

## **FACULTY PROFILE**

Name of Faculty: **Dr. Jiji K. S.**

Designation: Professor (CAS)

Department: Electrical Engineering

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### **Academic Qualifications**

<b>Degree</b>	<b>Year of passing</b>	<b>Branch/Area of Specialization</b>	<b>Institution</b>
B.Tech.	1990	Electrical & Electronics	TKM College of Engg., Kollam
M.Tech.	2004	Computer & Information Science	Cochin University of Science & Technology, Kochi
Ph.D.	2015	Electrical Machines	Cochin University of Science & Technology, Kochi

### **Professional Experience**

<b>Period Served</b>	<b>Name of institution</b>	<b>Designation</b>
01.03.1991 – 31.05.1999	Kerala Electrical & Allied Engg. Co. Ltd., Kasaragod	Production Engineer
09.06.1999 – 08.06.2002	Rajiv Gandhi Institute of Technology, Kottayam	Lecturer
09.06.2002 – 09.06.2007	Rajiv Gandhi Institute of Technology, Kottayam	Lecturer – Senior Scale
09.06.2007- 09.06.2010	Rajiv Gandhi Institute of Technology, Kottayam	Lecturer – Selection Grade

09.06.2010 – 12.11.2015	Rajiv Gandhi Institute of Technology, Kottayam and Government Engineering College, Thrissur	Associate Professor (CAS)
13.11.2015 – Till date	Government Engineering College, Sreekrishnapuram and Government Engineering College, Thrissur	Professor (CAS)

**Publication Details**  
(IN CHRONOLOGICAL ORDER)

■ **Refereed Journal (International)**

1. **Jiji K S, N H Jayadas, CA Babu** "FEM based Virtual Prototyping and Design of Third Harmonic Excitation System for Low Voltage Salient Pole Synchronous Generators IEEE Transactions on Industry Applications ( Volume: 50, Issue: 3, May-June 2014), pp 1829 – 1834
2. **Jiji K S. Swetha S Pai, Prasanna Kumar B** "An optimal flyback converter based power supply for smart meters", International Journal on Innovative Research in Science, Engineering and Technology (IJIRSET), April 2016, Vol 5, pp. 100 – 108
3. **Jiji K S, N H Jayadas,** "Prediction of Open Circuit Characteristics of Brushless Alternators By Finite Element Method", International Journal of Industrial Electronics and Electrical Engineering, Volume-7, Issue-1, Jan.2019.
4. **Anish Babu K. K., Jiji K. S. and Nelson K. J.,** "Denoising of Natural Images using Modified VISUShrink on Shearlet Transform", Grenze International Journal of Engineering and Technology, June 2022.

■ **Refereed Conferences**

1. **Jiji K S, Thanuja Mary Abraham,** "Boost control of single phase uninterrupted power supply using Z - source Inverter", 9th National Conference on Technological Trends (NCTT 08), November 2008, pp. 140 – 144.
2. **Jiji K S, Thanuja Mary Abraham,** "Voltage Sag Compensation of Single phase UPS based on Z - source Inverter", National Conference on Recent Innovations in Technology (NCRIT - 2009) at RIT, Kottayam, March 2009, pp. 71 – 74.

