



SRM Valliammai Engineering College


(An Autonomous Institution)

SRM Nagar, Kattankulathur-603203, Chengalpattu District, Tamil Nadu

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Department of Electrical and Electronics Engineering

Personal Details

Name:	Dr.R. Karthik		
Designation:	Associate Professor		
Educational Qualification:	M.Tech, Ph.D., PDF (UNIBO-DEI, ITALY)		
Experience:	17 Years 7 Months		
Area of Specialization:	High Voltage Engineering		
Date of Joining:	01/06/2015		
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Educational Details

S.No	Degree	Branch/Specialization	Institution / University	Year
1	B.E.	Electrical & Electronics Engg.	University of Madras	2001
2	M.Tech.	High Voltage Engineering	SASTRA University -Thanjore	2004
3	Ph.D.	High Voltage Engineering	Anna University, Chennai	2013
4	PDF	High Voltage Engineering	Dept. Ingegneria dell'Energia Elettrica e dell'Informazione "G. Marconi" (DEI) Alma Mater Studiorum- University di Bologna (UNIBO), Italy	2015

Professional Society Memberships

- Indian Society of Technical Education: Life Member
- Associate Member -Institute of Engineers, IE(India): Life Member

Publication Details (SCI)

1. **Karthik R., et al., 'Enhancing the critical characteristics of natural esters with antioxidants for power transformer applications' IEEE Transactions on Dielectrics and Electrical insulation, Vol-20, No. 3. pp. 899-912, 2013. (Impact factor-2.931)**
2. Raymon.A., and **Karthik R., 'Reclaiming and Enhancing the Aged and Fresh Transformer Oil with Activated Bentonite and Antioxidants' IEEE Transactions on Dielectrics and Electrical insulation, Vol-22, No.1. pp. 548-555, Feb-2015 (Impact factor-2.931)**
3. **Andrea Cavallini , Karthik R., and Fabrizio Negri 'The Effect of magnetite, graphene oxide and silicone oxide on dielectric withstand characteristics of mineral oil' IEEE Transactions on Dielectrics and Electrical insulation Vol. 22, Issue 5, pp. 2592-2600, Oct- 2015 (Impact factor-2.931)**
4. **Karthik R., Sree Renga Raja T and Willjuice Iruthayarajan M. 'Investigations of Furan Derivatives in Transformer oil using UltraViolet Light absorption Property' IET Electric Power Applications. Vol-7, No. 2. pp. 123-130, 2013. (Impact factor-3.051)**

5. Prasath, R.T.A.R and Willjuice Iruthayarajan M. and **Karthik R.**, 'Retreatment of aged mineral oil using semi-conductive Nano composites for power transformer application' **International Transactions on Electrical Energy Systems**. Wiley publishers. Vol. 27, Issue.9, 2017, DOI: 10.1002/etep.2358 (**Impact factor-1.084**)
6. **Karthik R., et al** 'Performance studies on Dielectric and Physical properties of Eco friendly based Natural ester oil using semi conductive nanocomposite for Power Transformer Applications" **IET Science, Measurement and Technology** ,Volume 12, Issue 3, May 2018, p. 323 – 327 (**Impact factor-1.26**)
7. **Karthik R.**, Sree Renga Raja T and Madavan R., 'Enhancement of critical characteristics of transformer oil using nanomaterials' Arabian journal for Science and Engineering, **Springer Publishers**, Vol-38, No. 10. pp. 2725-2733, 2013 (**Impact factor-2.334**)
8. **Karthik R.**, and Sree Renga Raja T., 'Investigations of Transformer oil characteristics' IEEJ-TEE, **John Wiley publishers**, Vol-7, No. 4. pp. 369-374, 2012. (**Impact factor-0.668**)
9. **Karthik R.**, and Sree Renga Raja T., 'Investigations of Thermal degradation and spectral response of transformer oil' Journal Acta Scienataria Technology, Vol-35, No. 2. pp.255-262, 2013. (**Impact factor-0.159**)
10. **Karthik R.**, Sree Renga Raja T and Sudalai shunmugam R., 'Performance Evaluation of Transformer oil using UV-Visible spectrophotometer' Journal Acta Scienataria Technology, Vol-36, No. 2. pp.245-250, 2014. (**Impact factor-0.159**)
11. **Karthik R., et al** "Investigations on Eco friendly Insulating Fluids from Rapeseed and Pongamia Pinnata Oils for power transformer applications", Journal of Electrical Engineering Technology", Vol. No.10, pp. No-709-715, 2015. (**Impact factor-0.528**)
12. Karthik R and Padhmanabha Iyappan "Optimal utilization of Interconnected RES to micro grid-A hybrid AWO-ANFIS Technique", <https://doi.org/10.1007/s00500-019-04558-3>, 2019. **Journal soft computing - Springer Publishers (Impact factor-2.784)**

Publication Details (Scopus Journal)

1. **Yamunaa, P**, Karthik, R & Elango, K 2019, 'Closed Loop Current-mode Controlled Smart-grid System Using Fractional Order PID- Controllers', Journal of Electrical Engineering - ISSN, 1582-4594, Vol. 19, Issue-4, Article 19.4.47
2. **Karthik R., et al** "Phantom Bat for Military Applications" International Journal of Innovative Technology and Exploring Engineering (IJITEE)" Volume-9, Issue-6, pp:86-88, March, 2020
3. **Karthik R., et al** "Automated Car parking system" International Journal of Electrical Engineering and Technology (IJEET), Volume-12, Issue-3, March, 2021
4. **Karthik R., et al** "Voltage sag compensation and power quality improvement using Dynamic voltage Restorer" International Journal of Electrical Engineering and Technology (IJEET), Volume-12, Issue-3, March, 2021
5. **Karthik R., et al** "Power quality improvement using Dynamic voltage Restorer for various Line faults" Turkish Journal of Mathematics and computer Education, Volume-12, Issue-2, 2021

Some selected International conference: (Available in IEEE Explore.org)

- ✓ **Karthik, R; Andrea Cavallini and C.G. Azcarraga** “The influence of nanoparticles on the partial discharge phenomena in mineral oil”, Presented at IEEE DEIS flagship Conference on Electrical Insulation and Dielectric phenomenon (CEIDP 14), Iowa, USA, Oct 19-22, 2014.
- ✓ **Karthik, R; Fabrizio Negri and Andrea cavallini** “Influence of ageing on dielectric characteristics of silicon di oxide, tin oxide and Ferro nanofluids based mineral oil” Presented at IEEE Conference on Advances in Electrical, Electronics, information, communication and bio informatics, Chennai, India Feb, 2016

Other Particulars

1. Recipient of **Young scientist awardee Fellowship** from Tamilnadu State Council of Science & Technology (TNSCST) and **carried out Research for a period of 2 months** from November 2021 to December 2021 in the topic “**Preparation methods and characterization of LDPE based Nano Dielectrics**” at **High Voltage Laboratory, Department of Electrical Engineering, Indian Institute of Technology Kanpur (IITK)**

2. Recipient of Young scientist awardee from Department of Science and Technology “Government of India, Ministry of Science and Technology, **DST –Fast Track young Scientist scheme**, “Investigations of critical Electrical Characteristics and UV response of Transformer oil for optimized functions of power transformers”, 2010-12.

Reviewer for International journals:

- Electric Power components and system-Taylor & Francis
- IEEE transactions on Dielectrics and Electrical insulation
- Journal of Applied physics
- IEEE Transactions on sensors

Google scholar:

Citation Indices	All	Since 2016
Citations	591	490
h-index	13	12
i10- index	17	15

Patent: An patent has been registered in the title: - “**An Effective Methodology to Improve the Dielectric Performance of Mineral oil using Nanoparticles**” Dated: **22.05.2018**. File No: **E2/1626/2018-CHE; Appl.No:201841019049**

Research Supervisor:

Authorized research supervisor in Faculty of Electrical Engineering - Anna University, Chennai for supervising Ph.D.

- **No. of scholars completed Ph.D =01 No.,**
- **No. of scholars Submitted Ph.D thesis =01 No.,**

- No. of scholars doing Ph.D = 01 No. (On going)
- Number of **M.E (High Voltage Engg.)** projects completed= **12 Nos.**
- Number of **M.E (Power System Engg.)** projects completed =**04 Nos.**
- Number of **B.E (EEE)** projects guided = **30 Nos.**

No. of Sponsored Projects Completed:

- **Recipient of Young scientist awardee from Department of Science and Technology** “Government of India, Ministry of Science and Technology, **DST –Fast Track young Scientist scheme**, (Ref: SR/FTP/ETA-49/2010), “Investigations of critical Electrical Characteristics and UV response of Transformer oil for optimized functions of power transformers”, 2010-12.
- An investigation on the feasibility of using nanopowders as a tool to improve the dielectric performance of natural esters” 2014-15. Institute Research Scientific scheme by Alma mater studiorum, University di Bologna, Italy.
- Obtained fund from Tamilnadu State Council for Science and Technology (**TNSCST**) under Student project scheme for the project “Enhancement of Agricultural activities using Drones” during academic year 2018-19
- Obtained fund from Tamilnadu State Council for Science and Technology (**TNSCST**) under Student project scheme for the project “Navigator for blind” during academic year 2011-12

National level Conference/Workshops conducted:

- Co-ordinator for **CSIR sponsored** one day National level seminar “Recent advancements in HV testing Techniques” in National Engineering college on November - 2013.
- Co-ordinator for **CSIR sponsored** one day National level seminar “Recent advancements in HV testing Techniques” in National Engineering college on November - 2012.
- Co-ordinator for **CSIR sponsored** one day National level seminar “Recent trends in Dielectrics allied to High Voltage field applications” in National Engineering College, 2011.
- Co-ordinator for conducting one day **National level workshop** in “Recent trends in High voltage Engineering and Technology-REHIVE 08” (October 03-2008) in National engineering college-kovilpatti.
- Co-ordinator for conducting Two days **National level conference** on Recent trends in Electrical Engineering “ELCON 08” in National Engineering college-kovilpatti, 2008.
- Co-ordinator for conducting Two days **National level workshop** in “Recent trends in High voltage Engineering and Technology-REHIVE 07” in National Engineering college-Kovilpatti , 2007.
- Co-ordinator for conducting **National Level Technical symposium** “EMERGE 2K15” in SRM Valliammai Engineering College on 03.10.15.

- Co-ordinator for conducting **National Level Technical Seminar “NSETTE 18”** in SRM Valliammai Engineering College on 07.04.18
- Co-ordinator for conducting 18 days **National level Induction Programme (AICTE-ISTE Sponsored)** in “Recent trends in High voltage Engineering and Technology in SRM Valliammai Engineering College, Chennai 02.11.2020, 03.02.2021 & 03.03.2021.
- Co-Convener for conducting **First International Conference** on smart Automation in Computer, Electrical, Electronics and communication Engineering (ICSA2k19) in SRM Valliammai Engineering College on 06.09.2019.
- Co-Convener for conducting **Second International Conference** on smart Automation in Computer, Electrical, Electronics and communication Engineering (ICSA2021) in SRM Valliammai Engineering College on 10.04.2021

Information’s related to Academic excellence:

- **Session Chair** for “IEEE - International Conference on Telecommunications, Power Analysis and Computing Techniques” held at BHARATH UNIVERSITY, Chennai on 08.04.2017.
- **Delivered Expert lecture** in the Anna University Sponsored Faculty development programme “High Voltage Engineering” held at St. Josephs Institute of Technology, Chennai on 07.06.2016
- **Delivered Expert lecture** in the University college of Engineering-Kancheepuram, (A Constituent college of Anna University) in the topic “High Voltage Engineering” on 09.08.2017
- **Session Chair** for “National Research Conference on Emerging Technologies in Engineering” held at Valliammai Engineering College on 23.04.2016.
- Established state of art Liquid Dielectrics Lab in National Engineering College, Kovilpatti, Tamilnadu, India
- **R&D coordinator** of SRM Valliammai Engineering College, Chennai.
- Conducted **15 days Value Added Course** for Under Graduate students in the topic “Modelling of Power apparatus using COMSOL & MagNet software in SRM Valliammai Engineering College from 02.02.2018 to 26.02.2018
- **Board of study member**-Autonomous system in National Engineering College, Kovilpatti, Tamilnadu for academic year 2013-14.
- **Board of study member**-Autonomous system in SRM Valliammai Engineering College, Chennai, Tamilnadu for academic year 2019-20.
- **Academic Council Member**-Autonomous system in SRM Valliammai Engineering college, Chennai, Tamilnadu for academic year 2019-20

Details of professional training attended at Institutes of National importance

- ✓ **QIP short term course:** - Attended AICTE sponsored QIP short term course in **Indian Institute of Science (IISC), Bangalore** from 16- 20 March 2009 in the area of Modern power system analysis.
- ✓ Attended Swedish Research council sponsored two days' workshop in HV Lab – **Indian Institute of Science (IISC), Bangalore** from December 08-09/2009 in the area of “Recent advances in Lightning & Lightning Protection”.
- ✓ Attended two days tutorial programme in **Central Power Research institute, Bangalore** from April 19 -20, 2011 in the area of Condition monitoring of transformers by furan analysis.
- ✓ Attended **MHRD-TEQIP Sponsored 7 days FDP course** in National Institute of Technology (NIT) Calicut **from** 12-18 June 2016 in the area of “Recent trends and applications of High voltage Engineering”
- ✓ Successfully completed (Elite grade) NPTEL programme conducted by **IIT Madras** in the course “**Introduction to Research**” March, 2016.
- ✓ Successfully completed NPTEL programme conducted by **IIT Madras** in the course “**Outcome based Pedagogic Principles for effective teaching**” 2017
- ✓ Successfully completed (Elite grade) NPTEL programme conducted by **IIT Madras** in the course “**Stress Management**” September, 2018.
- ✓ Successfully completed (Elite grade) NPTEL programme conducted by **IIT Roorkee** in the course “**Body Language: Key to professional success**” September, 2019.
- ✓ **AICTE-ATAL FDP Course: -**
 - a. Attended ATAL-AICTE FDP course on “Lab on Chip” conducted by SRM Institute of Science & Technology from 18- 22 January 2021
 - b. Attended ATAL-AICTE FDP course on “Global warming & Impacts of Power Electronics towards green Technology” conducted by SRM Valliammai Engineering College from 24- 28 May 2021
 - c. Attended ATAL-AICTE FDP course on “Research Methodology” conducted by Banasthali Vidyapeth University, Rajasthan from 2- 6 June 2021
 - d. Attended ATAL-AICTE FDP course on “Electric Vehicle” conducted by Annaporna Engineering College, Tamilnadu from 7- 11 June 2021