

Kings College of Engineering

Department of Mechanical Engineering

Name : Dr.T.PUSHPARAJ	
Designation:	Professor
Qualification:	M.E., Ph.D.,
Area of Specialization:	Alternative Fuels, Solar Energy, Composite Materials. Emission control, IC Engine Performance
Experience:	Teaching: UG: 24Years PG:12Years
	Industry: 2.5Years
No. of workshop / Conferences / FDP attended :	65
Publication :	Journal National : NIL International : 30
	Conference National : 8 International : 20
Membership :	ISTE Life Member
Achievements :	Four Scholars were completed Anna University Ph. D degree, as a Research Supervisor.

Publications

Journal

1. **Pushparaj, T**, Omezhilan, U, Arumugham, V, & Ramabalan, S 2011, 'Performance and emission studies on an agriculture engine on karanja biodiesel with bio fuel enhancer additives', CIIT International Journal of Automation and Autonomous systems, vol. 3, no 7, pp. 331-336.
2. **Pushparaj, T**, Umamaheswari, CT, & Ramabalan, S 2012, 'Experimental investigations on the effects of nano- additive blended diesel fuel on CI engine', CIIT International Journal of Automation and Autonomous systems, vol. 4, no 7, pp.328-332.
3. **Pushparaj, T**, Ramabalan, S & Arul Mozhi Selvan, V 2012, 'Influence of CNSL bio-oil with Ethanol Additive on Diesel Engine Performance and Exhaust Emission', International Journal of Mechanical Engineering and Technology, vol. 3, no. 2, pp. 665-674.
4. **Pushparaj, T**, Lalithmuneendirakumar, C & Ramabalan, S 2013, 'Investigations on the effect of bio fuel enhancer additive with cashew nut shell liquid biodiesel blends on engine performance and pollutant emissions in a diesel engine', Advanced Materials Research, vol. 768, pp. 238-244. [JIF 0.158]
5. **Pushparaj, T** & Ramabalan, S 2013, 'Green fuel design for diesel engine, combustion, performance and emission analysis', Procedia Engineering, vol. 64, pp. 701-709. [JIF 0.326]
6. **Pushparaj, T**, Anto Alosius, M, & Ramabalan, S 2014, 'Experimental investigation on the effects of diethyl ether additive on cashew nut shell liquid biodiesel', Advanced Materials Research, vol. 984-985, pp. 924-931. [JIF 0.158]
7. **Pushparaj, T**, Ramabalan, S & Arul Mozhi Selvan, V 2015, 'Performance evaluation and exhaust emission of diesel engine fuelled with CNSL bio-oil' Energy Sources, Part A: Recovery, Utilization and Environmental Effects, vol. 37, no.18, pp. 2013-2019. [JIF 0.39]
8. **Pushparaj, T**, Ramabalan, S & Arul Mozhi Selvan, V 2015, 'Performance and Emission characteristics of CI engine fuelled with diesel and oxygenated fuel blends' International Journal of Global Warming, vol. 7, no. 2, pp. 173-183. [JIF 0.7]
9. **Pushparaj, T**, John Panneer Selvam, D & Vadivel, K 2015, 'Studies on diesel engine performance and emission characteristics fueled with pongamia pinnata biodiesel at varied injection pressures' International Journal of Applied Engineering Research, vol.10, no. 39, pp. 29783-29788.

