A1	Personal Details

Dr. M. Ilangkumaran

Professor

Department of Mechanical Engineering

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A2	Areas of Interest	MCDM Applications and Maintenance Engineering

A3	Subject Taught

UG	PG
Fluid mechanics and machinery	Applied Ergonomics
Environmental Engineering	Principles of safety Management
Kinematics of Machinery	Safety in fire Engineering
Dynamics of Machinery	Research methodology and report writing
Engineering Drawing	
Product Design and Costing	
Non renewable energy sources	
Total Quality Management	

A4	Academic Background				
Degree	Specialization	Name of the Institute	University	Year of Passing	Class
Ph.D.	Maintenance Engineering	NIT, Trichy	Anna University	2010	Highly Commended
M.E.	Industrial Engineering	Kumaraguru College of Technology	Bharatiyar University	2001	First Class
B.E.	Mechanical Engineering	K S Rangasamy College of Technology	Madras University	1999	Second Class

A5	Work Experience as on January 2022		
Name of the Institution	**Position**	**From**	**To**
Knowledge Institute of Technology, Salem	Professor	Dec 2021	Present
K.S.Rangasamy College of Technology	Professor	2014	2021
K.S.Rangasamy College of Technology	Associate Professor	2012	2014
K.S.Rangasamy College of Technology	Assistant Professor	2007	2012
K.S.Rangasamy College of Technology	Lecturer	2002	2007

Total Experience	20.5 Years	Teaching	20.5 Years	Research	11 Years	Administration	07 Years

A6	Research Publications & Patents				
Total Number of Publications	**International Journal**	**National Journal**	**International Conference**	**National Conference**	**Total**
	55	04	15	3	77
Citations	2253	**h-index**	24	**i-index**	37

Publications - International / National Journals

1. **Google Scholar Profile:**
   https://scholar.google.co.in/citations?user=PGe3dogAAAAJ

1.	Durability and lube oil contamination study on diesel engine fueled with various alternative fuels: A review, Ragupathi, K., & Ilangkumaran M, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 43(8), 932-943.
2.	Effect of Silane treated silicon (IV) oxide nanoparticle addition on mechanical, impact damage and drilling characteristics of Kenaf fibre -reinforced epoxy composite, Silicon 12 (2), 459-467
3.	Material synthesis, characterization and performance measurement of laser drilling for stir casted Cu-Ni-Tib2 metal matrix, Materials Today: Proceedings 21, 392-400
4.	Experimental study on graphene/transition metal chalcogenide based energy storage and conversion, Journal of Ovonic Research Vol 16 (4), 197-211
5.	A genetic algorithm-based artificial neural network model with TOPSIS approach to optimize the engine performance, G Sakthivel, S Senthil Kumar, M Ilangkumaran, Biofuels 10 (6), 693-717

6.	An investigation of various actuation mechanisms in robot arm, J Prakash, M Ilangkumaran, Measurement and Control, Vol. 52(9-10) 1299–1307.
7.	Decision making methodology for the selection of 3D printer under fuzzy environment, SR Prabhu, M Ilangkumaran, International Journal of Materials and Product Technology 59 (3), 239-252
8.	Selection of 3D printer based on FAHP integrated with GRA-TOPSIS, SR. Prabhu, M Ilangkumaran, International Journal of Materials and Product, Technology 58 (2-3), 155-177
9.	Optimization of Machining Parameters on Surface Roughness and MRR in Drilling AISI 429 Steel Using Response Surface Method, Parthipan, N., and Ilangkumaran, M, International Journal of Emerging Trends in Science & Technology, 5(2), 24-30.
10.	Optimization of Drilling Parameters in Cu-Ni-Tib 2 Material Using Taguchi Methodology. Parthipan, N., & Ilangkumaran, M, International Journal of Emerging Trends in Science & Technology, 5(1), 30-35.
11.	Experimental study on thermal performance and exergy analysis in an internally grooved tube integrated with triangular cut twisted tapes consisting of alternate wings, CN Kumar, M Ilangkumaran,Heat and Mass Transfer 55 (4), 1007-1021
12.	The influence of copper oxide nano particle added pongamia methyl ester biodiesel on the performance, combustion and emission of a diesel engine, Varatharaju Perumal, M Ilangkumaran, Fuel 232, 791 – 802
13.	Experimental analysis of operating characteristics of a direct injection diesel engine fuelled with Cleome viscosa biodiesel, V Perumal, M Ilangkumaran, Fuel 224, 379- 387
14.	Water emulsified hybrid pongamia biodiesel as a modified fuel for the experimental analysis of performance, combustion and emission characteristics of a direct injection diesel engine, V Perumal, M Ilangkumaran, Renewable energy 121, 623-631
15.	A fuzzy based hybrid multi criteria decision making methodology for phase change material selection in electronics cooling system,A Loganathan, I Mani Ain Shams Engineering Journal 9 (4), 2943-2950
16.	Optimisation of compression ignition engine performance with fishoil biodiesel using Taguchi-Fuzzy approach,G Sakthivel, M Ilangkumaran, International Journal of Ambient Energy 38 (2), 146-160
17.	Performance and emission characteristics of direct injection diesel engine by using water emulsified diesel as fuel., Perumala, V., & Ilangkumaranb, M., International journal of engineering technology, (5), 476-484.
18.	Eco Friendly Drilling Process in AISI SS317 Material, Parthipan, N., Ilangkumaran, M., Nandhakumar, S., & Christal, K,. Journal of Chemical and Pharmaceutical Sciences ISSN, 974, 2115.

