Dr. V. Kavimani, M.E., Ph.D.,
Assistant Professor,
Centre for Material Science. Department of Mechanical Engineering,
Karpagam Academy of Higher Education, Coimbatore
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Focused Research Area:

Magnesium alloy and composite development; graphene; Tribology and corrosion of materials

Employment Experience

Assistant Professor (Feb 2019 to Till date)
Department of Mechanical Engineering, Karpagam Academy of Higher Education, Coimbatore, TamilNadu, India.
Teaching Fellow (Sep. 2018 to Dec. 2018)
Department of Mechanical Engineering, Anna University Regional Campus, Coimbatore, TamilNadu, India. Assistant Professor (Jul. 2013 to Jan. 2015)
Department of Mechanical Engineering, Tamil Nadu College of Engineering, Coimbatore, TamilNadu, India.

- **Research Experience:**

1. Research Scholar (Feb 2015 to Mar 2018),
   Department of Mechanical Engineering, Anna University Regional Campus, Coimbatore, TamilNadu, India.
2. Worked in collaborative research at Bharathiar University, Coimbatore with the financial support from DST–SERB, New Delhi (File No. EMR/2015/ 001893)
3. Worked in partly-funded project of the European Regional Development Fund through the Wales Government and the participating Higher Education Institutions (Advanced Sustainable Manufacturing Technologies; Project number: 80814)

- **On-going Research Project:**
  Development of Mg-Li- Graphene dual phase structured Metal matrix composite for lightweight Structural application – ***DST-SERB- TARE (18.3 lakhs / Duration :2019-2022)***
  Investigation on effect of hybrid filler loading on thermo mechanical and Machining Characteristics Optimization of polymer matrix composite ***(Collaboration research – Senior Research Associate University of Johannesburg Duration : 2021 - 2024)***

Research skills:

- X-ray diffraction (XRD) – Phase identification, Lattice parameter estimation, X-ray spectrum analysis & Structure property correlation
- Scanning Electron Microscopy (SEM) – SE and BSE modes, Quantitative phase estimation, Powder samples,
- Fractograph analysis, Grain size size estimation
- Energy dispersive X-ray analyser (EDX) – Chemical composition estimation
- Electron Backscatter Diffraction (EBSD) – Data analysis from EBSD

Instruments Handled:

- Electrochemical Workstation(AMATEK).
- Optical microscope
- High energy ball Milling (Retsch, Gemany and Fritsch, Germany)
- High temperature furnace
- Vickers microhardness tester
- Micro-tensile/compression tester

Professional Accreditation

Listed as Indian Researcher in Stanford University's Top 2% most influential Scientist in the year 2022 and 2020

- ***Lead Editor - Special issue***: *Processing and Characterization of Advanced Lightweight Composites for Engineering Applications* - **Advances in Materials Science and Engineering Hindaw- Impact factor: 2.09**

- ***Guest Editor - Special issue***: *Advanced Materials for Promoting Sustainability*- **Advances in Materials Science and Engineering Hindaw- Impact factor- 2.09**

Editorial Board Member:

- Materials Physics and Chemistry **(*En Press Publisher)***
- Characterization and Application of Nanomaterials **(*En Press Publisher)*Reviewer:**
- Anti-corrosion material and methods, world journal of Engineering (***Emerald***),
- Tribology Letters, Silicon (***Springer***)
- Material Research Express (***IOP Science***),
- Material Discovery, Material Letters, Alloys and Components (***Elsevier***)
- International Journal of Robotic Engineering (***VIBGYOR Epress***)

Educational Qualification:

1. **Ph. D. Mechanical Engineering (2015-2018) – Full Time**
   Anna University, Regional Campus, Coimbatore, Tamil Nadu, India.
2. **M. E. Production Engineering (2011 – 2013) – Full Time**
   CGPA: 8.12 with First class
   Anna University, Regional Campus, Coimbatore, Tamil Nadu, India.
3. **B. E Automobile Engineering (2007 – 2011) – Full Time**
   Percentage: 74 with First class
   Vel Tech Engineering College, Anna University, Chennai, Tamil Nadu, India.

