

NAME: Dr. M. JAIKUMAR

EMAIL: mjaikumar@hindustanuniv.ac.in

SPECIALIZATION:

- Alternate fuels, I C Engines, Nanofluid/ Nanoparticles
- Vehicle Safety – Crash Simulation
- Automotive Electronics



EDUCATION:

- B.E - Mechanical Engineering, Madras University, 1999
- M.E - I.C. Engineering, Anna University, Chennai, 2004
- Ph.D - Engineering and Technology, MIT, Anna University, Chennai, 2005

PUBLICATIONS:

2022-2023 (Journal Articles/Conference proceedings)

1. Jaikumar, M., Sangeethkumar, E., Arjun, C. A., John, J. G., Hariram, V., & Ramanathan, V. (2023). Mechanical characterization of partially stabilized zirconia on aluminium alloy 6061 for automotive applications—A comprehensive approach. *Materials Today: Proceedings*, 72, 2113-2117.
2. Saraogi, A. K., Ibrahim, M., Sangeethkumar, E., Ramanathan, V., Jaikumar, M., & Venkatesan, H. (2023). Battery materials for electric vehicle—A comprehensive review. *Materials Today: Proceedings*, 72, 2206-2211.
3. Vinothkumar, M., Hariram, V., Paul, R. C., Selvakumar, R., Ramanathan, V., Shreekanth, P. S., ... & Eddgar, J. C. (2023). Hot Tensile Properties of SMA Welded Similar and Dissimilar Joint of P91 and SS304 Grade Steels. *International Journal of Vehicle Structures and Systems*, 15(1).
4. Ganapathy, S. A., Jaikumar, M., Ramanathan, V., Sangeethkumar, E., & Hariram, V. (2022). Impact of CuO Nanoparticle Blended Waste Cooking Oil Biodiesel on the Performance and Emission Characteristics of a CI engine. *International Journal of Vehicle Structures & Systems*, 14(6), 792-800.
5. Saraogi, A. K., Ibrahim, M., Sangeethkumar, E., Jaikumar, M., Ramanathan, V., Kalaiselvan, M., ... & Hariram, V. (2022). Battery Technology for Future Mobility-A Perspective Review. *International Journal of Vehicle Structures & Systems*, 14(4), 446-452.
6. Hariram, V., John, J. G., Sangeethkumar, E., Gajalakshmi, B., Ramanathan, V., Vinothkumar, M., & Balachandar, M. (2022). Scenedesmus obliquus and Chlorella vulgaris—A Prospective Algal Fuel Source. *Nature Environment and Pollution Technology*, 21(5), 2129-2139.
7. Sangeethkumar, E., Jaikumar, M., Ramanathan, V., Ganapathy, S. A., Sivasankar, A., & Hariram, V. (2022). Effective Utilization of Waste Cooking Oil Methyl Ester-Diesel blends in a Semi-Adiabatic CI Engine—An Experimental Approach. *International Journal of Vehicle Structures & Systems*, 14(6), 826-831.
8. Ramaswamy, N., Elumalai, S., Goswami, S., Raja, S., Velmurugan, R., Goutham, V. V., & Ramakrishnan, M. (2022). *Design of Blue Tooth Controlled Robotic Arm and Development through Fused Deposition Modelling process* (No. 2022-28-0565). SAE Technical Paper.
9. Raja, S., Mayakrishnan, J., Elumalai, S., Nandagopal, S., Nakandhrakumar, R. S., & Velmurugan, R. (2022). *Comparative Study on Utilization of Waste Cooking Oil in Compression Ignition Engine with Fuel and Engine Modification Techniques* (No. 2022-28-0568). SAE Technical Paper.

