

## **FACULTY PROFILE**

Name (Capital Letters) : S.RAJAKUMAR  
Designation : Assistant Professor  
Department : Mechanical Engineering  
Mail Id : rajkumar1998@yahoo.co.in,  
rajakumar.s@auttv.ac.in

Education Qualification :

| <b>Degree</b> | <b>Specialization</b> | <b>University</b>  | <b>Awarded Year</b> |
|---------------|-----------------------|--|---------------------|
| B.E.          | Mechanical Engg       | Institute of Road and Transport Technology, Erode, Bharatiyar University | 1998                |
| M.Tech.       | Energy Engg           | National Institute of Technology, Trichy                                 | 2003                |
| Ph.D.         | Mechanical Engg       | Anna University  | 2013                |

Professional Experience:

| <b>Name of Company / Institutions</b>                               | <b>Designation of Post</b> | <b>From</b> | <b>To</b>  | <b>Experience in Year</b> |
|---|----------------------------|-------------|------------|---------------------------|
| Regional Campus Anna University, Tirunelveli                        | Assistant Professor        | 28.10.2009  | Till Date  | 11 years 2 months         |
| Infant Jesus College of Engineering and Technology                  | Assistant Professor        | 22.06.2009  | 26.10.2009 | 4months                   |
| SCAD College of Engineering and Technology, Tirunelveli, Tamilnadu. | Assistant Professor        | 28.11.2007  | 18.06.2009 | 1year 7 months            |
| National Engg. College, Kovilpatti, Tamilna                         | Senior Lecturer            | 01.06.2007  | 19.11.2007 | 5 months                  |
| National Engg. College, Kovilpatti, Tamilnadu                       | Lecturer                   | 18.01.1999  | 31.05.2007 | 8 yrs 4 months            |

Area of Specialization: Energy Engineering, Wind Turbine system

Academic / Additional Responsibilities:

1. Deputy Warden for the boys Hostel of Regional Centre of Anna University, Tirunelveli from July 2013 to August 2016.
2. Committee member to identify and monitor issues related to ragging in the campus in 2014.
3. Hostel Mess Monitoring Committee member.
4. Magazine (2013-2014) Editorial Committee member.
5. Board chairman of Mechanical Engineering for the Central Valuation of Anna University from 2013 to 2018
6. Academic council member of Anna University of Technology, Tirunelveli from 2010 to 2011.
7. Member of Board of Studies for Mechanical Engineering in National Engineering College, Kovilpatti (Autonomous Institution) from 2011 to 2013 as University Representative.
8. Served as Head of Mechanical Engineering 05.10.2015 Department from August 2015 to 04.02.2020.
9. Chief Superintendent of Anna University Examinations from 8.4.2019 to 31.5.2019
10. Chief Superintendent of Anna University Examinations from 04.11.2019 to 12.01.2020
11. Worked as Exam cell Coordinator from 03.07.2019 to January 2020

Committee Member: (Representation in any Committee)

Professional Membership : Life Member in ISTE

Research Guidance (mention the total count in each)

- i. PG : 72
- ii. Ph.D : 4

Publications (National/International):

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: 3.2**)
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 2011: 0.122**)
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.
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.
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.
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 :5.51**)
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)
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. Immanual, **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.Immanual , **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.Immanual, **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)
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, Vol. 98 No. 2 111–118 April (2017)
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
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
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.

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>
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. Immanual, X.S. Ashok Jain, “Vibration analysis of transverse galloping of different bluff bodies”, Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2020.05.017>
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, <https://doi.org/10.1016/j.matpr.2020.05.710>.