19.	Experimental analysis of engine performance, combustion and emission using pongamia biodiesel as fuel in CI engine, VPM Ilangkumaran, Energy 129 (15), 228–236
20.	Decentralizirana proizvodnja zelene energije pomoću metil estera nejestivih ulja, S Durairaj, K Sathiyasekar, M Ilangkumaran,Tehnički vjesnik 24 (6), 1723-1728
21.	Enhancement of heat transfer using phase change material with water mixture, Arulmurugan, L., & Ilangkumaran, M, J. Ovonic. Res., 13(6), 299-305.
22.	Influence of injection timing on performance, emission and combustion characteristics of a DI diesel engine running on fish oil biodiesel, S Gnanasekaran, N Saravanan, M Ilangkumaran, Energy 116, 1218-1229
23.	Selection of optimum fish oil fuel blend to reduce the greenhouse gas emissions in an IC engine—A hybrid multiple criteria decision aid approach, G Sakthivel, M Ilangkumaran, BW Ikua, International journal of green energy 13 (14), 1517-1533
24.	Selection of optimum maintenance strategy based on FAHP integrated with GRA–TOPSIS,B Kirubakaran, M Ilangkumaran, Annals of Operations Research 245 (1-2), 285-313
25.	Artificial neural network approach to predict the engine performance of fish oil biodiesel with diethyl ether using back propagation algorithm, M Ilangkumaran, G Sakthivel, G Nagarajan, International Journal of Ambient Energy 37 (5), 446-455
26.	Application of fuzzy logic in internal combustion engines to predict the engine performance, G Sakthivel, B Snehitkumar, M Ilangkumaran, International Journal of Ambient Energy 37 (3), 273-283
27.	A neural network model for the prediction of compression ignition engine performance at different injection timings, S Kullolli, G Sakthivel, M Ilangkumaran, International Journal of Ambient Energy 37 (3), 227-236
28.	An integrated hybrid multi-criteria decision making technique for material selection in the sugar industry, L Anojkumar, M Ilangkumaran, SM Hassan, International Journal of Multicriteria Decision Making 6 (3), 247-268
29.	A comparative analysis of fuzzy-based AHP derived MCDM methods to select the apt heterogeneous wireless network, V Sasirekha, M Ilangkumaran, G Sakthivel, International Journal of Information and Decision Sciences 8 (3), 227-253
30.	Parametric optimization for the production of nanostructure in high carbon steel chips via machining, M Ilangkumaran, R Sasikumar, G Sakthivel, Ain Shams Engineering Journal 6 (3), 957-965
31.	Development of fuzzy logic model to predict the engine performance of fish oil biodiesel with diethyl ether, M Ilangkumaran, G Sakthivel, U Syam Kumar, M Vasudevan, S Venkatesh, International Journal of Ambient Energy 36 (3), 142-154
32.	A hybrid multi-criteria decision modeling approach for the best biodiesel blend selection based on ANP-TOPSIS analysis, G Sakthivel, M Ilangkumaran, A Gaikwad, Ain Shams Engineering Journal 6 (1), 239-256