10. Santhiyagu, A.S.; Mayakrishnan, J. (2023) *Attempt to Explore the Efficacy of Energy Production at the Air-Assisted Boat-Type Vehicle Towed in an Open Channel for Transportation Purposes*. SAE Technical Paper.
11. Bentgens, F.; Koenig, P.; Mueller, M.; Jaikumar, M.; Hariram, V. (2022) *Development of an Advanced Vehicle Restraint System with an Adaptive Steering Column for Special Consideration of Small Occupants*. *International Journal of Vehicle Structures & Systems*, 14(3)
12. Jaikumar, M.; Samy, S.A.; Jaiganesh, S.; Hariram, V. (2022) *Energizing Process for Levitating the Boat Vehicle Attached with Air Vessels at Static Conditions: A Novel Method of Waterway Transportation*, *International Journal of Vehicle Structures & Systems*, 14(3)2022
13. Jaikumar, M.; Teddy Samuel, R.; Arulanantha Samy, S.; Hariram, V. (2022) *Experimental Investigation on Improving the Comfort of the Vehicle Based on Damping Characteristics of Passive Suspension System using Quarter Car Model* *International Journal of Vehicle Structures & Systems* 14(4),472-476
14. Jaikumar, M.; Koenig, P.; Vignesh, S.K.; Bentgens, F.; Hariram, V. (2022) *Impact of Vehicle Collision using Modified Crash Box in the Crumple Zone-A Perspective Assessment* *International Journal of Vehicle Structures & Systems* 14(4) 524-529
15. Santhiyagu, A.S.; Mayakrishnan, J. (2022) *Investigations on the Levitation Process of Boat Vehicle attached with Air Vessels - A Revolutionary Discussion in Waterway Transportation* *SAE Technical Paper. 10th SAE India International Mobility Conference, SIIMC 2022*
16. Santhiyagu, A.S.; Mayakrishnan, J. (2021) *Conceptual Study of a Fluid-Based Transportation Mode Using the Principle of a Reversed Wave Energy Converter*, *SAE Technical Paper 2021-01-5057, 2021*
17. Raja, S., Mayakrishnan, J., Nandagopal, S., Elumalai, S. (2021). *Effect of Compression Ratio on the Performance, Emission, and Combustion Characteristics of C.I. Engine Using Waste Cooking Oil and Its Emulsion as Fuel*. *Advances in Materials Research. ICAMR 2019. Springer Proceedings in Materials, vol 5. Springer, Singapore*
18. Mayakrishnan, J.; Selvakumar, R. (2021) *Effect of variable compression ratio on performance and emissions in compression ignition engine fuelled with waste cooking oil with copper oxide nano fluid blends* *International Journal of Vehicle Structures & Systems* 2021 13(3),271-273
19. Jaikumar, M.; Samy, S.A. (2021) *Mechanical behaviour of a17075 hybrid composites developed through squeeze casting* *International Journal of Vehicle Structures & Systems* 2021 13(3),261-264
20. K. Akshay, M. G. Jaikumar and S. Karmalkar, *Charge Sheet Super Junction in 4H-Silicon Carbide*, *2020 4th IEEE Electron Devices Technology & Manufacturing Conference (EDTM)*, Penang, Malaysia, 2020, pp. 1-3, doi: 10.1109/EDTM47692.2020.9117845.
21. Velmurugan, R., Mayakrishnan, J., Palanimuthu, V., Nandagopal, S., *Development of Dual Fuel Engine Fueled with Used Cooking Oil Biodiesel and Ethanol-an Experimental Study on Performance and Combustion Characteristics*, *SAE Technical Paper 2020-01-0803, 2020*
22. Ramalingam, J., B, P., Nandagopal, S., Venkatesan, H. *Dimensional Optimization of Key Parameters Using DoE Technique to Achieve Better NOX Emission Values in Mass Production of Single Cylinder Small Diesel Engines for 3-Wheeler Applications*, *SAE Technical Paper 2020-01-1356, 2020*.
23. Srinadh, R.; Ramanathan, V.; Jaikumar, M.; Selvakumar, R.; Shridhar, V.A.; Sangeethkumar, E.; Sasikumar, N. (2020) *Effect of Ethanol Fumigation on Performance and Combustion Characteristics of Compression Ignition Engine Fuelled with Used Cooking Oil Methyl Ester in Dual-Fuel Mode*, *Intelligent Manufacturing and Energy Sustainability. Smart Innovation, Systems and Technologies, vol 169. Springer, Singapore*.
24. Mayakrishnan, J., Velmurugan, R., SARAVANAN, I., Nandagopal, S., *"Effect of Hybrid Nano additives on Performance and Emission Characteristics of a Diesel Engine Fueled with Waste Cooking Oil Biodiesel,"* *SAE Technical Paper 2020-28-0521, 2020*.
25. Ramanathan, V.; Jaikumar, M.; Induja, S.; Sangeethkumar, E (2020) *Effect of nanofluids in waste cooking oil biodiesel fuel: An experimental investigation on diesel engine characteristics*, *IOP Conf. Ser.: Earth Environ. Sci.* **573** 012012
26. Sangeethkumar, E.; Jaikumar, M.; Vijayabalan, P.; Sasikumar, N.; Ramanathan, V. (2020) *Effective Implementation of low thermal conductivity material Yttrium Stabilized Zirconium Coating*

