

Curriculum Vitae

Dr. Satish Kumar Peddapelli Professor

Department of Electrical Engineering
University College of Engineering (A)
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Professor Satish Kumar Peddapelli is a dedicated University Professor of Electrical Engineering, University College of Engineering, Osmania University with a proven track record in delivering exceptional education at both Undergraduate and post graduate levels. Known for innovative teaching methods, fostering critical thinking and achieving consistently positive student evaluations. Hoping to provide leverage diligence and professionalism to make a difference in research and Electrical Engineering, is a prolific researcher with numerous publications in reputed journals, patents, text books, collaborative research with Sri-Lanka and Slovenia contributing to the academic and research advancement of the field,. Former Director, RGUKT Basar and actively committed in the University service at various administrative assignments, demonstrating comprehensive approach to academia.

Research Interests

Power Electronics and Drives, Multilevel Inverters, Pulse Width Modulation Techniques, Renewable Energy Sources, Hybrid Power Systems and Power Quality.

Academic Qualifications

- **Ph.D.** (Electrical Engineering), Jawaharlal Nehru Technological University Hyderabad (JNTUH), Hyderabad, 2011.
- **M.Tech.** (Power Electronics), Jawaharlal Nehru Technological University Hyderabad (JNTUH), Hyderabad, 2003.
- **B.Tech.** (Electrical & Electronics Engineering), Jawaharlal Nehru Technological University, Hyderabad, 1996.

Teaching and Research Experience: 28 years

- **June 2018 - Till date:** Professor, University College of Engineering, Osmania University, Hyderabad.
- **June 2015 - June 2018:** Associate Professor, University College of Engineering, Osmania University, Hyderabad.
- **June 2007 - June 2015:** Assistant Professor, University College of Engineering, Osmania University, Hyderabad.
- **1996 - 2007:** Associate Professor, Private Engineering Colleges, Affiliated to JNTU, Hyderabad.

Research Projects: 05

1. **India - Slovenia Joint Research Project:** “Performance Enhancement of Grid Connected Multilevel Inverter based Wind Energy Conversion System with Low Voltage Ride Through Capability using Power Conditioners” Principal Investigator: **Dr. P. Satish Kumar**, Project Cost: Rs.13,50,240/-, Duration of Project: 3 years (2023-2026), Sponsored by the Ministry of Science & Technology, Government of India, New Delhi. Slovenian Principal Investigator: Prof. Peter Vrtic, Faculty of Energy Technology, University of Maribor, Slovenia (**On-Going**).

2. **TSCOST - Major Research Project:** “Design, Development and Cost Evaluation of DC House Prototype to Promote the use of Renewable Energy for Rural Electrification”, Principal Investigator: **Dr. P. Satish Kumar**, Co-PI: Dr. J. Upendar, Project Cost: Rs. 4,00,000/-, Project Duration: One year (2022-2023), Sponsored by Telangana State Council of Science and Technology (TSCOST), Hyderabad, (Completed).
3. **Indo-Sri Lanka Joint Research Project:** “Design and Development of Hybrid Wind-Solar Power Generation System using Multilevel Inverters for Grid Connected Applications”, Principal Investigator: **Dr. P. Satish Kumar**, Project Cost: Rs.25,99,780/-, Duration of Project: 3 years, Sponsored by the Department of Science and Technology (DST), New Delhi (Completed).
4. **UGC-Major Research Project** on Cascaded H-bridge Multilevel Inverters, Principal Investigator: **Dr. P. Satish Kumar**, Project Cost: Rs. 8, 49, 000/-, Duration of Project: 3 years, Sponsored by the University Grants Commission (UGC), New Delhi (Completed).
5. **SERB (DST)-Research Project** on Neutral point clamped Multilevel Inverters, Principal Investigator: **Dr. P. Satish Kumar**, Project Cost: Rs. 20, 10, 000/-, Duration of Project: 3 years, Sponsored by the Science and Engineering Research Board (SERB), New Delhi (Completed).

