.kalpana.nitt@gmail.com
6. Field(s) of Specialization: Power Condition and Moinitoring, Wide Band Gap Devices for EV Applications, Battery Management Systems for Electric Vehicles

7. **Employment Profile**

Job Title	Employer	From	To
Associate Professor, Dept. of Energy and Environment, NIT Tiruchirappalli	NIT Tiruchirappalli	31-12-2025	Present
Associate Professor, Dept. of Electrical and Electronics Engineering, NIT Karnataka, Surathkal	NIT Karnataka	11-10-2023	30-12-2025
Assistant Professor, Dept. of Electrical and Electronics Engineering, NIT Karnataka, Surathkal	NIT Karnataka	10-10-2013	10-10-2023
Adhoc Faculty, MANIT Bhopal, Madhya Pradesh	MANIT Bhopal	08- 07-2013	08 -10-2013

8. **Academic Qualifications (From Highest Degree to High School):**

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	Indian Institute of Technology Delhi, New Delhi	2012	First	Power Electronics
M.E.	Anna University, Chennai	2000	First	Power Systems
B.E.	Madras University	1998	First	Electrical and Electronics Engineering
HSC	Tamil Nadu State Board	1994	First	Physics, Chemistry, Biology, Maths, Tamil, English
SSLC	Tamil Nadu State Board	1992	First	Maths, Science, Social Science, Tamil, English

9. **Academic/Administrative Responsibilities within the University**

Position	Faculty/Department/Centre/Institution	From	To
Department Project Evaluation Committee (DPEC), NITT	Department	2026	Present
Faculty Advisor for UG 2024 – 2028 Batch (2024-2025) *	Department	2024	2025
Course Coordinator for the course EE110-Elements of Electrical Engineering,2024 *	Department	2024	2025
DPGC Secretary (July 2022 – June 2024) *	Department	2022	2024
Faculty Advisor (2015 – 2019) *	Department	2015	2019
Departmental Committee Member for UG Students (2016- 2025) *	Department	2016	2025
Departmental Committee Member for PG Students (2015 - 2016) *	Department	2015	2016
Departmental Committee Member for Research Students (2013 – 2025) *	Department	2013	2025
Departmental RPAC and PWEC Member for Research Students (2013 -2025) *	Department	2013	2025
National Board of Accreditation Team Member (2016-2017,2022-2023) *	Department	2016	2023
Girls Hostel Warden (Dec. 2020 – Dec. 2023)	Institution	2020	2023
Committee member for Non-Teaching staff recruitment (2021) *	Institution	2021	2021
Hostel e-Tender committee member (2020- 2023) *	Institution	2020	2023
Students Election Committee member 2019*	Institution	2019	2019
MIS-SRS Team Member (2017-2018) *	Institution	2017	2018
Exam Monitoring Team Member (2016-2017) *	Institution	2016	2017
Interview Committee Member - Temporary Faculty Recruitment, 2015*	Institution	2015	2015
Member - Student Council Election (2015 & 2017) *	Institution	2015	2017
Faculty advisor for Industry Applications Society (IAS) IEEE IAS -NITK*	Faculty	2023	2025

*Served Position at NITK Surathkal

10. Academic/Administrative Responsibilities outside the University

Position	Institution	From	To
IEEE IAS Member at Large	IEEE	2025	2026
BoS member	Department of E & E, Vimal Jyothi Engineering college, Kerala	2025	2026
Committee Membre	ANRF	2025	2026
Subject Expert Committee member	MeitY-MHI	2025	2026
Academic Council Member, Board of Studies in College (Autonomous)	Kerala. Board meeting held on 21-10-2024.	2024	2024
Panel member of Interview	APJ Abdul Kalam Technological University,	2022	2023

Board for admission to Ph.D. Program Academic Year 2022-23	Thiruvananthapuram,		
TEQIP Research Seed Money (RSM) proposals evaluation screening committee member (ECE & EEE)-GCE.	Kannur GCE held on18/08/2021	2021	2022

11. **Awards, Associateships etc**.