- on a Diesel Engine Components Fuelled with neat Waste Cooking Oil-An Assessment Study, *IOP Conf. Ser.: Earth Environ. Sci.* **573** 012009
27. Nandagopal, S., Anaimuthu, S., Mayakrishnan, J., Raja, S., "Effective Utilization of Low Carbon Fuels in Agricultural Engines Using Low Cost Electronic Primary Fuel Injection Unit," *SAE Technical Paper 2020-01-1369*, 2020
 28. Mayakrishnan, J., Raja, S., Masimalai, S., Palanimuthu, V. et al., "Effects on Performance, Emission and Combustion Characteristics of Dual Fuel Mode CI Engine Operated with Waste Cooking Oil - Ethanol as Fuel," *SAE Technical Paper 2020-28-0433*, 2020
 29. Ramanathan, V.; Jaikumar, M.; Aleem, S.A.; Induja, S.; Sangeethkumar, E (2020) Experimental investigation on effect of zinc oxide nanofluid on performance, emission and combustion characteristics of CI engine fuelled with waste cooking oil biodiesel, *J. Phys.: Conf. Ser.* **1706** 012199
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 31. Santhiyagu, A. and Mayakrishnan, J., "Exploration of Partially Levitated Transport Mode Using Buoyancy Phenomenon of Two Different Fluids," *SAE Technical Paper 2020-01-5043*, 2020
 32. Ramakrishnan, B., Elumalai, S., Mayakrishnan, J., Saravanan, I. et al., "Investigation on Tribological Performance of NanoZnO and Mixed Oxide of Cu-Zn as Additives in Engine Oil," *SAE Technical Paper 2020-01-1095*, 2020
 33. M.G. Jaikumar, K. Akshay, Shreepad Karmalkar, An algorithm to design floating field rings in SiC and Si power diodes and MOSFETs, *Solid-State Electronics, Volume 156, 2019, Pages 73-78, ISSN 0038-1101*
 34. Velmurugan, R., Mayakrishnan, J., Induja, S., Raja, S., Nandagopal, S., and Sathyamurthy, R. (March 25, 2019). "Comprehensive Study on the Effect of CuO Nano Fluids Prepared Using One-Step Chemical Synthesis Method on the Behavior of Waste Cooking Oil Biodiesel in Compression Ignition Engine." *ASME. J. Thermal Sci. Eng. Appl.* August 2019; *11(4): 041003*.
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 38. Nandagopal, S., Masimalai, S., and Mayakrishnan, J., "Experimental Investigation on Effect of Nano Fluids in the Behaviour of a Compression Ignition Engine Fueled with Diesel Biofuel Blends," *SAE Technical Paper 2018-01-0234*, 2018.
 39. Elumalai, S., Mayakrishnan, J., Nandagopal, S., Raja, S. et al., "Thermal Analysis and Experimental Investigations on the Effect of Thermal Barrier Coating on the Behavior of a Compression Ignition Engine Operated with Methyl Esters of Waste Cooking Oil," *SAE Technical Paper 2018-01-0663*, 2018
 40. Masimalai, S. and Mayakrishnan, J., "A Comparative Study on Different Methods of Using Waste Cooking Oil as Fuel in a Compression Ignition Engine," *SAE Technical Paper 2017-01-0876*, 2017
 41. Masimalai, S., Mayakrishnan, J., and Ganesan, N., "A Comprehensive Assessment on Combined Effect of Thermal Barrier Coating and Emulsification Techniques on Engine Behavior of a Mahua Oil Based Diesel Engine," *SAE Technical Paper 2017-01-0873*, 2017
 42. Nandagopal, S., Masimalai, S., Subramanian, A., and Mayakrishnan, J., "Investigation on Electronic Assisted Primary Fuel Injection of Compression Ignition Engine Fueled with Waste Cooking Oil as Pilot Fuel for Improved Part Load Efficiency and Effective Waste Utilization," *SAE Technical Paper 2017-01-0768*, 2017
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46. M. Senthil Kumar, M. Jaikumar, A comprehensive study on performance, emission and combustion behavior of a compression ignition engine fuelled with WCO (waste cooking oil) emulsion as fuel, *Journal of the Energy Institute, Volume 87, Issue 3, 2014, Pages 263-271, ISSN 1743-9671*
47. Senthil Kumar, M.; Jaikumar, M Studies on the effect of hydrogen induction on performance, emission and combustion behaviour of a WCO emulsion based dual fuel engine, *International Journal of Hydrogen Energy*, {2014}(39)(32), pages 18440-18450
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ORCID : <https://orcid.org/0000-0001-5376-7502>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=56747993800>

Google Scholar: https://scholar.google.com/citations?authuser=3&user=_JS2MusAAAAJ

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Sample Profile Pictures:

