

# SRI SAI RAM ENGINEERING COLLEGE

## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

1	<b>Dr.R.AZHAGUMURUGAN</b> AMIE,ME,Ph.D.	
2	Designation	Professor & HoD
3	Area of Specialization	Applied Electronics
4	Experience	Teaching: 23 Years & 8 Months Industry; 6 Years
5.	No. of Worksop, FDP, Seminar Attended	Workshop: 50 FDP: 20 Seminar: 15
6.	Publications And Patents	International Conferences: 25 International Journals:15 IEEE Digital Library: IEEE Conferences: 15 Patents Published: 6
7.	Professional Membership	IEEE Membership- <b>Senior Member-91208822</b> IEEE Power and Energy society -Senior Member Vice - Chair: IEEE PES Chapter MAS Section. <b>Professional Member in:</b> IEEE Young Professional  IEEE Smart Cities IEEE Environmental Engineering Community IEEE Sensors Council IEEE Systems council IEEE council on Superconductivity  IEEE SIGHT IEEE IOT Community IEEE Smart Cities Community  IEEE Smart Grid Community  IEEE Sustainable ICT Community IEEE Transportation Electrification Community <b>Life Membership in</b> 1. The Institution of Engineers in India-(IEI) 2. ISTE

8.	Research Guidance Fields	<ol style="list-style-type: none"> <li>1. Metamaterials</li> <li>2. Electrical Machines</li> <li>3. Electromagnetics</li> <li>4. Electric Vehicles</li> <li>5. Industrial Instrumentation</li> <li>6. Smart Technologies</li> <li>7. Battery Management systems</li> </ol>
9.	Start-up	<ul style="list-style-type: none"> <li>• AH Smart Power, (MSME, Govt. of India registered company) is an Sairam Techno incubated company in Sri Sairam Engineering College, Chennai, India.</li> <li>• AH Smart Power provides a set of smart consumer products that include smart LED bulbs, smart flood lights, smart tube lights, smart fan and goes on.</li> </ul>
10.	Consultancy	<ol style="list-style-type: none"> <li>1. <i>Chairman of Board &amp; Chief Advisor</i> - Genik Research Institute.  <a href="https://www.geniktech.com/people/azhagumurugan-ramamoorthy">https://www.geniktech.com/people/azhagumurugan-ramamoorthy</a></li> <li>2. Chairman and Author for the book of Basic Electrical Engineering (English &amp; Tamil) under SCERT, Tamilnadu Textbooks.  <a href="https://www.tntextbooks.in/p/12th-books.html">https://www.tntextbooks.in/p/12th-books.html</a></li> </ol>

11	Honours and Awards	<ol style="list-style-type: none"> <li>1. Professional Achievement Award, IEEE Madrassection</li> <li>2. IGEN GREEN9 SDG AWARD 2020,</li> <li>3. General Chair, IEEE International conference</li> <li>4. ICPECTS'18,2022,2024</li> <li>5. IEEE Day Ambassadors from 2016onwards.</li> <li>6. IEEE PES Day Ambassadors for the past 6 Yearsfrom 2016 onwards.</li> <li>7. IEEE Smart cities ambassador 2022.</li> <li>8. IEEE HAC Ambassadors for the year 2021.</li> <li>9. Best Faculty Advisor Award 2021, from IEI.</li> <li>10. Institute of scholars InSC awards 2021.</li> <li>11. IEEE CSAC Ambassadors for the years 2022.</li> <li>12. SIH Mentor 2023 and 2024.</li> <li>13. Dr. Kalam best mentor Award in 2024 and 2025.</li> </ol>
12.	Achievements	<ol style="list-style-type: none"> <li>1. IEEE Power and Energy Society Student Branch Advisor from 2014 onwards. <a href="https://edu.ieee.org/in-sairampes/committee/">https://edu.ieee.org/in-sairampes/committee/</a></li> <li>2. Applied computational electromagnetics USA Journal reviewer.</li> <li>3. IEEE International conference review member- Australia, INTELEC 2017.</li> <li>4. Presented article in Progress in Electromagnetics Research Symposium 2017 at NTU, Singapore.</li> <li>5. Proctor for IEEEExtreme 11.0 Programming Competition 2017 and 2021, 2022,2023,2024 and 2025.</li> </ol> <p><b>Countries visited:</b></p> <ol style="list-style-type: none"> <li>a. Singapore (NTU, New castle University)</li> <li>b. Indonesia (IEEE ICON EEI-2018)</li> <li>c. Dubai (Expo 2020)</li> <li>d. Malaysia-Kuching</li> <li>e. Thailand- ESCAP</li> </ol>

