

FACULTY PROFILE

Name of Teaching Staff / RMK ID	Dr A. KADIRVEL			
Designation	PROFESSOR			
Department	MECHANICAL ENGINEERING			
Date of Joining the Institution	29.06.2006			
Qualifications	PhD			
Total Experience	Overall : 28.6 Years		in RMK : 20.5 Years	
Papers Published in Journal	Overall : 22		After Joining RMK :22	
List of Papers Published	1. Kadirvel, A., Hariharan, P. and Gowri, S. “Experimental Investigation on the Electrode Specific Performance in micro-EDM of Die-Steel”, Materials and Manufacturing Processes, Vol.28, No.4, pp.390-396, 2013. 2. Kadirvel, A., Hariharan, P. and Gowri, S. “A review on various research trends in micro-EDM”, International Journal of Mechatronics and Manufacturing Systems, Vol. 5, No. 5, pp.361-384, 2012. 3. Kadirvel, A. and Hariharan, P. “Investigation on the Quality of Micro Electrical Discharge Machined EN-24 Die Steel using Different Electrodes”, European Journal of Scientific Research, Vol.95, No.3, pp.316-323, 2013. 4. Kadirvel, A. and Hariharan, P. “Optimization of die sinking micro-EDM process for multiple performance characteristics using Taguchi based Grey relational analysis”, Materials and Technology, 48 (2014) 1, 27–32. 5. Kadirvel, A. Hariharan, P. and M.Mudhukrishnan, “A study on the die sinking micro-electrical discharge machining of EN-24 die steel using various electrode materials” Advanced Materials Research, Vol. 984-985, pp. 73-82, 2014.			

6. T. Dinesh, **A. Kadirvel** and Arunprakash Vincent “Effect of Silane Modified E-glass Fibre/Iron(III)Oxide Reinforcements on UP Blended Epoxy Resin Hybrid Composite” *Silicon*, Springer Netherlands, Vol.11, No.5, 2019 pp. 2487-2498.
7. T Dinesh, **A Kadirvel**, P Hariharan, “Role of nano-silica in tensile fatigue, fracture toughness and low-velocity impact behaviour of acid-treated pineapple fibre/stainless steel wire mesh-reinforced epoxy hybrid composite” *Materials Research Express*, IOP Publishin, 2020.
8. T Dinesh, **A Kadirvel**, P Hariharan, “Thermo-Mechanical and Wear Behaviour of Surface-Treated Pineapple Woven Fibre and Nano-Silica Dispersed Mahua Oil Toughened Epoxy Composite”, *Silicon*, Springer Netherlands, *Silicon* (2020). <https://doi.org/10.1007/s12633-020-00387-4>.
9. M.S. Senthil Kumar, Chithirai Pon Selvan, K.Santhanam, **A.Kadirvel**, V. Chandraprabu and L. Sampath Kumar “Effect of Nanomaterials on Tribological and Mechanical Properties of Polymer Nanocomposite Materials” *Advances in Materials Science and Engineering – Hindawi*, Volume 2022, <https://doi.org/10.1155/2022/2165855>
10. Thilagam K.T, Gayathiri Devi G, **Kadirvel A**, Kumar T., “Development of wheat husk Biosilica and characterization of its Areca Reinforced polyester composite”., *Biomass Conversion and Biorefinery*, (Accepted to be published in this November month)
11. T. Prakash, D. Murali, G. Mahendran, **A. Kadirvel**, S. Mohanasundaram, S. Prabakaran, Mukuloth Srinivasnaik, Yashapl Singh., “Experimental Wear Analysis of Al 7090 Alloy Reinforced with Zirconium Oxide Nanoparticles using Hybrid Machine Learning Algorithms” *Eur. Chem. Bull.* 2023, 12(Special Issue 4), 15763-15776 doi: [10.48047/ecb/2023.12.si4.14112023](https://doi.org/10.48047/ecb/2023.12.si4.14112023)
12. D.R. Srinivasan, **A. Kadirvel**, Manepalli. Sailaja, G.R. Sanjay Krishna, Arun Kumar Gupta and C. Shyamlal., “Evaluation of welding procedures to optimize the corrosion performance of AISI 304L pipes”, *Materials Today: Proceedings*, Available online 24 July 2023. <https://doi.org/10.1016/j.matpr.2023.07.163>

