

## Dr. RASHMI

Affiliation (Professor & Head, Dept. of Electrical & Electronics, SIT)

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### Education

	Degree	Year	Institute	Specialization
1	B.E.	1995	Sri Jayachamarajendra College of Engineering	Electrical & Electronics Engineering
2	M.Sc.(Engg.) by research	2007	Malnad College of Engineering	Power Systems
3	Ph.D.	2012	JSS Research center, Sri Jayachamarajendra College of Engineering	Nanocomposites

### Professional Experience

	Date (from-to)	Designation	Organization
1	2018-2025	Professor	Siddaganga Institute of Technology
2	2013-2018	Associate Professor	Siddaganga Institute of Technology
3	2010-2013	Assistant Professor	Siddaganga Institute of Technology
4	2001-2009	Lecturer	Siddaganga Institute of Technology

### Positions held

Chairman of BOS, SIT, Tumkur

Chairman, BOE, SIT, Tumkur

Head of the department in the department of Electrical & Electronics Engineering

Associate Professor in the department of Electrical & Electronics Engineering

### Affiliations of Professional organizations

Member of IEEE society

### Awards and Honors

Best paper award In ICRDME-2022

Best paper award In IEEE Photonics Society Student Chapter

### Courses Taught

Undergraduate Courses

Foundations of Electrical Engineering

Logic Design

Microprocessor(8085)
Microcontroller(8051)
Artificial Intelligence and Applications
Data structures and algorithms
Microprocessors and Microcontrollers
Power Systems-II
Artificial Neural Networks
Electrical Machine Design
Computer Techniques in Power Systems
Object Oriented Programming
Soft computing Applications
Power system Analysis and Stability
Control Systems
Computer Organization

#### Postgraduate Courses

- Soft computing
- AI applications in Electrical Engineering

Research Guidance			
Sl. no	Name of the Scholar	Title	Year of completion
1	Mrs. Poornima	Development of nanocomposite for use in high temperature low thermal expansion applications	2022
2.	Mr. Madhu B M	Effect of ageing on the performance characteristics of epoxy hybrid nanocomposites core for high voltage transmission conductor	2022
3.	Mr. Santhosh Kumar R	Soft Magnetic materials	--
4.	Mr. Srinivas N R	Nanocomposites Applications in Electrical Engineering	---
5.	Triveni B.V.	Synthesis of Graphene nanoplatelets for Electrical Engineering applications	--

#### Research Areas

- Polymer nanocomposites for Electrical insulation applications
- Soft magnetic materials for magnetic core applications
- Synthesis of Graphene nanoplatelets for Electrical Engineering applications

## Sponsored Projects

### Ongoing Projects:

Funding Agency:

Title: Development of High temperature low sag transmission line conductor with polymer composite core

Funding Agency: Central Power Research Institute, Bangalore

Amount: 55 Lakhs

Duration: 03 Years

Role: Principal Investigator

### Completed Projects:

Title: Development of high temperature low sag nanocomposite core

Funding Agency: Central Power Research Institute, Bangalore

Amount: 28 Lakhs

Duration: 03 Years

Role: Principal Investigator

Title: Development of solar PV encapsulants

Funding Agency: Siddaganga Institute of Technology

Amount: 1.67 Lakhs

Duration: 02 years

Role: Principal Investigator

## Publications

### Journals

Effects of Multiwalled Carbon Nanotubes and Graphene Nanoplatelets Filled Hybrid Epoxy Nanocomposites on Electrical and Mechanical Properties	Rashmi, Madhu B.M. Venkataramanaiah Poornima	2018	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)	ISSN (Print) : 0973-0338 Vol.14(2)/148-153	DOI :10.33686/pwj.v14i2.144710
Effective use of nano-carbons in controlling the electrical conductivity of epoxy composites	Rashmi, Sundara Rajan J. Poornima	2021	Composites Science and Technology	02663538	<a href="https://www.sciencedirect.com/science/article/pii/S0266353820323460">https://www.sciencedirect.com/science/article/pii/S0266353820323460</a>
Analysis of	Rashmi,	2021	Macromole	102213	<a href="https://onlinelibra">https://onlinelibra</a>