Patents: 05

1. **Indian Patent granted** on “Novel Interline Unified Power Quality (IUPQC) for Multi-Feeder Systems with Four Converters”, Patent No. 426998, Issued on 27th March 2023. Patent granted for a term of 20 years by the Patent Office, Government of India.
2. **Australian Innovation Patent granted** on “Machine Learning Based Fish Monitoring Machine and Method Thereof”, Patent number: 2020102433, 21st October, 2020, IP Australia, Australian Government.
3. **Indian Design Patent granted** on “Smart Self Disinfecting Face Shield”, Design No. 330167-001, dated 18th June 2020 by the Intellectual Property India, the Patent Office, Certificate of registration of design, Government of India.
4. **Indian Patent Granted** on “Implementation of SVPWM Techniques to A Multilevel Inverter”, Patent No. 542854, Date of Grant 25th June 2024. Patent granted for a term of 20 years by the Patent Office, Government of India.
5. Filed a **Patent** on “Asymmetrical Cascade H-Bridge Multilevel Inverter with Reduced Power Switches”, Application No. 201741033742A, Published in the Official Journal of Patent, Issue No. 09/2018, page No. 7745, dated 02/03/2018.

Number of Publications : 119

- International Journals : 81
- International Conferences : 38

Text Books Authored: 05

1. **P. Satish Kumar** authored text book entitled “Pulse Width Modulation - Performance Analysis in Multilevel Inverters”, *De Gruyter Olden Bourg Publisher*, Germany, 2016, ISBN No. 978-3-11-046817-5. DOI: 10.1515/9783110470420.
2. **P. Satish Kumar** and G. Sridhar authored text book entitled "Electrical Machines - A Practical Approach", De-Gruyter Oldenburg Publisher, Germany, 2020, ISBN No. 9783110681956.
3. P. Chandra Sekhar and **P. Satish Kumar** authored text book entitled “Computer Methods in Power Systems-Analysis with MATLAB”, BSP Publisher, India, 2020, ISBN No. 9789390211487.
4. **P. Satish Kumar** authored an edited book entitled "Wind and Solar Energy Applications – *Technological Challenges and Advances*", March 2023, CRC Press, Taylor & Francis Group, Co-Editor: Prof. Peter Vrtic, University of Maribor, Slovenia, ISBN No. 9781032288468.
5. **P. Satish Kumar** authored an edited book entitled "Computational Intelligent Techniques in Mechatronics", September 2024, Wiley-Scrivener Publisher, ISBN No. 978-1-394-17464-5.

Book Chapters Published

1. **P. Satish Kumar** published a book chapter on “Applications of Hybrid Wind Solar Battery Based Microgrid for Small-Scale Stand-Alone Systems and Grid Integration for Multi-Feeder Systems”, for a book entitled “*Electrical and Electronic Devices, Circuits, and Materials: Technological Challenges and Solutions*”, Scrivener Publishing LLC, **John Wiley & Sons, Inc.** pp. 517-533, 2021, ISBN:9781119750369(Print), DOI: 10.1002/9781119755104.ch27.
2. V. Ramu, **P. Satish Kumar**, G. N. Srinivas published a book chapter on “Review on Reconfiguration Techniques to Track Down the Maximum Power Under Partial Shadings”, *Wind and Solar Energy Applications - Technological Challenges and Advances*, CRC Press, Taylor & Francis Group, First Edition, pp. 47-58, 2023, <https://doi.org/10.1201/9781003321897>.
3. A. Jayaprakash B. Mangu, **P. Satish Kumar** published a book chapter on “Integrated PV-Wind-Battery-Based Single-Phase System”, for a book entitled, “*Wind and Solar Energy Applications – Technological Challenges and Advances*”, **CRC Press, Taylor & Francis Group**, 1st Edition, pp.121-135, 2023, <https://doi.org/10.1201/9781003321897>.
4. **P. Satish Kumar** Edited and Reviewed text book entitled “*Power Electronic Circuits with MATLAB*”, Cambridge University Press, University of Cambridge, 2014.

