Dr.K.RAJA, M.E., Ph.D.,

Associate Professor,
Department of Mechanical Engineering,
University College of Engineering Dindigul,
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Dindigul – 624622, Tamil Nadu, India
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Educational Qualifications

- **Ph.D., (Manufacturing Engineering)** from **National Institute of Technology – Triuchirappalli** in the year 2010.
- **M.E (Industrial Engineering)** from **University of Madras** in the year 2001.
- **B.E** in **Mechanical Engineering** from **Bharathiar University - Coimbatore** in the year 1997.

Experiences

SI No.	College Name	Designation	Duration		Total Years
			From	To	
1.	Associate Professor	University College of Engineering Dindigul	2014	Till Date	6.0
2.	Assistant Professor	University College of Engineering Ramanathapuram	2009	2013	4.0
3.	Senior Lecture	GCE Salem	2007	2009	2.0
4.	Lecture	GCE Salem	2002	2006	4.0

Number of Research scholars Completed Ph.D under my Guidance as Supervisor in Anna University: 12

SI No	Reg No	Name	Thesis Title	Viva Voce Completion
1	2012120026	K.Chandrasekaran	Experimental Study of Machining Parameters for turning Stainless Steel Using Different coated Tools	October 2014
2	2012120027	S. Dharmalingam	Performance study of Electrochemical Machining on Metal Matrix composites	January 2015
3	2011120036	Senthilrajan A	Experimental and analytical studies of a biomass assisted solar stills for desalination	February 2017
4	2011120066	Chandra Sekar V S	Certain Investigation On Conventional Automobile Torsion Bar And Replacement With E-Glass Fiber Composite Material	May 2017
5	2011220012	Rajeshwaran M	A Critical Evaluation of oil Extraction, Biodiesel Production, Engine Performance and Emission Analysis of Non-Edible Vegetable oil	November 2018
6	2011220013	Ganesh Kumar J	Experimental Studies On Convective Heat Transfer Characteristics Of MWCNT Nanofluids In A Shell And Helical Coiled – Tube Heat Exchanger	May 2017
7	1313279185	Balasundaram T	Investigation And Analysis Of Geometrical Parameters Of Titanium Nanotubes Anode For New Generation Solar Cell Application By Anodization Method	December 2017
8	1314479153	Narayana Kumar S	Seismic Data Analysis Using Machine Learning Techniques For Earthquake Prediction	April 2018
9	2011120067	Udayakumar T	Experimental investigation of super duplex stainless steel UNS s 32760 in friction welding and optimization using Meta heuristics	January 2018
10	1413279768	Ganeshan P	Investigation and characterization of madar fiber reinforced polyester composites	April 2017
11	1513279240	Yoganandam K	Experimental Investigation On Calotropis Procera And Agave Sisalana Fiber Reinforced Hybrid Polyester Composites	August 2018
12	1614279191	Vigneshkumar V	Investigation Of Al7075 Hybrid Composites Prepared By Conventional Casting Method	July 2019

Number of Research scholars undertaking Ph.D under my Guidance as Supervisor : 04

SI No.	Reg No.	Candidate Name	Research Title	Status
1.	1414279869	Prabu B	Characterization And Experimental Behaviour On The Mechanical Properties Of Shwetark Natural Fiber Composites	Synopsis Submitted
2.	1512579167	Ramji C	Experimental Investigation Of Desalination Using Octagonal Pyramid Solar Still And Stepped Cup Solar Still And Design Optimization Through Taguchi Method	Synopsis Submitted
3.	20153791182	Muzeeb Khan Patan	Influence of Primary Regulation on Frequency Control of an Isolated Microgrid Equipped with Crow Search Algorithm Tuned Classical controllers	Course Work
4.	2O153791179	Mohammed Azaharahmed	Invasive Weed Optimized Area Centralized 2 Degree of Freedom Combined PID Controller Scheme for Load frequency Control of Multi Area Multi Machine Interconnected Power System	Course Work

Number of Patent Filed: 01

SI No.	APPLICATION NUMBER	Author	Research Title	Country
01.	201941019098	**1 . Dr.K. Raja** **2 . Dr. K. Chandrasekaran** **3 . Dr. Ttm. Kannan**	Miniature Milling Machine Robotically Operated By Infrared Systems	India