Year of Award	Name of the Award	Awarding Organization
2024	**Outstanding WiE Professional Academia for the year** 2024 in recognition of her exceptional dedication and contributions as her efforts and commitment to promoting the mission	IEEE WIE, IEEE Bangalore Chapter
2024	**IEEE WinTechCon Award 2024** from the IEEE Circuits and Systems (CAS) and Women in Engineering Bangalore Chapter in the **Faculty Members Category** at Radisson Blu Hotel, Bangalore on 12th -13th November 2024. IEEE Circuits and Systems Bangalore Chapter proudly presented this WinTechCon Awards to honor the remarkable achievements of women in the circuits and systems design arena. and Dr. Daravath Kishan	IEEE Circuits and Systems Bangalore Chapter
2024	**Best Paper Award** on the paper titled "A Two-Switch Multiport Non-Isolated DC–DC Converter for On-Board EV Charging Applications	IEEE 4th International Conference onSustainable Energy and Future Electric Transportation (SEFET), held from July 31 to August 3, 2024, at The Plaza, Begumpet, Hyderabad, (Bussa Vinusha, Dr. R. Kalpana
2024	**Best Paper Award** in IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation (SEFET), held from July 31 to August 3, 2024, at, Begumpet, Hyderabad, Dr. R Kalpana and Mr Sameer Sinha (M.Tech. in Power Energy Systems	IEEE 4th International Conference onSustainable Energy and Future Electric Transportation (SEFET), held from July 31 to August 3, 2024, at The Plaza, Begumpet, Hyderabad, (Bussa Vinusha, Dr. R. Kalpana
2020-2021	**VGST Award** for Research Publication 2020-2021,	Karnataka Science and Technology Promotion Society, Department of Electronics, Information Technology, Bio Technology, Science and Technology
2019	**PPSA POSCO 2019 AWARD IN MASTER CATEGORY** Khimavath Sai Chethana, Power	PPSA POSCO 2019 AWARD

	quality improvements in AC Mains fed AC-DC rectifier using DC current injection technique.	
2018	**Recipient of IETE Best Research Award** in IETE Seminar on Advances in Smart Hardware Technologies (ASH-Tech 2018), Indore, India	IETE Best Research Award
1996	**Adhoc National** Merit Scholarship, Government of India (June 1996).	Government of India
1998	**GATE Scholarship,** Government of India (August 1998 – January 2000).	Government of India

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)

13. Details of Academic Work

(i) Curriculum Development

EE815 Power Electronics Design Laboratory, M.Tech(Power and Energy Systems), NITK Surathkal

(ii) Courses taught at Postgraduate and Undergraduate levels

PG Courses

- Data Analytics and Machine Learning in Energy Systems
- Battery Management Systems
- Embedded Control for Power Electronics
- High Power Converters
- Power Electronics Converters
- DC-AC Interactions

UG Courses

- Energy and Environment
- Electric Circuit Theory
- Elements of Electrical Engineering
- Power Electronics Applications to Power Systems
- Digital Electronics Control
- HVDC Systems

(iii) Projects guided at Postgraduate level

1. State of Charge Based Cell Balancing Unsing Artificial Neural Network in a Two Stage Buck- Boost Converter for Series- Connected Lithium-Ion Cells, Aswin R (2320016), 2025
2. Analysis of Dual-Output Off-Board EV Charger by Integrating TP-PFC Converter and H5-Bridge Based LLC Resonant Converter, Komal Joshi (2320030), 2025.
3. Performance Evaluation of Two Stage Module Based Buck-Boost Converter for Series and Parallelly Connected Cells for Electric Vehicle Battery Pack Applications, Ashis Kumar Nayak (222EV504),2024.
4. A Zig-Zag Multiwinding Transformer for EV Battery Charger Using Interleaved Buck DC-DC Converter, Sameer Sinha, (222PS028), 2024