List of Research Models/prototype/demonstration units created for display/deployment

1. Established "**Research Lab for Multilevel Inverters**" in the Department of Electrical Engineering, University College of Engineering, Osmania University, Hyderabad as a part of two major research projects sponsored by UGC and SERB, New Delhi in the year 2014. Eight Research scholars obtained their PhD degrees from this Research Lab and eight research scholars are utilizing the lab facility to carry out their research work.
2. Designed and developed “DC House Prototype to Promote the Use of Renewable Energy for Rural Electrification”, in the Research Lab for Multilevel Inverters, UCE, OU, 2022.
3. Designed and developed a prototype of “Three Phase Eleven-Level Cascaded H-bridge Inverter”, UCE, OU, 2015.
4. Designed and developed a prototype of “Three Phase Seven-Level Neutral Point Clamped Inverter”, in the Research Lab for Multilevel Inverters, UCE, OU, 2016.
5. Designed and developed a prototype “Asymmetrical Cascaded H-bridge Seven-Level Inverter with Reduced Power Switches”, in the Research Lab for Multilevel Inverters, UCE, OU, 2017.

Ph.D.'s Supervised: 08

1. Mr. V. Ramu: Ph.D. thesis entitled “Investigation and Implementation of Pulse Width Modulation Strategies for Cascaded Multilevel Inverters”, Jawaharlal Technological University Hyderabad, Hyderabad under the Supervision of **Prof. P. Satish Kumar**, May 2024.
2. Mr. Ravi Kumar Bhukya: Ph.D. thesis entitled “Analysis Design and Implementation of Pulse Width Modulation Technique for Multi-Level Inverter Fed Induction Motor Drive”, Osmania University, Hyderabad under the Supervision of **Prof. P. Satish Kumar** on 11th October, 2023.
3. Mrs. K. Ratna Kishori: Ph.D. thesis entitled “Reduced Source Switched Capacitor Multilevel Inverter with Voltage Balancing Features”, Osmania University, Hyderabad under the Supervision of **Prof. P. Satish Kumar** on 11th October, 2023.
4. Mr. Thota Surya Prakash: Ph.D. thesis entitled "A Novel Four Converter Topology of Interline Unified Power Quality Conditioner for Power Quality Improvement in Multi-Feeder Systems", Osmania University, Hyderabad under the Supervision of **Prof. P. Satish Kumar**, March, 2021.
5. Mr. G. Sridhar: Ph.D. thesis entitled “Design and Implementation of A Novel Topology for Cascaded H-Bridge Multilevel Inverter with Reduced number of Switches”, Jawaharlal

Technological University Hyderabad, Hyderabad under the Supervision of **Prof. P. Satish Kumar**, August 2019.

6. Mr. Ch. Lokeshwar Reddy: Ph.D. thesis entitled "Investigation and Implementation of Control Strategies for Multilevel Inverters", Jawaharlal Technological University Hyderabad, Hyderabad, under the Supervision of **Dr. P. Satish Kumar**, December 2018.
7. Mrs. N. Susheela: Ph.D. thesis entitled "Implementation and Analysis of Various Pulse Width Modulation Control Strategies for Diode Clamped Multilevel Inverter and Hybrid Multilevel Inverter Topologies", Osmania University, Hyderabad, under the Supervision of **Dr. P. Satish Kumar**, August 2018.
8. Mrs. B. Sirisha: Ph.D. thesis entitled "Optimal Space Vector Pulse Width Modulation Methods for Cascaded H- Bridge and Diode Clamped Multilevel Inverters Including Over Modulation Region", Osmania University, Hyderabad, under the Supervision of **Dr. P. Satish Kumar**, May 2018.