3. **Jiji K S, Deepthi Joseph**, "Synchronous Detection method for shunt active filters using Ramp Comparator", 10th National Conference on Technological Trends (NCTT 09), November 2009, pp. 167 – 172.
4. **Jiji K S, Deepthi Joseph**, "Synchronous Detection method for shunt active filters using space vector based hysteresis controller", National Conference on Recent Innovations in Technology (NCRIT 2010) at RIT, Kottayam, March 2010, pp. 99 – 103.
5. **Jiji K S, Thottan Christina Paulson**, "Design, Analysis and Optimization of a gate driving circuit to control turn on losses in modular converters with a fault protection scheme", The second national conference on energy conservation and management (ECM - 2010), August 2010, pp. 15.1 – 15.8
6. **Jiji K S, Thottan Christina Paulson**, "Design and analysis of an IGBT Gate Driving Circuit to control turn on losses with a fault protection scheme", International Conference on Recent Innovations in Technology (ICRIT - 2011) at RIT, Kottayam, Feb. 2011, pp. 260 – 265.
7. **Jiji K S, R Liju Mathew** "A three level Neutral point Clamped Inverter with Buck Boost capability for renewable energy sources", IET Chennai & Dr.MGR University second international conference on Sustainable Energy & Intelligent System (SEISCON 2011), July 2011, pp. 201 – 206.
8. **Jiji K S, N H Jayadas, CA Babu** "An Improved Excitation System for Low Voltage Salient Pole Synchronous Utilizing Third Harmonic Power", The EE Centenary Conference ,IISc, Bangalore, Dec 2011, pp. 27 – 32.
9. **Jiji K S, Sonima M P** "Operation of Induction Motor in field weakening region using stator current Commands Operation", 13th International Conference on Technological Trends (ICTT), July 2012, pp. 216 – 222.
10. **Jiji K. S., Sreekumar T** "Modeling, Simulation and Analysis of Sensorless Indirect Vector Control of Induction Motors using Model Reference Adaptive System( MRAS)", International Conference on Electrical and Electronics Engineering, July 2012, pp. 219 – 225.
11. **Jiji K S, N H Jayadas, CA Babu** "Prediction of Performance characteristics of Salient pole Synchronous Generators by Finite Element Method", International Conference on Emerging Trends in Manufacturing technology at ToCh Institute of Science & Technology, Arakkunnam, September 2012.
12. **Jiji K S, N H Jayadas, CA Babu** "FEM based design of Third harmonic Excitation System for Low Voltage Salient Synchronous Generators", International conference on Electrical Machines and Systems(ICEMS 2012) at Sapporo, JAPAN, October 2012.
13. **Jiji K. S., Sreekumar T** "Comparison of Proportional - Integral (P-I) and Integral - Proportional (I-P) controllers for speed control in Vector controlled induction motor drive", 2nd International Conference on Power, Control and Embedded Systems, December 2012.
14. **Jiji K. S., Drisya K Sasi**, "Interleaved Bidirectional DC/DC Converter Topologies for Solar based Standalone Distributed Generation Systems", IEEE PES conference POWERCON, September 2020, IISc Bangalore.

15. **Ajith Subramanian R.G., Jiji K.S., Diljit Chandran, Abhiram A**, "A Lead-Acid Battery Charger using Modified Bridgeless Configuration of SEPIC PFC Converter" , 23<sup>rd</sup> International Conference on Electrical Machines & Systems (ICEMS 2020) at Hamamatsu Japan, November 2020.
16. **Jiji K. S., Drisya K Sasi**, "A Survey of Bidirectional DC/DC Converters for Battery Storage Applications in Distributed Generation Systems", International Conference on Emerging Trends in Engineering Science and Technology (ICETEST 2020), GEC Thrissur, December 2020.
17. **Jiji K S, Aparna Sreekumar**, "A Survey of DC-DC Converters for Fuel Cell Electric Vehicle Applications", IEEE International Conference for Emerging Technology (INCET), Belgaum, India. May 21-23, 2021.
18. **Jiji K S, G Pavan Kumar**, "Comparison of DC-link Voltage Balancing Strategies for Three Level NPC Inverters" International Conference on Intelligent Technologies (CONIT), 25-27 June 2021.
19. **Safeena M K, Jiji K S and Ramesh Kumar P**, "Adaptive Super Twisting Control of Stewart Platform Based on Super Twisting Observer", IEEE 19<sup>th</sup> India Council International Conference (INDICON), CUSAT, 2022.
20. **Safeena M K, Jiji K S, Ramesh Kumar P**, "Survey Paper on the Forward Kinematics Solution of a Stewart Platform", International Conference on Next Generation Intelligent Systems, RIT Kottayam, 2022.

## Research Interests

- Electrical Machines
- Electrical Drives
- Electromagnetics
- Object Oriented Programming

## Achievements

- Third Rank in B.Tech. (Electrical & Electronics), Kerala University, 1990
- Best Paper Award in the Ansys Convergence Conference at Bangalore, India, May 2013

### **Research Projects**

<b>No.</b>	<b>Project Title</b>	<b>Amount(Rs.)</b>	<b>Funding Agency</b>
1	Efficiency and Reliability Enhancement of Traction Inverter in Electric Vehicles	23,00,000/- (Twenty Three Lakhs)	AICTE

### **Additional Responsibilities / Posts Held**

<b>No.</b>	<b>Responsibility</b>
1	Member – Board of Studies (Engineering – PG), APJ Abdul Kalam Technological University
2	Member – Board of Studies (Engineering – PG) of Rajagiri School of Engineering and Technology, Kochi.
3	Member – Industry University (IU) Chair of Kerala Electrical & Allied Engineering Company Ltd., (KEL), Kochi