5. Zig-Zag Autoconnected Transformer Based AC-DC Converter for EV Battery Charging Station, Rajan Gupta, (2120797), 2023.
6. State and Parameter Estimation of Li Ion Battery using Dual Extended Kalman Filter, Shilpa Radhakrishnan (212PS031), 2023.
7. Investigation of Multiport Interleaved DC-DC Boost Converter for Base Transceiver Station Application, Jayshankar (202PS010), 2022.
8. Digital Solutions for Distance Measurement Techniques in Distribution Projects, Gurujala Maavya Sridhar, L& T (Industry), 2021
9. Active Power Factor Correction in Multi-pulse Rectifiers Using SEPIC converter, Nikshitha Rao A S, 2020.
10. Design and Analysis of Multiport Interleaved DC-DC Boost Converter for Telecom power Supply Application, Avirneni Sri Ramya, 2020.
11. Harmonic Mitigation in 12-Pulse Bridge Rectifier Using DC Current Imposition Technique, B Mohankrishna, 2019.
12. Enhancement in Power Quality using Current Injection Technique on Zig-Zag Configured Autotransformer based 12-Pulse Rectifier, Khimavath Sai Chethana, 2018.
13. Power Quality Improvement Using Zig-Zag Autoconnected Transformer, Vidyasagar, 2017
14. Power Quality Improvement in Distribution System Using Multi-pulse Based VSC, Deepak M, 2017.
15. Solar Grid Interfaced Power Generating System Using Multi-pulse Converter, Jinna Abilash, 2016
16. Design and Development of Motor Car Unit, Vishnu N, 2016.

(iv) Other contribution(s): IEEE Activities

1. **IEEE Power Electronics Society Distinguished Regional Lecturer (DRL)** (2026-2028)
2. **Member at Large:** IEEE IAS Board Member (2025-2026).
3. **Associate Editor**: IEEE Journal of Emerging and Selected Topics in Industrial Electronics JESTIE (2026 onwards-).
4. **Associate Editor**: IEEE Transactions on Industry Applications (2024 onwards-).
5. **Treasurer**: IEEE Power Electronics Society Women In Engineering (WIE) 2025.
6. **Treasurer**: IEEE Industrial Electronics Society (IES) Bangalore Chapter 2025.
7. **EXECOM Member (Collaborative Programs):** For IEEE PELS Bangalore Chapter 2025.
8. **Technical Committee Member**: IEEE India Council (March 2025 Onwards)
9. **Faculty Advisor:** Industry Applications Society (IAS) Chapter at NITK Surathkal, India.
10. **Women In Engineering Chair:** IEEE International Conference on Power and Energy Engineering (ICPEE 2027) organized by the Department of Electrical Engineering, **MNIT Jaipur, from 15–18, December 2027**.
11. **Plenary & Women in Engineering Chair:** IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE 2026), NIT Megalaya, India, 12-14 June 2026.
12. **Plenary & Women in Engineering Chair:** IEEE North-East India International Energy Conversion Conference and Exhibition (NE-IECCE 2025), NIT Silchar, Assam, India, July 04-06, 2025.
13. **Student Activity & Award Chair**: 5th IEEE International Conference on Sustainable Energy and Future Electric Transportation (SEFET 2025).