Research achievements:

➢ **List of Publications (2016-2022):**

1. Balasubramani, V., Boopathy, S.R., Stalin, B. and **Kavimani, V**., 2022. An experimental investigation on impact dynamics response of woven roved glass fiber reinforced polyester laminated composites. Polymer Composites. **Impact factor:3.5**
2. Padmanabhan, Sambandam, K. Giridharan, Balasubramaniam Stalin, Subramanian Kumaran, **V. Kavimani**, N. Nagaprasad, Leta Tesfaye Jule, and Ramaswamy Krishnaraj. "Energy recovery of waste plastics into diesel fuel with ethanol and ethoxy ethyl acetate additives on circular economy strategy." Scientific Reports 12, no. 1 (2022): 1-13. **Impact Factor: 5.13**
3. Keerthiveettil Ramakrishnan, Sumesh, **Kavimani Vijayananth**, Gopal Pudhupalayam Muthukutti, Petr Spatenka, Ajithram Arivendan, and Suganya Priyadharshini Ganesan. "The effect of various composite and operating parameters in wear properties of epoxy-based natural fiber composites." Journal of Material Cycles and Waste Management 24, no. 2 (2022): 667-679. **Impact Factor: 2.90**
4. Sivamaran, V., **V. Kavimani**, M. Bakkiyaraj, and S. T. Selvamani. "Multi response optimization on tribo-mechanical properties of CNTs/nSiC reinforced hybrid Al MMC through RSM approach." Forces in Mechanics 6 (2022): 100069.
5. Paramasivam, Baranitharan, S. Kumanan, **V. Kavimani**, and M. Varatharajulu. "Fuzzy-based prediction of compression ignition engine distinctiveness powered by novel graphene oxide nanosheet additive diesel–Aegle marmelos pyrolysis oil ternary opus." International Journal of Energy and Environmental Engineering (2022): 1-19.
6. **V. Kavimani,** P. M. Gopal, K. R. Sumesh, and R. Elanchezhian, "Improvement on mechanical and flame retardancy behaviour of bio-exfoliated graphene-filled epoxy/glass fibre composites using compression moulding approach," Polym. Bull., pp. 1–19, 2021. **Impact Factor: 2.87**

