

Faculty Profile

1. Name : Ilangkumaran M
2. Designation : Professor and Head
3. Date of Joining : 05.08.2002
4. Nature of Association : Regular
5. E mail :
hodmct@ksrct.ac.in
6. Mobile no. : +91 98428 88889
7. **Academic Qualifications:**



Course	Name of the Institution / University	Year of Passing	% of Marks	Class
Ph.D (Production Engineering)	NIT, Trichy	March 2010	-	-
M.E (Industrial Engineering)	Kumaraguru College of Technology, Coimbatore	May 2001	74%	First
B.E. (Mech)	K.S.Rangasamy College of Technology, Tiruchengode	April 1999	57%	Second
H.S.C.	Government. Boys Higher Secondary school	March 1993	74%	First
S.S.L.C.	Government. Boys Higher Secondary school	March 1995	65	First

8. Teaching Experience

- **Professor and Head**, K.S.Rangasamy College of Technology, Tiruchengode, from 01.08.2011 to till-date.
- **Assistant Professor**, K.S.Rangasamy College of Technology, Tiruchengode, from 01.07.2008 to 31.07.20115.
- **Lecturer**, K.S. Rangasamy College of Technology, Tiruchengode, from 05.08.2002 to 30.06.2008.

9. Projects

Ph. D

- **Thesis title:** “Hybrid Multi Criteria Decision Making Techniques for maintenance Strategy Selection”

10. Publications

International Journals

1. Sundararaj Raghavendra Prabhu, **Mani Ilangkumaran**, “Selection of 3D printer based on FAHP integrated with GRA-TOPSIS”, *International Journal of Materials and Product Technology*, Vol. 58, Issue No.2-3, pp. 155-177, Inderscience Publishers (IEL).
2. Arulmurugan Loganathan, **Ilangkumaran Mani**, “A fuzzy based hybrid multi criteria decision making methodology for phase change material selection in electronics cooling system” *Ain Shams Engineering Journal*, Vol. 9, Issue No.4, pp. 2943-2950, Elsevier
3. **Ilangkumaran**, Varatharaju Perumal, M, Experimental Analysis Of Operating Characteristics Of A Direct Injection Diesel Engine Fuelled With Cleome Viscosa Biodiesel, (2018), *Fuel*, Vol. 225, No. pp.282-295.
4. **M.Ilangkumaran**, M.Karthikeyan, T.Ramachandran M. Boopathiraja, and B. Kirubakaran (2015) “ Risk analysis and warning rate of Hot Environment for Foundry industry using MCDM Approach ”,Vol.72, pp.133-143,*safety science-(Scopus indexed) - Elsevier*.
5. L.Anojkumar, **M.Ilangkumaran** and V.Sasirekha (2014) Comparative analysis of MCDM methods for pipe material selection in sugar industry” *Expert Systems with Applications*, Vol.41, No.6, pp. 2964-2980 -(*Scopus indexed) - Elsevier*.
6. G Sakthivel, G Nagarajan, **M Ilangkumaran** and AB Gaikwad (2014) “Comparative Analysis of Performance, Emission and Combustion Parameters of Diesel Engine Fuelled with Ethyl Ester of Fish Oil and Its Diesel Blends”, Vol.132, pp.116-124, *Fuel - (Scopus indexed) -Elsevier*.
7. S Gnanasekaran, N Saravanan and **M Ilangkumaran**, “ Influence of injection timing on performance, emission and combustion characteristics of a DI diesel engine running on fish oil biodiesel”, *Energy Vol.116*, pp.1218-1229.- (*Scopus indexed) -Elsevier*.
8. G.Sakthivel, G.Nagarajan, **M Ilangkumaran**, S.Sathish Kumar and K.S.Suresh (2013)“A Hybrid Multi-Criteria Decision Support System for Selection of Optimum Fuel Blend”, *International journal of Exergy*, Vol.12, No.4, pp.463 -490 (*Scopus indexed) - Inderscience*.
9. G.Sakthivel, **M.Ilangkumaran** and G.Nagarajan.(2013) “Experimental investigations of the performance, emission and combustion characteristics of a biodiesel (ethyl ester of fish oil) fuelled direct-injection diesel engine”, Vol.1, No.2, pp.137-156, *International Journal of Vehicle Performance (IJVP) -(Scopus indexed) - Inderscience*.