14. **Publicity Liaison:** 42nd IEEE International Communications Energy Conference (INTELEC 2025), October 12-15, 2025, Houston, TX.
15. **Women In Engineering Chair:** 4th IEEE International Conference on Power Electronics and Renewable Energy for Sustainable Development (PESGRE), 18-21 December 2025 at IIITD, Dharwad, Hubli, Karnataka, India.
16. **Technical Program Chair:** 4th IEEE International Conference on Smart Technologies for Power, Energy, and Control (STPEC 2025), December 10-13, 2025, NIT Goa, India.
17. **Publicity Committee Member**: 12th IEEE National Power Electronics Conference (NPEC 2025), December 14-16, 2025, at NIT Calicut, India.
18. **General Chair**: For 11th IEEE International Conference on Power Electronics Drives and Energy Systems (PEDES 2021) held at NITK Surathkal, 18th – 21st December 2024 (IAS flagship conference in R10)
19. **WIE Event Chair**: IEEE PELS WIE during IEEE International Conference on Power Electronics Drives and Energy Systems (PEDES) held at NITK Surathkal, 18th- 21st December 2024.
20. **WIE Event Coordinator**: Mentorship Circles and Career Coaching 2024 at IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation, Hyderabad, India.
21. **Panelist:** Student and Young Professional (SYP) Programme (Panel Discussion) at 2024 IEEE 4th International Conference on Sustainable Energy and Future Electric Transportation, Hyderabad, India.
22. **Plenary Chair**: The 10th IEEE International Conference on Power Electronics Drives and Energy Systems (PEDES 2021), MNIT Jaipur, 14th –17th December 2022.
23. **Steering Committee Member**: IEEE International Conference on Power Electronics Drives and Energy Systems (PEDES) since 2020.
24. **Steering Committee Member**: IEEE International Conference on Sustainable Energy and Future Electric Transportation (SEFET).
25. **Steering Committee Member, Plenary Chair and Tutorial Chair**: IEEE North East India International Energy Conversion Conference and Exhibition (NE-IECCE), July 2025.
26. **Reviewer**: Following IAS sponsored conferences. IEEE IAS Annual Meeting (IACC), ECCE, PEDES, ITEC-India, SEFET, STPEC, PIICON, NPSC, NPEC, IICPE and PESGRE.
27. **Faculty Coordinator**: "Women in Technology Summit" by IEEE NITK Student Chapter & IEEE Computer Society at NITK Surathkal, on 21st - 23rd Dec. 2018 as Women in Engineering (WIE)- Co Chair member.
28. **WIE Chair EXECOM Member** in IEEE Mangalore Subsection (MSS) from 2016-2018.
29. **Faculty Coordinator:** MHRD (India) and IEEE sponsored Faculty Development Programme (FDP) in multiple years.
30. **Faculty Coordinator**: Expert Webinars during covid years (2020-2021).
31. **Faculty Coordinator**: National level Students' Project Demo Contests under IEEE banner.
32. **Faculty Coordinator**: WIE events in NITK and in Karnataka state of India under IEEE banner.
33. **General co-chair**: IEEE International Conference on "Power Electronics Applications and Technology in Present Energy Scenario", NITK, Surathkal, 29th-31st August 2019, Sponsored by TEQIP-Phase III.
34. Student and Young Professional **(SYP) coordinator** of IAS events in India

14. Details of Major R&D Projects

Sl. No.	Title of Project	Funding Agency	Duration		Status
			From	To	Ongoing/ Completed
1.	Sophisticated Optimised DC-DC Converter for Charging Electric Vehicle Using Reliable GaN devices and Planar Magnetics	DST/SERB-EEQ Financial Outlay: 31 Lakhs	19 January 2023	23 June 2026	**Ongoing**
2.	Development of Battery Management and User Interface Systems for Consumer Electronic Applications	NITK-KREC Endowment Fund, Dr. D. K Patnaik Financial Outlay: Rs. 20,000	10 Oct. 2019	10 Oct. 2020	**Completed**
3.	Theoretical analysis and Design of High Efficiency Wide band Class-D Amplifier for Acoustic Transducer	NRB-DRDO Vizag. Financial Outlay: 38 Lakhs	10 Oct. 2019	20 Jan. 2022	**Completed**
4.	Utility Interactive Hybrid Power Solutions for Telecom load	DST SERB-YSS Financial Outlay: 21.77 Lakhs	09-Oct-15	08-Oct-2018	**Completed**