7. **V. Kavimani**, B. Stalin, P. M. Gopal, M. Ravichandran, A. Karthick, and M. Bharani, "Application of r-GO- MMT Hybrid Nanofillers for Improving Strength and Flame Retardancy of Epoxy/Glass Fibre Composites," Adv. Polym. Technol., vol. 2021, pp. 1–9, 2021. **Impact Factor: 2.38**
8. **V. Kavimani,** P. M. Gopal, B. Stalin, A. Karthick, S. Arivukkarasan, and M. Bharani, "Effect of Graphene Oxide-Boron Nitride-Based Dual Fillers on Mechanical Behavior of Epoxy/Glass Fiber Composites," J. Nanomater., vol. 2021, pp. 1–10, 2021. **Impact Factor: 2.98**
9. K. Thirunavukkarasu, **V. Kavimani,** and P. M. Gopal "Effect of recycled flux over mechanical properties of A36 steel in submerged arc welding, Int J of Sub Engg, vol. 14, no. 6, pp. 1962-1970, 2021. , **cite score: 2.9**
10. K. Thirunavukkarasu, **V. Kavimani,** P. M. Gopal, and A. D. Das, "Recovery and Recycling Silica Flux in Submerged Arc Welding–Acceptable Properties and Economical Correlation," Silicon, vol. 13, no. 7, pp. 2337– 2346, 2021. , **Impact Factor: 2.67**
11. K. R. Sumesh, **V. Kavimani**, G. Rajeshkumar, S. Indran, and G. Saikrishnan, "Effect of banana, pineapple and coir fly ash filled with hybrid fiber epoxy based composites for mechanical and morphological study," J. Mater. Cycles Waste Manag., vol. 23, pp. 1277–1288, 2021. **Impact Factor: 2.90**
12. R. Prasanna, **V. Kavimani**, P. M. Gopal, and D. Simson, "Multi-Response Optimization and Surface Integrity Characteristics of Wire Electric Discharge Machining α-Phase Ti-6242 Alloy," Process Integr. Optim. Sustain., pp. 1–12, 2021. **Impact Factor: 1.19**
13. K Arunkumar, PM Gopal, **V Kavimani**, "Influence of basalt and graphene fillers and their hybridization on surface quality during AWJM process," Mater. Manuf. Process., pp. 1–11, Jul. 2021. **Impact Factor: 4.23**
14. R. Gopal, K. Thirunavukkarasu, V. Kavimani, and P. M. Gopal, "Measurement and Multi-response Optimization of Spark Erosion Machining Parameters for Titanium Alloy Using Hybrid Taguchi–Grey Relational Analysis– Principal Component Analysis Approach," J. Mater. Eng. Perform., vol. 30, no. 4, pp. 31 29–3143, 2021. **Impact Factor: 1.89**
15. S. Vivek, K. Kanthavel, A. Torris, and **V. Kavimani**, "Effect of Bio-filler on Hybrid Sisal-Banana-Kenaf-Flax Based Epoxy Composites: A Statistical Correlation on Flexural Strength," J. Bionic Eng., vol. 17, no. 6, pp.1263–1271, 2020. **Impact Factor: 3.03**
16. V. Kavimani, K. Soorya Prakash, T. Thankachan, and R. Udayakumar, "Synergistic improvement of epoxy derived polymer composites reinforced with Graphene Oxide (GO) plus Titanium di oxide(TiO2)," Compos. Part B Eng., vol. 191, p. 107911, 2020. Impact Factor: 9.07
17. **V. Kavimani**, K. S. Prakash, T. Thankachan, S. Nagaraja, A. K. Jeevanantham, and J. P. Jhon, "WEDM Parameter Optimization for Silicon@r-GO/Magneisum Composite Using Taguchi Based GRA Coupled PCA," Silicon, vol. 12, no. 5, pp. 1161–1175, 2020. **Impact Factor: 2.67**
18. **V. Kavimani**, K. S. Prakash, M. S. Starvin, B. Kalidas, V. Viswamithran, and S. R. Arun, "Tribo-Surface Characteristics and Wear Behaviour of SiC@r-GO/Mg Composite Worn under Varying Control Factor," Silicon, vol. 12, no. 1, pp. 29–39, Feb. 2020. **Impact Factor: 2.67**
19. **V. Kavimani**, P. M. Gopal, K. R. Sumesh, and N. V. Kumar, "Multi Response Optimization on Machinability of SiC Waste Fillers Reinforced Polymer Matrix Composite Using Taguchi's Coupled Grey Relational Analysis," Silicon, 2020. **Impact Factor: 2.67**
20. T. Thankachan, K. Soorya Prakash**, V. Kavimani,** and S. R. Silambarasan, "Machine Learning and Statistical Approach to Predict and Analyze Wear Rates in Copper Surface Composites," Met. Mater. Int., vol. 27, no. 2, pp. 220–234, 2020. **Impact Factor: 3.64**
21. K. R. Sumesh, **V. Kavimani**, G. Rajeshkumar, P. Ravikumar, and S. Indran, "An Investigation into the Mechanical and Wear Characteristics of Hybrid Composites: Influence of Different Types and Content of Biodegradable Reinforcements," J. Nat. Fibers, pp. 1–13, 2020. **Impact Factor: 2.62**
22. K. R. Sumesh, **V. Kavimani**, G. Rajeshkumar, S. Indran, and A. Khan, "Mechanical, water absorption and wear characteristics of novel polymeric composites: Impact of hybrid natural fibers and oil cake filler addition," J. Ind. Text., pp. 1–28, 2020. **Impact Factor: 3.72**
23. K. R. Sumesh, K. Kanthavel, and **V. Kavimani**, "Peanut oil cake-derived cellulose fiber: Extraction, application of mechanical and thermal properties in pineapple/flax natural fiber composites," Int. J. Biol. Macromol., vol. 150, pp. 775–785, 2020. **Impact Factor: 6.93**
24. K. R. Sumesh, K. Kanthavel, and **V. Kavimani**, "Machinability of hybrid natural fiber reinforced composites with cellulose micro filler incorporation," J. Compos. Mater., vol. 54, no. 24, pp. 3655–3671, 2020. **Impact Factor: 2.59**
25. P. Senthil Kumar, **V. Kavimani**, K. Soorya Prakash, V. Murali Krishna, and G. Shanthos Kumar, "Effect of TiB2 on the Corrosion Resistance Behavior of In Situ Al Composites," Int. J. Met., vol. 14, no. 1, pp. 84–