10. G Sakthivel, **M Ilangkumaran** and BW Ikua, "Selection of optimum fish oil fuel blend to reduce the greenhouse gas emissions in an IC engine—A hybrid multiple criteria decision aid approach", *International Journal of Green Energy* Vol.13, No.14, pp.1517-1533. -(Scopus indexed) – Taylor and Francis.
11. P.Shanmugam, V.Sivakumar, A.Murugesan and **M. Ilangkumaran** (2011) "Performance and exhaust emissions of a diesel engine using hybrid fuel with an ANN", *Energy sources-Part A: Recovery, utilization and environmental effects*, Vol.33, No.15, pp.1440 -1450 (Scopus indexed) -Taylor & Francis
12. G.Sakthivel, **M.Ilangkumaran**, G.Nagarajan, P.Shanmugam and J.Prakash,(2013) "Effect of fuel additives on performance and exhaust emissions of direct injection diesel engine operating on b20 waste fish oil", *Int. J. Oil, Gas and Coal Technology*, Vol. 6, No. 4, pp.462 - 476 (Scopus indexed) - Inderscience.
13. G.Sakthivel, **M.Ilangkumaran** and G.Nagarajan. (2013)"Selection of best biodiesel blend for IC engines: An integrated approach with FAHP -TOPSIS and FAHP-VIKOR "*International Journal of Oil, Gas and Coal Technology*, Vol.6, No.5, pp.581 -612 (Scopus indexed) - Inderscience.
14. **M.Ilangkumaran**, P.Shanmugam, G.Sakthivel and K.Visagavel (2014)"Failure Mode and Effect Analysis using Fuzzy Analytic Hierarchy Process", *International Journal of Productivity and Quality Management*, Vol.14, No.3, pp.296 – 313 (Scopus indexed) - Inderscience.
15. **M.Ilangkumaran**, V.Sasirekha, M.Dinesh, M.M.Jegan, T.Loganathan, K.M.Mouleeshwaran and M.Boopathi Raja (2012) "A hybrid MCDM approach to supplier selection", *International Journal of Engineering Management and Economics*, Vol.3, No.4, pp.279 - 304 (Academic One File (Gale) indexed) - Inderscience.
16. V.Sasirekha, C.Chandrasekar and **M.Ilangkumaran** (2015) "Heterogeneous Wireless Network Vertical Handoff Decision Using Hybrid Multi Criteria Decision Making Technique" *Int. J. of Computational science and engineering*, Vol.10, No.3, pp.263 - 280 (Scopus indexed) - Inderscience.
17. K.Shyjith, **M.Ilangkumaran**, S.Kumanan (2008) "Multi-criteria decision-making approach to evaluate optimum maintenance strategy in textile industry", *Journal of Quality in Maintenance Engineering*, Vol.14, No. 4, pp. 375 - 386 (Scopus indexed)-Emerald.
18. **M.Ilangkumaran**, S.Kumanan (2009) "Selection of maintenance policy for textile industry using hybrid multi-criteria decision making approach", *Journal of Manufacturing Technology Management*, Vol.20, No.7, pp.1009 - 1022 (Scopus indexed) - Emerald.
19. **M.Ilangkumaran**, P.Thamizhselvan (2010) "Integrated hazard and operability study using fuzzy linguistics approach in petrochemical industry",

International Journal of Quality & Reliability Management, Vol. 27, No.5, pp.541 - 557 (Scopus indexed) -Emerald.