No. of PhD's guiding : 08

No. of ME Projects guided : 32

Awards/ Honors/ Achievements

Awards

1. Received "**Engineer of the Year Award-2022**" on the occasion of 55th Engineer's Day Celebrations from the Institute of Engineers (India), Telangana State Centre, Hyderabad on 15th September, 2022.
2. Received "**Best Teacher Award-2014**" from the State Government of Telangana on 5th September 2014.
3. Received Certificate of Recognition "**Certificates of Appreciation**" from the Vice Chancellor, Osmania University under the **Vice Chancellor Award 2022** on 3rd January 2022 for successful completion of UGC funded Major Research Project.
4. Received Certificate of Recognition "**Certificates of Appreciation**" from the Vice Chancellor, Osmania University under the **Vice Chancellor Award 2022** on 3rd January 2022 for successful completion of SERB funded Major Research Project.
5. Received Certificate of Recognition "**Certificates of Appreciation**" from the Vice Chancellor, Osmania University under the **Vice Chancellor Award 2022** on 3rd January 2022 for successfully granted Indian Patent.
6. Received Certificate of Recognition "**Certificates of Appreciation**" from the Vice Chancellor, Osmania University under the **Vice Chancellor Award-2022** on 3rd January 2022 for successfully granted Australian Patent.
7. Received "**Certificate of Merit**" for the presentation of research paper in the "International Conference on Electrical Engineering and Applications 2013", University of California, San Francisco, USA.
8. Received "**Fast Track Scheme for Young Scientist Award**" from the Science and Engineering Research Board (SERB), New Delhi, in the year 2013.
9. Received "**Award for Research Excellence-2014**" from the Indo-Global Education Expo& Summit 2014, Hyderabad on 23rd November, 2014.
10. Received "**Global Teacher Role Model Award-2015**" from MVLA Trust in the 'Global Teacher Conference 2015' Ravindra Bharathi, Hyderabad on 27th December 2015.
11. Received "**Certificate of Excellence**" for the presentation of research paper in the International Conference on Emerging Trends in Electronics, Electrical and Mechanical Engineering (ICEEME- 2018) held at Bhopal, India.

12. Received “**Best Paper Award**” for the research paper ‘Energy Management System of Photovoltaic, Wind and Battery based DC Microgrid’ in the International Conference on Emerging Technologies in Engineering and Science (ICETES-2023) held at DVR & DR. HS MIC College of Technology, Kanchikacherla, Andhra Pradesh during 11-12 August 2023.

Honours

1. **State Committee Member**, Electrical Engineering Division, Telangana State Centre, Institute of Engineers India (IEI) from 2023-Till date.
2. **State Committee Member**, Electrical Engineering Division, Telangana State Centre, Institute of Engineers India (IEI) during 2021-2023.
3. **Secretary**: IEEE PES/ IAS/ PELS Society Joint Chapter, IEEE Hyderabad Section (2021-2022).
4. **External Member**, Board of Studies in Electrical and Electronics Engineering (PG), Sri Venkateswara University, Tirupati (20.07.2024-Till date).
5. **Member**, Board of Studies in Electrical and Computer Engineering, Anna University, Chennai (2024-Till date).
6. **Member**, Board of Studies in Electrical Engineering, Kakatiya University, Warangal(2020-2022).
7. **Member**, Board of Studies in Electrical Engineering, Chaitanya Bharathi Institute of Technology (Autonomous), Hyderabad (2021- Till date).
8. **Member**, Board of Studies in Electrical Engineering (Academic Council Nominee), Jyothishmathi Institute of Technology & Science (Autonomous), Karimnagar (2023- Till date).
9. **Member**, Board of Studies in Electrical Engineering, Vignan Institute of Technology & Science (Autonomous), Deshmukhi, Hyderabad (2023- Till date).
10. **Member**, Board of Studies in Electrical and Electronics Engineering, Lords Institute of Engineering and Technology (Autonomous), Hyderabad (2021- Till date).
11. **Member**, Board of Studies in Electrical and Electronics Engineering, G.Pulla Reddy Engineering College (Autonomous), Kurnool (2021- Till date).