Epoxy Nanocomposites Characteristics by Impedance Spectroscopy	Madhu B.M. Sailaja R.R.N.		cular Symposia	60	ry.wiley.com/doi/10.1002/masy.201900168
Effect of Hybrid Fillers on GFRP Epoxy Composites with Water Immersion and Thermal Conditioning	Rashmi, Madhu B.M. Bhattacharya R.R.N.S.	2021	Macromolecular Symposia	102213 60	https://onlinelibrary.wiley.com/doi/10.1002/masy.202000090
Investigations on the effect of hybrid carbon fillers on the thermal conductivity of glass epoxy composites	Aradhya R. Rajan J S. Venkataramanaiah Poornima	2021	Polymer Composites	027283 97	https://onlinelibrary.wiley.com/doi/10.1002/pc.25852
Combined effect of multiwalled carbon nanotubes, graphene nanoplatelets, and aluminum trihydride on the thermal stability of epoxy composites	Madhu B. M., Rashmi, Sailaja R. R. N., Sundara Rajan J.	2022	Polymer Composites	1548- 0569	https://4spublications.onlinelibrary.wiley.com/doi/10.1002/pc.26452
Effect of hybrid carbon nanofillers at percolation on electrical and mechanical properties of glass fiber reinforced epoxy	Madhu B. M., Rashmi, Sailaja R. R. N., Sundara Rajan J.	2022	Applied Polymer Science	1097- 4628	https://onlinelibrary.wiley.com/doi/10.1002/app.52439
The Effect of MWCNT and GNP on the Flame Retardant Properties of Glass Fiber Reinforced Composites	Rashmi, B. M. Madhu, Poornima., J. Sundara Rajan	2022	Journal of Mines, metals and fuels	Print ISSN: 0022- 2755	DOI: https://doi.org/10.18311/jmmf/2022/32010

Comparative Study on the Effect of Aluminium Trihydrate and Carbon Nanofillers on Thermal Properties of Glass Fiber Reinforced Epoxy Composites	B. M. Madhu, Rashmi R. R. N. Sailaja, J. Sundara Rajan	2022	Journal of Mines, metals and fuels	Print ISSN: 0022-2755	DOI: <a href="https://doi.org/10.18311/jmmf/2022/32011">https://doi.org/10.18311/jmmf/2022/32011</a>
Study of Electrical and Magnetic Properties of Zn-Co-Ferrite Nanocomposites	R. Santhosh Kumar, Rashmi Aradhya H. S. Lalithamba	2022	Journal of Mines, metals and fuels	Print ISSN: 0022-2755	DOI: <a href="https://doi.org/10.18311/jmmf/2022/32035">https://doi.org/10.18311/jmmf/2022/32035</a>
Contrasting role of carbon nanofillers in electrical conduction and mechanical strength of epoxy composites: an investigation	Aradhya, R Venkataramanaiah, P. Jagannathan, S.R.	2022	International Journal of Polymer Analysis and Characterization	Print ISSN: 1023666X	DOI: 10.1080/1023666X.2022.2081396
Effect of thermal ageing on electrical, mechanical properties of glass fiber reinforced polymer and its impact on service life	Bilugali Mahadevaswamy, Madhu Aradhya Rashmi, Jagannathan, Sundara Rajan	2023	International Journal of Polymer Analysis and Characterization	Print ISSN: 1023666X	DOI: 10.1080/1023666X.2023.2240099
Impact of water diffusion on electrical properties of epoxy nanocomposites	Bilugali Mahadevaswamy, Madhu Aradhya, Rashmi Jagannathan, Sundara Rajan	2023	Journal of Adhesion Science and Technology	Print ISSN: 01694243	DOI: 10.1080/01694243.2023.2282818
Hydrothermal	Bilugali	2023	Journal of	Print	<a href="https://doi.org/10.">https://doi.org/10.</a>