20. **M.Ilangkumaran**, S. Kumanan (2012) “Application of Hybrid VIKOR model in selection of maintenance strategy”, *International journal of information systems and supply chain management*, Vol.5, No.2, pp. 59 - 81 (Scopus indexed) - IGI Global.
21. **M.Ilangkumaran**, A.Avenash, V.Balakrishnan, S.Bharath Kumar and M.Boopathi Raja (2013) “Material selection using hybrid MCDM approach for automobile bumper”, *International journal of industrial and system engineering*, Vol.14,No.1,pp.20-39 (Scopus indexed)- Inderscience.
22. G.Sakthivel, **M.Ilangkumaran**, G.Nagarajan, A.Raja, P.M.Ragunadan and J.Prakash (2013) “A hybrid MCDM approach for evaluating an automobile purchase model”, *International journal of information and decision sciences*, Vol.5, No.1, pp.50-85. (Academic One File (Gale) indexed) - Inderscience.
23. **M.Ilangkumaran**, G.Sakthivel, L.Anoj Kumar, M.Boopathi Raja, V.Sasirekha, T. Ruban Sundara Raj, Nizamuddin Pallikadath, S.Praveen kumar, C.N.S.Siddharatha, (2013) "Optimization of wastewater treatment technology selection using hybrid MCDM", *Management of Environmental Quality: An International Journal*, Vol. 24, No. 5, pp.619 - 641 (Scopus indexed) - Emerald.
24. L.Anoj Kumar and **M.Ilangkumaran** (2014)" A combination of data analytic and compensatory methodology for material selection in sugar manufacturing industry”, *International journal of manufacturing technology and management*, Vol. 28, No. 4/5/6, pp.231 – 256, (Scopus indexed) - Inderscience.
25. **M.Ilangkumaran**, V.Sasirekha, L.Anoj Kumar and M.Boopathi Raja “Machine tool selection using AHP and VIKOR methodologies under fuzzy environment (2012)”, *International journal of modeling in operations management*, Vol.2, No.4, pp.409 -436 (Academic One File (Gale) indexed) - Inderscience.
26. B.Kirubakaran and **M.Ilangkumaran** (2015) “The selection of optimum maintenance strategy based on ANP integrated with GRA-TOPSIS”, Vol.8, No.2, pp.137-156, pp.190-215, *Journal of global business advancement*. - Accepted (Scopus indexed) - Inderscience.
27. G.Sakthivel, **M.Ilangkumaran**, G.Nagarajan(2013) “Predicting the Engine Performance Using Ethyl Ester of Fish Oil with the Aid of Artificial Neural Network” *International Journal of Ambient Energy*, Vol.34, No.3, pp. 145-158 - In press (Scopus indexed) -Taylor & Francis.
28. **M. Ilangkumaran**, V.Sasirekha and G.Sakthivel(2014) “Waste Water Treatment Technology Selection Using FAHP and GRA Approaches” *International Journal of Environment and Waste Management*, Vol.14, No.4, pp.392-413, (Scopus indexed) - Inderscience.

29. G.Sakthivel and **M. Ilangkumaran**, (2013) “Development of decision support system to select the best fuel blend in IC engines to enhance the energy efficiency”, *International Journal of Energy Technology and Policy*, Vol.9, No.3/4, pp.310-343,(Scopus indexed) - *Inderscience*.
30. S. Durairaj, K.Sathiyasekar and **M. Ilangkumaran** ,(2014) “Multi Criteria Decision Making Approach To Evaluate Optimum Fuel In Diesel Power Generator”, *International Journal of Applied Engineering Research*, Vol.9, No.23, pp.22867-22885,(Scopus indexed) – *Ripublication*.
31. **M.Ilangkumaran**, G.Sakthivel, U.Syam Kumar , M.Vasudevan and S.Venkatesh and B.Viswanathan (2015)“Development of fuzzy logic model to predict the engine performance of fish oil biodiesel with diethyl ether” *International Journal of Ambient Energy*, Vol 36, No.3, Page 61-*In press* (Scopus indexed) -*Taylor & Francis*.
32. **M. Ilangkumaran**, G. Sakthivel and G Nagarajan" (2014)Artificial neural network Approach to Predict The Engine Performance of Fish Oil Biodiesel With Diethyl Ether Using Back Propagation Algorithm " *International Journal of Ambient Energy -In press* (Scopus indexed) -*Taylor & Francis*.
33. G.Sakthivel, B.Snehitkumar and **M.Ilangkumaran"** (2014) Application of Fuzzy Logic In internal combustion to Predict the Engine Performance" *International Journal of Ambient Energy -In press*(Scopus indexed) -*Taylor & Francis*.
34. S Kullolli, G Sakthivel and **M. Ilangkumaran"**(2014) A neural network model for the prediction of compression ignition engine performance at different injection timings "*International Journal of Ambient Energy -In press* (Scopus indexed) -*Taylor & Francis*.
35. B.Kirubakaran and **M.Ilangkumaran**(2015) “The selection of optimum maintenance strategy based on FAHP integrated with GRA-TOPSIS”, *Annals of operation research*, Vol.245, No. (1-2), pp. 285-313(Scopus indexed) - *Springer*.
36. **M. Ilangkumaran**, R.Sasikumar and G.Sakthivel (2015)“ Parametric optimization for the production of nanostructure in high carbon steel chips ”, *Ains Shams Engineering Journal* Vol-6, NO-3,Pag957-965-*Inpress* (Scopus indexed) - *Elsevier*.
37. G.Sakthivel and **M. Ilangkumaran** (2015)“A hybrid multi-criteria decision modeling approach for the best biodiesel blend selection based on ANP-TOPSIS analysis”, *Ains Shams Engineering Journal* Vol-6,No-1,Pag-239-256-*Inpress* (Scopus indexed) - *Elsevier*.
38. L.Anoj Kumar, **M.Ilangkumaran** and M.Vignesh"(2015) A Decision Making Methodology for Material Selection in Sugar Industry Using Hybrid MCDM Techniques” *Int. J. of Materials and Product Technology*,Vol-51,No-2,pp102-126-*In press* (Scopus indexed) - *Inderscience*.