15. Number of PhDs guided

Sl. No.	Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
1.	Suprabha Padiyar U (197517), NITK	Design and Development of Dual-Stage Onboard Charger for an Electric Vehicle	Supervisor	2026
2.	Dr. Bussa Vinusha, NITK	Development of an Intergrated Three-Phase PFC and Multi-Port DC-DC Converters for Off-Board Electric Vehicle Chargers	Co-Supervisor	2026
3.	Dr. Chiliveri Vinod Rajeshwar (197112EE008), NITK	Adaptive Sliding Mode Control for Lateral Motion Stability and Speed Regulation in Independent Drive Electric Vehicle".	Supervisor	2025
4.	Dr. Kenguru Manjunath (197144EE011), NITK	Design and Development of Modularized Active Cell Balancing Techniques for Li-Ion Battery String in Electric Vehicle Applications	Supervisor	2025
5.	Dr. Sheeja V, NITK	Design and Development of Solar Photovoltaic and Battery Based Power Supply System for Grid Integrated Telecom Load	Supervisor	2024
6.	Dr. Kiran R (177109EE006),	Design and Development of Dual-Input DC-DC Converter Based Hybrid Power Supply System	Supervisor	2022

	NITK	for Telecom Load		
7.	Dr. J Saikrishna Goud (158019EE15F07), NITK	Effective Utilization and Management of PV and Battery Based Power Supply System for Telecom Load	Supervisor	2019
8.	Dr. Saravana Prakash P (138009 EE13F06), NITK	Investigations on Three-Phase Front-End AC-DC Converters for Power Quality Improvement	Supervisor	2019

16. **Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)**

1. Research Interaction at ENVISION, Wind Blade Manufactures, Tiruchirappalli on 08-04-2026.
2. Research Interaction at National Institute of Taiwan, Taiwan, 16- 20 July 2025.
3. SEG Research Interaction at SEG Automotive Company, Bangalore regarding setting up an Electric Vehicle Research Lab in the NITK Institute on 22-10-2021.
4. SPARC sponsored online course on “Enabling Technologies for Electric Transportation” sponsored by the Scheme for Promotion of Academic and Research Collaboration (SPARC) program of the Ministry of Education, Govt. of India, 30th July-19th September 2021
5. Attended webinar on "Improving Academic skills for IEEE Transactions” by Wen Cao on 16th Feb. 2021, organized by IEEE Industrial Electronics Society.
6. Research Interaction/Technical discussion at NSTL-DRDO Naval Research Board (NRB) Visakhapatnam on 1st & 2nd Nov. 2018.
7. Attended **2018** IEEE International Conference on Power and Energy (PECon 2018) at Kuala Lumpur, Malaysia on 3-4 December 2018.
8. Attended Short Term Course “Power Quality Challenges with RE Integration in Smart Grid” on 23-24 Feb.2017, CPRI Bangalore, India.
9. Attended Short Term Course “Power Quality Improvement” on 21st January 2014, MANIT, Bhopal, Madhya Pradesh, India.
10. Attended the workshop on “Power Quality: Principles, standards and solutions” on 27-30 December 2004 at 13th National Power System Conference conducted by Department of Electrical Engineering, Indian Institute of Technology, Chennai, India.
11. Attended the tutorials on “Power Quality: Principles, standards and solutions” on 27-30 December 2004 at 13th National Power System Conference conducted by Department of Electrical Engineering, Indian Institute of Technology, Chennai, India.
12. Attended the two-day IEEE workshop on “Research Advances in Sustainable Energy” on 15-16 December 2009 jointly organized by IEEE PES-IAS, Delhi Chapter and IEE PELS-IES Delhi Chapter at Department of Electrical Engineering, Indian Institute of Technology, New Delhi, India.
13. Attended the tutorials on “Power Electronics, Drives and Energy Systems” on 20th December 2010 jointly organized by IEEE PES-IAS, PELS and IEEE-IES at Department of Electrical Engineering, Indian Institute of Technology, New Delhi, India.

