

## RESEARCH SUPERVISOR DETAILS

Name : **Dr.S.RAJAKUMAR**  
Designation : Assistant Professor (Sl. Gr)  
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Mail Id : rajkumar1998@yahoo.co.in  
Faculty : Mechanical Engineering  
Supervisor Reg. No : 2120337  
Post Ph.D. experience : 13 years  
Scopus h index : 10 (Scopus ID: 36343933400)  
Google scholar h index : 12  
Google scholar i10 index: 16



### RESEARCH SCHOLARS (COMPLETED):

REGISTER NUMBER(FT/PT)	NAME OF THE SCHOLAR
1414289124 PT	ANANTHA RAMAN L
1522289705 FT	E.VARADHA
1513289745 PT	A.SURESH

### RESEARCH SCHOLAR (ONGOING):

REGISTER NUMBER (FT/PT)	NAME OF THE SCHOLAR
1514289838 PT	M.EDWIN
26142891185 PT	V.MUTHU RAMA PANDIAN

### PUBLICATIONS OF THE SUPERVISOR:

1. Venkatachalam, G., Harichandran, R., **Rajakumar, S.**, Dharma raja, C.Pandivelan. C., “*Determination of J-integral and stress intensity factor using the commercial FE software ABAQUS in austenitic stainless steel (AISI 304) plates*”, Int J Adv Manuf Tech., Special Issue, pp. 1-4, 2008. **(Impact Factor:1.238)**
2. **Rajakumar, S.** and Ravindran, D. “*Performance Evaluation of Different NACA 4 Series Airfoils for Wind Turbines*”, International Journal of Fluids Engineering, Vol. 2, pp. 57-68, 2010.
3. **Rajakumar, S.** and Ravindran, D. “*Computational fluid dynamics of wind turbine blade at various angles of attack and low Reynolds number*”, International Journal of Engineering Science and Technology, Vol. 2, pp. 6474-6484, 2010.

