

# Dr.R.BOOPATHI, M.Tech., Ph.D.

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## ≡ Career Objective

Developing concept driven wind energy applications and converter for VSI fed AC drives (Three-Phase Induction Motor), Power Converter Design (DC-DC, DC-AC, AC-AC, and AC-DC) using Perturb and Observe (P&O), Sliding Mode Controller (SMC) with Hybrid Space Vector Pulse Width Modulation Techniques.

To seek a responsible and challenging position in a reputed firm, which provides me job satisfaction and where I can best utilize my skills and knowledge towards the growth of the organization as well as personal growth.

## ≡ Career Summary

**Ten Years of Teaching, Research, Academic and Administrative Experience** in AICTE recognized reputed Engineering Colleges, taught **UG, PG** courses and guided students in **Projects** and **Technical Paper** contests, Organized **Technical Symposia, FDP's, Conferences, Seminars** and **Workshops**.

**From Dec 2021** Currently working as a “**Senior Assistant Professor**” in **Christ College of Engineering and Technology**, Moolakulam, Pondicherry.

**2016 – 2021** Five Years of Full-Time “**Research Scholar**” in the Department of Electrical and Electronics Engineering, **Annamalai University**, Annamalainagar, Chidambaram under the **Visvesvaraya Ph.D. Scheme, Ministry of Electronics and Information Technology (MeitY), Government of India**.

**2015 – 2016** One year worked as an “**Assistant Professor**” in **Shri Krishnaa College of Engineering and Technology**, Mannadipet, Pondicherry.

**2014 – 2015** One year worked as an “**Assistant Professor**” in **Hosur Institute of Technology and Science**, Krishnagiri, Tamil Nadu.

**2012 – 2014** Two years worked as an “**Assistant Professor**” in **V.R.S. College of Engineering and Technology**, Arasur, Villupuram. Tamil Nadu.

## ≡ Professional Synopsis

- Working in the field of Power Electronics and Renewable Energy Systems for the past 9 years.
- Experienced in the design, development and engineering of various power electronic products (Inverters, DC-DC converters, motor drives, analog circuits, gate drivers, FPGA hardware & software)
- Hands-on Experience on MATLAB Simulink for all types of Inverter and converter Designs.
- Design and implement active, passive, EMC filters and Inverters.
- Knowledge on Electrical Wiring Harness routing and Circuit Schematics.
- Knowledge on Battery Energy Management System.
- Hands on experience in programming in 'VHDL' and/or assembly for real time FPGA - Spartan 6a.
- Sound knowledge of international codes and Standards like IEEE, IS, IEC, ISO, NEMA.

## ≡ Educational Details

- 2016 – 2021** - **Doctor of Philosophy** (Electrical and Electronics Engineering),  
*Under the Visvesvaraya PhD Scheme Ministry of Electronics & Information Technology (MeitY), Government of India*, Annamalai University, Chidambaram.  
**ID Number:** VISPHD–MeitY-1802.
- 2010 – 2012** - **Post-Graduation, M. Tech** – Electrical Drives and Control, CGPA - 7.66 % (First Class),  
Pondicherry Engineering College, Pondicherry, Pondicherry University, Pondicherry.
- 2007 – 2010** - **Under-Graduation, B.E** – Electrical and Electronics Engineering, 67 % (First Class),  
Dr. Pauls Engineering College, Vanur, Villupuram. Anna University, Chennai.
- 2003 – 2006** - **Diploma** – Electrical and Electronics Engineering, 75.62%,  
Sri Venkatachalapathy Polytechnic College, Villupuram.

