

Curriculum Vitae

Dr.P.Prem

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Objective

To evolve continuously by learning and contribute to the growth of the organization by being resourceful.

Academic Profile

Doctor of Philosophy(Ph.D)

Area : Power Electronic Converters for Solar PV power Conversion
University : Anna University, Chennai
Awarded : 2018

Master of Engineering (M.E)

Specialization : Power Systems Engineering.
Institution : Thiagarajar College of Engineering, Madurai.
University : Anna University, Chennai.
Class obtained : First Class with Distinction.
Year of Completion : 2008.

Bachelor of Engineering (B.E)

Specialization : Electrical and Electronics Engineering.
Institution : CSI institute of Technology, Thovalai.
University : Anna University, Chennai.
Class obtained : First Class
Year of Completion : 2006

Service History

Sl. No.	Institution / Industry Name	Position / Title	From	To	No. of Years & Month
1	Ramco Institute of Technology, Rajapalayam	Associate Professor	15.04.2024	Till date	
2	St.Thomas' College of Engineering & Technology, Kolkata	Associate Professor	21.10.21	09.04.2024	2 Years 5 Months
3	Switch Gear Electromechanical LLP	Manager-Operations & Business Development	03.03.2021	08.10.2021	7 Months
4	Bannari Amman Institute of Technology, Sathymangalam	Associate Professor	01.11.2019	22.12.2020	1 year
5	Bannari Amman Institute of Technology, Sathymangalam	Assistant Professor – Level II	01.07.2013	31.10.2019	6 years 3 Months
6	Bannari Amman Institute of Technology, Sathymangalam	Assistant Professor	01.01.2011	30.06.2013	2 years 6 months
7	Bannari Amman Institute of Technology, Sathymangalam	Lecturer	18.06.2008	31.12.2010	2 years 6 months
Total Experience				15 years (Out of which 5 years post Ph.D experience)	
Recognized Ph.D supervisor under Anna University Chennai (Ref No: 3630003)					

SCI Indexed Publications

1. Khan A R, Sathik M J, Gopinath N P, **Prem P**, Alamri F S, Bahaj Saeed Ali, "A 7L and 11L High Step-Up SCMLI Topology with Reduced Component Voltage Stress", DOI: 10.1109/ACCESS.2023.3333363 (**Accepted for publication in IEEE Access**)
2. Algadair, Badr Saleh A., Mahmoud F. Elmorshedy, Jagabar Sathik Mohamed Ali, Dhafer Almkhles, and **P Prem**. "High Step-Up Thirteen Level Switched-Capacitor Inverter Topology for HFAC Power System." *Processes* 11, no. 3 (2023): 848.
3. Rawa, Muhyaddin, **Prem P**, Jagabar Sathik Mohamed Ali, Marif Daula Siddique, Saad Mekhilef, Addy Wahyudie, Mehdi Seyedmahmoudian, and Alex Stojcevski. "A new multilevel inverter topology with reduced dc sources." *Energies* 14, no. 15 (2021): 4709.
4. **Prem, P**, Jagabar Sathik, and V. Suresh. "A new generalized cross-connected switched capacitor multilevel inverter topology with the high gain output voltage for single phase solar PV unit." *Journal of Engineering Research* 9, no. 4A (2021)
5. Suresh V, Senthil Kumar R, **Prem P** & Jagabar Sathik M "Design of Nine Step Switched Capacitor Multilevel Inverter and Its Cascaded Extension". **International Journal of Circuit Theory and Applications**, 2021; 1– 20. <https://doi.org/10.1002/cta.2926>
6. Alagu, M, **Ponnusamy Prem**, Pandarinathan, S, Mohamed Ali, JS. Performance improvement of solar PV power conversion system through low duty cycle DC-DC converter. **International Journal of Circuit Theory and Applications**, 2020; 1– 16. <https://doi.org/10.1002/cta.2918>.
7. Maheswari K.T I, Bharani Kumar R & **Prem Ponnusamy** (2020) Performance Analysis of Dual Space Vector Modulation Technique-Based Quasi Z-Source Direct Matrix Converter, **Electric Power Components and Systems**, 48:11, 1185-1196, DOI: 10.1080/15325008.2020.1834018
8. **Prem P. et al.** "A New Multilevel Inverter Topology With Reduced Power Components for Domestic Solar PV Applications," in **IEEE Access**, vol. 8, pp. 187483-187497, 2020, doi: 10.1109/ACCESS.2020.3030721.
9. **Prem Ponnusamy**, Suresh Velliangiri & Jagabar Sathik Mohamed Ali (2020) A Hybrid Switched Capacitor Multi-Level Inverter with High Voltage Gain and Self-Voltage Balancing Ability, **Electric Power Components and Systems**, 48:8, 755-768, DOI: 10.1080/15325008.2020.1821832
10. **P.Prem**, P.Sivaraman, J.S.Sakthi Suriya Raj, M.Jagabar Sathik, Dhafer Almkhles "Fast charging converter and control algorithms for Solar PV battery and electrical grid integrated Electric Vehicle Charging Station", **Automatika: Journal for Control**,

