

## CURRICULUM VITAE



1. Name of the Faculty : Dr. Satish Kumar Peddapelli
2. Father's Name : P. Shankar
3. Date of Birth : 28-10-1974
4. Designation : Assistant Professor
5. Department : Electrical Engineering

6. Field of Specialization :
  - Power Electronics and Drives, Multilevel Inverters
  - Pulse Width Modulation Techniques
  - Special Machines and Matrix Converters

7. Address for Correspondence : Department of Electrical Engineering  
University College of Engineering  
Osmania University, Hyderabad  
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9. Academic Qualifications :

Degree	University	Specialization	Year
Ph.D.	Jawaharlal Nehru Technological University, Hyderabad	Electrical Engineering	2011
M.Tech.	Jawaharlal Nehru Technological University, Hyderabad	Power Electronics	2003
B.Tech.	Jawaharlal Nehru Technological University Hyderabad, Hyderabad	Electrical and Electronics Engineering	1996

10. Teaching Experience : 18 Years

Organization	Designation	Period
University College of Engineering Osmania University, Hyderabad	Assistant Professor	June 2007- Till date
Private Engineering Colleges Affiliated to JNTU, Hyderabad	Associate Professor	1996- 2007

11. Number of Publications : 30

- International Journals : 21
- International Conferences : 09

12. Number of PhD's Guided : 08 (Pursuing)

13. Number of ME Projects Guided : 22

14. Number of Research Projects : 02

- **UGC- Major Research Project** on Cascaded H-Bridge Multilevel Inverters, Project Cost: Rs. 8, 49,000.
- **SERB (DST)-Research Project** on Neutral Point Clamped Multilevel Inverters, Project Cost: Rs. 20, 10,000.

15. Awards/ Honors :

- **“Best Young Teacher Award-2014”** of Telangana State from the Government of Telangana on 5<sup>th</sup> September, 2014.
- **“Award for Research Excellence-2014”** from the Indus Foundation on 20<sup>th</sup> Nov, 2014.
- **“Certificate of Merit”** for the presentation of research paper in the “International Conference on Electrical Engineering and Applications 2013”, San Francisco, USA.
- Award of **“TOP 100 ENGINEERS-2013”**, by the International Biographical Centre, St. Thomas’ Place, GREAT BRITAIN.
- Recipient of **“THE CAMBRIDGE CERTIFICATE”** for **“Outstanding Engineering Achievement”**.

16. Countries Visited : USA, Hong Kong, Bangkok, Singapore, Paris and Switzerland

17. Subjects Taught at PG and UG Level :

UG- Level

Electrical Machines	Basic Electrical Engineering
Electrical Circuits	Electrical Technology
Network Theory	Linear Integrated Circuits
Electro Magnetic Fields	Linear Control Systems
Electrical Measurements & Instruments	Power Electronics
Electric Traction Systems	Power Semiconductor Drives
Electric Drives and Static Control	Utilization of Electrical Energy
Analysis of Linear Systems	High Voltage DC Transmission

PG-Level

Power Electronic Converters-I & II  
Dynamics of Electric Machines  
Machine Modelling Analysis  
Control of Electric Drives  
Solid State DC & AC Motor Control  
High Voltage Engineering

18. Institutional Administrative Experience :

- **Warden**, Kinnera Hostel, University College of Engineering, O.U. from 2009 onwards.
- **Joint Director of Evaluation**, University College of Engineering, O.U. for one year.
- **In charge-Examinations**, Department of Electrical Engineering, University College of Engineering, O.U. for one year.
- **Faculty Adviser**, M.E., Power Electronic Systems, University College of Engineering, O.U. for one year.
- **Faculty Adviser**, M.E., Industrial Drives and Control, University College of Engineering, O.U. for four years.
- **Member:** Student Activities Board (Hostels & Messes), University College of Engineering, Osmania University (2009- Till date).
- **Member:** Anti Ragging Committee, University College of Engineering, Osmania University (2009- Till date).
- **Member:** Anti Ragging Squads (Hostel & Transport), University College of Engineering, Osmania University (2009- Till date).

19. Membership of Professional Societies :

- Life Member :
- International Association of Engineers
  - International Association of Computer Science and Information Technology
  - Engineering and Scientific Research Groups
  - World Academy of Science, Engineering and Technology
  - International Congress for global Science and Technology
- Editorial Board Member :
- Journal of Electrical Electronics Engineering Research
  - Engineering, Technology & Applied Science Research
  - International Journal of Power Electronics and Drive Systems
  - International Journal of Engineering and Advanced Technology
  - Bulletin of Electrical Engineering and Informatics

20. Extension / outreach activities :

- **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 Examination in Hyderabad.
- **Regional Coordinator:** Conducting of PGECET- 2014 Examination in Hyderabad.
- Subject expert for preparing Question bank for Examination of the subject “Electrical Circuits” for JNTUH, Hyderabad.

