Name : **Joseph K.D**.

Designation : Associate Professor,

Department : Electrical Engineering.

Institution : Govt. Engineering. College, Thrissur

Qualifications : B.Tech.in Electrical & Electronics Engineering, Government Engineering. College, Thrissur, University of Calicut in 1996.

M.Tech. in Power Electronics & Drives from National Institute of Technology, Warangal, Andhra Pradesh in 2008

Ph.D. in Electrical Engineering in Cochin University of Science And Technology, Kochi, Kerala as in 2020

Contact Details : Konath House, Near Church,

Gothuruthy P.O.,Moothakunnam Via

Ernakulam Dist. 683 516,

Ph. 94962 91322, Email:[josephkd@gectcr.ac.in](mailto:josephkd@gectcr.ac.in),

Date of joining in Govt. Service: 21.07.2003

Date of joining in the present institute: 09.06.2014

Professional Experience: Teaching : 16 years in Government . Engineering Colleges across Kerala State

/ Industry : 6 years in India and Abroad

Area of Interest : Power Electronics and Drives

Research Project : Executed Seed money research project “Bidirectional DC- DC Converter”, Period : 04.09.2014 to 26.10.2016, Amount : Rs.1.90L

Additional Duties

* 1 IEEE Student Branch Counsellor - Institution level since 2009
* 2.Committee member Institution level –Centre of Excellence
* 3. Dept. Charge – SEEM staff in charge
* 4.Dept. Charge – Accreditation Coordinator – M.Tech Power electronics
* 5. Testing in Charge (Lamps and DC –DC Converters) – since 2017
* 6. Disciplinary committee member – institution level since 2019

**Achievements:**

* Coordinated and Extended technical support in a consultancy project work of “Design and Development of the product 110V, 70A Unity Power Factor IGBT based Battery Charger/Discharger” for Bangalore Metro Rail Corporation Ltd., Bangalore in association with Waves Electronics Pvt. Ltd., Aluva as part of MoU. (This project work developed first time in India)
* Certificate of Appreciation Student Branch Counsellor – from IEEE Kochi Subsection in 2016
* Best Student Branch Award -2016 from IEEE Kerala Section (During the period of IEEE GEC Student Branch Counsellor)
* Outstanding Student Branch Award -2015 from IEEE Kochi Subsection (During the period of IEEE GEC Student Branch Counsellor)
* Best Teacher Award 2013 of RIT Kottayam, from Alumni Association
* 3rd Prize for Master Thesis contest - 2012 to the M.Tech. Student, constituted by IEEE Industrial Application Society, USA
* Staff Advisor for B.Tech. 2011 Admission batch who have achieved 88% result during the year 2013 when 3rd semester result published (Highest among colleges under MG. University)
* Outstanding Student Branch Award 2012 from IEEE Kerala Section to Rajiv Gandhi Institute of Technology, Kottayam during the period of IEEE student Branch Counsellor

Publications :International journal – 3, International Conference : 6, National Conference : 2

Number of Paper citations : 24

Number of conferences chaired : 3

Number of conferences attended : 5

Number of conferences/ journals reviewed : 7

M-Tech project guided : 15

Number of training programs coordinated : 2

Number of training programs attended : 27

Number of remedial classes conducted : 10

Coordinated remedial classes during the period 2011 to 2014

*Professional Competence :* IEEE Student Branch Counsellor from 2009 onwards

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| 1 | IEEE | Member , Membership No.90704642 since 2009 |
| 2 | ISTE | Life Member, Membership No. LM 64846 |

Other Additional Duties Executed :

1.Group advisor : B.Tech EEE, M.Tech PS: 2003 - 2006, 2008 – 2015, 2018

2.Lab in charge : Power Electronics lab 2011-2014, RIT Kottayam

3.Presentation outside : Represented GEC Thrissur for FIST Project Presentation in 2010 at Delhi and in 2014 in Mumbai.

4.TEQIP Nodal Officer : Equity Action Plan Coordinator from 2011 to 2014 at RIT Kottayam.

