



Dr M.VAIGUNDAMOORTHI

STAFF ID: TSEE055

Designation : Associate Professor/EEE

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**YEARS OF EXPERIENCE (IN YEARS):**

| Industry | Academics<br>(Engg. Only) | Total |
|----------|---------------------------|-------|
| 0        | 23.8                      | 23.8  |

**Area of Specialization:**

- Power Electronics and Electrical drives
- Sustainable Energy
- IOT and its applications

**Area of Research:**

- Machine learning algorithm and IOT applications to sustainable energy
- Power converters design

**Patent Publications:**

Total Published: 5

**Journal Publications:(SCI :4 Scopus -14 )**

- Vaigundamoorthi and Ramesh, "Hardware implementation and steady state analysis of ZVS- PWM Cuk converter based MPP tracking for solar PV module", International Journal of Emerging Electric Power Systems, DOI :10.1515/1553-779X.2920 vol.13, issue4, article 1, 2012(September), - SCOPUS/SCI –
- Vaigundamoorthi M and Ramesh R," Hardware Implementation and Chaotic PWM control of Cuk converter based MPPT for solar PV system," Journal of Electrical Engg, SCOPUS /SCI  
/ THOMSON ROUTER CITED /ANNEXURE 1 LISTED BY ANNA UNIVERSITY Volume 17, issue 3,2017, PP-1-8 ISSN 1582-4594
- Vaigundamoorthi M, &Ramesh R "MPPT Oscillations minimization a using nonlinear dynamic control of SEPIC based MPPT for Solar PV system", International Journal of Electrical and Computer Engineering (SCOPUS)- Vol. 10, No. 6, December 2020, pp. 6268~6275, ISSN: 2088-8708, DOI: 10.11591/IJECE, v10i6.pp6268-6275
- Vaigundamoorthi .M and Arul Kumar K," Impact of flipped classroom approach in Engineering Education "Journal of Engineering Education Transformation" Volume 35, Number2, October 2021 ISSN2349-2473 EISSN2304-1707 SCOPUS INDEXED
- Vaigundamoorthi. M and Ramesh. R, "Experimental Investigation of chaos in input regulated solar PV powered Cuk converter", International journal of computer applications, Volume43- No.10, April 2012, DOI:10.5120/6138-8379
- Vaigundamoorthi. M and Ramesh. R ` Performance analysis of soft switched DC-DC converter based MPPT circuits for solar PV module" ISSN 1974-9821 VOL6 NO.1.P-P1-8 FEB-2013 " International Review on modelling and simulations – SCOPUS INDEXED
- Vaigundamoorthi and Ramesh and Maglin "Design and analysis of SEPIC converter based MPPT for solar PV module with CPWM", Journal of Electrical Engineering and Technology Vol. 9, No. 4: 1269-1276, 2014, DOI: 10.5370/JEET.2014.9.4.1269-SCOPUS/SCI
- Vaigundamoorthi M and T.Ajith BoscoRaj etl "Grid Connected Solar PV System with SEPIC Converter Compared with Parallel Boost Converter Based MPPT, International Journal of Photoenergy Volume 2014, Article ID 385720, SCI DOI: 10.1155/2014/385720
- M Vaigundamoorthi, K Vidhya, B Mallala, CP Raj ., Electric Vehicle Charging Demand Forecasting Using Progressive Graph Convolutional Networks With Waterwheel Plant Optimization., **Energy Storage 8 (7), e70515 Year of publication:2026**
- Vaigundamoorthi M., et al " Design and analysis of a C4S DC-DC converter for sustainable solar energy systems ",International Journal of Power Electronics and Drive System" Vol 17, 1152 , DOI: 10.11591/ijpeds.v17.i2.pp1152-1164- Year of publication:2026