List of Publications in peer Reviewed Journals

1. **Raja, K.,** Chandra Sekar, V.S., Vignesh Kumar, V., T. Ramkumar & P. Ganeshan, Microstructure Characterization and Performance Evaluation on AA7075 Metal Matrix Composites Using RSM Technique. Arab J Sci Eng (2020). https://doi.org/10.1007/s13369-020-04752-8
2. K Yoganandam, P Ramshankar, P Ganeshan, **K Raja, (2020)** Mechanical properties of alkali-treated Madar and Gongura fibre-reinforced polymer composites International Journal of Ambient Energy, 41 (8), 849-850.
3. V. Yamunadevi, G. Vijayanand, P. Ganeshan, S.Sowmiya, **K. Raja** (2020) Effect on the behaviour of dynamic mechanical analysis for hybrid epoxy nanocomposite, Materials Today: Proceedings, DOI: 10.1016/j.matpr.2020.05.055
4. **K. Raja**, B. Prabu, P. Ganeshan, V. S. Chandra Sekar & B. NagarajaGanesh **(2020):** Characterization Studies of Natural Cellulosic Fibers Extracted from Shwetark Stem, Journal of Natural Fibers, DOI: 10.1080/15440478.2019.1710650
5. M.Balu, K.Lingadurai, P.Shanmugam, **K.Raja,** N.Bhanu Teja, V.Vijayan (2020), Biodiesel Production From Caulerpa Racemosa (Macroalgae) Oil, IJMS 49(4) 616-621
6. IJ Isaac Premkumar, P Ganeshan, S Sudhagar, **K Raja,** S Senthil Kumaran, VS Chandra Sekar (2020) An investigation on Piston structural analysis related with experimental cylinder pressures using different biodiesel blend ratios Materials Today: Proceedings, Volume 22, Pages 2255-2265
7. B. NagarajaGanesh, P. Ganeshan, P. Ramshankar, **K. Raja (2019),** Assessment of natural cellulosic fibers derived from Senna auriculata for making light weight industrial biocomposites, Industrial Crops & Products 139 , 111546.
8. **K Raja,** V Srinivasa Raman, R Parthasarathi, K Ranjitkumar, V Mohanavel (2019) Performance analysis of dee-biodiesel blends in diesel engine, International Journal of Ambient Energy, Accepted for publications, DOI :10.1080/01430750.2019.1670262
9. Radhaboy G, Pugazhvadivu M, Ganeshan P, **Raja K, (2019)** Influence of Kinetic Parameters on Calotropis Procera by TGA under Pyrolytic Conditions, Energy Sources, Part A: Recovery,

Utilization, and Environmental Effects, Accepted for Publication, DOI : 10.1080/15567036.2019.1677812

10. K Yoganandam, B NagarajaGanesh, P Ganeshan and **K Raja** (2019), Thermogravimetric analysis of Calotropis procera fibers and their influence on the thermal conductivity and flammability studies of polymer composites, Materials Research Express, Volume 6 (10), 105341
11. V Yamunadevi, K Palaniradja, A Thiagarajan, P Ganeshan, K Raja, (2019), Characterization and dynamic mechanical analysis of woven roven glass fiber/cerium-zirconium oxide epoxy nanocomposite materials, Materials Research Express 6 (9), 095057
12. V Vignesh Kumar, **K Raja,** VS Chandra Sekar, T Ramkumar, (**2019**) Thrust force evaluation and microstructure characterization of hybrid composites (Al7075/B4C/BN) processed by conventional casting technique Journal of the Brazilian Society of Mechanical Sciences and Engineering, 41: 228. https://doi.org/10.1007/s40430-019-1728-5.
13. K. Yoganandam, P. Ganeshan, B. NagarajaGanesh & **K. Raja** (**2019**) Characterization studies on Calotropis procera fibers and their performance as reinforcements in epoxy matrix, Journal of Natural Fibers, DOI: 10.1080/15440478.2019.1588831
14. V Vignesh Kumar, **K Raja,** K Chandrasekaran and T Ramkumar, (**2019**) Microstructural characterization and mechanical properties of Al7075/BN metal matrix composites prepared by conventional casting method, Materials Research Express, Volume 6, Number 6, doi.org/10.1088/2053-1591/ab07e2
15. P Ganeshan, S Senthil Kumaran, **K Raja** and D Venkateswarlu, (**2018**) An investigation of mechanical properties of madar fiber reinforced polyester composites for various fiber length and fiber content, Materials Research Express, 6 (1), 015303
16. P. Ganeshan, B. NagarajaGanesh, P. Ramshankar & **K. Raja (2018)** Calotropis gigantea fibers: A potential reinforcement for polymer matrices International Journal of Polymer Analysis and Characterization, Volume 23, 2018 - Issue 3, doi.org/10.1080/1023666X.2018.1439560
17. A. Senthilrajan, **K. Raja**, C. Ramji (2019) Productivity enhancement of pentagon type solar still and dryer in series using biomass energy, International Journal of Advance Research, Ideas and Innovations in Technology, Volume 4, Issue 5, 469 - 475
18. P Ganeshan, P Ramshankar, **K Raja**, G Vijayanand, S Sangeeth Kumar, B Prabu (**2018),** Mechanical properties of madar/bauhinia racemosa hybrid composites TAGA Journal, Volume 14, Pages 1369-1375
19. M Rajeshwaran, P Ganeshan, **K Raja** (**2018**) Optimization and Biodiesel Production from Prosopis Julifera Oil with High Free Fatty Acids Journal Of Applied Fluid Mechanics, Volume 11, Issue 1, Pages 257-270

20. IJ Kumar, K Lingadurai, **K Raja,** P Ganeshan (**2017**), Performance and Emission Characteristics of Diesel-Soybean Methyl Ester Blends using Variable Piston Geometry in Direct Injection Compression Ignition Engine Asian Journal of Research in Social Sciences and Humanities, Volume 7, Issue 2, Pages 208-227
21. Jayabalan Ganeshkumar, Durai Kathirkaman, **Kandhaswamy Raja,** Vellisamy Kumaresan, Ramalingam Velraj (**2017**), Experimental Study On Density, Thermal Conductivity, Specific Heat, And Viscosity Of Water-Ethylene Glycol Mixture Dispersed With Carbon Nanotubes Thermal Science, Volume 21, Issue 1, pp. 255-265
22. C Muthusamy, L Karuppiah, S Paulraj, D Kandasami, **Raja Kandhasamy**, (2016) Effect of Heat Input on Mechanical and Metallurgical Properties of Gas Tungsten Arc Welded Lean Super Martensitic Stainless Steel, Materials Research 19 (3), 572-579
23. **S**.Sudhagar, V. Srinivasa Raman, **K.Raja** (**2016**) 'Evaluation of Spur Gear Pair Using Meta Heuristics' International Journal of Applied Engineering Research, Volume 10, Number 49, pp.592-599.
24. Thamilarasi.P Ragunathan.S Mohankumar.E **Raja.K (2016) '**Effect of Process Parameters on Tensile strength of Robotic GMAW' International Journal of Applied Engineering Research, Volume 10, Number 49, pp.600-605
25. S.Vairam.K,Selladurai **K.Raja (2016) '**Bacterial Foraging Algorithm for Resource Constrained Project Scheduling' International Journal of Applied Engineering Research, Volume 10, Number 49, pp.606-611.
26. P.Ganeshan, **K.Raja**, K.Lingadurai, M.Kaliappan **2015** 'Analysis of an Automobile Drive Shaft With Various Composite Materials' International Journal of Applied Engineering Research, Volume 10, Number 50, pp. 588 - 594.
27. P.Ganeshan, **K.Raja** (**2016**) "Improvement on the Mechanical Properties of Madar Fiber Reinforced Polyester Composites", Int J Adv Engg Tech/Vol. VII/Issue II/April-June,2016/261-264.
28. B.Ashok Kumar, K.Lingadurai, **K.Raja**, P.Ganeshan, S.Vairam (**2016**) "Prediction Effect of Fiber Content on Mechanical Properties of Banana and Madar Fiber Hybrid Polyester Composites", Advances in Natural and Applied Sciences 10(7), 180-183
29. D.Vinoth, **K.Raja**,B.Ashok Kumar, , P.Ganeshan, (**2016**) " Tensile Properties of Madar Fiber Reinforced Polyester Composites", Advances in Natural and Applied Sciences 10(7), 257-261.
30. V.S. Chandrasekar , **Dr.K.Raja** (**2016**) "Material Selection For Automobile Torsion Bar Using Fuzzy Topsis Tool" Int J Adv Engg Tech/Vol. VII/Issue II/April-June,2016/343-349.
31. A.Senthil Rajan, **K.Raja** (**2014)** Improving the Productivity of the single basin solar still Applied Mechanics and Materials Vols. 592-594 pp 2374-2378

32. A. Senthil Rajan, K**. Raja,** P. Mari Muthu, (**2014)** Augmentation of Single Basin and Pyramid Still Desalination Using Common Biomass Heat Source and Analytical Validation Using RSM. Australian Journal of Basic and Applied Sciences 8(10): 212-218,
33. A. Senthil Rajan **K. Raja** , P. Marimuthu, Multi basin desalination using biomass heat source and analytical validation using RSM, Energy Conversion and Management 87 (**2014**), Vol. 87, 359–366.
34. A. Senthil Rajan **K. Raja ,** P. Marimuthu , (2014) Increasing the productivity of pyramid solar still augmented with biomass heat source and analytical validation using RSM, Desalination and Water treatment, Vol 57 (10), 4406-4419
35. Vignesh kumar **K Raja**, P Marimuthu and K Chandrasekaran (**2014)** Multi Response Optimization On Aisi 410 And En 19 Steel In Turning Operation Using Grey Relational Analysis Vol. 3, No. 2, April
36. T Udayakumar, **K Raja**, A Tankse Abijeet, P Sathiya , (**2013)** Experimental Investigation Of Mechanical And Metallurgical Properties Of Super Duplex Stainless Steel Joints Using Friction Welding Process , Journal Of Manufacturing Process , 15 and 2013, 558 - 571 ,
37. T Udayakumar, **K Raja**, , P Sathiya M Hafsail hussain, (**2014)** Prediction And Optimization Of Friction Welding Paramenters For Super Duplex Stainless Steel Uns S32760 Joints , Journal Of Materials And Design , 53 and 2014, 226 - 235 ,
38. Dharmalingam S., Marimuthu P**., Raja K**. (**2014)** Machinability study on Al-10% TIC Composites and Optimum Setting of Drilling Parameters in Electrochemical Micro Machining Using Grey Relational Analysis. Latin American Applied Research, 44(4), 331-338.
39. Dharmalingam, S, Marimuthu, P, **Raja K**, Nithyapathi, C, Babu, B, Siva, M (**2014)**, Experimental Investigation on Electrochemical Micro Machining of Al-10%wt SiCp Based on Taguchi Design of Experiments , Int. Journal Review of Mechanical Engineering , vol. 8, no. 1, pp. 80 - 88.
40. Dharmalingam.S, Marimuthu, P, **Raja, K,** Pandyrajan. R, Surendar S (**2014),** Optimization of Process Parameters on MRR and Overcut in Electrochemical Micro Machining on Metal Matrix Composites Using Grey Relational Analysis,International Journal of Engineering and Technology, Vol. 6(2), pp. 519-529.
41. Dharmalingam Soorapparaju, Marimuthu Perumal**, Raja Kandhasamy**, Pandyrajan Rajendran (**2014)**, Simulation analysis of EMM on Metal Matrix Composites Using Taquchi, International Journal of Information Technology & Computer Sciences Perspectives, vol. 3, no. 1, pp. 843 – 850.
42. Chandrasekaran, K, Marimuthu, P, **Raja, K** & Manimaran, A (**2013)**, 'Machinability study on AISI410 with different layered inserts in CNC turning during dry conditions', Indian Journal of Engineering & Materials Sciences, vol. 20, pp. 398-404.

43. Chandrasekaran, K**,** Marimuthu, P & **Raja, K (2013)**, 'Prediction model for CNC turning on AISI316 with single and multilayered cutting tool using Box Behnken Design', International Journal of Engineering Transactions A: Basics, vol. 26, no. 2, pp. 621-630.
44. Chandrasekaran, K, Marimuthu, P & **Raja, K 2012,** 'CNC turning on AISI410 with single and nano multilayered coated carbide tools under dry conditions', Journal of Engineering and Technology, vol. 2, no. 2, pp. 75-81.
45. Chandrasekaran**, K,** Marimuthu, P & **Raja, K** (**2015)** 'Performance study on AISI316 and AISI410 using different layered coated cutting tools in CNC turning', Journal of Engineering Science and Technology, April 2015, vol. 10, no. 2.
46. Chandrasekaran**, K,** Marimuthu, P**, Raja, K** & Manimaran, A **2014**, 'Multi response optimization of machining parameters for turning stainless steel using coated tools, Applied Mechanics and Materials, vol. 573, pp. 644-648.
47. Marimuthu, P & Chandrasekaran**, K Raja, K 2012**, 'Machinability study on stainless steel and optimum setting of cutting parameters in turning process using Taguchi design of experiments', International Journal of Materials and Product Technology, vol. 43, Nos. 1/2/3/4, pp.122-133.
48. T.Balasundaram, **K.Raja (2014)** Study of Well-Structured Titanium Nano tubes AnodeSynthesisfor Solar Cell Applicationby Electrochemical Anodization Method,International journal of chemical tech. research.
49. V.S.ChandraSekar**, K.Raja,** and P.Marimuthu (**2014)** composite material selection using multi criteria decision making for automobile torsion bar, Applied mechanics and Materials
50. M. Manikandan, **K. Raja**, V.S. Chandrasekar (**2014) E**xperimental investigation on torsion bar suspension system using e- glass fibre reinforced composite material International Journal of Research in Engineering and Technology.
51. S.Narayanakumar, **K. Raja**, R. Dhanasekaran, M. Indradevi (**2014) A** review of application of intelligent techniques in earthquake prediction,IJEEER.
52. P.Ganeshan, **K.Raja**, K.Lingadurai, M.Kaliappan (**2015)** 'Design and Development Of Alternate Composite Material For An Automobile Drive Shaft' International Journal of Applied Engineering Research, Volume 10, Number 15, pp.12051 -12057.
53. P.Ganeshan, **K.Raja**, K.Lingadurai, M.Kaliappan (**2015)** 'Finite Element Analysis of Alternate Composite Material for an Automobile Drive Shaft' International Journal of Applied Engineering Research, Volume 10, Number 49, pp.447 - 452.
54. V.S.Chandra Sekar, **K.Raja**, K.Lingadurai (**2015)** 'Investiagation On Mechanical Behaviour Of Composite Material Based Torsion/Anti-Roll Bar For Automobiles' International Journal of Applied Engineering Research, Volume 10, Number 49, pp.434 - 438.

55. P.J.Devanand, M.Rajara2 , **K.Raja**, M.Balu (**2015)** 'A Survey of Data Security in cloud Computing using Third Party Auditing' International Journal of Applied Engineering Research, Volume 10, Number 49, pp.28-34
56. V.Mugesh Raja , V.Srinivasa Raman, **K.Raja** (**2016)** 'Design and Optimization of Flywheel using Prompthee' International Journal of Applied Engineering Research, Volume 10, Number 49, pp.494-499.
57. M. Rajeshwaran, **K. Raja**, P.Velmurugan, M.D. Duraimurugan alias Saravanan 'Optimization of Soxhlet Extraction of Prosopis Julifera Using Response Surface Methodology' International Journal of Applied Engineering Research, Volume 10, Number 49, pp.552-557.
58. **Raja K** and Kumanan S**. (2009)**, 'Multi Project scheduling using a Heuristic and Memetic algorithm', International Journal of Manufacturing science and Production, Vol. 10, No. 3-4, pp. 249-258.
59. **Raja K** and Kumanan S**.** (**2008**), 'Modeling Simulation of Manufacturing Projects', American Journal of Applied Sciences, Vol. 5 (12), pp. 1742-1749.
60. **Raja K** and Kumanan S. (**2007**), 'Resource Levelling using PetriNet and Memetic approach', American Journal of Applied Sciences, Vol. 4(5), pp. 317-322.
61. **Raja K** and Kumanan S**.** (**2008**), 'Petri net with Particle Swarm optimization technique for Resource leveling', International Journal of Manufacturing Science and Production, Vol. 9, No. 3-4, pp. 193-202.
62. **Raja K** and Kumanan S**.**, **2010'**Bacteria foraging algorithm for resource constrained manufacturing projects scheduling', Journal of Manufacturing technology Management. , Vol. 20, pp. 11-15.
63. Kumanan S., Jaganjose and **Raja K.** (**2005**), 'Multi project scheduling using heuristic and genetic algorithm', International Journal of Advanced Manufacturing Technology, Vol. 87, pp. 11-15.