33.	Risk analysis and warning rate of hot environment for foundry industry using hybrid MCDM technique, M Ilangkumaran, M Karthikeyan, T Ramachandran, M Boopathiraja, Safety science 72, 133-143
34.	A decision making methodology for material selection in sugar industry using hybrid MCDM techniques,L Anojkumar, M Ilangkumaran, M Vignesh, International Journal of Materials and Product Technology 51 (2), 102-126
35.	Heterogeneous wireless network vertical handoff decision using hybrid multi - criteria decision-making technique, V Sasirekha, C Chandrasekar and M Ilangkumaran, International Journal of Computational Science and Engineering 10 (3), 263-280.
36.	The selection of optimum maintenance strategy based on ANP integrated with GRA-TOPSIS,B Kirubakaran, M Ilangkumaran, Journal for Global Business Advancement 8 (2), 190-215
37.	Comparative analysis of performance, emission and combustion parameters of diesel engine fuelled with ethyl ester of fish oil and its diesel blends, Sakthivel, G Nagarajan, M Ilangkumaran, AB Gaikwad, Fuel 132, 116-124
38.	Multi-criteria decision modelling approach for biodiesel blend selection based on GRA–TOPSIS analysis,G Sakthivel, M Ilangkumaran, G Nagarajan, GV Priyadharshini, International Journal of Ambient Energy 35 (3), 139-154
39.	Comparative analysis of MCDM methods for pipe material selection in sugar industry, L Anojkumar, M Ilangkumaran, V Sasirekha, Expert Systems with Applications 41 (6), 2964-2980
40.	A combination of data analytic and compensatory methodology for material selection in sugar manufacturing industry, L Anojkumar, M Ilangkumaran, International Journal of Manufacturing Technology and Management 28 (4-6)
41.	Waste water treatment technology selection using FAHP and GRA approaches, M Ilangkumaran, G Sakthivel, V Sasirekha, International Journal of Environment and Waste Management 14 (4), 392-413
42.	Failure mode and effect analysis using fuzzy analytic hierarchy process, M Ilangkumaran, P Shanmugam, G Sakthivel, K Visagavel, International Journal of Productivity and Quality Management 14 (3), 296-313
43.	Predicting the engine performance using ethyl ester of fish oil with the aid of artificial neural network, G Sakthivel, M Ilangkumaran, G Nagarajan, International Journal of Ambient Energy 34 (3), 145-158
44.	Optimization of wastewater treatment technology selection using hybrid MCDM, M Ilangkumaran, V Sasirekha, L Anojkumar, G Sakthivel, M Boopathi Raja, Management of Environmental Quality: An International Journal 24 (5), 619-641
45.	Development of decision support system to select the best fuel blend in IC engines to enhance the energy efficiency, G Sakthivel, M Ilangkumaran, International Journal of Energy Technology and Policy 9 (3-4), 310-343

46.	Selection of best biodiesel blend for IC engines: an integrated approach with FAHP-TOPSIS and FAHP-VIKOR,G Sakthivel, M Ilangkumaran, G Nagarajan, P Shanmugam, International Journal of Oil, Gas and Coal Technology 6 (5), 581-612
47.	A hybrid multi–criteria decision support system for selection of optimum fuel blend, G Sakthivel, G Nagarajan, M Ilangkumaran, SS Kumar, KS Suresh, International Journal of Exergy 12 (4), 463-490
48.	Effect of fuel additives on performance and exhaust emissions of direct injection diesel engine operating on B20 waste fish oil, G Sakthivel, G Nagarajan, M Ilangkumaran, P Shanmugam, J Prakash, International Journal of Oil, Gas and Coal Technology 6 (4), 462-476
49.	Material selection using hybrid MCDM approach for automobile bumper M Ilangkumaran, A Avenash, V Balakrishnan, SB Kumar, MB Raja, International Journal of Industrial and Systems Engineering 14 (1), 20-39
50.	A hybrid MCDM approach for evaluating an automobile purchase model G Sakthivel, M Ilangkumaran, G Nagarajan, A Raja, PM Ragunadhan, International journal of information and decision sciences 5 (1), 50-85
51.	Application of hybrid VIKOR model in selection of maintenance strategy M Ilangkumaran, S Kumanan, International Journal of Information Systems and Supply Chain Management, 5(2).
52.	Performance and exhaust emissions of a diesel engine using hybrid fuel with an artificial neural network,P Shanmugam, V Sivakumar, A Murugesan,M Ilangkumaran, Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, 33(15),1440-1450.
53.	Integrated hazard and operability study using fuzzy linguistics approach in petrochemical industry, M Ilangkumaran, P Thamizhselvan, International Journal of Quality & Reliability Management 27 (5), 541-557
54.	Selection of maintenance policy for textile industry using hybrid multi -criteria decision making approach, M Ilangkumaran, S Kumanan, Journal of Manufacturing Technology Management 20 (7), 1009-1022
55.	Multi-criteria decision-making approach to evaluate optimum maintenance strategy in textile industry, K Shyjith, M Ilangkumaran, S Kumanan, Journal of Quality in Maintenance Engineering 14 (4), 375-386

A 7	Funded Details & Major Contributions
1.	Development of Advanced Nano Composite Materials for Briquetting industries, Granted by UGC, 2.9 Lakhs, Completed (2017).
2.	National Seminar on Intelligent under water autonomous robots for ocean monitoring through Ministry of Earth Sciences(MoES),0.7Lakh, 3-4th May, 2011.
3.	National Seminar on Industrial Ergonomics and Musculoskeletal Disorder through Indian Council of Medical Research (ICMR) 0.4Lakh, 18-19 th Mar, 2016.
4.	National Seminar on Internet of Things (IOT) in Non-Invasive Healthcare Systems through Indian Council of Medical Research (ICMR), 0.4Lakh, 21-22nd Jun, 2017.
5.	National Conference on Additive manufacturing (3D Printing) in Bio-Medical Applications through Indian Council of Medical Research (ICMR), 0.4Lakh, 23-24nd Aug, 2017.
6.	National Seminar on Design-of- experiments in Bioprocess Optimization though DST-Science and Engineering Research Board (SERB), 1 Lakh, 4-5th Jan, 2018.
7.	National Seminar on Current Trends in Recycling of Textile/Apparel waste in Eco-Sustainable Aspects though Council of Scientific and Industrial Research (CSIR), 20000, 5-6th August 2022.