91, 2020.**Impact Factor: 1.88**

26. K. Hamsavathi, K. S. Prakash, **and V. Kavimani**, "Green high strength concrete containing recycled Cathode Ray Tube Panel Plastics (E-waste) as coarse aggregate in concrete beams for structural applications," J. Build. Eng., vol. 30, p. 101192, 2020. **Impact Factor: 5.31**
27. P. M. Gopal and **V. Kavimani**, "Influence of Silica Rich CRT and BN on Mechanical, Wear and Corrosion Characteristics of Copper-Surface Composite Processed Through Friction Stir Processing," Silicon, pp. 1–10,2020. **Impact Factor: 2.67**
28. T. Thankachan, K. S. Prakash, and **V. Kavimani**, "Investigating the effects of hybrid reinforcement particles on the microstructural, mechanical and tribological properties of friction stir processed copper surface composites," Compos. Part B Eng., vol. 174, p. 107057, 2019. **Impact Factor: 9.07**
29. T. Saravanakumar, **V. Kavimani**, K. Soorya Prakash, and T. Selvaraju, "Exploring the corrosion inhibition of magnesium by coatings: Formulated with nano CeO 2 and ZnO particles," Prog. Org. Coatings, vol. 129, pp. 32–42, 2019. **Impact Factor: 5.16**
30. **V. Kavimani,** K. Soorya Prakash, and T. Thankachan, "Investigation of graphene-reinforced magnesium metal matrix composites processed through a solvent-based powder metallurgy route," Bull. Mater. Sci., vol. 42, no. 1, p. 39, Feb. 2019. **Impact Factor: 1.84**
31. **V. Kavimani**, K. Soorya Prakash, and T. Thankachan, "Multi-objective optimization in WEDM process of graphene – SiC-magnesium composite through hybrid techniques," Meas. J. Int. Meas. Confed., vol. 145, pp.335–349, May 2019. **Impact Factor: 3.92**
32. **V. Kavimani**, K. S. Prakash, and T. Thankachan, "Influence of machining parameters on wire electrical discharge machining performance of reduced graphene oxide/magnesium composite and its surface integrity characteristics," Compos. Part B Eng., vol. 167, pp. 621–630, Jun. 2019. **Impact Factor: 9.07**
33. **V. Kavimani**, K. S. Prakash, and T. Thankachan, "Experimental investigations on wear and friction behaviour of SiC@r-GO reinforced Mg matrix composites produced through solvent-based powder metallurgy," Compos. Part B Eng., vol. 162, pp. 508–521, Apr. 2019. **Impact Factor: 9.07**
34. T. Thankachan, K. S. Prakash, and **V. Kavimani**, "Investigations on the effect of friction stir processing on Cu-BN surface composites," Mater. Manuf. Process., vol. 33, no. 3, pp. 299–307, 2018. **Impact Factor: 4.23**
35. T. Thankachan, K. S. Prakash, and **V. Kavimani**, "Effect of friction stir processing and hybrid reinforcements on copper," Mater. Manuf. Process., vol. 33, no. 15, pp. 1681–1692, 2018. **Impact Factor: 4.23**
36. K. Soorya Prakash, P. M. Gopal, D. Anburose, and **V. Kavimani**, "Mechanical, corrosion and wear characteristics of powder metallurgy processed Ti-6Al-4V/B4C metal matrix composites," Ain Shams Eng. J., vol. 9, no. 4, pp. 1489–1496, 2018. **Impact Factor: 3.18**
37. A. G. Mohan Das Gandhi, K. Soorya Prakash, and **V. Kavimani**, "Effect of r-GO/TiO2 hybrid composite as corrosion-protective coating on magnesium in sulphur-based electrolyte," Anti-Corrosion Methods Mater., vol.65, no. 4, pp. 375–382, 2018. **Impact Factor: 1.18**
38. **V. Kavimani**, K. S. Prakash, R. Gunashri, and P. Sathish, "Corrosion protection behaviour of r-GO/TiO 2 hybrid composite coating on Magnesium substrate in 3.5 wt.% NaCl," Prog. Org. Coatings, vol. 125, pp. 358–364, Dec.2018. **Impact Factor: 5.16**
39. **V. Kavimani** and K. S. Prakash, "Doping Effect of SiC over Graphene on Dry Sliding Wear Behaviour of Mg/SiC@r-GO MMCs and its Surface Characterization," Silicon, vol. 10, no. 6, pp. 2829–2843, 2018. **Impact Factor: 2.67**
40. **V Kavimani**, R Rajesh, Devaraj Rammasamy, Nivas Babu Selvaraj, Tao Yang, Balasubramanian Prabakaran, Sathiskumar Jothi "Electrodeposition of r-GO/SiC nano-composites on Magnesium and its Corrosion Behavior in Aqueous Electrolyte," Appl. Surf. Sci., vol. 424, pp. 63–71, 2017. **Impact Factor: 6.70**
41. K. Soorya Prakash, P. M. Gopal, and **V. Kavimani**, "Effect of rock dust, cenosphere and E-waste glass addition on mechanical, wear and machinability behaviour of Al 6061 hybrid composites," Indian J. Eng. Mater. Sci., vol. 24, no. 4, pp. 270–282, 2017.**Impact Factor: 0.88**
42. S. P. Kumarasamy, **K. Vijayananth**, T. Thankachan, and G. Pudhupalayam Muthukutti, "Investigations on mechanical and machinability behavior of aluminum/flyash cenosphere/Gr hybrid composites processed through compocasting," J. Appl. Res. Technol., vol. 15, no. 5, pp. 430–441, 2017. **Impact Factor: 0.74**