13. **Kadirvel Arumugam**, Mohammed Ali Haleem, Kaliappan Seeniappan, Pravin P. Patil, V. Balaji, Pranav Kumar Prabhakar., “Ni addition results in the formation of a bulk metallic glass matrix composite based on ductile Cu” AIP Conference Proceedings, Vol: 2800, 020133 (2023). <https://doi.org/10.1063/12.0019894>
14. A Kalaierasi N, **Kadirvel A**, Geethamahalakshmi G, Nageswari D, Hariharan N Senthil Kumar S “Mitigation of Attacks via Improved Network Security in IoTNetwork using Machine Learning” International Journal on Recent and Innovation Trends in Computing and Communication, Vol.11 Issue: 10 (2023) <https://doi.org/10.17762/ijritcc.v11i10s.7692>
15. K. P. Manikandan, A. Saravanan, **A. Kadirvel**, D. Venkata Subramanian, Anitha Jaganathan “Industry 5.0 based on Hybrid and Nonlinear Systems in Robustness” International Journal of Intelligent Systems and Applications in Engineering, 2024, Vol: 12(12s), pp. 223–230. <https://ijisae.org/index.php/IJISAE/article/view/4507/3184>
16. **A. Kadirvel**, G. Gayathiri Devi, N. Jayanthi and S. Sekar, “Development of polyester-based structural composites using recycled plastic core, tanned leather, and GFRP additives for safe and sustainable environmental production”, Polymer Bulletin 2024 () <https://doi.org/10.1007/s00289-024-05257-2>
17. T. Mayavan, S. Sambath, **A. Kadirvel**, Frank Gladson TS, S. Senthil Kumar, K. Sivakumar., “Artificial Neural Networks to the Analysis of AISI 304 Steel Sheets through Limiting Drawing Ratio Test”, Journal of Electrical Systems, Vol. 20 No. 3 (2024), pp. 1161-1168, <https://doi.org/10.52783/jes.3463>
18. G. Ramesh, G. Gokilakrishnan, V. C. Uvaraja, **A. Kadirvel**, “Characterization of Amino-silane functionalized Annealed Fox Tail Millet Husk Biosilica and Nettle Fibre Reinforced Vinyl Ester Composite”, Surface Review and Letters, 2025, <https://doi.org/10.1142/S0218625X25501598>
19. **Kadirvel A**, S. Sambath, Gayathiri Devi G and Jayanthi N “Mechanical, Wear, Flammability, and Creep Behaviour of Morinda citrifolia Leaf Stem Fiber -Reinforced Polyester Composite with Si3N4 Biogenic Ceramic” Silicon, 2026 <https://doi.org/10.1007/s12633-025-03608-w>

	20. Shrikant R. Jachak, Katakam Satya Narayana, A. Kadirvel, V. Saravanan, P. Sellamuthu and S. Tamilmani., "Development of Nanoparticle-enhanced Luffa Fiber Bio-Epoxy Composites with Improved Thermo-Mechanical Performance" Journal of Environmental Nanotechnology, Volume 15, No 2 (June 2026) pp. 52-62 https://doi.org/10.13074/jent.2026.06.2622150 21. Gayathiri Devi G; Kadirvel A; Nivashini M; Devi G., "TriSafe: Real-Time AI-Driven Fall, Anomaly, and Toxic-Air Protection for Sanitation Workers," 2026 3rd International Conference on Research Methodologies in Knowledge Management, Artificial Intelligence and Telecommunication Engineering (RMKMATE), Chennai, India, 2026, pp. 1-8, doi: 10.1109/RMKMATE69073.2026.11518678 22. C. Kanmani Pappa, B. Rajesh Kumar, A. Kadirvel, G. Gayathiri Devi, Sheik Sulaiman Sherfudeen and Dhanasekaran Arumugam., "Multi-objective Optimization of Green MnO₂–Napier Fibre/Epoxy Nanocomposites Using an Integrated BBD–RSM–ANN–MOGWO–TOPSIS Framework" Journal of Environmental Nanotechnology, 2026 (In Press)	
Papers Presented in Conferences (Scopus / WoS indexed only)	Overall : 5	After Joining RMK :5
Ph.Ds / Projects Guided	Ph.Ds Guided : 01	Student Projects Guided : 25
Books Published :	Count : 0	
	List : NA	
Patents	Published Count :04	Granted Count : Nil
	List : 1. A Novel Method – Integration of Internal Combustion Engine with IoT devise (Application Number: 202141028823 A, &Publication Date: 09.07.2021) 2. A bluetooth device for safe entry and exit (Application Number: 387461-001, &Publication Date: 01.06.2023) 3. Fabric Reinforced coconut shell powder polyester composite for automobile bumper (Application Number: 202541008507A, &Publication Date: 21.02.2025) 4. Nano-Cellulose Reinforced Biodegradable composite material with enhanced thermal and mechanical performance (Application Number: 202641027031 A, &Publication Date: 20.03.2026)	

Professional Memberships	Count : 07
	List : 1. Indian Society for Technical Engineering (ISTE) – Life Member 2. Associate Member of Institute of Engineers (AMIE) – The Institution of Engineers (India) 3. Indian Society of Systems for Science & Engineering (ISSE) – Life Member 4. National institute for Technical Training and Skill Development – Life Member 5. The Society of Digital Information and Wireless Communications – Life Member 6. International Association of Engineers – Life Member 7. IEEE Member Annual 2025-26
Consultancy Projects Completed	Count : 06
Awards Received	Count : Nil
	List :
Research grants Received	Nil
Orchid Link / ID	ID : https://orcid.org/0000-0001-6238-6867
Google Scholar Link / ID	ID : https://scholar.google.com/citations?user=MhHbUxAAAAAJ&hl=en
Vidwan Link / ID	ID : 305313
Research Gate Link / ID	https://www.researchgate.net/profile/Kadirvel-Arumugam
Scopus Link / ID	ID : 55430897100
WoS Link / ID	ID: AAA-5556-2022