5.Accreditation Coordinator : B.Tech. EEE in 2017

19.02.2020 Joseph K.D.

International journal

1. Joseph K.D., Asha Elizabeth Daniel, A. Unnikrishnan, ''Improvement of Power Factor by Input Filter and Ripple Reduction using Cuk Converter in Continuous Conduction Mode,'' International Journal of Engineering and Advanced Technology., Vol. 8, Issue.6, 2019, pp. 4938-4945, doi: 10.35940/ijeat.F9244.088619, Elsevier, Scopus.
2. Joseph K..D., Asha Elizabeth Daniel & A.Unnikrishnan - journal paper ''Interleaved Cuk Converter with improved Transient Performance and Reduced Current Ripple'' IET Journal of Engineering, Clarivate Analytics, Vol. 2017, Iss. 7, pp. 362–369, doi: 10.1049/joe.2017.0153.
3. Siddharth Jayashekar K and, Joseph K D, “Feed Forward Controller for Compensation of DC-Link Capacitor Unbalance Voltages and Ripple Reduction based BLDCM Drive System”, International Journal on Intelligent Electronic System, Vol.9 No.2 July 2015, pp. 9-15

International Conference :6,

1. Joseph K D, Asha Elizabeth Daniel & A.Unnikrishnan, “Interleaved Cuk Converter with Reduced Switch Current”, 5th Biennial International Conference 2018 (ICETEST - 2018) on **Emerging Trends in Engineering, Science and Technology** for Society, Energy and Environment’, Power, Instrumentation, Control and Computing (PICC),Thrissur, India, held at Govt. Engg. College, Thrissur from 18th to 20th Jan. 2018, Proceedings, IEEE, pp 1-6, doi: 10.1109/PICC.2018.8384803.
2. T.A.Jose, Joseph K D,” LED Modelling and Input Current Ripple Reduction of Cuk Converter using Magnetic Coupling” IEEE2016 International Conference on Next Generation Intelligent Systems (ICNGIS)*,* Rajiv Gandhi institute of technology, Kottayam from 1st September to 3rd September 2016, Proceedings, IEEE Digital Library, pp.1-6. doi: 10.1109 /ICNGIS. 2016. 7854060
3. Joseph K D, Asha Elizabeth Daniel and A.Unnikrishnan, “Reduced Ripple Interleaved Cuk Converter with Phase Shifted PWM”, 10th Asian Control International Conference 2015 (ASCC-2015) on Emerging Control Techniques for a Sustainable World held at Kota, Kinabalu, Malaysia from 31st May to 3rd June 2015, IEEE Digital Library, Pages:1-6, DOI: [10.1109/ ASCC.2015. 7244782](http://dx.doi.org/10.1109/ASCC.2015.7244782).
4. Rajesh T S and Joseph K D, “Sensorless Operation Of Current Controlled BLDC Drive With Phase Lag Compensation” 3rd International Conference on Power Signals Control and Computations (EPSCICON)*,*Held at Vidya Academy Of Science & Technology, Thrissur from 6-11 January 2014, Proceedings, IEEE Digital Library, pp.1-5. doi: 10.1109/ EPSCICON. 2014.6887492
5. Santhini.V Sagar & Joseph.K.D, “Speed estimation algorithms for sensorless control of PMSM ” 2013 IEEE International Multi Conference on Automation, Computing, Communication,Control and Compressed Sensing (iMac4s) held at St. Joseph College, Pala, Kottayam on 22- 23 March 2013., Proceedings, IEEE Digital Library, pp. 138-143.doi: 10.1109/iMac4s.2013.6526396
6. Nikhil Valsan & Joseph.K.D, “A reduced Switch Multilevel Inverter for Harmonic Reduction” IET International 2012 Asia-Pacific Power and Energy Engineering Conference, Shanghai, China on 2012. IEEE Digital Library, pp.1-4. doi: 10.1109/ APPEEC.2012.6306941

National Conferences : 2

1. Nikhil Valsan & Joseph.K.D, “NCRTE'12 – A Novel Topology for Multilevel Inverters,” National Conference on Recent Trends in Electrical Engineering NCRTE'12 held at Mar Baselious Christian College of Engineering and Technology, Peermade ,Kerala on 2012. Proceedings.
2. Chriss Jesudian Solomon, Joseph K D,” Resonant Parallel Operated Buck-Boost Converter in ZVS mode with Voltage Regulation” National Conference on innovations in Engineering & Technology, PCON-2019 held at Government Polytechnic College, Palakkad, from 10th and 11th January 2019.