Achievements: Research Activities / International visits

1. Engaged in combined research work on ‘Performance Enhancement of Grid Connected Multilevel Inverter based Wind Energy Conversion System with Low Voltage Ride Through Capability using Power Conditioners’ at Research Labs in **Faculty of Energy Technology, University of Maribor, Krško, Slovenia** during August 2023.
2. Visited and made many useful discussions on advances in power electronics at **University of Maribor, Slovenia** during August 2023.
3. Visited ‘Photocatalysis International Research Centre’, **Tokyo University of Science, Japan** and made useful discussions on advances in Power Electronics with Prof. Akira Fujishima and his team members on 24th August 2019.
4. Visited **Tokyo Institute of Technology, Japan** and interacted with Prof. Hideaki Fujita made some useful discussions to undertake joint research projects and combined research in the area of DC-DC Conversion circuit control device and control method. Also visited Power Electronics and Electrical Machinery Lab on 26th August 2019.
5. Visited **University of Moratuwa, Sri Lanka** on their invitation in 20th February 2019 to participate in research and development activities in the area of electrical engineering, interacted with Prof. Sisil Kumarawadu, Faculty members, students and visited their research laboratories.
6. Visited Electrical Machines and Drives Laboratory, **National University of Singapore (NUS)**,

Singapore and interacted with faculty, research fellows and PhD students. Discussed various research topics and explained them the various topologies of multilevel inverters. Viewed Centre for Power Electronics, Power Electronics Laboratory and DC power Supply Architecture for Future Green Data Centers on 31st March 2014.

7. Visited Research Lab for Power Electronics, **Nanyang Technological University (NTU), Singapore** and made many useful discussions with Dr. Ali Iftekhar Maswood, Associate Professor, School of Electrical and Electronic Engineering, NTU, on the advanced experiments, Research and Multilevel Inverters and interacted with research Scholars who are working on Five-Level Multiple-Pole PWM AC-AC Converters with Reduced Components Count on 1st April 2014.
8. Participated in collaborative research on 'Hybrid Wind-Solar Power Generation System using Multilevel Inverters for Grid Connected Applications' at **University of Ruhuna, Sri Lanka** and developed Hybrid Power System Prototype in the department of Electrical & Information Engineering, Ruhuna University.
9. **Session Chair:** International Conference on Electrical Engineering and Applications 2013, The world Congress on Engineering and Computer Science 2013, **San Francisco, USA**, 23- 25 October, 2013.
10. Delivered **Keynote address** in "International Conference on Electrical Engineering: Theory and Application-2014", **Singapore**.
11. **Session Chair:** International Conference on Electrical Engineering: Theory and Application (ICEETA 2014), 30-31 March, 2014, **Singapore**.
12. **Session Chair:** International Conference on Engineering, Science, and Industrial Applications (ICESI), Aug. 22-24, 2019, at **Tokyo University of Science, Tokyo, Japan**.
13. **International Exposure:** Visited USA, Paris, Switzerland, Singapore, Bangkok, Hong Kong, Sri Lanka, Japan, Slovenia and Graz to present research papers in various International Conferences, to deliver keynote addresses, expert talks and to engage in collaborative research works.
14. Delivered expert lectures in reputed organizations like Academic Staff College, Universities, Engineering Staff College of India, National Institute of Science and Technology, Engineering Colleges, Research Institutes and various Organizations.

Countries visited for Joint Research Projects/ International Conferences

United States of America (USA), Singapore, Japan, Hong Kong, Paris, Switzerland, Bangkok, Sri Lanka, Slovenia and Austria.

Administrative Experience

- **Director**, Rajiv Gandhi University of Knowledge Technologies Basar (**IIIT Basar**) (2022-2024).
- Convener: Energy Conservation Mission, Institute of Engineers India (IEI), Telangana State Centre (2021-2023).
- Additional Controller (Confidential), Examination Branch, Osmania University (2021-2022).
- NBA Coordinator, University College of Engineering, OU (2021-2022).
- Chairperson, Board of Studies in Electrical Engineering, Osmania University (2019-2022).
- Director, Diamond Jubilee Library, University College of Engineering, OU (2020-2022).
- Secretary, IEEE Power & Energy Society (PES) / Industry Applications Society (IAS) / Power Electronics Society (PELS) Joint Chapter, IEEE Hyderabad Section (2021-2022).
- Chairperson, Board of Studies in Electrical Engineering, UCE (A), OU (March 2019-2020).
- Additional Controller (Confidential), Examination Branch, Osmania University (2015-2019).