Conferences (National/International)

### **International Conferences:**

1. **S.Rajakumar**, P.Prabaharan Graceraj, P.Mahendra Kumar and S.Ayyapan, “*Design Optimization and Stress Analysis of Wind Turbine Blade NACA 4435*”, Proceedings of International conference EAST 2005, Noorul Islam College of Engg., Thuckalay, Tamilnadu, India, pp. 1016-1028, 16th &17<sup>th</sup> Nov 2005.
2. **S.Rajakumar** and D.Ravindran, “Aerodynamic Analysis of different NACA 4 series Airfoils”, Proceedings of International Conference on Recent Advances in Mechanical Engineering, Noorul Islam University, Thuckalay, Tamilnadu, pp.149 – 154, 2010.



3. R.K.Kiruthika, **S.Rajakumar**, “*Structural Analysis of Wind turbine blades*”, International Conference on Advances in Engineering and Technology, May 27-28, 2011.
4. A.Panimaya Selvi Isable and **Rajakumar**, “ Thermal analysis of Pin Fin heat sink for low temperature heat dissipation in electronic device”, International Conference on Thermal Energy and Environment (INCOTEE – 2011), Kalasalingam University, 24-26 March 2011.
5. A.Santhosh Raja, I.Kirubakaran, A.Suresh and **S.Rajakumar**, “*Performance of Small Wind Turbine Blade for various materials*”, Proceedings of International Conference on Renewable Energy Technologies, PSG College of Technology, Coimbatore, Tamilnadu, India, pp.114 -118, 16<sup>th</sup> -17<sup>th</sup> December 2011.
6. P.Saji Raveendran, S.Rajakumar, “CFD Analysis of Airfoil of Wind Turbine Blades”, Proceedings on International Conference on Thermal Energy and Environment (INCOTEE 2011).
7. I.Kirubakaran, **S.Rajakumar**, “*Development of small wind turbine blades with low cost material*”, International Conference on Recent Advances in Mechanical Engineering, Dr.M.G.R. Educational and Research Institute University, 19<sup>th</sup> and 20<sup>th</sup> April, 2012.
8. G.Xaviour, **S.Rajakumar**, “*Design of timed solar tracker and performance measurement of photovoltaic panel*”, International Conference on Recent Advances in Mechanical Engineering, Dr.M.G.R. Educational and Research Institute University, 19<sup>th</sup> and 20<sup>th</sup> April, 2012.
9. M.Prakash, **S.Rajakumar**, “*Effect of various absorbing materials on the thermal performance of solar stills*”, International Conference on Recent Advances in Mechanical Engineering, Dr.M.G.R. Educational and Research Institute University, 19<sup>th</sup> and 20<sup>th</sup> April, 2012.
10. A.Suresh, **S.Rajakumar**, “*Design of micro wind turbine blade*”, International Conference on Recent Advances in Mechanical Engineering, Dr.M.G.R. Educational and Research Institute University, 19<sup>th</sup> and 20<sup>th</sup> April, 2012.
11. W.Mary Nishanthi and **S.Rajakumar**, “*Development of Correlation for Coefficient of lift and drag using parametrical modeling*”, International Workshop and Conference on “Renewable Energy and Climate Change – Exploring Opportunities for Sustainable Development, Madurai Kamaraj University, Madurai, Tamilnadu, India, 5<sup>th</sup> – 7<sup>th</sup> April 2012.