**Citations : 24, h-index 3 , i10-index 1**

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| --- | --- | --- | --- |
| Sl. No | Details of paper | Cited by | Year |
| 1 | A reduced Switch Multilevel Inverter for Harmonic Reduction  Nikhil V.K., Joseph K.D  Power and Energy Engineering Conference (APPEEC), 2012 Asia-  Pacific,Shanghai | 10 | 2012 |
| 2 | Interleaved cuk converter with improved transient performance and reduced current ripple  KD Joseph, AE Daniel, A Unnikrishnan  The journal of engineering 2017 (7), 362-369 | 5 | 2017 |
| 3 | Speed estimation algorithms for sensorless control of PMSM  S.V Sagar, Joseph K.D.  IEEE International Multi Conference on Automation, Computing, Communication … | 4 | 2013 |
| 4 | Reduced ripple interleaved cuk converter with phase shifted PWM  KD Joseph, AE Daniel, A Unnikrishnan  2015 10th Asian Control Conference (ASCC), 1-6 | 3 | 2015 |
| 5 | Sensorless Operation Of Current Controlled BLDC Drive With Phase Lag Compensation  Rajesh TS, Joseph K.D.  3rd International Conference On Power, Control, Signals and Computation | 2 | 2014 |

Details of Conference Chair :

|  |  |  |  |  |  |
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| 1 | IEEE international conference at kanjirappally | Amal Jyothi engineering college | 26/07/2014 | 1 day | Chaired power electronics session |
| 2 | (ICE TEM – 14) international conference at SNGCE, Kadayiruppu | SNGCE, kadayiruppu | 31/12/2014 | 1 day | Chaired power electronics session |
| 3 | National conference on advanced computing, communication and electrical systems | KMEA college, Aluva | 24/03/2017 | 1 day | Chaired power electronics session |

Details as Reviewer :

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| --- | --- | --- | --- | --- | --- |
| 1 | IEEE international multi conference | St. Joseph College of Engg, Pala | 22/03/2013 to 23/03/2013 | 2 days | Reviewed 2 paper |
| 2 | International conference on power, signals, control & computation (IEEE Xplore) | Vidya Academy of Science and Technology, Thrissur | 3/01/14 to 5/01/14 | 3 days | Reviewed 2 paper |
| 3 | Review of paper in 2014 IEEE international conference on advances in green energy | Mar Baselios college of engineering & technology, TVM | 17/12/2014 to 18/12/2014 | 2 days | Reviewed 2 paper |
| 4 | Emerging Trends in Engineering, Science and Technology ICETEST-2015 | GEC ,TSR | 09/12/15 to 11/12/15 | 3 days | Reviewed 4 paper GEC TSR |
| 5 | IEEE international conference on recent innovations in technology(ICRIT) | RIT, Kottayam | 01/09/2016 to 03/09/2016 | 3 days | Review of paper (4 - paper) in 2016 |
| 6 | PEDES 2016 | TVM, Kovalam | 14/12//2016 to 17/12/2016 | 4 days | IEEE, IAS, Review of paper(4 - paper) |
| 7 | Kerala Technological Congress (KETCON) Reviewed and scrutinized 10 papers under the stream of Electrical Engg | GEC, Thrissur | 15/02/2019 to 17/02/2019 | 3 days | KTU KSCSTE |
| 8 | IEEE Transactions on Industrial Electronics | IEEE Journal | Dec.2019 | 1 | IEEE |

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| Details of Conferences Attended : | | | | | |
| Sl. No | Name of the course | Institution | Date | Duration | Sponsor |
| 1 | Conference on Recent Innovations in Technology | RIT, Kottayam | 12/01/12 to 14/01/12 | 3 days | DTE |
| 2 | 10th Asian control conference at hotel Sutera, Malaysia | University of Technology Malaysia Kota Kinabalu Sabah, Malaysia | 31/05/15 to 03/06/15 | 4 days | Paper presented |
| 3 | ICETEST IEEE international conference | GEC, Thrissur | 09/12/2015 to 11/12/2015 | 3 days | TEQIP |
| 4 | International Conference on Next Generation Intelligent Systems (ICNGIS) | RIT, Kottayam | 01/09/2016 to 03/09/2016 | 3 days | TEQIP |
| 5 | IEEE international conference | GEC, Thrissur | 18/01/2018 to 20/01/2018 | 3 days | IEEE |