11. S. Bhuvaneshwari, P. Sivaraman, A.Matheswaran, **P.Prem**, "Performance Analysis of Radial Flux and Axial Flux Permanent Magnet Generators for Low- Speed Wind Turbine Applications", **International Journal of Applied Electromagnetics and Mechanics**, 1 Jan. 2020 : 1 – 19.
12. **P.Prem**, Vidyasagar Sugavanam, Ahamed Ibrahim Abubakar, Jagabar Sathik Mohamed Ali, Boopathi C Sengodan, Vijayakumar Krishnasamy Sanjeevikumar Padmanaban," A novel cross-connected multilevel inverter topology for higher number of voltage levels with reduced switch count", **International Transaction on Electrical Energy Systems**, Vol.30, Issue:6, e12381.
13. **P.Prem**, Jagabar Sathik, Sivaraman P., Matheswaran A. & Shady H. E. Abdel Aleem "A New Asymmetric Dual Source Multilevel Inverter Topology With Reduced Power Switches", **The Journal of Chinese Institute of Engineers**, Vol.42, Issue:5, April 2019, pp.460-472.
14. P.Sivaraman, **P.Prem** "PR controller design and stability analysis of single stage T- source inverter based solar PV system", **The Journal of Chinese Institute of Engineers**, Vol.40, Issue:3, March 2017, pp.235-245

Book Chapters published

1. Matheswaran, A., **P. Prem**, C. Ganesh Babu, and K. Lakshmi. "Opportunities of Translating Mobile Base Transceiver Station (BTS) for EV Charging Through Energy Management Systems in DC Microgrid." *Smart Grids for Smart Cities Volume 1 (2023)*: 15-40.
2. **Prem.P**, Maheswari.K.T, M.Jagabar Sathik, Chapter 10- Multilevel Converters and Applications, Editor(s): Dr.Mahajan Sagar Bhaskar, Dr.P.Sanjeevikumar Padmanabhan, Dr.Nikita Gupta, Dr.Dhafer J Almakhlles, *DC Microgrid-Advances, Challenges, and Applications* , Scrivener Wiley Publications, 2021 (Under Press)
3. Maheswari.K.T, **Prem.P**, M.Jagabar Sathik, Chapter 17- Power Electronics: Technology For Wind Turbines, Editor(s): Dr.Mahajan Sagar Bhaskar, Dr.P.Sanjeevikumar Padmanabhan, *Power Electronics For Green Energy Conversion*, Scrivener Wiley Publications, 2021 (Under Press)
4. J. Senthil Kumar, **P. Prem**, M. Jagabar Sathik, Chapter 7 - Evaluation of DG impacts on distribution networks, Editor(s): Ahmed F. Zobaa, Shady H.E. Abdel Aleem, *Uncertainties in Modern Power Systems*, Academic Press,2021, Pages 195-209,ISBN 9780128204917,<https://doi.org/10.1016/B978-0-12-820491-7.00007-4>.
5. N. Rishikesh, **P. Prem**, M. Jagabar Sathik, Dhafer Almakhlles, Chapter 15 - A case study with power quality analysis on building integrated PV (BIPV) system, Editor(s): Ahmed

F. Zobaa, Shady H.E. Abdel Aleem, Uncertainties in Modern Power Systems, Academic Press, 2021, Pages 541-562, ISBN 9780128204917, <https://doi.org/10.1016/B978-0-12-820491-7.00015-3>.