12. A.Ramesh Devi and **S.Rajakumar**, “*Maximization of Power Coefficient of wind turbine blade using Genetic Algorithm*”, International Workshop and Conference on “Renewable Energy and Climate Change – Exploring Opportunities for Sustainable Development, Madurai Kamaraj University, Madurai, Tamilnadu, India, 5<sup>th</sup> – 7<sup>th</sup> April 2012.
13. J.Evangelin Jesly and **S.Rajakumar**, “*Optimization of wind turbine blade using neural network and genetic algorithm*”, International Workshop and Conference on “Renewable Energy and Climate Change – Exploring Opportunities for Sustainable Development, Madurai Kamaraj University, Madurai, Tamilnadu, India, 5<sup>th</sup> – 7<sup>th</sup> April 2012.
14. **Prince Chandrakanth. T and S.Rajakumar**, “Performance evaluation of small wind turbine using combined BEM method and CFD”, International Conference on technological convergency of information, health, food and energy security”, Central leather research institute, Council of scientific and industrial research, 1<sup>st</sup> and 2<sup>nd</sup> May 2015.
15. S.Madasamy and **S.Rajakumar**, “Finite element analysis of automobile crankshaft with various materials”, Proceeding of International Conference on Applied research in Engineering and Technology – ICArEt 2015, pp. 80-82, 2<sup>nd</sup> May 2015
16. **Sri Ram and S.Rajakumar**, “Design and performance improvement of wind turbine using thin Airfoils”, TEQIP II Sponsored International Conference on sustainable energy systems and energy management, 2015
17. R.Immanual, E.Varadha and **S.Rajakumar**, “Study and design of weight controlled suicidal preventive clamp” Proceedings of the International Conference on Materials, Design and Manufacturing Process ICMDM ‘16 February 17-19, 2016, Chennai.
18. L. Anantha Raman, **S. Rajakumar**, B. Deepanraj, Lokesh Paradeshi, “Study on performance and emission characteristics of a single cylinder diesel engine using Exhaust gas recirculation”, *International Conference cum Exhibition on Renewable and Sustainable Energy (ICRSE-2017), Coimbatore, India, pp. 216 - 224, April 12-13, 2017*
19. L. Anantha Raman, **S. Rajakumar**, B. Deepanraj, M. Srinivas, “Performance, combustion and emission analysis of a compression ignition engine using rapeseed oil bio-diesel”, *International Conference cum Exhibition on Renewable and Sustainable Energy (ICRSE-2017), Coimbatore, India, pp. 248 -259, April 12-13, 2017*

20. Varadha and **Rajakumar**, “Optimization of Cantilever Beam in Wind Energy Harvesting System” Proceedings of International Conference on Trends and Advanced Research in Green Energy Technologies, ICTARGET-2017 organised by VIT University, Vellore, March 30 – 31, 2017
21. Greeshma and **RajaKumar**, “Analysis of Fatigue Characteristics of Horizontal Axis Wind Turbine Blade” Proceedings of International Conference on Trends and Advanced Research in Green Energy Technologies, ICTARGET-2017 organised by VIT University, Vellore, March 30 – 31, 2017
22. Rajasekaran, Suresh and **Rajakumar**, “Design and Development of Low Reynolds Number Airfoil for Small Horizontal Axis Wind Turbine” Proceedings of International Conference on Trends and Advanced Research in Green Energy Technologies, ICTARGET-2017 organised by VIT University, Vellore, March 30 – 31, 2017
23. **S.Rajakumar** and Arumugasamy. M, “Design and Performance improvement of Darrieus type VAWT and solar hybrid system”, Proceedings of International Conference on Current research in Engineering Science and Technology organised by Jayaram College of Engineering and Technology, pp. 77-82, 30<sup>th</sup> April 2018.
24. C.Kaarthiganesh and **S.Rajakumar**, “Experimental Investigation of PV/T System by splash type cooling tower with cooling storage material”, Proceedings 2nd International Conference on frontiers in Engineering, Applied Sciences and Technology organised by National Institute of Technology Tiruchirappalli, pp. 197-184, 27-28<sup>th</sup> April 2018.
25. S.Rakesh, A.Suresh and **S.Rajakumar**, “ Design and development of waving blade of small wind turbine”, Proceedings of 3<sup>rd</sup> International Conference on Recent Trends in Engineering and Technology (ICRTET – 2018), organised by St.Joseph’s Institute of Technology, 4<sup>th</sup> & 5<sup>th</sup> May 2018
26. N.Muthu Saravanan and **S.Rajakumar**, “An Experimental Performance analysis of single basin double slope solar still with Kanchey Marbles”, Proceedings of International Conference on Desalination (InDACON – 2018),organised by National Institute of Technology, Tiruchirappalli & Indian Desalination association on 20<sup>th</sup> & 21<sup>st</sup> April 2018.