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

SL. No.	Title of Activity	Level of Event (International/ National/ Local)	Date	Role	Venue
1.	Organized a Lecture Talk at **Titled "Survey of Decision-making: From Mathematical Optimization to Sustainability Assessments**" by T. Agami Reddy, Ph.D., SRP Professor of Energy and Environment at Arizona State University	Local	18 March 2026.	Co-ordinator	Dept. of Energy and Environment, NIT Tiruchirappalli
2.	Organized **11th IEEE International Conference on Power Electronics Drives and Energy Systems (PEDES 2024)**	International	18-21 December 2024	General Chair	Dept. of E &E, NITK Surathkal on
3.	Organized SERB CRG Sponsored One-Week High-End Workshop on "**SUITEV: Smart Universal Infrastructure for Efficient Electric Vehicle Charging"**	National	24th to 30th June 2024.	Organizer	Dept. of E &E, NITK Surathkal
4.	Organized IEEE International Conference on "**Power Electronics Applications and Technology in Present Energy Scenario"**	International	, 29th – 31st August 2019	General Chair	NITK, Surathkal, Sponsored by TEQIP-Phase III.
5.	Organized "Women in Technology Summit" on as Women in Engineering (WIE)-Co Chair member.	International	21st - 23rd Dec. 2018	Co-convenor	IEEE NITK Student Chapter & IEEE Computer Society at NITK Surathkal
6.	Organized "Energy & Environmental Problems Facing the Third World and Their Probable Solutions for Sustainable Development" Lecture Talk by D P Kothari	Local	13th Nov. 2018	Co-ordinator	Dept. of E&E Engg., NITK, Surathkal,
7.	Organized STC on "Digital Controllers for Power Electronics Applications" by on	International	29th Sept. - 2nd Nov. 2018.	Co-ordinator	Dept. of E&E Engg., NITK, Surathkal,
8.	Organized "Power Electronics Applications and Technology in Present Energy Scenario"	International	4th –6th of March 2015	Co-ordinator	EEE,NITK, Surathkal, , Sponsoring authority-TEQIP-Phase II.
9.	Organized "Evolution of Electrical machines and Advancements"	International	12th September 2014,	Co-ordinator	EEE, NITK, Surathkal, Sponsoring authority- NITK Surathkal