Other Publications

1. **Prem P**, Bharanikumar R, "A New Multilevel Inverter Topology To Integrate Wind-Solar Hybrid System Without A Common DC Bus", **Journal of Electrical Engineering, Romania**, Vol. 18, No. 2, pp 1-8, JUN 2018.
2. P.Sivaraman, A.Nirmal Kumar, **P.Prem** "Dynamic modeling of and analysis of T-source electronic inverter using state space technique" **Journal of Scientific Research and Essays**, Vol.7(38),pp 3269-3280,September 2012.
3. R.Senthilkumar, Jovitha Jerome, **P.Prem**, T.AlexStanelyRaja, "Implementation of ZVS Concept in Four Wire Inverter for UPS Fed (Unbalanced) Star Connected Load" **Journal of Electrical Engineering Romania**, Volume 11, No.1,2011.
4. **Prem, P.**, and R. Bharanikumar. "A New Multilevel Inverter Topology with Reduced Switch Count for Domestic Solar PV Units." (2018): IJITEEE, 127-131.
5. **Prem, P** & Bharanikumar, R 2017, 'Design and Mathematical Evaluation of a New Multilevel Inverter Topology with Less Circuit Components for Solar and Wind Energy Conversion Systems', Applied Mathematics and Information Sciences, vol.11, no. 4, pp. 1115-1122.

Patents

Sl.No	Title of Invention	Date of Filing / Publication	Patent No / Application No	Status of Indian Patent
1	Antiviral respirator integrated helmet	02/09/2020	333454-001	Granted
2	Smart Coin Collecting Carom	17/10/2020	334397-001	Granted

Industrial Projects Handled

1. Design and development of a TEG Module based Battery Charging system using LPG heat recovery.

Project Done For: Robert Bosch

2. Installation, Testing and Commissioning of Lighting and Small Power Systems at Chennai Airport Expansion Project

Project Done For: Switchgear Electromechanical-India

Funding received

Funding Agency	Funds received (Rs)	Title of the Program	Sanctioned During	Status
Ministry of Human Resource Development (Government of India)	1,00,000	Aakash Equipment funding	2012	Completed
Ministry of Human Resource Development (Government of India)	2,80,000	Establishment of A-View infrastructure to facilitate students to interact with Professors from IITs	2015	Completed
Ministry of Human Resource Development (Government of India)	85,000	A one-week STTP on “Electric Power Systems”	2017	Completed
AICTE-MODROBS	13,88,000	Modernization of Electrical Machines Laboratory	2019	Completed

Software Expertise

1. ETAP- (Load Flow, Short circuit, Relay Coordination using star view, Arc Flash studies)
2. Power World Simulator (Load flow, Short circuit)
3. MATLAB (Simpowersystems toolbox, Real time simulator interfacing)
4. Dialux (Lighting design)
5. Digsilent Powerfactory
6. PSCAD

Professional trainings undergone

1. A “One Week FDP on National Education Policy” held at NITTTR, Kolkata, during 17.07.2023 to 21.07.2023.

2. A “**One Week FDP on Power System Analysis**” held at College of Engineering, Guindy, during 27-31 May 2019.
3. A “**One Week ISTE STTP for Coordinators on Electric Power System**” held at Indian Institute of Technology, Kharagpur during 1-5, May, 2017.
4. A Conference on “**Energizing South -2016: Smart-Reliable-Sustainable Power**” organized by Confederation of Indian Industries (CII), during 22-23, August, 2016.
5. A one day workshop on “**Grounding Practices**” organized by Central Power Research Institute, Bengaluru, during 28-29, January 2016.
6. Anna University, Chennai Sponsored FDTP on “**Power Quality**” held at Bannari Amman Institute of Technology, during 18-24 December, 2013.
7. CSIR Sponsored National Seminar on “**Challenges of Power System Planning in Restructured Indian Electricity market**” organized by Pondicherry Engineering College during 13-14 December 2013.
8. One day International workshop on “**Current Issues and Potential Research in Power Industry**” jointly organized by Coimbatore Institute of Technology, Coimbatore and Victoria University, Melbourne on 15th of December 2012.
9. “**Coordinators’ workshop for Aakash coordinators**” held at IIT Bombay on 05th of November 2012.
10. AICTE Sponsored SDP on “**Soft Computing Techniques in electrical systems and control**” organized by Government college of Technology, Coimbatore, Tamilnadu during 09- 22 of May 2012
11. “**Power Quality & Energy Management – Challenges**” organized by VIT University, Vellore on 18th of October 2011
12. One day workshop on “**Energy Conservation & Renewable Energy**” organized by Confederation of Indian Industries & Tamilnadu Electricity Consumers Association on 08th of August 2011.