39. V.Sasirekha, **M. Ilangkumaran** and G.Sakthivel(2015), “A comparative analysis of fuzzy based AHP derived MCDM methods to select the apt heterogeneous wireless network”, *International Journal of Information and Decision Sciences-In press (Scopus indexed) - Inderscience*.
40. G. Sakthivel and **M. Ilangkumaran** ,(2015) “ A Hybrid multi-criteria decision making approach of ANP and TOPSIS to evaluate the optimum fuel blend in IC engines", *International Journal of Decision Support Systems Vol-6,No-1,pp239-256-(Academic One File (Gale) indexed) - Inderscience*.
41. G.Sakthivel, **M.Ilangkumaran** and G.Nagarajan, G Vasuki Priyadharshini, S. DineshKumar, S. Satish Kumar, K S Suresh, G Thirumalai Selvan, T.Thilakavel (2014) “Multi-criteria decision modeling approach for biodiesel blend selection based on GRA-TOPSIS analysis” *International Journal of Ambient Energy, Vol.35, No.3, pp. 139-154(Scopus indexed) -Taylor & Francis*.
42. S.Durairaj, K.Sathiyasekar and **M.Ilangkumaran**,(2015)“Selection of alternate fuel for electrical power generator using hybrid multi criteria decision making technique”,*UPB Scientific Bulletin, Series C: Electrical Engineering Vol-33, No-1, PP-1373-1383- (Scopus indexed)*.
43. L.Arulmurugan, **M.Ilangkumaran** and K.Vishnu prakash (2014), “Experimental Investigation on Thermal performance and effect of PCM based Heat sink with different Fins”, *Journal of Mechanical and Civil Engineering, pp.29-33*.
44. L.Anojkumar, **M. Ilangkumaran**, B.kirubakaran, L.Arulmurugan, S.Mohamed Hassan and S.Lokesh (2014), “A Novel Method For Material Selection In industrial Applications”, *International Journal of Research in Engineering and Technology,Vol-3,No-11*.
45. S.Durairaj, K.Sathiya Sekar, **M. Ilangkumaran**, M.Ram Manokar, B.Thyalan, E. Yuvaraj and S.Ramesh,(2014) “Multi-Criteria Decision Model For Biodiesel Selection In an Electrical Power Generator Based on FAHP-GRA-TOPSIS”, *International Journal of Research in Engineering and Technology,Vol-3,No-11*.
46. P.T.Vinothkumar, M.Karthikeyan, S.Gowthaman, **M.Ilangkumaran** and B.Kirubakaran, (2015)“Design and development of automatic fire fighting system for vehicles”, *International Journal of Applied engineering research,Vol.10, No.50, pp. 130-137*.
47. G.Sakthivel and **M.Ilangkumaran** (2015)“Optimization of CI Engine Performance With Fishoil Biodiesel Using Taguchi-Fuzzy Approach ”*International Journal of Ambient Energy, (Scopus indexed) -Taylor & Francis*.