4. M.Koilraj Gnanadason, P.Senthil Kumar, **S.Rajakumar**, M.H.Syed Yousuf, “*Effect of Nanofluids in a vacuum single basin solar still*” International Journal of Advanced Engineering research and Studies, Vol.1, issue.1, pp.171-177, 2011.
  5. **Rajakumar, S.** and Ravindran, D. “*Iterative approach for optimizing coefficient of power, coefficient of lift and drag of wind turbine rotor*”, Renew. Energy, Elsevier, Vol. 38, pp. 83-93, 2012. **(Impact Factor: 8.6)**
  6. **Rajakumar, S.** and Ravindran, D. “*Optimization of wind turbine power coefficient parameters using hybrid technique*”, J. Inst. Eng. India Ser. C, Springer, Vol. 93, No. 2, pp. 141-149, 2012. **(SNIP Impact Factor: 1.31)**
  7. Abinaya Sorna Jothi, P. and **Rajakumar, S.**, “*Performance of PCM and Cooking Vessel in Solar Cooking System*”, International Journal of Engineering Inventions, Vol.2, No.6, pp.83-89, 2013.
  8. Sowmini Priya and **Rajakumar, S.**, “*An Energy Storage System for Wind Turbine Generators-Battery and Supercapacitor*”, International Journal of Engineering Research and Applications, Vol.3, No.2, pp.1219 – 1223, March - April 2013.
  9. Dhanusia and **Rajakumar, S.**, “*Thermal Analysis of PCM based building wall for cooling*”, International Journal of Science, Engineering and Technology Research, Vol.2., No.4., pp. 850-857, 2013.
  10. Kokila, R.N. and **Rajakumar, S.**, “*Performance Evaluation of Solar Assisted Heat pump water heating system*”, IOSR Journal of Engineering, Vol.3, No.4., pp.12-17, 2013.
  11. Prawyn Jeba.V.P. and **Rajakumar, S.**, “*Improving the Reliability in PMSM for Wind Turbine*”, International Journal of Engineering Research and Development, Vol.6, No.11., pp.55-61, 2013.
  12. Esakkimuthu N and **Rajakumar, S.**, “*Structural Analysis of Composite Material Drive Shaft Using FEM*”, The International Journal of Science & Technoledge, Vol.2, No.4., pp. 140-146, 2014.
  13. Muruganantham G and **Rajakumar, S.**, “*Finite Element Analysis of Torispherical Shell*” The International Journal of Science & Technoledge, Vol.2, No.4., pp. 130-135, 2014.
  14. Kokila R N and **Rajakumar, S.**, “*Thermal performance analysis and optimization of solar Assisted heat pump water heater*”, Applied Mechanics and Materials, Vols. 592-594, pp 2416-2421, 2014. **(Impact Factor: 3.88)**
  15. Vishnu Prasad, G. Venkatachalam, Akshat Rathi, **Rajakumar, S.**, “*Finite Element Analysis of Jute Fibre Made Hybrid Polymer Matrix Composite*” Applied Mechanics and Materials, Vols. 592-594, pp 363-367, 2014.**(Impact Factor: 3.88)**
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16. Vishnu Prasad, Ajil Joy, G. Venkatachalam, S.Narayanan, **S.Rajakumar**, “*Finite Element analysis of jute and banana fibre reinforced hybrid polymer matrix composite and optimization of design parameters using ANOVA technique*”, *Procedia Engineering*, Vol. 97, pp.1116 – 1125, 2014.**(Impact Factor: 0.334)**
  17. N. Karthikeyan , K. Kalidasa Murugavel, S. Arun Kumar, **S. Rajakumar.**, “*Review of aerodynamic developments on small horizontal axis wind turbine blade*” *Renewable and Sustainable Energy Reviews*, Vol. 42 (2015), pp. 801–822. **(Impact factor :16.79)**
  18. A.Sethu Ramalingam, **Rajakumar, S.**, “*Parametric modeling & study of structural characteristics of wind turbine blade*”, *International journal of engineering and computer science*”, Vol. 4, No. 5, pp. 141-149, 2015
  19. P.Premalatha, **S.Rajakumar**, “*Design of the small horizontal axis wind turbine blade with and without winglet*”, *International Journal of Research in Science & Technology*, 6 (1) 40-50 (2016)
  20. T.Vijay, **S.Rajakumar**, “*Generation of electric current from industrial exhaust by using turbocharger*”, *International Journal of Research in Science & Technology*, 6 (1) 67-72, (2016)
  21. R.Immanual, **S.Rajakumar**, “*Performance evaluation and optimisation of cross flow cooling tower*”, *International Journal of Research in Science & Technology*, 6 (1) 81-89, (2016)
  22. K.K. Dinesh Kumar, **S.Rajakumar**, “*Review on biogas production from co-digestion of cow dung and food waste with water hyacinth*”, *International Journal of Research in Science & Technology*, 6 (1) 119-124 (2016)
  23. S.John Paul Devaseelan, **S. Rajakumar**, “*Review on mechanical & thermal properties of hybrid reinforcement polymer composite*”, *International Journal of Research in Science & Technology*, 6 (1) 125-139 (2016)
  24. J.Jaisy , **Dr.S.Rajakumar**, “*Turbulence analysis on a 5kw horizontal axis wind turbine using CFD*”, *International Journal of Research in Science & Technology*, 6 (1) 148-157 (2016)
  25. M.Annal Rajam, **S.Rajakumar**, “*Control of temperature in bio-digester using phase change material (PCM)*”, *International journal of research in social sciences & humanities*, 6 (1) 86-93 (2016)
  26. B. Paul **Vinofer, S.Rajakumar**, Cooling load calculation and design of air conditioning system in automobile, *International journal of research in social sciences & humanities*, 6 (1) 94-103 (2016)
  27. G.Sureshkumar, **S.Rajakumar**, “*Empirical review on car radiator by using nanofluids*”, *International journal of research in social sciences & humanities*, 6 (1) 118-124 (2016)