## **National Conferences:**

1. P.Mahendra Kumar, **S.Rajakumar**, S.Somesh Subramanian, S.Ayyappan and P.Prabhakaran Graceraj, "*Effect of Composite Material in the Performance & Emission Characteristics of S.I. Engine*", AICTE sponsored National Conference on Production & Processing of Composite Materials, Mahendra Engineering College, Namakkal, India, pp. 68-73, 26-27 Nov 2004.
2. G.Venkatachalam and **S.Rajakumar**, "*Micro Analysis of foam using unit cell approach (RHOMBODO DECA HEDRON) – Closed cell*", National Conference on Emerging Materials and Technologies for India – 2020, National Institute of Technology, Tiruchirappalli, India.
3. G.Venkatachalam and **S.Rajakumar**, "*Determination of J.Intergral and stress intensity factor using Abaqus*", National Conference on Recent Advances in Mechanical Engineering, National Engineering College, Kovilpatti, India, 20-21 March 2008.
4. Mariappan and **S.Rajakumar**, "*Fluid flow analysis of centrifugal pump impeller using computational fluid dynamics*", National Conference on Recent trends in Mechanical Engineering (RTIME'08), Sardar Raja College of Engineering, Alangulam, Tamilnadu, India, 05<sup>th</sup> April 2008.
5. E.Varadha and **S.Rajakumar**, "*Study of aerodynamic performance of airfoils using BEM method*", First National Conference on Energy Efficient Mechanical system design and manufacturing, PSG Institute of Technology, Coimbatore, Tamilnadu, India, 11-12<sup>th</sup> March 2011.
6. **S.Rajakumar** and E.Varadha, "Study of Optimization design in HAWT Blades", Proceedings of National Conferences on Advanced Design and Manufacture, Einstein College of Engineering, Tirunelveli, Tamilnadu, pp.220 – 225, 06<sup>th</sup> and 07<sup>th</sup> January 2011.
7. S.Muthukumar and **S.Rajakumar**, "*Design Optimization of Wind Turbine Blades*", National Conference on Recent Trends in Mechanical Engineering, Dr.Sivanthi Aditanar College of Engineering, Tiruchendur, Tamilnadu, 25<sup>th</sup> March 2011.
8. S.Angel Selva Packyam and **S.Rajakumar**, "Flow Analysis in a burner for Domestic Application", Two day National Conference on Emerging Trends in Engineering and Technology (NCETET-2013), pp.414 – 418. 11<sup>th</sup> & 12<sup>th</sup> April 2013.