- Member: Syllabus review of electrical engineering subjects for Govt. Polytechnic colleges.
- 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.
- Delivered Keynote address in “International Conference on Electrical Engineering: Theory and Application-2014”, Singapore.
- Acted as Session Chair: International Conference on Electrical Engineering: Theory and Application (ICEETA 2014), March 30-31, 2014, Singapore.
- Visited Electrical Machines and Drives lab, “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.
- Visited Nanyang Technological University (NTU), Singapore and made many useful discussions on the Laboratories, Research and Multilevel Inverters.
- 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.

#### 21. Workshops/ Training Programmes Conducted :

- **Coordinator:** One Week Faculty Development Programme on “Advances in Power Electronics and Drives” organized by the Department of Electrical Engineering, UCE, OU, during 12<sup>th</sup> – 17<sup>th</sup> May, 2014.
- **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<sup>th</sup> – 31<sup>st</sup> January 2014.
- **Coordinator:** A National Level Technical Symposium “Techsonance-2011”, organized by the Department of Electrical Engineering, University College of Engineering, O.U., during 25<sup>th</sup> – 26<sup>th</sup> March 2011.
- **Coordinator:** One day workshop on “Technical & Personality Skills for Electrical & Electronics Engineering” organized by the Department of Electrical Engineering, University College of Engineering, O.U. in collaboration with SMS Educational Society, Hyderabad on 28<sup>th</sup> March 2009.

#### 22. List of Publications:

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

1. **P. Satish Kumar**, “A New General Topology for Cascaded Multilevel Inverters with Increased Number of levels Based on Diagonal DC Source H-Bridge”, *International Journal of Advances in Electrical and Electronics Engineering*, Vol. 3, No. 3, pp.175-184, 2014.
2. **P. Satish Kumar**, “A Simplified Space Vector Pulse Width Modulation Method for Cascaded H-Bridge Multilevel Inverters”, *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*, Vol. 3, Issue 12, pp. 13635-13640, December 2014.

3. **P. Satish Kumar**, “Cascaded H-bridge Multilevel Inverter Using New Phase Shifted Carrier Pulse Width Modulation Technique”, *International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering*, Vol. 3, Issue 12, pp. 14001-14008, December 2014.
4. **P. Satish Kumar**, V. Ramu, K. Rama Krishna, “A Multilevel Synthesis Approach with Reduced Number of Switches for 99-Level Inverter”, *International Science Index*, Vol. 8, No. 4, 2014, pp. 1351-1355.
5. **Satish Kumar Peddapelli**, “Recent Advances in Pulse Width Modulation Techniques and Multilevel Inverters”, *International Science Index*, Vol. 8, No. 3, 2014, pp. 1057-1065.
6. **P. Satish Kumar**, K. Rama Krishna, Ch. Lokeshwar Reddy, G. Sridhar, “Minimization of Switching Losses in Cascaded Multilevel Inverters using Efficient Sequential Switching Hybrid- Modulation Techniques”, *International Science Index*, Vol. 8, No. 3, 2014, pp. 1066-1070.
7. Mehar Abdul Sada, **P. Satish Kumar**, “Design of Multilevel Inverter with Less Number of Power Electronic Components Fed to Induction Motor”, *International Journal of Electrical and Electronics Engineering Research* “, Vol. 3, Issue 5, Dec 2013, pp.189-206.
8. N. Susheela, **P. Satish Kumar**, B. Shirisha, “Hybrid Topologies of Multilevel Converter for Current Waveform Improvement”, *International Journal of Inventive Engineering and Sciences (IJIES)* ISSN: 2319–9598, Volume-1, Issue-4, pp. 29-37, March, 2013.
9. B. Shirisha, **P. Satish Kumar**, “Three Phase Two Leg Neutral Point Clamped Converter with output DC Voltage Regulation and Input Power Factor Correction”, *International Journal of Power Electronics and Drive Systems* Vol. 2, No. 2, Feb 2012.
10. **P.Satish Kumar**, Ch. Lokeshwar Reddy, V. Ramu “Space Vector PWM Algorithm for Diode Clamped Multi-level Inverters using Fractal Structure” , *International Journal of Engineering and Advanced Technology*, Vol. 1, issue-2, Dec. 2011, pp 42-49.
11. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, “A New Space-Vector Pulse Width Modulation Algorithm for Multilevel Inverters,” *World Journal of Modeling and Simulation (WJMS)*, Vol. 6, No.4, 2010, pp 281-290.
12. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, “A Fast Space-Vector Pulse with Modulation Method for Diode- Clamped Multi-level Inverter fed Induction Motor,” *Asian Power Electronics Journal*, Vol. 4, No. 1, April 2010, pp. 29-35.
13. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, “An effective Space-Vector PWM Method for Multi-level Inverter Based on Two-level Inverter,” *International Journal of Computers and Electrical Engineering*, Vol. 2, No. 2, April 2010, pp. 243-250.
14. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, “An Analytical Space-Vector PWM Method for Multi-level Inverter Based on Two-level Inverter,” *International Review on Modelling and Simulation*, Vol. 3, No.1, pp. 1-9, February 2010.
15. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, T.Abhiram, “Space Vector Pulse Width Modulation for Multi-level Inverter using Decomposition Method,” *Journal of Electrical Engineering: Theory and Application*, Vol. 1, Issue 1, pp. 60-68, 2010.
16. R. Somanatham, **P.Satish Kumar**, G. Praveen Kumar, “Analysis Modeling and Simulation of Space Vector PWM-Multilevel Inverter,” *International Journal of Engineering Research and Applications*, Vol. 2, No.3, pp. 203-217, 2009.

17. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, "A Novel PWM Scheme for a Three-level Voltage Source Inverter Fed Induction Motor," *International Journal of Applied Mathematics and Computation*, Vol. 1(2), pp. 79-89, 2009.
18. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, "A Qualitative Space Vector PWM Algorithm for a Five-level Neutral Point Clamped Inverter," *The International Congress for Global Science and Technology- Automatic Control and System Engineering Journal*, Vol. 9, Issue-I, pp. 43-50, June 2009.
19. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, "A Novel PWM Scheme for Multilevel Voltage Source Inverter Fed Induction Motor," *International Journal of Applied Engineering Research*, Vol. 4, No.5, pp.735-748, 2009.
20. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, "An Improved SVPWM Algorithm for Diode Clamping Inverter," *Journal of Current Science*, Vol.12 (2), pp.831-837, 2008.

#### **National and International Conferences:**

21. **P. Satish Kumar**, V. Ramu, K. Rama Krishna, "A Multilevel Synthesis Approach with Reduced Number of Switches for 99-Level Inverter", *International Conference on Electrical, Computer, Electronics and Communication Engineering (ICECECE 2014)* World Academy of Science, Engineering and Technology, July 21-22, 2014, Paris, France.
22. **Satish Kumar Peddapelli**, "Recent Advances in Pulse Width Modulation Techniques and Multilevel Inverters", *International Conference on Electrical Engineering: Theory and Application (ICEETA 2014)*, March 30-31, 2014, Singapore.
23. **P. Satish Kumar**, K. Rama Krishna, Ch. Lokeshwar Reddy, G. Sridhar, "Minimization of Switching Losses in Cascaded Multilevel Inverters using Efficient Sequential Switching Hybrid- Modulation Techniques", *International Conference on Electrical Engineering: Theory and Application (ICEETA 2014)*, March 30-31, 2014, Singapore.
24. **P. Satish Kumar**, G. Sridhar, Ch. Lokeshwar Reddy, "An Efficient Multilevel- Synthesis Approach and its Application to a 27-Level Inverters", *Proceedings of International Conference on Electrical Engineering and Applications 2013*, The world Congress on Engineering and Computer Science 2013, San Francisco, USA, 23-25 October, 2013.
25. **P. Satish Kumar**, Ch. Lokeshwar Reddy, "A New Control Method for Balancing of DC-Link Voltage and Elimination of Common Mode Voltage in Multi-level Inverters" 17<sup>th</sup> National Power Systems Conference (NPSC-2012), December 12-14, 2012, IIT-BHU, Varanasi.
26. N.Susheela, **P.Satish Kumar**, B.Shirisha, "Implementation of High Step up DC-DC Converter using Cascade Technique from Fuel Cell Electric Conversion System", *National Conference on Advances in Electrical and Electronics Engineering(NCAEEE)*, Sri Venkateshwara College of Engineering, Sriperumbudur, Tamil Nadu, 17-18 Feb. 2012.
27. **P.Satish Kumar**, J. Amarnath, S.V.L. Narasimham, "A New Space-Vector Pulse with Modulation Method for Diode- Clamped Three-level Inverter fed Induction Motor" *Advancing Trends in Engineering and Management Technologies (ATEMT-09)*, Nagpur, 20-21 Nov. 2009.
28. **P.Satish Kumar**, "Modeling and Performance Analysis of Current Source Inverter Fed Induction Motor Drive", *Proceedings of International Multi Conference of Engineers and Computer Scientists 2008 (IMCES-08)*, Hong Kong, 19-21 March 2008, pp. 1479-1484.

29. R. Linga Swamy, **P.Satish Kumar**, “Speed Control of Space-Vector Modulated Inverter Driven Induction Motor”, *Proceedings of International Multi Conference of Engineers and Computer Scientists 2008 (IMCES-08)*, Hong Kong, 19-21 March 2008 pp. 1448-1452.

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