17. Invited Talks delivered

1. Plenary Lecture on High Power Converters for off Board EV Chargers, in the International Conference on Sustainable Technologies and Sciences *ICSTS 2025*, Trivandrum, 27 December 2025
2. Webinar on Battery Managemnet Sytems for Electric Vehicle Applications, IEEE Industrial Electronics Society, 27 November 2025
3. Tutorial Speaker at 17th edition of ECCE Asia held in Bengaluru, India, 11-14May 2025. Event is organized by the IEEE Power Electronics Society (PELS), Bengaluru, INDIA
4. Session Speaker at DST PURSE & SRMIST supported 15 days Faculty Development Program (Hybrid Mode) on "Power Electronics applications to Renewable Energy Systems, Electric Vehicle and Intelligent Control", from 17th Feb to 03rd Mar 2025
5. Delivered a Lecture "Introduction to Battery Management Systems" scheduled on February 11 to 21, 2025, Mokshagundam Visvesvaraya Centre for Training Master Trainers for Skill Development (MVCTMTSD), a subsidiary of Bharat Ratna Sir M. Visvesvaraya National Training Facility for Skill for All (BMVNTFSA). In association with National Institute of Technology Karnataka, Surathkal.
6. Academic Council Member, Board of Studies in Electrical and Electronics Engineering, Vimal Jyothi Engineering College (Autonomous), Jyothi Nagar, Chemperi – 670632, Kannur D. T, Kerala. Board meeting held on 21-10-2024.
7. Team Member for National SPACE Day Event 2024 held at NITK Surathkal on 23-24th August 2024.
8. Delivered an Expert Lecture on "BMS for Electric Vehicle" in Self Sponsored One Week Short Term Course on "Exploring New Frontiers in Sustainable and Secure Power, Renewable Energy and Power Electronics Systems" 15th - 19th July, 2024, Organizing Department: Department of Electrical Engineering, SVNIT Surat, Gujarat
9. Delivered an Expert Lecture on "Battery Management Systems" in SERB CRG Sponsored One-Week High-End Workshop on "SUITEV: Smart Universal Infrastructure for Efficient Electric Vehicle Charging" by Dept. of E &E, NITK Surathkal on 24th to 30th June 2024.
10. Delivered a Lecture "Advanced Electrical Systems" scheduled on 1st January to 20th January 2024 (3 weeks), Mokshagundam Visvesvaraya Centre for Training Master Trainers for Skill Development (MVCTMTSD), a subsidiary of Bharat Ratna Sir M. Visvesvaraya National Training Facility for Skill for All (BMVNTFSA). In association with National Institute of Technology Karnataka, Surathkal.
11. Delivered a Keynote lecture titled "LTO Batteries and its BMS" scheduled for 05.04.2023, State EV Consortium, CS-01 Conclave Series - 2023, at CDAC Thampanoor, Thiruvananthapuram.
12. Chaired a technical session in the IEEE International Conference on Power Electronics and Renewable Energy Applications (IEEE PEDES 2022) held at MNIT Jaipur, Rajasthan during 14-17 November 2022.
13. Delivered a Keynote lecture on "Battery Management System for Electric Vehicles" 4th International Conference on Systems, Energy and Environment (ICSEE 2021) held at Govt. College of Engineering, Kannur during 22 - 23 January 2021.
14. Chaired a technical session in the IEEE International Conference on Power Electronics and Renewable Energy Applications (IEEE PEREA 2020) held at Government College of Engineering, Kannur during 27,28 November 2020.
15. Delivered a lecture on "Battery Management System for Electric Vehicles" Faculty Development Program (under Twinning Activity MMMUT Gorakhpur and SVNIT Surat) on "Power Electronics for Electric Vehicles and Energy System" from 28th Sept. - 03rd Oct. 2020.
16. Delivered a lecture on "Battery Management System" TEQIP III Sponsored Faculty Development Programme (FDP) - Recent Trends in Power Electronics – Research Scope and Challenges, Dept. of E & E, NITK Surathkal, 23rd -27th September 2020.

17. Delivered a lecture on "Battery Management Systems for EV" at the Faculty Development Program Microgrid, Vehicles and Allied areas (MGEVA'20) held at Kakatiya Institute of Technology Warangal during 1-5 June 2020.
18. Chaired a technical session in the International Conference on Systems, Energy and Environment (ICSEE 2019) held at Government College of Engineering Kannur during 12-13 July 2019.
19. PhD Interview Panel Expert member at KTU, College of Engineering, Trivandrum, Kerala,on 29th &30th March 2019.
20. Chaired a technical session in IEEE International (biennial) Conference on "Technological Advancements in Power & Energy– TAP Energy 2017", organized by the Department of Electrical & Electronics Engineering, Amritapuri campus on 21st - 23rd December 2017.
21. Chaired a technical session in the International Conference on Systems, Energy and Environment (ICSEE 2017) held at Government College of Engineering Kannur during 15-16 December 2017.
22. Delivered a keynote and chaired a Technical Session in the 3rd NATIONAL CONFERENCE ON SYSTEMS, ENERGY AND ENVIRONMENT, NCSEE'15 organized by Government College of Engineering Kannur during 10-11 September, 2015.
23. Delivered a keynote address on "SWITCHED MODE POWER CONVERTERS" at the International Conference on Systems, Energy and Environment (ICSEE'16) held at Government College of Engineering Kannur during 5-6 August 2016.
24. Chaired a technical session in the International Conference on Systems, Energy and Environment (ICSEE'16) held at Government College of Engineering Kannur during 5-6 August 2016.
25. Functioned as Session Chair at 2017 IEEE International Conference on Technological Advancements in Power and Energy, organized by the Department of Electrical & Electronics Engineering, Amritapuri Campus of Amrita Viswa Vidyapeetham during 21st to 23rd December 2017.
26. Delivered an expert talk on "ELECTRIC POWER QUALITY" in the 4th National Conference on Recent Advances in Engineering and Technology (nCORTech-17) organized by LBS College of Engineering, Kasaragod on 1st and 02nd March 2017.
27. Reviewer for the papers presented at a Technical Session of 3rd NATIONAL CONFERENCE ON SYSTEMS, ENERGY AND ENVIRONMENT, NCSEE'15 organized by Government College of Engineering Kannur during 10-11 September, 2015.

19. Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member)	Organization	Membership No. with date
IEEE Senior Member	Institute of Electrical and Electronics Engineers	93199467
Corporate Member	Institution of Engineers (India) IEI	M-1574161
IEEE- WIE Co-Chair 2018-Till Date	Institute of Electrical and Electronics Engineers	93199467

20. Academic Foreign Visits

Country	**Duration of Visit**	**Programme**
San Antonio, Texas, US	20 - 27 March 2026	IEEE IAS Board Meeting (Member-at-Large)
Taipei, Taiwan	13 - 22 June 2025.	IEEE IAS Executive Board Meeting
Berjaya Times Square Hotel, Kuala Lumpur, Malaysia	3-4 Dec. 2018	2018 IEEE 7th International Conference on Power and Energy (PECon),

21. Publications

(A) Refereed Research Journals:

1. R. Kalpana, Dharavath Kishan, Bussa Vinusha,"An Integrated EV Battery Charger With Three-Level Boost PFC Converter and H5-Bridge Based Bidirectional DO-CLL Series Resonant Converter for Wide Battery Voltage Range", IEEE Trans. Industrial Electronics, vol. 72, NO. 12, pp. 12084 -12095, Dec 2025, DOI No:10.1109/TIE.2025.3584981.
2. Bussa Vinusha, R. Kalpana and Dharavath Kishan, "A Three-Phase Isolated Multilevel AC-DC Converter for Dual Electric Vehicle Battery Charging", IEEE Trans. Industry Applications, Vol.61, no. 2,pp 3246-3258, March, 2025, DOI No:10.1109/TIA.2024.3524489.
3. U. SUPRABHA PADIYAR, R. Kalpana," Converter-Based Two-Stage Onboard Charger for Electric Vehicle Applications", IEEE Access, vol.13, pp. 121556- 121567, Dec 2025, DOI No. 10.1109/ACCESS.2025.3585631.
4. S. V, R. Kalpana and B. Singh, "A Non-isolated High Gain Bidirectional DC-DC Converter with Reduced Switch Count: Analysis and Implementation", IEEE Journal of Emerging and Selected Topics in Industrial Electronics, April, 2025,DOI No:10.1109/JESTIE.2025.3563085.
5. Kenguru Manjunath, R Kalpana, Bhim Singh," A Modularized Two-Stage Active Cell Balancing Topology with Reduced Balancing Time for Series Connected Li-Ion Battery String", IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS, VOL. 61, NO. 1, pp. 502 -514, JANUARY/FEBRUARY 2025, DOI No. 10.1109/TIA.2024.3481361.
6. V. R. Chiliveri, R. Kalpana and D. Kishan, "Sliding Mode Predictive Control for Enhanced Lateral Motion Stability in Independent Drive Electric Vehicle With Input Delay and Disturbance Compensation", IEEE Access, Vol.12,pp.139821-36, Sept. 2024, DOI No:10.1109/ACCESS.2024.3468879.
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56. *National Conferences*

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(C) Books & Monographs

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