43. **V. Kavimani**, K. Soorya Prakash, and T. Thankachan, "Surface characterization and specific wear rate prediction of r-GO/AZ31 composite under dry sliding wear condition," Surfaces and Interfaces, vol. 6, pp. 143–153, 2017. **Impact Factor: 4.83**
44. **V. Kavimani**, K. Soorya Prakash, and M. Arun Pandian, "Influence of r-GO addition on enhancement of corrosion and wear behavior of AZ31 MMC," Appl. Phys. A Mater. Sci. Process., vol. 123, no. 8, p. 514, 2017. **Impact Factor: 2.58**
45. **V. Kavimani** and K. S. Prakash, "Tribological behaviour predictions of r-GO reinforced Mg composite usingANN coupled Taguchi approach," J. Phys. Chem. Solids, vol. 110, pp. 409–419, 2017. **Impact Factor: 3.99**
46. K. Soorya Prakash, R. Sathiya Moorthy, P. M. Gopal, and **V. Kavimani**, "Effect of reinforcement, compact pressure and hard ceramic coating on aluminium rock dust composite performance," Int. J. Refract. Met. Hard Mater., vol. 54, pp. 223–229, 2016. Impact Factor: 3.87
47. K. Soorya Prakash, P. Balasundar, S. Nagaraja, P. M. Gopal, and **V. Kavimani**, "Mechanical and wear behavior of Mg–SiC–Gr hybrid composites," J. Magnes. Alloy., vol. 4, no. 3, pp. 197–206, 2016. **Impact Factor: 10.08**

Book chapter:

1. **V Kavimani,** PM Gopal, T Thankachan, Future scope of biofiber-based polymer composites- Advances in Bio- Based Fiber, 603-618, Elsevier(2022)
2. PM Gopal **,V Kavimani,** , T Thankachan, Properties of filler added biofiber-based polymer composite, Advances in Bio-Based Fiber, 263-273 Elsevier(2022)
3. T Thankachan **V Kavimani,** PM Gopal, Investigating the tribological behavior of biofiber-based polymer composites and scope of computational tools- Advances in Bio-Based Fiber, 249-261
4. **Kavimani, V**., P. M. Gopal (2021), An Overview on the Role of Cloud Manufacturing in Modern Industries- CRC press- Taylor& Francis(Accepted)
5. M. Gopal, **Kavimani, V**., P. and Senol Bayraktar (2021),A Brief Review on Green Manufacturing- CRC press- Taylor& Francis(Accepted)
6. Kavimani, V., P. M. Gopal, and Kapil Gupta.(2020) "Processing of Nanocomposites for Biomedical Applications." - Proceedings of the 5th NA International Conference on Industrial Engineering and Operations Management, IOEM 2020; Virtual; United States

*Citations**: 1346;* *h -index**: 24;* *i10-index**: 33 (google scholar)***

Reference:

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Declaration

I hereby declare that the above said information is true to the best of my knowledge and belief. Yours Sincerely

(Kavimani. V)