9. Paranthaman.K, **S.Rajakumar**, :CFD Simulation Of Wind Turbine Blade For Low Wind Site”, Sixth national conference “EDQUEST 14” Dept of Mechanical Engg, Government college of Engineering, Tirunelveli.
10. Gokulkumar K.G, **S. Raja kumar**, “Optimisation of chord and twist angle of the wind turbine blade”, Sixth national conference “EDQUEST 14” Dept of Mechanical Engg, Government college of Engineering, Tirunelveli.
11. Anish.A, **S. Raja kumar**, “Performance analysis of hemispherical fin plate heat exchanger”, Sixth national conference “EDQUEST 14” Dept of Mechanical Engg, Government college of Engineering, Tirunelveli.
12. Shankar ganesh.P, **S. Raja kumar**, “Structural Analysis Of Wind turbine Blade Using Uni Directional Carbon Fibre Composite Material”, Sixth national conference “EDQUEST 14” Dept of Mechanical Engg, Government college of Engineering, Tirunelveli.
13. S.Prabaharan, **S. Raja kumar**, “Effect Of Optimum Pitchon Performance Of Wind Turbine”, Sixth national conference “EDQUEST 14” Dept of Mechanical Engg, Government college of Engineering, Tirunelveli.
14. V.Anto, **S. Raja kumar**, “Solar dryer for drying banana fruit”, Sixth national conference “EDQUEST 14” Dept of Mechanical Engg, Government college of Engineering, Tirunelveli
15. M.S.Sinda Peer kahder Mohideen, **S. Raja kumar**, “Performance analysis of solar assisted heat pump using alternate refrigerant”, Sixth national conference “EDQUEST 14” Dept of Mechanical Engg, Government college of Engineering, Tirunelveli
16. **Prince Chandrakanth. T and S.Rajakumar**, “Performance evaluation of small wind turbine using CFD”, TEQIP II sponsored National Conference on contemporary approaches in design and manufacturing (CADAM 15), Alagappa chettiar college of engineering and technology, 23<sup>rd</sup> April 2015
17. **L. Anantha Raman, S. Rajakumar and B. Deepanraj**, “Performance, Combustion and Emission Analysis of a Compression Ignition Engine using Rapeseed Oil Bio-Diesel”, *Proceedings of the National Conference on Waste to Energy, Carbon Capture and Storage (NCWECCS – 2017) NIT Rourkela, India, 3-5 August 2017*
18. N.Ayyappan and **S.Rajakumar**, “Design of Energy Efficient Building using phase change material”, Proceedings for 2<sup>nd</sup> National Conference on

Automaotive systems design, Manufacturing and integration (ASDMI 18), organised by Kumaraguru College of Engineering, 28<sup>th</sup> April 2018.

19. P.Jeevanatham and **S.Rajakumar**, “Design and Fabrication of a Piezoelectric energy harvester”, Proceedings for 2<sup>nd</sup> National Conference on Automaotive systems design, Manufacturing and integration (ASDMI 18), organised by Kumaraguru College of Engineering, 28<sup>th</sup> April 2018.

### **Expert Lecture Delivered:**

1. Delivered a Guest Lecture on “**Wind Energy**” at Saranathan College of Engineering, Trichy on 30<sup>th</sup> September & 1<sup>st</sup> October 2002.
2. Presented Guest Lecture on Solar Energy in One day Workshop on “**Renewable Energy – Energy of the future**” organized by PET Engg. College, Vallioor on 18/08/2006.
3. Presented Special Lecture On Solar Energy in One day Workshop on “**Renewable Energy**” organized by Energy Club of National Engineering College on 19/08/2006.
4. Presented Guest Lecture on “**Wind Energy Conversion Technology**” at M.S.P.V.L Polytechnic College, Poovorchatram on 06.08.2007.
5. Resource person ofr National level Technical symposium (JACSIUM – 2011) at Jayaraj annapackiam C.S.I College of Engineering on 19<sup>th</sup> March 2011.
6. Presented Guest Lecture on “**Scope for Mechanical Engineers**” at Chandy Polytechnic College, Thoothukudi on 08.02.2013.
7. Presented Expert lecture on “**Wind Turbine Technologies**” in the Faculty development programme organized by Department of Mechanical Engineering, Government College of Engineering, Salem on 21.10.2013.
8. Presented Expert lecture on “**Advanced Computational Fluid Dynamics in Green Technologies**” in the AICTE Sponsored Faculty Development Programme organized by Department of Mechanical Engineering, Sethu Institute of Technology, Virudhunagar on 05.11.2013
9. Acted as Panel member to conduct interview at S.Veerassamy Chettiar College of Engineering and Technology on 03.07.2014