- Joint Director of Evaluation, University College of Engineering, OU (2012-2014).
- Warden, Kinnera Hostel, University College of Engineering, OU (2009-2016).
- In charge-Examinations, Department of Electrical Engineering, UCE, OU for one year.
- Faculty Adviser, E., Power Electronic Systems, UCE, OU for one year (2013-2014).
- Faculty Adviser, M.E., Industrial Drives and Control, UCE, OU (2009-2013).
- Member: Student Activities Board (Hostels & Messes), UCE, OU (2009-2017).
- Member: Anti Ragging Committee, University College of Engineering, OU (2009-2017).
- Member: Anti Ragging Squads (Hostel & Transport), UCE, OU (2009-2017).
- Advisory Board Member: Engineering Staff College of India, Hyderabad.
- Coordinator: PGECET 2012, Conducted by Osmania University.
- Convener: ME PTPG Admissions 2012, Department of Electrical Engineering, UCE, OU.
- Regional Coordinator: Conducting of PGECET- 2013 in Hyderabad region.
- Regional Coordinator: Conducting of PGECET- 2014 in Hyderabad region.
- Subject expert for preparing Question bank for Examination 'Electrical Circuits', JNTUH.
- Member: Syllabus review of electrical engineering subjects for Polytechnic colleges.
- Member: Syllabus review of electrical engineering subjects for Polytechnic colleges.

Memberships in Professional/Scientific Bodies

1. Senior Member: IEEE Industry Applications Society.
2. Fellow of Institute of Engineers India (FIE).
3. Life Member: Indian Society for Technical Education (ISTE).
4. Life Member: System Society of India (SSI).
5. Life Member: International Association of Engineers (IAENG).
6. Life Member: International Association of Computer Science and Information Technology
7. Life Member: Engineering and Scientific Research Groups (ESR Group).
8. Life Member: World Academy of Science, Engineering and Technology (WASET).
9. Life Member: International Congress for Global Science and Technology (ICGST).

Editorial Board Member

1. Journal of Electrical Electronics Engineering Research.
2. Journal of Engineering, Technology & Applied Science Research.
3. International Journal of Power Electronics and Drive Systems.
4. International Journal of Engineering and Advanced Technology.
5. Journal of Bulletin of Electrical Engineering and Informatics.

Reviewer for International Journals

1. IEEE Transactions on Power Electronics Journal.
2. IEEE Access Journal.
3. IETE Journal of Research, Taylor and Francis Publications.
4. International Transactions on Electrical Energy Systems, Wiley Publications.
5. International Journal of Ambient Energy, Taylor and Francis Publications.

Workshops/ Faculty Development Programmes Attended

1. One week workshop on "Applications of Digital Control in Power Electronic Converters" organized by Department of Electrical Engineering, UCE, OU, 19-24 August 2024.