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28. S.Premkumar, **S.Rajakumar**, “*A review paper on development of microwind turbine for automotives*”, International journal of advances in engineering research 10 (6) 139-144 (2015)
  29. A Suresh, **S Rajakumar**, “*Design and experimental investigation of micro wind turbine*”, International journal of advances in engineering research, 10 (6) 216-224 (2015)
  30. S. Daniel Selvakumar, R. Immanuel, **S. Rajakumar**, “*Calculation of cooling load for mushroom cultivation*”, International journal of advances in engineering research, 10 (6) 196-202 (2015)
  31. B.Paul Vinofer, **S.Rajakumar**, “*CFD evaluation on effect of double glazing over single glazing in a small utility vehicle*”, International journal of Research in Science & Technology, 6 (3) 82-89 (2016).
  32. S.Daniel Selvakumar , R.Immanuel , **S.Rajakumar**, “*Design and fabrication of photo voltaic refrigeration system for mushroom cultivation*”, International journal of Research in Science & Technology, 6 (3) 90-95 (2016).
  33. S.Premkumar, **S.Rajakumar**, “*Development on microwind turbine for automotives*”, International journal of Research in Science & Technology, 6 (3) 96-102 (2016).
  34. G.Sureshkumar, S.Rajakumar, **S.Ayyappan**, “*Experimental and numerical analysis on car radiator by using nanofluids*”, International journal of Research in Science & Technology, 6 (3) 103-111 (2016).
  35. K.K.Dinesh Kumar, **S.Rajakumar**, S.Ayyappan, “*Kinetic study on the effect of water hyacinths in food waste biogas production*”, International journal of Research in Science & Technology, 6 (3) 112-117 (2016).
  36. R.Immanuel, **S.Rajakumar**, B.Ragupathi, S.P.Ramkumar, “*Decrease the outlet water temperature of cross flow cooling tower*”, International journal of advances in engineering research, 11 (6) 1-7 (2016)
  37. C.Ashok, **S.Rajakumar**, Y.Balamurali, “*Finite element analysis of aluminum sandwich composite material*”, International journal of advances in engineering research, 11 (6) 8-14 (2016)
  38. T.Vijay, **S.Rajakumar**, S.Ayyappan, “*CFD analysis on electric current generation from industrial exhaust by using turbocharger*”, International journal of advances in engineering research, 11 (6) 15-21 (2016)
  39. S.John Paul Devaseelan, **S.Rajakumar**, “*Mechanical & Thermal properties of hybrid reinforcement polymer composite*”, International journal of advances in engineering research, 11 (6) 29-37 (2016)
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40. P.Premalatha, **S.Rajakumar**, “*CFD analysis of the small horizontal axis wind turbine blade with and without winglets*”, International journal of advances in engineering research, 11 (6) 38-46 (2016)
41. J.Jaisy, **S.Rajakumar**, “*CFD analysis of 5kw horizontal axis wind turbine*”, International journal of advances in engineering research, 11 (6) 47-55 (2016)
42. **S. Rajakumar**, D.Ravindran, M. Sivakumar, G.Venkatachalam, S. Muthukumar, “*Optimization of Power Coefficient of Wind Turbine Using Genetic Algorithm*”, J. Inst. Eng. India Ser. C, Springer, Vol. 98 No. 2 111–118 April (2017) (**Impact Factor: 1.31**)
43. Vandana Vidyadhari, **S.Rajakumar**, “*Aerodynamic design of mach 5 nozzle in large hypersonic wind tunnel*”, International Journal of Research in Science and Technology, Vol.7, Issue No. III, Jul-Sep 2017.
44. L.Anantha Raman, **S. Rajakumar** “*CFD Modeling and experimental measurement of fluid flow characteristics, swirl motion, Tumble motion in compression ignition engines – A Review*”, Journal of Research Innovations in Engineering & Technology, Vol. II, Issue 2, pp 16-24, 2016
45. L. Anantha Raman, **S. Rajakumar**, Lokesh Paradeshi, “*Effect of thermal barrier coating on performance and emission characteristics of a diesel engine*”, International Journal of Advanced Engineering Technology, Vol. VII, Issue I/Jan.-March, 851-853, 2016
46. Anantha Raman, L., **Rajakumar S**, Deepanraj B, and Paradeshi L, “*Study on performance and emission characteristics of a single cylinder diesel engine using exhaust gas recirculation*”, THERMAL SCIENCE, Year 2017, Vol. 21, (2), pp. S435-S441, 2017 (**Impact Factor:1.87**)
47. **Rajakumar.S** and Aumugasamy.M “*Design and performance improvement of darrieus type VAWT and solar hybrid system*”, SSRG International Journal of Electrical and Electronics Engineering (SSRG-IJEEE)-Special Issue ICCREST, pp 23-28, April 2018
48. E.Varadha and **Rajakumar.S** “*Design And Optimization of Piezoelectric Cantilever Beam for Improving Energy Harvesting using Taguchi’s Analysis*”, TAGA Journal, pp 502-513, 2018
49. E.Varadha and **Rajakumar.S** “*Performance improvement of piezoelectric materials in energy harvesting in recent days – a review*”, JOURNAL OF VIBROENGINEERING, pp 2632-2650, Vol. 20, Issue 7, NOVEMBER 2018(**Impact Factor:0.723**)
50. Gowtham and **Rajakumar**, “*Investigation of Natural Fiber Composite Material for Building Cooling System*”, International Journal of Science and Research, pp 1154 – 1156, Vol.8, No.1, January 2019.
51. L. Anantha Ramana, B. Deepanraj, **S. Rajakumar**, V. Sivasubramanian, “*Experimental investigation on performance, combustion and emission*