## ≡ Publications

- **“Power Converter Interfaces for Wind Energy Systems - A Review”**   
R.Boopathi, R.Jayanthi, *“Communications in Computer and Information Science - Springer Nature*,  
Vol. 837, pp. 776 – 788, 2018. (ISSN: 1865-0929)
- **“Power Quality Improvement in Wind Energy Conversion System using Hybrid SVPWM Inverter Control Technique for THD Reduction”**   
R.Boopathi, R.Jayanthi and M.Mohamed Thameem Ansari,  
*“International Journal of Dynamics and Control – Springer Nature”*, Volume. 8, Issue: 2, pp: 592–603.  
June 2019. ISSN: 2195-268X.
- **“Optimization of Power Quality in Wind Energy Conversion System using Hybrid Modulation”**   
R.Boopathi, R.Jayanthi and M.Mohamed Thameem Ansari.  
*“A Fusion of Foundations, Methodologies and Applications, Soft Computing – Springer Nature”*,  
Volume. 20, Issue: 10, pp. 7511-7522, 2019. **Impact Factor: 3.050**  
ISSN: 1432-7643.
- **“Maximum Power Point Tracking based Hybrid Pulse Width Modulation for Harmonic Reduction in Wind Energy Conversion Systems”**   
R.Boopathi, R.Jayanthi and M.Mohamed Thameem Ansari  
*“Computers and Electrical Engineering – Elsevier”*, Vol. 86, pp: 1 - 15, June 2020.  
Article No. 1067110. ISSN: 0045-7906. **Impact Factor: 2.663**
- **“A Novel Vienna Rectifier – SVPWM Hybrid Control Technique for Reduction of Total Harmonic Distortion in Wind Energy Conversion System”**   
R.Boopathi, R.Jayanthi and M.Mohamed Thameem Ansari  
*“International Journal of Powertrains – Inderscience”*, Volume. 9, Issue: 3, pp: 200-220, September  
2020. (ISSN: 1742-4275)
- **“Exploration or Multipurpose Electric Vehicle for Agriculture Using IOT”**  
MV Ramesh, G Vijay Kumar, B Suresh Babu, R Boopathi, C Sreekanth, P Muthukumar, L Padma Suresh  
*“Tobacco Regulatory Science - Tobacco Regulatory Science Group”*, Vol. 5, Issue: 1, pp: 3844 - 3852, 2021.  
(ISSN: 2333-9748)
- **“Modeling and Simulation Analysis of PMSG Based Wind Energy System for AC Drive Applications”**  
R.Boopathi, R.Jayanthi and M.Mohamed Thameem Ansari.  
*“International Journal of Ambient Energy - Taylor & Francis”* (ISSN: 0143-0750)-Accepted. 

## ≡ Achievements & Extra-Curricular Activity

### Reviewer in International Journals

- IET Power Electronics, Wiley
- International journal of Electronics, Taylor & Francis
- International Transactions on Electrical Energy Systems, Wiley and Hindawi.
- Energy and Power Engineering, Scientific Research.
- Coordinator, National Level Students Technical Paper Contest.

### Membership in Professional Bodies

- Lifetime “MISTE” member.
- Lifetime “IAENG” member.
- International Society for Development and Sustainability (ISDS) - **Associate Member**
- Member, Global Professors Welfare Association Forums (GPWAF)
- Member, **Committee for Discipline.**
- Member, **NBA, NAAC** Committee (Inter-college)
- Co-Ordinator, **Institutions Innovation Council (IIC)** - Innovation, Incubation & Start-Up Cell
- Co-Ordinator, **AICTE – SLA Parakh**



## ≡ Subjects Handled

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|--|---------------------------------------|
| ➤ Power Electronics                      | ➤ Design of Electrical Machines       |
| ➤ Electromagnetic Theory                 | ➤ High Voltage Engineering            |
| ➤ Solid State Drives                     | ➤ Bio-Medical Engineering             |
| ➤ Control System Engineering             | ➤ Environmental Science & Engineering |
| ➤ Electrical and Electronics Engineering | ➤ Power Plant Engineering             |
| ➤ High-Power Solid-State System          | ➤ Protection and Switchgear           |
| ➤ High Voltage Direct Current            | ➤ Smart Grid                          |
| ➤ Renewable Energy Sources               | ➤ Power Quality Studies               |
| ➤ Circuit Theory                         | ➤ Basic Electrical & Electronics      |

## ≡ Research Experience

### Ph.D - Power Quality Improvement Strategies for Wind Energy Conversion System

The work, carried out in college premises, involves both software's and hardware's. This is an individual project done for duration of four full years. Hybrid Space Vector Pulse Width Modulation (HSVPWM) is an advanced, computation intensive PWM method and possibly the best among all the PWM techniques for variable frequency drive applications due to the facts like superior harmonic performance characteristics and extended linear range of operation. This

triumph PWM scheme amalgamated with RPWM property will be best combination for drive application. This work attempts in such a hybrid strategy and aims to have improved SVPWM and to implement VHDL program in FPGA Spartan-6 board kit. The DC-DC converters (SEPIC and Luo) are also implemented in Wind Systems to reduce the output ripples in DC-DC converters and quality of power is distributing to load/consumers.