10. Served as Jury for the Technical session of 15<sup>th</sup> National level Technical symposium – Efficacy 2K15 at Institute of Road and Transport Technology, Erode on 6<sup>th</sup> March 2015.
11. Resource person for “Two Days workshop on Finite Element analysis”, at Einstein College of Engineering on 29<sup>th</sup> & 30<sup>th</sup> May 2015.
12. Chief Guest for Mechanical Engineering Association – Inaugural function at Dr.Sivanthi Aditanar College of Engineering on 30<sup>th</sup> July 2015.
13. Resource person for the GoI Ministry of New & Renewable Energy Sponsored State level seminar on “Advances in Solar Thermal Energy systems” at Francis Xavier Engineering College, Tirunelveli On 31<sup>st</sup> July 2015.
14. Presented Guest Lecture on “**Awareness on learning mechanical software**” at Einstein College of Engineering, Tirunelveli on 14.08.2015
15. Resource person for the “**One day workshop on Application of Finite Element Method in Aerospace Industry**” on 27<sup>th</sup> February 2017 at PSN College of Engineering & Technology, Tirunelveli.
16. Chairperson & Advising Committee member for “**A One day National Conference on Innovations and Recent Trends in Mechanical Engineering**” on 20<sup>th</sup> February 2017 at University V.O.C College of Engineering, Tutircorin.
17. Jury for the 4<sup>th</sup> national Level Technical Symposium “**PEMETRIX 17**” on 23<sup>th</sup> February 2017 at University V.O.C College of Engineering, Tutircorin.
18. Resource person of “**National Level Technical Workshop on 3D Printing**” at Rohini College of Engineering and Technology, Kanyakumari on 11.08.2017.
19. Resource person of “**One day Workshop on 3D Printing Technology**” at Annai Vailankanni College of Engineering, Kanyakumari on 18.08.2017.
20. Resource person of “**Workshop on Recent Advancements in 3D Printing**” at V V College of Engineering, Kanyakumari on 30.08.2017 & 31.08.2017.
21. Resource person of “**Workshop on 3D Printing**” at Dr.Sivanthi Aditanar College of Engineering on 12.09.2017
22. Resource person of “**One Day Workshop on 3D Printing**” at PET Engineering College on 15.09.2017.

23. Delivered Chief guest address at **5<sup>th</sup> National level Technical Symposium JOINTS'17** at Mother Theresa Engineering College on 25.09.2017.
24. Resource person of "**One Day Workshop on 3D Printing**" at DMI Engineering College on 22.01.2018.
25. Resource person of "**One Day Workshop on Computational Fluid Dynamics**" at PET Engineering College on 13.02.2018.
26. Guest of Honour for **National level technical symposium MECHTRONZ 2K18** at JP College of Engineering on 21.02.2018
27. Resource Chairman in International **Conference on Recent Trends in Mechanical and Civil Engg** at PET Engineering College on 04.04.2018.
28. Resource person in **AICTE ISTE sponsored refresher program on smart buildings** at Sri Ramakrishna Institute of Technology on 29.06.2018
29. Resource Person for **Orientation program** at SCAD College of Engg & Tech. on 09.07.2018
30. Presented Guest Lecture on "**Power plant Engineering**" at PET Engineering College on 18.07.2018.
31. Resource person for the presentation on "**Renewable Energy Sources**" in the Training program students for Indian Engineering services Examination at Government Engineering College, Tirunelveli on 21.07.2018.
32. Resource person of "**One Day Workshop on 3D Printing**" at DMI Engineering College on 03.08.2018.
33. Resource person of Entrepreneurship Awareness Camp sponsored by EDII/DST-NIMAT, Govt. of India, New Delhi and delivered about "**Creativity and Innovations in Mechanical Engineering**" at Francis xavier Engineering College Tirunelveli on 16<sup>th</sup> Aug.2018.
34. Resource person for the presentation on "**Solar Energy**" in the Training program students for Indian Engineering services Examination at Government Engineering College, Tirunelveli on 01.09.2018.
35. Resource person of "**One Day Seminar**" at Rohini College of Engineering & Technology on 05.09.2018.