Programs Organized

1. Workshop Coordinator in the Four Week Faculty Development Programme on “**Use of ICT in Education for Online and Blended Learning**” Funded by SAP India PVT Ltd

through CSR grants. (Jointly with IIT Bombay and MHRD, India) during Weekends of May-July 2016.

2. One of the organizing Secretaries in the one-day work shop on “**Illumination Systems**” held on 10th of September 2016.
3. Teaching Assistant in the Two-Week ISTE workshop on “**Signals & Systems**” under the National Mission on Education through ICT (Jointly with IIT Kharagpur and MHRD, India) during 2-12, January 2014.
4. Workshop Coordinator in the Two-Day ISTE Workshop on “**Research Methods in Educational Technology**” under the National Mission on Education through ICT, (Jointly with IIT Bombay and MHRD, India) during 2-9, February 2013
5. Work shop coordinator in the Two-day National Level workshop on “**Aakash for Education**” during 10-11, November 2012. (Jointly with IIT Bombay & MHRD, India. *Received 240 Aakash tablets and circulated among the faculty of all the departments*)
6. One of the organizing secretaries in the three-day National Level Workshop on “**Energy Audit - A Practical Exposure**” during 03-05 March 2011.
7. One of the organizing secretaries in the Two-day National Level workshop on “**Modern Drives in Industrial Applications**” during 14-15, September, 2010.
8. One of the organizing secretaries in the Two-day National Level workshop on “**Modern Drives in Industrial Applications**” during 14-15, September, 2010.
9. One of the organizing secretaries in the Fifth National **Conference on “Cutting Edge Technologies on Power Conversion and Industrial Drives”** 12.03.2010 to 13.03.2010 *Funded by: CSIR, Larsen & Toubro, Indian Value Engineering Society*

Subjects handled

1. Power System operation and Control
2. Power System Analysis
3. Power Quality
4. Power Electronics
5. Basics of Electrical Engineering
6. Value Engineering

7. Research Methodology
8. Engineering Economics
9. Total Quality Management
10. Entrepreneurship Development

Other Administrative Responsibilities and accomplishments

1. **Heading the Department of Electrical Engineering** at St.Thomas' College of Engineering & Technology, Kolkata from 01.07.2022
2. **Project Manager** represented Switch Gear Electromechanical at **Chennai Airport** Expansion Project
3. **Headed the Department of EEE** in Bannari Amman Institute of Technology during 30.08.2018 to 01.11.2020 (2 years, 3 Months)
4. **Recipient of IEEE Publication award** from IEEE Madras section for the year 2020
5. Member of **IEEE and IEEE-Power & Energy Society**
6. Active Reviewer for IET journals, IEEE Access and T&F Journals
7. Completed an **M.B.A degree in Education management** through Distance Education mode at Alagappa University, Tamilnadu during 2008-2010 and secured first class
8. Actively took part in Accreditation Processes like **NBA, NAAC, IET.**
9. Involved in the process of **Autonomous Status renewal** of BIT

Personal Profile

Date of Birth :16.07.1985
Marital Status : Married
Nationality : Indian
Languages Known : English, Tamil, Hindi (can read)
Reference : 1. **Dr.M.Jagabar Sathik**
Post Doctoral Fellow
Prince Sultan University

Saudi Arabia
Mail: srmajs@gmail.com

2. **Dr.V.Saravanan,**
Associate Professor/EEE,
Thiagarajar College of Engineering,
Madurai
Mail: vsee@tce.edu

Declaration

I declare that the above information is true to the best of my knowledge

Rajapalayam

Yours truly
Dr.P.Prem