analysis of a direct injection diesel engine fuelled with rapeseed oil biodiesel”, FUEL, pp 69 – 74, Vol.246, February 2019.(**Impact Factor:8.03**)

52. Gowtham and **Rajakumar**, “Design and Analysis of Concrete Building without Insulation and with Insulation using ANSYS 15 Software”, International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056, Volume: 06, Issue: 05, pp 6392-6395, May 2019
53. A. Suresh and **S. Rajakumar**, “Design of small horizontal axis wind turbine for low wind speed rural applications”, Materials Today: Proceedings, Volume:23, Issue:1, pp 16-22, 2020  
<https://doi.org/10.1016/j.matpr.2019.06.008>(**Impact Factor:0.575**)
54. A.Manikandan and **S.Rajakumar**, “A review on natural fiber and its characteristics”, Industrial Engineering Journal, ISSN: 0970-2555, Volume:13, Issue:3, pp 21 – 28, March 2020.
55. S.Kaviyarasu and **S.Rajakumar**, ” Review on Battery Thermal management system using phase change material”, International Research Journal of Modernization in Engineering Technology and science, e ISSN: 2582-5208, Volume :2, Issue:3, pp 797 – 814, March 2020.
56. E. Varadha, **S. Rajakumar**, R. Immanuel, X.S. Ashok Jain, “Vibration analysis of transverse galloping of different bluff bodies”, Materials Today: Proceedings, Vol.45, Part 2, pp 1274-1279, May 2021  
<https://doi.org/10.1016/j.matpr.2020.05.017> (**Impact Factor: 0.575**)
57. N. Muthu Saravanan, **S. Rajakumar**, A. Arul Marcel Moshi, “Experimental Investigation on the performance enhancement of single basin double slope solar still using kanchey marbles as sensible heat storage materials”, Materials Today: Proceedings, Vol 39, Part 4, pp 1600 -1604, March 2021.  
<https://doi.org/10.1016/j.matpr.2020.05.710> (**Impact Factor: 0.575**)
58. E.Varadha, **S.Rajakumar** and X.S.Ashok Jain, “Wind Driven Leaf like Thin Film Piezoelectric harvester fro low Wind applications”, Journal of Vibration Engineering & Technologies, Vol.9, pp. 1005-1022, January 2021.(**Impact Factor: 2.3**)
59. V. Gopalan, S. Rajarajan, M. Wilson, J. Venkatesan, M. Elango, S. Natarajan, **S. Rajakumar**, “Studies on fly ash/coir/sugarcane reinforced epoxy polymer matrix composite”, Materials Science & Engineering Technology, <https://doi.org/10.1002/mawe.202200037>, Feb 2023. (**Impact Factor : 1.85**)

60. Suresh A, Rajakumar S, Robert Cep, Sivakumar M, “Optimization and Experimental Investigation of 3D printed Microwind Turbine blade made of PLA material”, Materials, <https://doi.org/10.3390/ma16062508>. Vol.16, No.6, March 2023.(**Impact Factor : 3.748**)
61. **M.Edwin, S.Rajakumar**, “Levy Flight Equilibrium Optimizer–Based Wing Design Optimization Using Functional Constraints”, Journal of Aerospace Engineering, Vol.36, No.5, June 2023 <https://doi.org/10.1061/JAEEZ.ASENG-3874> (**Impact Factor : 2.242**)
62. V.S. Greeshma, **S. Rajakumar**, Sravanthi, “Fatigue analysis of wind turbine blade for various materials”, Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2023.06.325>, July 2023.
63. Suresh A, Rajakumar S, Belqasem Aljafari, Sudhakar Babu Thanikanti, “**Investigations of the performance of 3D printed micro wind turbine composed of PLA material**”, Heliyon, Vol.10 No. 3, February 2024.
64. Rajakumar, S., Suresh, A., Greeshma, V.S. “**Influence of Infill in Additive Manufacturing of Wind Turbine Blades Using PLA and ABS Materials**”. Recent Developments in Wind Engineering, Lecture Notes in Mechanical Engineering. Springer, Singapore. June 2025. [https://doi.org/10.1007/978-981-97-9947-3\\_31](https://doi.org/10.1007/978-981-97-9947-3_31)

#### **HONOURS / AWARDS(RECEIVED FROM PUBLISHER ):**

1. Received “**Sir Rajendra Nath Mookerjee Memorial Award**” from The Institution of Engineers (India) for best paper publication in The Journal of Institution of Engineers (India) on 20<sup>th</sup> December 2013 at 28<sup>th</sup> Indian Engineering Congress held at Chennai.
2. Received “**Best paper award**” for paper titled “Effect of Tubercle leading edge control surface on the performance of the double delta wing fighter aircraft” from International association of Engineering & Technology for skill development on 24<sup>th</sup> May 2015.