36. Resource person of **“Workshop on Additive manufacturing”** at Francis Xavier Engineering College, Tirunelveli 19<sup>th</sup> and 20<sup>th</sup> September 2018.
37. Resource person of **“3D printing using Additive Manufacturing Technology”** at V.V. College of Engineering on 26<sup>th</sup> and 27<sup>th</sup> September 2018.
38. Resource person of **“One day National level workshop on Additive Manufacturing”** at Sree Sowdambika College of Engineering on 28<sup>th</sup> September 2018.
39. Resource person and Chief Guest of **“Symposium of Mechanical Engineering”** at Raajas Engineering College on 04.10.2018.
40. Resource person for **“Finite Element methods and applications”** at PET Engineering College on 11.01.2019.
41. Resource person for delivering lecture on **“Importance of Energy Audit”** at Department of Industries and Commerce, Nagercoil on 01.02.2019.
42. Resource person for International Conference on Recent Trends in Mechanical and Civil Engineering, PET Engineering college on 16<sup>th</sup> February 2019.
43. Resource person for delivering lecture on **“Energy Conservation in Mechanical systems ”** at Department of Industries and Commerce, Nagercoil on 19.02.2019.
44. Judge for National Level Technical Symposium, Department of Mechanical Engineering, Government College of Engineering, Tirunelveli on 28.02.2019.
45. Resource person for delivering lecture on **“One day workshop on 3D printing using Additive Manufacturing Technology”** at Department of Mechanical Engg., V.V. Engineering College on 28.08.2019.
46. Resource person for delivering lecture on **“One day workshop on 3D printing”** at Department of Mechanical Engg., Government Engineering College, Tirunelveli on 27.01.2020.

## Short Term Courses, Seminars, Workshop

### Organized :

1. Organised One day Technical symposium “**MECHNA 2K**” on Feb 14<sup>th</sup> of 2006 at National Engineering College, Kovilpatti, Tamilnadu.
2. Organised One day Seminar on “**Awareness on Global Warming and Renewable Energy Sources**” on 14<sup>th</sup> August 2007 sponsored by MNRE and TEDA at National Engineering College, Kovilpatti, Tamilnadu.
3. Co-ordinator for Organising Two days Exhibition on “**Renewable Energy Sources**” on 8<sup>th</sup> & 9<sup>th</sup> Feb.2008 at SCAD College of Engg. and Tech., Tirunelveli, Tamilnadu.
4. Conducted Guest Lecture program on “**Application of Finite Element Method**” on 27<sup>th</sup> August 2014.
5. Coordinator of a one day workshop on “**Solar and Wind Energy**” on 11<sup>th</sup> March 2015 at Regional centre, Anna University, Tirunelveli.
6. Coordinator for **Short Term Course on CAD/CAE CAD using CREO** from 06.03.2016 to 17.04.2016 at Regional centre, Anna University, Tirunelveli.
7. Coordinator for the **Faculty Development Training Programme on Engineering Mechanics** from 14<sup>th</sup> to 20<sup>th</sup> December 2015 at Regional centre, Anna University, Tirunelveli.

### Short Term Courses, Seminars, Workshop Attended :

1. “**Teacher-Learner Strategy**” (2000) organised by National Engineering College ISTE Staff chapter on 26.2.2000. ( 1 Day)
2. “**Renewable Energy & Energy Conservation - Awareness & Strategies**”(2001) organised by Centre for Energy studies, Kumaraguru College of Technology, Coimbatore during 15.12.2001 to 17.12.2001. (3 Days)
3. AICTE-ISTE sponsored short term Training programme on “**Renewable Energy Sources & Conversion Technology**” (2003) organised by Coimbatore Institute of Technology, Coimbatore from 26<sup>th</sup> May 2003 to 31<sup>st</sup> May 2003. ( 6 Days)