13.	Other certifications	<ol style="list-style-type: none"> <li>1. Coursera</li> <li>2. Udemy</li> <li>3. Alison</li> <li>4. ATAL</li> <li>5. NPTEL</li> </ol>
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### **Experience**

Name of the Employer	Position Held	Period	
		From	To
Madha Engineering College, Chennai.	Lecturer	June 2001	May 2002
Sri Sai Ram Engineering College, Chennai.	Lecturer	2002	2007
Sri Sai Ram Engineering College, Chennai.	Senior Lecturer	2007	2009
Sri Sai Ram Engineering College, Chennai.	Assistant Professor Grade -I	2009	2016
Sri Sai Ram Engineering College, Chennai.	Associate Professor	2016	2019
Sri Sai Ram Engineering College, Chennai.	Professor	2019	Till date

## International Conferences and Journals

1. Presented a paper titled as “Signal Integrity analysis of interconnects using eye diagram” in the International conference on Power, Energy, Information and Communication, at Athiparasakthi Engineering college, April 2012.
2. Presented a Paper Titled As ‘Signal Degradation Due To Vias In MULTILAYER PCBs’In The International Conference On Information Systems And Computing (ICISC- 2013) , at Sri Sairam Engineering College.
3. Presented a paper titled as “Far-End crosstalk suppression using complementary split-ring resonators in printed circuit boards” in the IEEE Applied Electromagnetic conference 2013 (AEMC 2013) Bhubaneswar, Orissa.
4. Presented a paper titled as “Arduino based output voltage control of bi-directional converter for HEV’s” in the International conference on Trends in Technology for convergence 2015, AVS Engineering College, Salem.
5. Azhagumurugan. R 2014, ‘A novel metamaterial structure to reduce far-end crosstalk in printed circuit boards’, International Journal of Engineering and Technology, ISSN; 0975-4024, vol. 6, no. 2, pp. 588-591.
6. Presented a paper titled as “Guiding and control of fishermen boat using GPS” in the International conference on computation of Power, Energy Information and Communication, at Athiparasakthi Engineering college, April 2017.
7. Presented a paper titled as “Crosstalk analysis of PCBs and mitigation of crosstalk using CSRR structures” in the Progress in electromagnetics research symposium,2017, NTU, Singapore.
8. Presented a paper titled as “Design and development of smart branched switch for home automation systems” in the International Conference on Smart Technology

for Smart Nation, Smart Tech Con 2017 Bangalore.

9. Presented a paper titled as “IoT Enabled Coherent Detritus Management” in the International conference on Power, Energy, Control and Transmission systems (ICPECTS2018), Feb 22 and 23, 2018, at Sri Sai Ram Engineering College.
10. Presented a paper “Design and development of acoustic power transfer using infrasonic sound” in the International conference on power, Energy, Control and Transmission systems (ICPECTS2018), Feb22 and 23, 2018, at Sri Sai Ram Engineering College.
11. Dr.R. Azhagumurugan, S. Priyadharshini, C.S. Sharumathi, K. Malini and K. Lakshmi praba (2019) “Artificial speech aid for vocal impairment”, Journal of International Pharmaceutical Research 46(1): 755-757.
12. Presented a paper “FEXT analysis and its mitigation using double slit complementary split ring resonators” in the International conference on Electrical Engineering and Informatics, Indonesia 2018.
13. Presented a paper “Energy auditing and power-factor improvement in HT industries” in the International Conference on science and innovative Engineering 2019, Jawahar engineering College, Chennai 24<sup>th</sup> March 2019.
14. Presented a paper “A review of multilevel inverter topologies for photovoltaic system” in the *International Virtual Conference on Advances in Communication, Machine Learning, Embedded with Internet of Things (IVC-ACME 2021), Kongu Engineering College and IVC-ACME 2021.*
15. Presented a paper “A hybrid approach estimates the real-time health state of a bearing by accelerated degradation tests, Machine learning” *2nd International*

*Conference on Smart Technologies in Computing, Electrical and Electronics, ICSTCEE 2021 - Proceedings, 2021.*

16. Dr.R.Azhagumurugan et al “Towards a high precision in AMI-based smart meters and new technologies in the smart grid” in sustainable computing: informatics and computing – A science direct Journal-2022.
17. Published and authored a book on “Hybrid Microgrid- ISLAND MODE OF HYBRID (AC/DC) MICROGRID USING RENEWABLE SOURCES”-Lambert Academic Publishing-ISBN- 978-620-4-74094-2.
18. Presented a paper “Predictive modelling for healthy marine life and ecosystem using ensemble techniques” in the Oceans 22 IEEE Conference held at IIT Madras in collaboration with IEEE Oceanic Engineering Society, Feb-22.
19. Presented a paper “Machine learning based classification and modelling of underwater acoustic communication” in the Oceans 22 IEEE Conference held at IIT Madras in collaboration with IEEE Oceanic Engineering Society, Feb-22.
20. Presented a paper “Machine learning based classification and modelling of underwater acoustic communication” in the Oceans 22 IEEE Conference held at IIT Madras in collaboration with IEEE Oceanic Engineering Society, Feb-22.
21. Presented an article “Flexible IOT based DSM-DG strategy adopted for benefit maximization in a power system network” in World Engineering Science & Technology Congress, ESTCON 22, Malaysia, Dec 1&2, 2022.
22. Presented an article “Design and development of PV powered intergraded dc-dc converter fed multilevel inverter for standalone application” in World Engineering, Science & Technology Congress, ESTCON 22, Malaysia, Dec

1&2, 2022.

23. Presented an article “Design and development of PV powered intergraded dc-dc converter fed multilevel inverter for standalone application” in World Engineering, Science & Technology Congress, ESTCON 22, Malaysia, Dec 1&2, 2022.
24. Presented an article “Design of an efficient led driver using non-ideal boost converter for lighting applications” in World Engineering, Science & Technology Congress, ESTCON 22, Malaysia, Dec 1&2, 2022.
25. Presented an article “Low frequency under water based acoustic modelling based on deep learning” in World Engineering, Science & Technology Congress, ESTCON 22, Malaysia, Dec 1&2, 2022.
26. Dr.R.Azhagumurugan et al “An Experimental Study-Based Dynamic Modelling and Control of Thermal Desalination Pilot Plant” in Springer Nature Link-Journal of The Institution of Engineers (India): Series B-2023.
27. Presented a paper titled as “Automated life suits with navigators” in the International conference on Power, Energy, Control and Transmission systems (ICPECTS2024), October 2024, at Sri Sai Ram Engineering College.
28. Presented a paper titled as “Automated life suits with navigators” in the International conference on Power, Energy, Control and Transmission systems (ICPECTS2024), October 2024, at Sri Sai Ram Engineering College.
29. Presented a paper titled as “Computer Vision Approach for Traffic Sign Recognition Using Raspberry Pi” in the International conference on Power, Energy, Control and Transmission systems (ICPECTS2024), October 2024, at Sri Sai Ram Engineering College.
30. Presented a paper titled as “Design and Development of an AUV with Vision-Aided Guidance and Magnetic Coupled Thrusters” in the International conference on Power, Energy, Control and Transmission systems (ICPECTS2024), October 2024,

at Sri Sai Ram Engineering College.

31. Dr.R.Azhagumurugan et al “Low cost and compact six switch seven level grid tied transformerless PV inverter” in Scientific Reports Journal-2025.
32. Dr.R.Azhagumurugan et al “A 31 L multilevel inverter topology with less switching devices for hybrid electric vehicle applications” in Scientific Reports Journal-2024.
33. Dr.R.Azhagumurugan et al “Performance improvement of twin wedge solar still with diverse wick materials and sensible heat storage mediums towards sustainable desalination for clean water production” in Journal of Energy Storage Volume 132, Part A, 1 October 2025, 117682- A science direct Journal-2025.
34. Dr.R.Azhagumurugan et al “Low cost and compact six switch seven level grid tied transformerless PV inverter” in Scientific Reports Journal-2025.
35. Dr.R.Azhagumurugan et al “Performance improvement of twin wedge solar still with diverse wick materials and sensible heat storage mediums towards sustainable desalination for clean water production” in Journal of Energy Storage Volume 132, Part A, 1 October 2025, 117682- A science direct Journal-2025.

#### **Achievements as a IEEE Power and Energy Society SBC Advisor.**

1. Our IEEE Power & Energy Society Student Branch Chapter got selected for High Performing Student Branch Chapter Program (HPSBCP) from the year 2015 onwards and received total funding of USD2500.
2. Our PES student branch chapter is selected by IEEE PES society for the Renewable Engineering in Schools Program 2016.
3. Received Professional achievement award from IEEE Madras section for the year 2016 and 2017.
4. Attended IEEE mini POCO held 28thFebruary 2016 Chennai, Sponsored by IEEE region 10 and IEEE Madras section.
5. Our student Mr. Kiran raj participated in 2<sup>nd</sup> IEEE PES 2016 Congress at Malaysia withfully sponsored by IEEE PES,USA.

6. Our student Mr. Shreyas Ramachandran participated in 3<sup>rd</sup> IEEE PES Congress at Brazil 2018 with fully sponsored by IEEE PES, USA.
7. Our PES member participated in the National level IEEE PES congress organized by Kerala section and won first prize in 2017.
8. Our PES member participated in the State level IEEE PES congress organized by Kongu Engineering College 2017.
9. Organized IEEE and IEEE Madras section technically Sponsored International Conference on Power, Energy, Control and Transmission Systems 2018 during February 2018.
10. IEEE enterprise award for the project "Capacitive Deionization based Water desalination System using an MPPT based Solar Charge Controller" in the year 2015.
11. Received US\$650 for Renewable energy advantages and its applications from IEEE Power and Energy Society, USA for the school student outreach program under the IEEE PES Member Driven Initiatives campaign.

#### **Faculty Development Program, workshop and seminar attended**

1. Two days' workshop on '*NEURAL NETWORKS AND FOZZY LOGIC*' at RMK Engineering college, in June 2003.
2. Workshop on 'High Speed Digital Design and Testing' organized by Department of Electronics Engineering, MIT, Anna University, Oct 2009.
3. Workshop on 'Electromagnetic Theory revisited' organized by Department of Electronics Engineering, MIT, Anna University, July 2009.
4. Mission 10X Program Organized by Wipro Technologies conducted at Sri Sairam Engineering College, in Nov 2009.
5. Two- w e e k ISTE workshop on 'Electronics' organized by IIT Bombay under Nation Mission on Education through ICT(MHRD) in July 2011.
6. Workshop on 'Advanced RF Design' using ADS at Anna University, during 4-5 April 2013.
7. *Workshop on 'Electromagnetic Compatibility' organized by*

*SAMEER Chennai, during 18-19 July 2013.*

8. Workshop on `Electromagnetics` organized by IEEE AP&S Madras Chapter at SSN College of Engineering during Nov 11-13,2013.
9. Symposium on `Electromagnetics and Engineering Education` organized by IEEE AP&S Madras Chapter, IIT Madras and SSN College of Engineering at IIT Madras on 3 January 2014.
10. One week "*Microcontroller based system design*" a faculty development Training program, organized by Sri Sairam Institute of Technology in association with Centre for faculty development, Anna University, Chennai.2016.
11. Attended two-days' workshop on Design of electrical machines for vehicle application during 27 and 28<sup>th</sup> December 2018, at Sri Ramakrishna Engineering College, Coimbatore.
12. Attended two-days' workshop on "Electric vehicle Technology during 11 and 12<sup>th</sup> October 2019, at College of Engineering, Guindy, Anna university.
13. Attended ISTE sponsored 5 days faculty development program on 'Renewable energysystems' from 22<sup>nd</sup> July to 26<sup>th</sup> July 2019.
14. Attended "NEP 2020 ORIENTATION & SENSITIZATION PROGRAMME" under Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission(UGC) Organized by IIT, KHARAGPUR.
15. Attended two days FDP "AI for Educators: From Chalkboard to Chatbots" from IIT Thirupathi during 22<sup>nd</sup> & 23<sup>rd</sup> January, 2026.

### **Professional certificate courses.**

1. Social Emotional Education: Knowledge to Practice (SEEK) course from UNESCO-Mahatma Gandhi Institute of Education for Peace and Sustainable Development in 2025.
2. Advanced Microsoft Power BI and Data Analytics. Duration:, June 03 - 07, 2024, hosted by Scrollwell in collaboration with MoE's Institution's Innovation Council, Gulzar Group of Institutions, Ludhiana.
3. Completed the certificate course on "panchayat administration and rural development scheme system" from SIRD, State institute of Rural Development, Tamilnadu, in 20252.
4. Completed -"Advanced certification in data science and AI"- from Apr 2023 to Dec 2023 through IITM Pravartak Technologies Foundations & Intellipaat.