- M.Vaigundamoorthi ., et al A resilient and carbon-aware virtual power plant coordination framework for low-carbon energy systems using multi-objective optimization., Energy Conversion and Management: X, 2026/5/26, Year of publication : 2026
- M Vaigundamoorthi., Design and implementation of solar-grid based charging station for electric vehicle with fault detection method using R-Pi and IoT processor ,International Journal of Applied Power Engineering 14 (4), 794-802, Year of publications : 2025
- M Vaigundamoorthi et al ., Integrated optimization of solar and DSTATCOM placement for enhanced EVCS-Driven Power Distribution Performance., Energy Exploration &Exploitation-, ps://doi.org/10.1177/0144598725137950 Year of publication -2025
- IEEE conference :-6
- Vaigundamoorthi M E. Jayashree, G. Uma, "State - Space Averaging, Simulation, Stability Studies for Step up Positive Output Switched Capacitor DC-DC Converter," *2007 7th International Conference on Power Electronics and Drive Systems*, Bangkok, 2007, pp. 1389-1393. DOI: 10.1109/PEDS.2007.4487886 DOI: 10.1109/PEDS.2007.4487886
- Dr M.Vaigundamoorthi et al “ Improved Energy Harvesting in Photovoltaic system using SEPIC converter using GA , DOI : [10.1109/ICICT60155.2024.10544864](https://doi.org/10.1109/ICICT60155.2024.10544864) – indexed IEEE/SCOPUS- 2024
- Dr M.Vaigundamoorthi et al: Deep learning method to analyse the Bi LSTM model for Energy consumption forecasting in smart cities, published in ICSCNA conference proceedings – IEEE conference 2023 DOI [10.1109/ICSCNA58489.2023.10370467](https://doi.org/10.1109/ICSCNA58489.2023.10370467)- Indexed in IEEE/SCOPUS-2024
- Dr M.Vaigundamoorthi et al “ Design and development of non-invasive glucose monitoring device using advanced micro controllers “ [10.1109/ICOECA62351.2024.00075](https://doi.org/10.1109/ICOECA62351.2024.00075) indexed in IEEE/Scopus – 2024
- M Vaigundamoorthi ., et al., “ AI-Controlled Power Converters for Energy Efficiency” IEEE access - 2025 Global Conference in Emerging Technology (GINOTECH)
- M Vaigundamoorthi ., et al., “ [Enhancing Power quality in Smart Grids through Machine Learning Techniques](https://doi.org/10.1109/ICFTS62006.2025.11031534)” IEEE explore , <https://doi.org/10.1109/ICFTS62006.2025.11031534>- 2025
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#### Anna University Guideship :

Anna University Guideship :Recognized supervisor –Anna University – New Ref.No:**2330271**

(//cfr.annauniv.edu/research/supervisor list.php? type=electr)

**Scopus /ORCHID id**

Scopus Author ID: 24605735500

Scopus h-index -6- Citation: 108WOS id : G-6210-

2018 WOS DOC :7 index 4

ORCID ID [0000-0002-4805-7802](https://orcid.org/0000-0002-4805-7802)

[AICTE FACULTY ID :1-3241759387](#)

Researcher ID: G-6210-2018

URL: <http://www.researcherid.com/rid/G-6210-HYPERLINK>  
["http://www.researcherid.com/rid/G-6210-2018"](http://www.researcherid.com/rid/G-6210-2018)2018

### **Events Organised:**

- Workshop :12
- Guest Lecture:40
- Symposium: 8
- Tech-Fest:6

### **Events Participated:**

- Conference : 7
- NEP-1
- FDTPs- 7

### **Courses (Online / Nptel):**

#### **List of NPTEL courses completed:**

- |                                      |                                    |
|--------------------------------------|------------------------------------|
| • Analog circuits                    | AY 2018                            |
| • Electrical drives                  | AY2019                             |
| • Design of Power Converters         | AY 2022 (5%Topper by securing 91%) |
| • Smart Grid –                       | AY 2023                            |
| • Soft computing                     | AY 2020-2021                       |
| • Cloud computing                    | AY 2020-2021                       |
| • Introduction to Machine learning – | AY 2024                            |

### **Professional Society Membership**

- ISTE -
- IEEE