4. Faculty Development Programme on **“Mechatronics”** (2004) organised by Anna university, Chennai at National Engineering College from 24<sup>th</sup> to 29<sup>th</sup> May 2004. ( 6 Days)
5. Two days Workshop sponsored by Anna University on **“Environment & Pollution Control”** (2004) at National Engineering College on 5<sup>th</sup> May to 6<sup>th</sup> May 2004.
6. One day Workshop on **“Virtual Instrumentation based on LabView”** (2005) organized by National Engineering College, Kovilpatti on 18<sup>th</sup> December 2006. (1 Day)
7. One day workshop organised by Confederation of Indian Industry, Tirunelveli on 8<sup>th</sup> April 2011.
8. Two –week ISTE Workshop on **“Engineering Thermodynamics”** (2012) organised by Indian Institute of Technology Bombay from 11<sup>th</sup> to 21<sup>st</sup> December 2012. (11 Days)
9. Short Term Training on “Application of Finite Element Analysis in Industries” at CPLR from 13.06.2012 to 17.06.2012.
10. Short Term Training on ANSYS at Sowdambika College of Engineering from 12.06.2013 to 18.06.2013.
11. National level One day workshop on **“Wind Tunnel Testing: Measurement and flow visualization techniques”** at Karunya University, Coimbatore on 14<sup>th</sup> October 2016.
12. Faculty Development Training Programme on **“Finite Element Analysis” (2016) organised by** Regional centre, Anna University, Tirunelveli from 5<sup>th</sup> to 15<sup>th</sup> December 2016 (7 Days)
13. One day hands on **“workshop on 3Dprinting”** organised by 3Ding at Chennai on July 15, 2017
14. AICTE Sponsored Seminar on **“Smart grids and green systems(smarts greens)”** (2017) at Pondicherry Engineering College on 5-6 October 2017. ( 2 Days)
15. Interdisciplinary Short Term course under quality Improvement Programme on **“Recent Developments in conventional and Non conventional Energy Resources”** (2017) at Pondicherry Engineering College on 6-10 November 2017. (5 Days)
16. FDTP on **“Finite Element Analysis”** (2017) at PSNA College of Engineering at Dindigul from 23.11.2017 to 29.11.2017 ( 7 Days)

17. **AICTE Sponsored Two week FDP on “Computational fluid dynamics in Engineering & Design”** (2017) at Sethu Institute of Technology from 4-17 December 2017. (14 Days)
18. **“Foundation program in ICT for Education”** (2018) organised by IIT Bombay from 08.03.2018 to 12.04.2018 (2 Weeks)
19. **“Pedagogy for Online and Blended Teaching – Learning Process”** organised by IIT Bombay from 03.05.2018 to 30.05.2018 (2 Weeks)
20. **“AICTE - ISTE Sponsored FDP on Emerging Trends in Autonomous Mobile Robots”** (2018) at EGS Pillai Engineering College from 04.06.2018 to 09.06.2018 (6 Days)
21. **AICTE - ISTE sponsored Faculty Development Programme on “Smart Building”** from 25-30<sup>th</sup> June 2018 at Ramkrishna Institute of Technology, Coimbatore ( 6 Days)
22. **Anna University sponsored Faculty Development Programme on “Engineering Mechanics”** from 11-24<sup>th</sup> December 2018 at Anna University, University College of Engineering, Ramanathapuram ( 14 Days)
23. Autodesk and Anna University sponsored **“Fusion 360 Faculty Development Program”** at University College of Engineering, Nagercoil from 07.01.2019 to 09.01.2019.
24. AICTE sponsored Two week Faculty Development Programme on **“Digital India through solid modeling and 3D Printing Techniques for Indian Industries”** at **K.L.N.College of Engineering** from 6-19 June 2019.
25. **“Industrial Training on Mechanical Engineering Applications in Telecom Industry”** conducted by Rajiv Gandhi Memorial Telecom Training Centre (RGM TTC), BSNL Tamilnadu Telecome Circle, Chennai from 30.07.2020 to 19.08.2020

#### **Honours / Awards:**

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.