2. Two day Leadership Program on 'Courageous Principals' organized by Deloitte University- *The Leadership Center in India*, Hyderabad during 22-24 November 2023.
3. Two day Workshop on 'Academic Administrators' organized by the UGC- Human Resource Development Centre (Academic Staff College), Osmania University, Hyderabad 29-30 June 2018.
4. One week GIAN short term Course on "High voltage gain soft - switching advanced current-fed technologies for microgrid and electric transportation" sponsored by MHRD and conducted by Department of Electrical Engineering, UCE, OU, 18-23 December 2017.
5. One Week Faculty Development Programme on "Distributed Generation and Power Quality Issues" conducted by Department of Electrical Engineering, UCE, OU, 30 June-5 July 2014.
6. One Week Faculty Development Programme on "Recent Advances in VLSI" conducted by Department of ECE, UCE, OU, 09-14 June 2014.
7. Two Week "Faculty Development Programme in Entrepreneurship" Sponsored by NSTEDB DST, New Delhi and conducted by Entrepreneurship Development Cell, OU, 01-15 June 2011.
8. Three Week UGC Sponsored Refresher Course on "Advances in Power Electronics and Electric Drives" conducted by UGC-Academic Staff College, JNTUH, Hyderabad, 09-28 August 2010.
9. Orientation Programme organized by Osmania University Centre for International Programmes, Osmania University, 02-12 July 2007.
10. Three Week UGC Sponsored Refresher Course on "Simulation Tools for Electrical Engineering Applications" conducted by UGC-Academic Staff College, JNTUH, Hyderabad, 06-25 Dec 2004.
11. Four day Training Programme on "Advanced Digital Design using Verilog HDL" conducted by MVSR Engineering College, Hyderabad, 28-31 Jan 2015.
12. Short Term Course on "Energy Management and Resources", conducted by National Institute of Technical Teachers Training and Research, Chennai, 12-16 December 2011.
13. Short Term Course on "Micro Controller and Its Applications", conducted by National Institute of Technical Teachers Training and Research, Chandigarh, 23-27 May 2011.
14. One week AICTE Sponsored Staff Development Programme on "Recent Trends in Electrical Drives and Power Electronics" Conducted by National Institute of Science and Technology, Berhampur, 12-17 Oct, 2009.
15. National Level Workshop on "Advances in Power Electronics and Drives", conducted by Pulla Reddy Engineering College, 27-28 Dec, 2008.
16. A Workshop on "EDSA Software Application to Power Systems" conducted by Department of Electrical Engineering, University College of Engineering, Osmania University, Hyderabad, 05-06 December 2008.
17. Workshop on "Modelling, Simulation and Control of Power Converters" Conducted by Department of Electrical Engineering, NIT, Warangal during 09-13 June 2008.
18. Workshop on "Developments in Power, Power Electronics and Drives" Conducted by Vasavi College of Engineering, Hyderabad, 10-11 March, 2008.
19. Three day Workshop on "Embedded Systems Design with 8051 Micro Controller" Conducted by Wine Yard Technologies, Hyderabad, 30 November-02 December 2007.
20. A Workshop on "Power Quality" conducted by Department of Electrical Engineering, University College of Engineering, Osmania University, Hyderabad, 28-29 Sep, 2007.
21. Two day National Level Workshop on "Recent Trends in Power Electronics and Drives", conducted by G. Pulla Reddy Engineering College, 08-09 Feb, 2007.

Workshops/ Faculty Development Programmes/Seminars Organized

1. **Convener:** Dr. Narla Tata Rao 23rd Endowment Lecture on “The future of Motion Control: Trends and Innovations in BLDC Motors”, Institution of Engineers India (IEI), Telangana State Centre, on 4th September, 2024.
2. **Convener:** National Energy Conservation Week Celebrations-2022, ECM, Institute of Engineers India (IEI), Telangana State Centre, during 14-21 December 2022.
3. **Convener:** Fortnight Webinar Series, Technical Talk on “Challenges in Bulk Smart Meter Installations, Handling of Bulk Billing Data & Smart Meter Data Analysis”, Energy Conservation Mission, Institution of Engineers India (IEI), Telangana, 5th March 2022.
4. **Coordinator:** Fifth Diamond Jubilee Endowment Lecture on “Smart Power Grid 21st Century”, Department of Electrical Engineering, UCE, OU on 12th November, 2019.
5. **Coordinator:** A Training Programme on ‘Implementation of space vector pulse width modulation for multilevel inverters using FPGA’ is conducted in the Research Lab, Dept. Of Electrical Engineering, UCE, OU during 16-17 September, 2016.
6. **Coordinator:** A National Level Technical Symposium “Techsonance-2015”, organized by the Department of Electrical Engineering, UCE, OU in the year 2015.
7. **Coordinator:** One Week Faculty Development Programme on “Advances in Power Electronics and Drives” organized by Dept. of Electrical Engineering, UCE, OU, during 12–17 May, 2014.
8. **Coordinator:** Continuing Professional Development Programme on “Recent Trends and Practical Applications of Power Electronics in Power Systems” organized by the *Engineering Staff College of India*, Hyderabad, during 28-31 January 2014.
9. **Coordinator:** A National Level Technical Symposium “Techsonance-2011”, organized by the Department of Electrical Engineering, UCE, OU during 25-26 March 2011.
10. **Coordinator:** One day workshop on “Technical & Personality Skills for Electrical & Electronics Engineering” organized by the Department of Electrical Engineering, UCE, OU in collaboration with SMS Educational Society, Hyderabad on 28 March 2009.

