



## Dr. P. Satish Kumar Associate Professor

For Complete CV

### Academic Qualifications

- Associate Professor, June 2015 - Present, OU
- Assistant Professor, June 2007 - June 2015, OU
- Associate Professor, Private Engg Colleges, 1996-2007
- Ph.D., JNTUH, 2011
- M.Tech., JNTUH, 2003
- B.Tech., JNTU, 1996

### Membership in Societies

- Senior Member IEEE
- Fellow, Institute of Engineers
- Life Member, ISTE
- Life Member: IAENG, IACSIT, ESR Group, ICGST

### Research Supervision

- No. of Ph.D. awarded : 04
- No. of Ph.D. guiding : 08
- No. of ME Projects : 32

**Patents Applied : 04**

**Books Authored : 02**

**Publications : 99**

- International Journals : 62
- Conferences : 37

### Contact Information

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## Mission Statement

My activity includes teaching and research in core electrical machines, power electronics, special machines, multilevel inverters, design and development of hybrid wind solar power generation system with the goal of advancing the knowledge and the methodologies in these areas. Together with PhD students working with me, I undertake most challenging issues in electrical engineering in quest for novelty and creativity. Innovation is being targeted to the right applications.

## Research Interests

Research area includes power electronics & drives, multilevel inverters, special machines, pulse width modulation techniques, renewable energy sources, hybrid power systems and micro grid.

## Sponsored Research Projects

- DST: Indo - Sri Lanka Joint Project "Design and Development of Hybrid Wind - Solar Power Generation System using Multilevel Inverters for Grid Connected Applications", 3 years, Project Cost: Rs. 24,42,800/- (on - going).
- UGC : Major Research Project on Cascaded H-bridge Multilevel Inverters, 3 years, Project Cost: Rs. 8,49,000/- (completed).
- SERB (DST) : Research Project on Neutral Point Clamped Multilevel Inverters, 3 years, Project Cost: Rs. 20,10,000/- (completed).

## Research Activities/ International visits

- Established 'Research Lab for Multilevel Inverters' in the department of Electrical Engg in 2014.
- Developed prototype of hybrid power systems at University of Ruhuna, Sri Lanka.
- Visited National University of Singapore, Nanyang Technological University, Singapore, Tokyo Institute of Technology, Tokyo University of Science, Japan and University of Moratuwa, Sri Lanka and exchanged research ideas on recent advances in power electronics and hybrid wind solar power generation system with faculty and research scholars.
- Visited USA, Paris, Switzerland, Singapore, Bangkok, Hong Kong and Sri Lanka to present research papers in various conferences and to engage in collaborative research activities.

## Main Administration Positions

- Chairperson, Board of Studies, Electrical Engineering, Osmania University (2019 - Till date)
- Additional Controller (Confidential), Examination Branch, Osmania University (2015 – 2019).
- Joint Director of Evaluation (2012 - 2014) and Warden, Kinnera Hostel (2009 - 2016) UCE, OU.
- Faculty Adviser, M.E., PES (2013 - 2014) and M.E., IDC (2009-2013), UCE, OU.

## Top 5 Achievements

- 'Best Teacher Award - 2014' from the State Government of Telangana, 5th Sept 2014.
- 'Certificate of Merit' for the presentation of research paper in the International Conference ICEEA - 2013, University of California, San Francisco, USA.
- 'Award for Research Excellence - 2014', 'Global Teacher Role Model Award - 2015' and 'Certificate of Excellence - 2018'.
- 'Fast Track Scheme for Young Scientist Award' from SERB, 2013.
- Authored textbooks 'Pulse Width Modulation: Analysis and Performance in Multilevel Inverters', and 'Electrical Machines - A Practical Approach', De Gruyter Oldenbourg Publisher, Germany.

## Selected Publications

- P. Satish Kumar et al, "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, March 2020.
- P. Satish Kumar et al, "Design and Implementation of Wind Turbine Emulator using FPGA for Stand Alone Applications", *International Journal of Ambient Energy*, Taylor and Francis Publications, March 2020.
- P. Satish Kumar et al, "Energy Management System for Small Scale Hybrid Wind Solar Battery Based Microgrid" *IEEE Access Journal*, Vol. 8, pp. 8336 – 8345, January 2020.
- P. Satish Kumar et al, "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.



**Osmania University**

University with Potential for Excellence (UPE)

ACCREDITED BY NAAC WITH 'A+' GRADE