aging of glass fiber epoxy- Carbon nanocomposites and its service life predictions based on tensile strength	Mahadevaswamy, Madhu Aradhya Rashmi Sundara Rajan		Vinyl and Additive Technology	ISSN: 108356 01	1002/vnl.22084
Dynamic mechanical analysis for assessment of carbon fillers in glass fiber epoxy composites	Rashmi Aradhya Sundara Rajan	2023	Polymer Composites	Print ISSN: 027283 97	<a href="https://doi.org/10.1002/pc.27589">https://doi.org/10.1002/pc.27589</a>
Impact of electrical percolation on mechanical thermal and flame properties of carbon filler - epoxy composites	Rashmi Aradhya Poornima J Sundara Rajan	2023	Polymer Composites	Print ISSN: 027283 97	<a href="https://doi.org/10.1002/pc.27316">https://doi.org/10.1002/pc.27316</a>
Plant mediated synthesis of CaO nano – particles and investigation of morphological, spectroscopic, electrical, and catalytic properties	HS Lalithamba, A Siddekha, Rashmi, BV Triveni	2023	Journal of Materials Science	Print ISSN: 095745 22	DOI: 10.1007/s10854-023-11523-2
An insight into the effect of carbon nanofillers in glass fibre epoxy nanocomposites through dielectric spectroscopy	Bilugali Mahadevaswamy, Madhu Aradhya, Rashmi Jagannathan, Sundara Rajan Bhattacharya, Sailaja	2023	Fullerenes Nanotubes and Carbon Nanostructures	Print ISSN: 153638 3X	DOI: 10.1080/1536383X.2023.2282093
Impact of organically modified montmorillonite	Bilugali Mahadevaswamy, Madhu Aradhya Rashmi	2024	Materials Research Innovations	Print ISSN: 143289	DOI: 10.1080/14328917.2024.2396218

clay nanofiller on free volume and electrical properties of the composites	Jagannathan, Sundara Rajan			17	
Enhancement of electrical conductivity and band gap of epoxy/MWCNT/GNP/glass fibers hybrid materials	Madhu M B Rashmi Aradhya	2024	Journal of Adhesion Science and Technology	Print ISSN: 01694243	DOI: 10.1080/01694243.2024.2390145
Development and characterization of Ethylene-Vinyl Acetate-Graphene Nanocomposites	Bilugali Mahadevaswamy, Madhu Rashmi	2024	Macromolecular symposia	Print ISSN:	DOI: <a href="https://doi.org/10.1002/masy.202400076">https://doi.org/10.1002/masy.202400076</a>
Assessment of water diffusion in epoxy composites: a novel approach towards holistic understanding	Rashmi Aradhya Madhu B M Sundara Rajan	2024	Advanced Composite Material	Print ISSN: 09243046	<a href="https://doi.org/10.1080/09243046.2024.2432061">https://doi.org/10.1080/09243046.2024.2432061</a>
Cerium oxide nanoparticles: sustainable synthesis and diverse applications in electrical properties, catalysis and biomedicine	Lalithamba H.S. Prashanth G.K. Latha H.K.E. Rashmi Siddekha, Aisha Nagendra G.	2025	Chemical Papers	Print ISSN: 03666352	DOI 10.1007/s11696-024-03770-2
Enhancement of electrical conductivity and band gap of epoxy/MWCNT/GNP/glass fibers hybrid materials	B M, Madhu Aradhya Rashmi	2025	Journal of Adhesion Science and Technology	Print ISSN: 01694243	DOI 10.1080/01694243.2024.2390145
Impact of organically modified montmorillonite clay nanofiller on	Aradhya Rashmi B M, Madhu Jagannathan Sundara Rajan	2025	Materials Research Innovations	Print ISSN: 14328917	DOI 10.1080/14328917.2024.2396218

free volume and electrical properties of the composites					
Low frequency dielectric analysis for understanding water absorption characteristics of epoxy nanocomposites	Aradhya, Rashmi B M, Madhu Sundara Rajan	2025	Polymer Composites	Print ISSN: 027283 97	DOI 10.1002/pc.29863

### Conference Proceedings

1	Simulation study of Effects of Alumina Nanoparticle Interactions in Polymer Matrix	Aradhya, Rashmi, Madhu B.M.	2024	International Conference	ISBN 979-835036404-0	DOI 10.1109/ICSSES62373.2024.10561280
2	Impact of TiO <sub>2</sub> nanofiller on Electrical and Mechanical properties of Epoxy nanocomposites	Aradhya, Rashmi, Madhu B.M.	2024	International Conference	ISBN 979-835036404-0	DOI 10.1109/ICSSES62373.2024.10561439
3	Novel Dual Output AC/DC Power Supply Using Switched Transformer Forward Converter with Active Front End Power Factor Correction	Srinivas N.R. Aradhya, Rashmi	2023	International Conference	ISBN 979-835034729-6	DOI 10.1109/ICSSES58299.2023.10380961
4	Recent Trends in Development of Soft Magnetic Material for Power	Aradhya, Rashmi Kumar, R Santhosh	2023	International Conference	ISBN 979-835034729-6	DOI 10.1109/ICSSES58299.2023.10201073

