

Faculty Profile



Dr. M. Jaikumar

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Total Experience (in years): 19

Research Area: Alternative Fuels for IC Engines, Emission and Pollution Control, CO₂ Reduction Techniques, Dual Fuel Engines, Vehicle Safety

Recent Publications:

1. Jaikumar Mayakrishnan and S. Arulanantha Samy "Minimization of Water Consumption for a Typical Water Transportation System using Reversed Wave Energy Converter Principle" *Int. J. Vehicle Structures & Systems*, 13(3), 261-264.
2. Jaikumar Mayakrishnan and R. Selvakumar "Effect of Variable Compression Ratio on Performance and Emissions in Compression Ignition Engine Fuelled with Waste Cooking Oil with Copper Oxide Nano Fluid Blends" *Int. J. Vehicle Structures & Systems*, 13(3), 271-273.
3. V. Gopal , D. Marx Raghu Raja , Jaikumar Mayakrishnan and V. Hariram, "Mechanical Behaviour of Al7075 Hybrid Composites Developed through Squeeze Casting" *Int. J. Vehicle Structures & Systems*, 13(3), 314-318.
4. Srinadh, Reddy, Velmurugan Ramanathan, **Mayakrishnan Jaikumar**, Raja Selvakumar, V. A. Shridhar, E. Sangeethkumar, and N. Sasikumar. "Effect of Ethanol Fumigation on Performance and Combustion Characteristics of Compression Ignition Engine Fuelled with Used Cooking Oil Methyl Ester in Dual-Fuel Mode." In *Intelligent Manufacturing and Energy Sustainability*, pp. 339-352. Springer, Singapore, February 2020
5. Velmurugan, Ramanathan, **Jaikumar Mayakrishnan**, Vijayabalan Palanimuthu, Sasikumar Nandagopal, Sangeethkumar Elumalai, Shridhar Anaimuthu, and Vamshidhar Busireddy. *Development of Dual Fuel Engine Fueled with Used Cooking Oil Biodiesel and Ethanol-an Experimental Study on Performance and Combustion Characteristics*. No. 2020-01-0803. SAE Technical Paper, April 2020.
6. Ramakrishnan, Bharadwaj, Sangeethkumar Elumalai, **Jaikumar Mayakrishnan**, Induja Saravanan, and S. Jenoris Muthiya. *Investigation on Tribological Performance of NanoZnO and Mixed Oxide of Cu-Zn as Additives in Engine Oil*. No. 2020-01-1095. SAE Technical Paper, April 2020.
7. Santhiyagu, Arulanantha Samy, and **Jaikumar Mayakrishnan**. *Exploration of Partially Levitated Transport Mode Using Buoyancy Phenomenon of Two Different Fluids*. No. 2020-01-5043. SAE Technical Paper, April 2020
8. Nandagopal, Sasikumar, Shridhar Anaimuthu, **Jaikumar Mayakrishnan**, Selvakumar Raja, Vamshidhar Busireddy, and Madhu Kovuru. *Effective Utilization of Low Carbon Fuels in Agricultural Engines Using Low Cost Electronic Primary Fuel Injection Unit*. No. 2020-01-1369. SAE Technical Paper, April 2020.
9. Ramalingam, Jaganathan, B. Prabakaran, Sasikumar Nandagopal, Hariram Venkatesan, and **Jaikumar Mayakrishnan**. *Dimensional Optimization of Key Parameters Using DoE Technique to Achieve Better NO_x Emission Values in Mass Production of Single Cylinder Small Diesel Engines for 3 Wheeler Applications*. No. 2020-01-1356. SAE Technical Paper, 2020.
10. Mayakrishnan, Jaikumar, Ramanathan Velmurugan, Induja SARAVANAN, Sasikumar Nandagopal, Sangeethkumar Elumalai, Selvakumar Raja, and Karma Bhutia., Effect of Hybrid Nano Additives on Performance and Emission Characteristics of a Diesel Engine Fueled with Waste Cooking Oil

11. Jaikumar Mayakrishnan, Sangeethkumar Elumalai, Sasikumar Nandagopal, Induja Saravanan, Selvakumar Raja, Ramanathan Velmurugan, Experimental Study on Influence of Iron Oxide Nanofkuids on Characteristics of a Low Heat Rejection Diesel Engine Operated with Methyl Esters of waste cooking oil <https://doi.org/10.4271/2020-28-0412> SAE Technical Paper 2020
12. Raja, Selvakumar, Jaikumar Mayakrishnan, Sasikumar Nandagopal, and Sangeethkumar Elumalai, Effect of Compression Ratio on the Performance, Emission, and Combustion Characteristics of CI Engine Using Waste Cooking Oil and Its Emulsion as Fuel, pp. 701-711. 2021, *Advances in Materials Research*, Springer
13. Jaikumar Mayakrishnan, Selvakumar Raja, Senthil Kumar Masimalai, Vijayabalan Palanimuthu, Sasikumar Nandagopal, Sangeethkumar Elumalai, Ramanathan Velmurugan, Effects on Performance, Emission and Combustion Characteristics of Dual Fuel Mode CI Engine Operated with Waste Cooking Oil - Ethanol as Fuel, International Conference on Advances in Design, Materials, Manufacturing and Surface Engineering for Mobility (SAE Technical Papers) <https://doi.org/10.4271/2020-28-0433>.
14. Ramanathan, V., Jaikumar, M., Induja, S., Sangeethkumar, E., Sasikumar, N. Effect of nanofluids in waste cooking oil biodiesel fuel: An experimental investigation on diesel engine characteristics, IOP Conference Series: Earth and Environmental Science Vol.573(1), Page No. 12012 doi <https://doi:10.1088/1755-1315/573/1/012012>
15. E. Sangeethkumar, M. Jaikumar, P. Vijayabalan, N. Sasikumar and V. Ramanathan, 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 Conference Series: Earth and Environmental Science, Vol.573(1), Page No. 12009 doi <https://doi:10.1088/1755-1315/573/1/012009>
16. V Ramanathan, M Jaikumar, Shaik Abdul Aleem, S Induja, E SangeethKumar Experimental investigation on effect of zinc oxide nanofluid on performance, emission and combustion characteristics of CI engine fuelled with waste cooking oil biodiesel, First International Conference on Advances in Physical Sciences and Materials, Vol. 1706 (1), 12199, <https://doi:10.1088/1742-6596/1706/1/012199>
17. Velmurugan, R., **Mayakrishnan, J.**, Induja, S., Raja, S., Nandagopal, S. and Sathyamurthy, R., 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. *Journal of Thermal Science and Engineering Applications*, 11(4), August 2019
18. Elumalai, S., **Mayakrishnan, J.**, Nandagopal, S., Raja, S. and Velmurugan, R., 2019. *Experimental Study on Combined Effect of Ytria Stabilized Zirconia Coated Combustion Chamber Components and Emulsification Approach on the Behaviour of a Compression Ignition Engine Fuelled with Waste Cooking Oil Methyl Esters* (No. 2019-28-0164). SAE Technical Paper, October 2019