M.Tech. Project Details

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| --- | --- | --- | --- | --- |
| Sl.No | Name of project | Name of student | Year of completion | Institution |
| 1 | A Novel Switching Cycle Compensation Algorithm for DC-DC Converter in Renewable Energy Source | Ancy Sara Varghese | 2009 Oct. | GEC, Thrissur |
| 2 | DSTATCOM with Zigzag Transformer for Harmonic Reduction and Neutral Current Compensation in Three Phase Four Wire System | Divya.M | 2010 Oct. | GEC, Thrissur |
| 3 | A Modified Converter for AC Motor Drive Applications | Manju Ann Mathews | 2011 Nov. | RIT, Kottayam |
| 4 | Sensorless DTC- Induction Motor Drive with Fast Dynamic Torque Control | Deepa Mary Sobha | 2011 Nov. | RIT, Kottayam |
| 5 | Reduction of Harmonics in IM Drive Using Novel Topology | Nikhil Valsan.K | 2012 - August | RIT, Kottayam |
| 6 | Comparison of Speed Estimation Algorithms for PMSM Sensorless Control | Santhini V Sagar | 2012 - August | RIT, Kottayam |
| 7 | Sensorless Operation of Current Controlled BLDC Drives with Phase Lag Compensation | Rajesh.T.S | 2013 - August | RIT, Kottayam |
| 8 | Feed Forward Controller for Compensation of DC Link Capacitor Unbalance Voltages & Ripple Reduction Bases BLDC Motor Drive System | Siddharth Jayasankar.S | 2013 - August | RIT, Kottayam |
| 9 | Z Source Based Inverter | Ansar.T | 2015 - July | RIT, Kottayam |
| 10 | Inverter Based Single Phase Induction Motor | Reji.V.R | 2015 - July | RIT, Kottayam |
| 11 | Reduced Ripple Bidirectional Cuk Converter | Mohammed Basil | 2015 - July | GEC, Thrissur |
| 12 | Led Modelling and Performance Improvement Using Magnetically Coupled Cuk Converter | Jose.T.A | 2016 - August | GEC, Thrissur |
| 13 | A SEPIC-CUK Converter for Bipolar DC Link with Coupled Inductor | Shamil.M | 2017- August | GEC, Thrissur |
| 14 | Soft Switched Double Deck Buck-Boost  Converter With Voltage Regulation | Chriss Jesudian Solomon | 2018 - July | GEC, Thrissur |
| 15 | LCL Type Resonant Converter | Ragil.K.G | 2019 – August | GEC, Thrissur |

Details of Training Programmes Coordinated :

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| --- | --- | --- | --- | --- | --- |
| Sl. No | Name of the course | Institution | Date | Duration | Sponsor |
| 1 | Power electronics & control | GEC, TSR | 18/02/2009 to 03/03/2009 | 14 days | DTE |
| 2 | SMART power electronic controller using PLDs | Dept.of EEE, RIT | 19/11/2013 to 23/11/2013 | 5 days | TEQIP  Phase 2 |

Details of Training Programmes Attended :

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| Sl.No | Name of the course | Institution | Date | Duration | Sponsor |
| 1 | Power System Studies Using Software Packages | Dept.of EEE,GEC,  Thrissur | 01/01/2004 to 14/01/2004 | 14 days | DTE |
| 2 | System Administration & Networking | Dept.of CSE,GECTSR | 13/03/2006 to 25/03/2006 | 13 days | DTE |
| 3 | Power electronics and Renewable Energy Electric Conversion System | Dept.of.EEE,NIT,Trichy | 16/06/2008 to 28/06/2008 | 13 days | MHRD - AICTE |
| 4 | Familiarization of PSCAD software for power simulation studies | Dept.of.EEE , GECTSR | 18/01/10 to 23/01/10 | 6 days | DTE |
| 5 | Embedded system design | Dept.of.EEE, GECTSR | 10/03/10 to 16/03/10 | 7 days | DTE |
| 6 | Awareness on Research strategies | Dept.of.EEE, GECT | 06/10/10 to 07/10/10 | 2 days | CERD |
| 7 | Research Methodology in Engineering and Quantitative techniques with Software applications | Dept.of EEE, GECT | 29/11/10 to 04/12/10 | 6 days | DTE |
| 8 | Training course on ISO9001:2008 awareness | GEC, TSR | 11/01/2011 | 1 day | Zandig TQM solutions PVT limited |
| 9 | Workshop on Research Methodology | Dept.of ME,RIT | 31/10/12 to 01/11/12 | 3 days | CERD |
| 10 | Recent Advancements in power electronics | Dept.of EEE, GECT | 26/11/12 to 30/11/12 | 5 days | FSDTL  DTE |
| 11 | Autocad for Electrical engineers | Dept.of EEE, RIT | 11/03/13 to 15/03/13 | 5 days | TEQIP Phase 2 |
| 12 | Real time simulation for driven Power electronics and Power system | OPALRT Bangalore | 06/01/14 to 10/01/14 | 5 days | TEQIP Phase 2 |
| 13 | Grid connected Rooftop PV power plant | IIT Bombay CE&QIP | 19/02/2014 to 21/02/2014 | 3 days | TEQIP Phase 2 |
| 14 | Opens Source Software for Research purpose | Dept.of ME, RIT | 11/03/14 to 13/03/14 | 5 days | TEQIP Phase 2 |
| 15 | Advanced MS Excel for Engineers | GECT | 24/06/2014 to 27/06/2014 | 4 days | ISTE |
| 16 | Application of Power electronics to Renewable energy systems and microgrids | NIT Trichy, Dept of EEE | 08/02/15 to 10/02/15 | 3 days | Dept. of Electronics and information |
| 17 | Faculty development program, at IIT Chennai | Teaching Learning centre | 26/02/15 to 28/02/15 | 3 days | TEQIP |
| 18 | Modelling and Control in Power electronics | GEC, TSR | 14/07/2015 to 17/07/2015 | 4 days | TEQIP Phase 2 |
| 19 | Preparation of Research proposal to Funding Agencies | GEC, TSR | 10/08/15 to 13/08/15 | 4 days | TEQIP Phase 2  ESCI Hyderabad |
| 20 | Workshop on wind emulator | GEC, TSR | 03/02/16 to 05/02/16 | 3 days | III cell TEQIP Phase 2 |
| 21 | Linear and Non-Linear control Techniques for Engineering Applications | RIT, Kottayam | 26/09/2016 to 01/10/2016 | 6 days | TEQIP Phase 2 |
| 22 | Applications of custom Power devices for Power quality | Malaviya National Institute of technology Jaipur | 06/11/2016 to 08/11/2016 | 3 days | NaMPET, CDAC, Ministry of Electronics and IT |
| 23 | Application of Control theory in Industrial Automation and Drives | RIT, Kottayam | 20/02/ 2017 to 25/02/2017 | 5 days | TEQIP |
| 24 | Hands on training for Robotics and Automation | GEC, Thrissur | 23/07/2018 to 27/07/2018 | 5 days | GEC, Thrissur |
| 25 | Recent trend’s in Power Electronics and control | GEC, Thrissur | 10/12/ 2018 to 14/12/2018 | 5 days | GEC, Thrissur |
| 26 | Preparing for NBA accreditation of PG programming in the latest Format | GEC, TSR | 29/04/2019 to 30/04/2019 | 2 days | TEQIP Phase 2  GEC |

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| Details of Bridge and Remedial Courses Coordinated : | | | | | |
| 1 | Remedial course coordinator EAP | All branches, RIT, Kottayam | 2012 - 2013 second half | Even semester | 14 courses conducted |
| 2 | Coordinator- EAP- TEQIP, Phase 2 Bridge and Remedial first half, 2013 - 2014 | All branches RIT | 2013 - 2014 First half | Odd semester | 23 courses conducted |
| 3 | Coordinator- EAP- TEQIP, Phase 2 remedial second half, 2013 - 2014 | All branches RIT | 2013 - 2014  Second half | Even semester | 15 courses conducted |

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| Details of Remedial courses conducted : | | | | | |
| 1 | Remedial course on EE010 403 linear system analysis | Dept.of EEE | 2012 - 2013 First half | 4th and 6th semester, 9 hours | TEQIP, Phase 2 |
| 2 | Remedial course on EE010 305 Electronic circuits | Dept.of EEE, RIT | 2013 - 2014 First half | 12 hours | TEQIP, Phase 2 |

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| Other Important Professional Programs Attended : | | | | | |
| 1 | IEEE All kerala BCC 2015 | Abad plaza, EKM | 14/11/2015 | 1 day | IEEE Kerala Session |
| 2 | Annual state convention of ISTE | GEC, Thrissur | 09/12/2017 | 1 day | ISTE |

IEEE programs from 2009 July to 2019 July