	Electronics Applications: A Review	Sundara Rajan J				
5	Implementation of Optocoupler Test Fixture in Incoming Quality Control	Yashaswini S.G. Rashmi	2022	International Conference	ISSN 18761100	DOI 10.1007/978-981-19-4364-5_84
6	Design and simulation of interleaved SEPIC converter for photo voltaic applications	Poornima Rashmi	2017	International Conference	ISBN 978-150904324-8	DOI 10.1109/ICCPEIC.2017.8290448
7	A comparative study and performance analysis of synchronous SEPIC Converter and synchronous Zeta Converter by using PV system with MPPT technique	Rashmi Manohar J. Rajesh K.S.	2017	International Conference	ISBN 978-146738587-9	DOI 10.1109/ICPEICES.2016.7853212
8	Overview of different overhead transmission line conductors	Rashmi Shivashankar G.S. Poornima	2017	Materials Today: Proceedings	ISSN 22147853	DOI 10.1016/j.matpr.2017.09.057
9	Speed control of BLDC motor using PV powered synchronous Zeta converter	Rashmi Manohar J. Rajesh K.S.	2016	International Conference	ISBN 978-150900901-5	DOI 10.1109/ICCPEIC.2016.7557291
10	A comparative study on DC motor drive fed by synchronous SEPIC converter and synchronous	Rashmi Manohar J. Rajesh K.S.	2016	International Conference	ISBN 978-150900901-5	DOI 10.1109/ICCPEIC.2016.7557286

	Zeta converter					
1 1 ·	Electrical discharge resistant characteristics of nanodielectrics	Rashmi Renuka ppa N.M. Shivakumar, Kunigal N. Manjunath M.	2012	International Conference	ISBN 978-146732850-0	DOI 10.1109/ICPADM.2012.6318898
1 2 ·	Effect of TiO <sub>2</sub> and oMMT nanofiller on thermal conductivity and heat deflection temperature of nanodielectric composites	Renuka ppa N.M. Rashmi Shivakumar, Kunigal N. Manjunatha M. Sampath Kumaran P.	2012	International Conference	ISBN 978-146732850-0	DOI 10.1109/ICPADM.2012.6318913
1 3 ·	Investigation of dielectric behaviors of nanoclay filled epoxy and PP/NYLON66 nanocomposites for cable insulation application	Rashmi Renuka ppa N.M. Siddaramaiah	2010	International Conference	ISSN 15517616	DOI 10.1063/1.3504300
1 4 ·	Experimental investigation of the influence of clay on dielectric properties of epoxy nanocomposites	Rashmi Renuka ppa N.M. Swaminathan G. Siddaramaiah	2009	International Conference	ISBN 978-142444368-0	DOI 10.1109/ICPADM.2009.5252199

### Book Chapters

Mechanical and Tribological Properties of Epoxy Nano Composites for High Voltage Applications	Rashmi Aradhya and Nijagal M.Renukappa	2019	IntechOpen Limited	DOI:10.5772/intechopen.88236
Electric Circuit Modeling of Impedance Spectroscopic Characteristics of GFRP Nanocomposites with Hybrid Carbon Nanofillers	Madhu B. M., Rashmi, Sailaja R. R. N., Sundara Rajan J.	2023	Apple Academic press	9781774913673

### Reviewer of Journals

Review activity for **Journal of applied polymer science.**

Review activity for **Journal of inorganic and organometallic polymers and materials.**

### Patents

NOVEL POLYMER COMPOSITE MATERIAL FOR EMI SHIELDING OF ELECTRONIC SYSTEMS/ CIRCUITS, Kavya M, Dr. J Sundara Rajan, Dr. R.R.N. Sailaja and Dr. Rashmi . patent No. 496460 (201641011481)

Engineering and Technology, Published 2024-01-09