List of Publications

No. of Publications: 119 (International Journals: 81; Conferences: 38)

1. T. Surya Prakash, P. Satish Kumar, R. P. S. Chandrasena, "A Novel IUPQC for Multi-Feeder Systems using Multilevel Converters with Grid Integration of Hybrid Renewable Energy System" *IEEE Access Journal*, Vol. 8, pp. 44903– 44912, Mar. 2020 (**Scopus**).
2. P. Satish Kumar, R. P. S. Chandrasena, V. Ramu, G. N. Srinivas, K. Victor Sam Moses Babu, "Energy Management System for Small Scale Hybrid Wind Solar Battery Based Microgrid" *IEEE Access Journal*, Vol. 8, pp. 8336 – 8345, Jan. 2020 (**Scopus**).
3. N. Susheela, P. Satish Kumar, S. K. Sharma, “Generalized Algorithm of Reverse Mapping Based SVPWM Strategy for Diode Clamped Multilevel Inverters”, *IEEE Transactions on Industry Applications*, Vol. 54, Issue. 3, pp. 2425–2437, May–June 2018 (**Scopus**).
4. P. Satish Kumar, R.P.S. Chandrasena and K. Victor Sam Moses Babu, "Design and Implementation of Wind Turbine Emulator using FPGA for Stand Alone Applications" *International Journal of Ambient Energy*, *Taylor and Francis Publishers*, Vol. 43, Issue 1, pp. 2397–2409, 2022 (**Scopus**).
5. Surya Prakash Thota, Satish Kumar Peddapelli "A New Topology of Interline Unified Power-Quality Conditioner for Multi Feeder System", *Learning and Analytics in Intelligent Systems*, *Springer Publishers*, Vol. 4, pp. 507–519, 2020 (**Scopus**).

6. N. Susheela, P. Satish Kumar, "Evaluation of POD and APOD multicarrier SPWM techniques for three-phase seven-level diode clamped multilevel inverter fed induction motor drive using FPGA", *International Journal of Power Electronics*, **Inderscience Publishers**, Vol.12, No.3, pp. 282-301, July 2020 (**Scopus**), <https://doi.org/10.1504/IJPELEC.2020.110063>.
7. B. Sirisha, P. Satish Kumar "A Simplified and Generalised SVPWM Method Including Over Modulation Zone for Seven Level Diode Clamped Inverter – FPGA Implementation", *International Journal of Power Electronics*, **Inderscience Publishers**, Vol. 10, No.4, pp. 350–366, 2019 (**Scopus**).
8. Ch. Lokeshwar Reddy, P. Satish Kumar, M. Sushama "Implementation and Performance Analysis of Cascaded Multilevel Inverter using Modified SVPWM Techniques", *International Journal of Power Electronics*, **Inderscience Publishers**, Vol.9, No. 3, pp. 250-273, 2018 (**Scopus**).
9. V Ramu, P Satish Kumar, GN Srinivas, "LSPWM, PSPWM and NLCPWM on multilevel inverters with reduced number of switches", *Materials Today: Proceedings*, **Elsevier Publishers**, Vol.54, Part 3, pp. 710-727, 2022, <https://doi.org/10.1016/j.matpr.2021.10.410> (**Scopus**).
10. V Ramu, P Satish Kumar, GN Srinivas, "Comparative Analysis of Multi-level Inverters with Various PWM Techniques", *Lecture Notes in Networks and Systems*, Vol. 400, Pages 325 – 351, 2023 **Springer Nature Singapore**, DOI: 10.1007/978-981-19-0095-2_33 (**Scopus**).
11. Venkat Rao, A., Suresh Babu, G., & Satish Kumar, P. (2024). Islanded micro-grid under variable load conditions for local distribution network using artificial neural network. *Smart Science*, **Taylor & Francis publisher**, July2024,1–16. <https://doi.org/10.1080/23080477.2024.2358672> (**Scopus**).
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