48. L.Anojkumar, **M.Ilangkumaran**, S.Mohamed Hassan “, An integrated hybrid Multi-criteria decision making technique for material selection in sugar industry”, *Int. J. of Multicriteria Decision Making*. (Accepted).
49. M.Karthikeyan, K.Visagavel, N.Nagarajan, T.Ramachandran, **M.Ilangkumaran** and B.Kirubakaran (2015) “Assesment of hot environment in foundry industry using modified heat stress index” *Journal of industrial safety engineering*, Vol.2, No.2, pp. 1-5.

International Conferences

1. **M. Ilangkumaran** and T. Kannan. “Quality control tools in paper industry: Reduction of paper rejection - A case study”. *Advanced Trends in Mechanical Engineering Research and Development*, JNTU College of Engineering, Anantpur, 2001.
2. **M. Ilangkumaran** and K. Visagavel. “Industrial engineering & its techniques – A case study”, *Advanced Trends in Mechanical Engineering Research and Development*, JNTU College of Engineering, Anantpur, 2002.
3. K.Visagavel and **M. Ilangkumaran**. “Improvement of collector efficiency and reduction of thermal losses by over lapped glass plate collector”. *Advanced Trends in Mechanical Engineering Research and Development*, JNTU College of Engineering, Anantpur, 2002.
4. **M. Ilangkumaran**.“Virtual manufacturing – An overview”, *National conference on advanced in manufacturing technology*, N.S.S College of engineering, Palakkad, 2003
5. G. Sakthivel and **M. Ilangkumaran**. “Object sensing pick and place robot (A micro- controller base system)”, *Development and challenges in manufacturing engineering*, Manipal Institute of Technology, Manipal, March 2004.
6. **M. Ilangkumaran**. and S. Kumanan. “Decision making in maintenance using fuzzy logic”. *Recent developments in production & operations management*, Annamalai University, March 2007.
7. **M. Ilangkumaran**. and S. Kumanan. “Selecting the maintenance strategy using the AHP and VIKOR approaches”, *Advances in Industrial Engineering*, Anna University, January 2010.
8. **M. Ilangkumaran**. and S. Kumanan. “Fuzzy VIKOR approach for selecting an optimum maintenance strategy”, *Flexible Automation and Intelligent Manufacturing*, California State University, USA, 2010.
9. P.M.Ragunadhan and **M.Ilangkumaran**.“Wastewater treatment technologyselction using FAHP”, *Engineering, science and Technology*, Dhanalakshmi srinivasan Engineering college, Perambalur, April 2011.

10. V.Sasirekha, C.Chandrasekar C and **M.Ilangkumaran**. “Heterogeneous Wireless Network selection using FAHP integrated with TOPSIS and VIKOR”, *Pattern Recognition, Informatics and Mobile Engineering*, Periyar University, Salem, February 2012.
11. L.Anojkumar, **M.Ilangkumaran**, M.Vignesh and Siva. “Novel MADM and modified digital logic methods for material selection problem”, *Advances in construction, manufacturing and automation research*, Kongu engineering college, Perundurai, March 2012.
12. M. Jose Paul Jacop and **M. Ilangkumaran**. “Intelligent fault diagnosis of electrical machines based on energy loss calculation”, *Industrial Technology*, Bannari Amman Institute of Technology, Sathyamangalam, March 2012.
13. L. Anojkumar, **M. Ilangkumaran**, S. Sathishkumar, S.S. Sakthisudan and M.Vignesh " Multi criteria decision making based material selection process for sugar industry applications” *Advanced research in mechanical engineering*, Coimbatore, March 2013.
14. L. Anojkumar, **M.Ilangkumaran**, S.S. Sakthisudan and M.Vignesh " Material selection process for the application of sugar industry using FAHP-COPRAS and FAHP-VIKOR”, *Recent Advances in Material Processing Technology*, National Engineering College, Kovilpatti, January 2013.

National Conferences

1. **M.Ilangkumaran**, “Recent trends in engineering and management”, *International Organization of Scientific Research*, Indra Ganesan College of Engineering, 11th April 2004 to 12th April 2004.
2. **M.Ilangkumaran**, “Performance and emission characteristics of direct injection diesel engine by using water emulsified diesel as fuel” *National Institute of Technical Teachers Training & Research*, (NITTTR), MHRD / Govt.of India, Chandigarh, 23rd April 2017
3. **M.Ilangkumaran**, “Innovations in science, *Engineering and Technology for sustainable development (ISETSD – 2018)*”, DST-SERB / Muthayammal Engineering College, 30th March 2018 to 31st March 2018
4. P.M.Ragunadhan and **M.Ilangkumaran**. “Wastewater treatment technology selection using AHP” *Emerging Technologies*, Anna University, Tirunelveli, May 2011.

11. Funds Received to Organize the Seminar

- Received Grants-in-aid Rs. 70,000/- by Ministry of Earth Science (MoES) to conduct the two days seminar on “Intelligent Under Water Autonomous Robots for Ocean Monitoring” on 03-04 May, 2011 at K. S. Rangasamy College of Technology, Tiruchengode – 637 215. **Letter sanctioning grant-in-aid No. MoES/SSWC/79/2010-PC-V Dated. 24.03.2011**

- Received Grants-in-aid Rs. 40,000/- by Indian Council Medical Research (ICMR) to conduct the two days seminar on “Industrial Ergonomics and Musculoskeletal Disorder” on 18-19 March, 2016 at K. S. Rangasamy College of Technology, Tiruchengode – 637 215. **Letter sanctioning grant-in-aid No. 7/824/15-Seminars (HRD) Dated. 08.01.2016**
- Received Grants-in-aid Rs. 40,000/- by Indian Council Medical Research (ICMR) to conduct the two days seminar on “Internet of Things (iot) in non-Invasive Healthcare Systems” on 21-22 June, 2017 at K. S. Rangasamy College of Technology, Tiruchengode – 637 215. **Letter sanctioning grant-in-aid No. 7/79/17-Seminars (HRD) Dated. 21.03.2017**
- Received Grants-in-aid Rs. 40,000/- by Indian Council Medical Research (ICMR) to conduct the two days Conference on “Additive Manufacturing (3D Printing) in Bio Medical Applications” on 23 – 24 Aug, 2017 at K. S. Rangasamy College of Technology, Tiruchengode – 637 215. **Letter sanctioning grant-in-aid No. 7/142/17-Seminars (HRD) Dated. 28.04.2017**
- Received Grants-in-aid Rs. 1,00,000/- by Science and Engineering Research Board (SERB), DST to conduct the two days national seminar on “Design of Experiments in Bioprocess Optimization” on 0 –05 January 2018 at K. S. Rangasamy College of Technology, Tiruchengode – 637 215. **Letter sanctioning grant-in-aid No.: SB/SS/2017/001042 Dated. 26.03.2018**

12. Invited Lecture Delivered

- Delivered an invited lecture on ‘Introduction to 3D & 4D Printing’ in DBT sponsored seminar on “**Biomaterials & 4D Printing in Healthcare: Innovative and Emerging Trends**” organised by Department of Mechatronics Engineering, Bannari Amman Institute of Technology, Sathyamangalam – 638 401 during June 20-21, 2019.
- Delivered an invited lecture on ‘Balancing of Masses’ in Anna University sponsored FDP on “**ME 2302 – Dynamics of Machinery**” organised by Department of Mechanical Engineering, Kongu Engineering College, Erode – 638 052 on June 26, 2014.

13. Membership in Professional Bodies

- **Life Member**, Indian Society of Technical Education (ISTE) – LM 42872

14. Awards and Recognitions

- Received Dr. A. P. J. Abdul Kalam Award for Scientific Excellence 2016 from MARINA Labs Research and Development, Chennai on 22.10.2016

15. Resrach Activities

- Presently Guiding 09 **Ph.D. students**
- **Ph.D. Guided:** 04
- Recognized supervisor by Anna University, Chennai
- Total **Citations:** 988, **h – Index:** 16, **i10 Index:** 25
- **Area of Expertise/Research Interests**
 - Evaluation of Mechanical Properties of Natural Fiber Composites and Metal Matrix Composite Materials
 - Tribological Behavior of Composite Materials
 - Maintenance Engineering
 - MCDM Applications

16. Personal Details

Fathers Name : Mani

Date of Birth & Age : 07.07.1978 & 41 Years

Gender : Male

Marital Status : Married

Permanent Address : 12, Thiruvalluvar Nagar,
C.H.B. Colony -7, Tiruchengode
Tamilnadu, India.