**SOFTWARE USED:** MATLAB 13b, ModelSim6.3f and Xilinx-12.1.

**M.Tech** - Enhancing the Spreading Effects of the Harmonic Spectrum in SVPWM using Random Pulse Positioning Technique for Industrial Drives.

**B.E** - Energy Saving in Conveyors Using PLC

**Diploma** - Solar Water Pump

### ≡ **Workshops/ Faculty Development Programme – 50+**

- Participated in Seven-Days Faculty Development Programme on “**Executive Management Programme for Shipping Industry Talents**”, cordially organized by Business College of Athens, Greece and AMET University, Chennai between 23<sup>rd</sup> January to 30<sup>th</sup> January 2023.
- Participated in Nine-Days Faculty Development Programme on “**Design and Development of Industry Led Curriculum in Technology Era**”, cordially organized by Association of Indian Universities and AMET University, Chennai between 14<sup>th</sup> December 2022 to 22<sup>nd</sup> December 2022.
- Participated in a One-week National Level Online Faculty Development Programme on “**Smart Grids and Micro Grids in Indian Context**” from 20.06.2022 to 24.06.2022 organized by the Department of Electrical and Electronics Engineering, Mahatma Gandhi Institute of Technology, Gandipet, Hyderabad, July 2022.
- Participated in One Day Online Webinar on “**Wind Energy Conversion System**” conducted by Department of Electrical and Electronics Engineering, Francis Xavier Engineering College, Tirunelveli on 17.07.2020.
- Participated in One Day International Webinar “**Design and Analysis of Motors Used in Electric Vehicle**” organized by the Department of Electrical and Electronics Engineering, Rajalakshmi Engineering College, Thandalam, Chennai, on 12<sup>th</sup> July 2020.
- Participation in the Two-Days International Workshop on “**Smart Grid and Renewable Energy Systems (SGRES)**” organized by the Department of Electrical Engineering, Annamalai University during 11<sup>th</sup> & 12<sup>th</sup> November 2020.
- Participated in One Day Online Workshop “**Virtual Conduct of Digital System and Design Lab**” organized by the Department of Electrical and Electronics Engineering, SRM Institute of Science and Technology, Ramapuram, Chennai, on 30<sup>th</sup> June 2020.
- Participated in One Day International Webinar “**Effects of Partial Shading and its Mitigation Techniques**” organized by the Department of Electrical and Electronics Engineering, Easwari Engineering College, Chennai, on 29<sup>th</sup> June 2020.

- Participated in the Five-Days Online Faculty Development Programme on “**Future Research Scope in Electrical Engineering**” organized by the Department of Electrical and Electronics Engineering, St. Joseph’s College of Engineering, Chennai, on 22<sup>nd</sup> June to 26<sup>th</sup> June 2020.
- Participated in the Seven-Days National Level Online Faculty Development Programme on “**Smart Grid and Micro Grids in Indian Context**” organized by the Department of Electrical and Electronics Engineering, Mahatma Gandhi Institute of Technology, Gandhipet, Telangana on 20<sup>th</sup> June to 24<sup>th</sup> June 2020.

## ≡ Personal Profile

Father’s Name : Mr.R.Rajaram  
Mother’s Name : Mrs.R.Vasantha  
Sex : Male  
Marital Status & Sons : Married & Two Child  
Religion : Hindu  
Caste : Yadava  
Nationality : Indian  
Languages Known : Tamil, English (Speak, Read, Write)  
Date of Birth : 02<sup>nd</sup> December 1987.  
Conduct number : +91 – 9894 85 86 86  
E-Mail ID : rboopathiyadav@gmail.com

## ≡ References

### **Dr.S.Jeevananthan, M.E., Ph.D.**

Professor,  
Department of Electrical and Electronics Engineering,  
Puducherry Technological University,  
Puducherry – 605 014. INDIA.  
E-mail: drsj\_eee@pec.edu

### **Dr.G.Nagarajan, M.Tech., Ph.D.**

Professor,  
Department of ECE,,  
Puducherry Technological University,  
Puducherry – 605 014. INDIA.  
E-mail: nagarajanpec@pec.edu

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I hereby declare that all the details provided by me are true to my knowledge and I promise you that if I am placed at your concern I will do my jobs to the best satisfaction of my superiors.

**Place:** Puducherry

  
**(R.BOOPATHI)**