10. **Pushparaj, T**, Surendhar, A, & John Panneer Selvam, D, 2015, "Emission studies on Rice Bran biodiesel fuelled diesel engine with diethyl ether as additive" International Journal of Applied Engineering Research, vol.10, no. 50, pp.382-386.
11. **Pushparaj, T**, Shantharaman, P.P & Balachandar, K, 2015, "Effects of ethanol additive on Mahua Biodiesel in DI diesel engine", International Journal of Applied Engineering Research, vol.10, no. 50, pp. 387-391.
12. **Pushparaj, T** & Guruprasath, K, 2016, "Shell side flow behavior analysis with various tube bundle alignment in shell and tube heat exchanger using CFD", International Research Journal of Engineering and Technology, vol. 3, no. 4, pp. 2665-2671.
13. **Pushparaj, T**, John Panneer Selvam, D & Arun Balasubramanian, K 2016, "Feasibility of biodiesel production from waste animal fats and its property analysis" International Journal of Advanced Research in Management Engineering and Technology, vol.1, no. 6, pp. 282-286.
14. **Pushparaj, T**, Shantharaman, P.P & John Panneer Selvam, D, 2017, "Effect of Blending Nano additive with Cashew Nut Shell Liquid Bio-oil on Performance, Combustion and Emission Characteristics of Four Stroke Diesel Engine – An Experimental Study", International Journal of Scientific Engineering and Research, vol.5, no.3, pp. 45-50.
15. **Pushparaj, T**, Babu, M, & Hariharn, S, 2017, "Performance analysis of linear Fresnel reflector concentrating solar system with horizontal and vertical absorber with varying width of reflector," International Journal of Latest Trends in Engineering and Technology, pp.26-36.
16. **Pushparaj, T**, Shantharaman, P.P, & Prabhaker, M, 2017, "Performance and emission studies on Cashew nut shell liquid bio-oil fuelled diesel engine with Acetone as additive," Advances in Natural and Applied Sciences, vol.11, no.12, pp 56-62.
17. **Pushparaj, T** & Giridharan, S, 2018, " Effect of Blending Acetone with Karanja biodiesel on Performance, Combustion and Emission Characteristics of Four Stroke Diesel Engine," International Journal of Mechanical and Industrial Technology, vol.6, no. 2, pp 6-12.
18. **Pushparaj, T** & Vinothkannan. V, 2020, Performance and emission characteristics analysis of Elaeocarpus ganitrus biodiesel blend using CI engine. Fuel Published online. <https://doi.org/10.1016/j.fuel.2020.119611>.
19. **Pushparaj, T** & Vinothkannan. V, 2020,"Investigation on Performance and Emission Characteristics of CI Engine Fuelled with Cucurbita Pepo L. and Prosopis Juliflora Seed Oil Biodiesel Blends " Tierärztliche Praxis vol.40, no. 2, pp 203-208.

20. **Pushparaj, T** & Vinothkannan. V, 2020, "Performance and emission characteristics analysis of cucurbita pepo l. and tectona grandis seed oil biodiesel blends in CI engine with additive" *Energy Sources, Part A: Recovery, Utilization and Environmental Effects*, <https://doi.org/10.15567036.2020.1849453>
21. **Pushparaj, T** & Magesh. N, 2020, "Experimental Investigation on Performance, combustion and Emission Characteristics of CI Engine Fuelled with Pumpkin and Maize Biodiesel blends". *Tierärztliche Praxis* vol.41, no. 2, pp 51-64.
22. **Pushparaj, T** & Vinothkannan. V, 2020, "Performance and emission analysis of CI engine fuelled with cucurbita pepo l, and tectona grandis sheed oil biodiesel blends" *Journal of Huazhong University of Science and Technology*, vol 50, no 3, pp 116-123.
23. **Pushparaj, T** & Agilan. H, 2021, "Comprehensive assessment of performance and emission characteristic of pumpkin seed oil with C_2H_5O and jojoba seed oil with $C_5H_{12}O$ in CI engine," *Tierärztliche Praxis* vol.41, no. 2, pp 356-370.
24. **Pushparaj, T** & Vinothkannan. V et.al , 2022 " Hybrid optimization and modeling of CI engine performance and emission characteristics of novel hybrid biodiesel blends" *Renewable Energy* vol.198, pp 549-567.
25. **Pushparaj, T** & Magesh N ,et.al 2022, "Experimental Investigation and Prediction of Performance, Combustion, and Emission Features of a Diesel Engine Fuelled with Pumpkin-Maize Biodiesel using Different Machine Learning Algorithms. *Mathematical Problems in Engineering*. doi.org/10.1155/2022/9505424
26. **Pushparaj, T** & Anto Alosius, 2022, "Effects of injection parameters on CRDI-equipped stationary diesel engine fuelled with neat biodiesel mix derived from waste feed stocks," *Transaction of the Canadian society for Mechanical Engineering*. doi.org/10.1139/tcsme-2022-0061.
27. **Pushparaj T** & Alosius MA, Thomas JJ, Sharma V. Impact of Combined Effects of Injection Pressure and EGR on Modified Stationary Engine Fuelled with Biodiesel Blend Made of Waste Feedstock Oils. *Arabian Journal for Science and Engineering*. 2023 Apr 5:1-7.
28. **Pushparaj, T** & Agilan. H, 2023, "Performance, emission characteristics of CI engines fueled with Annona seed biodiesel blends and 1-pentanol as an additive" *Thermal Science*, vol 27, No 4A,pp 1-9.
29. **Pushparaj, T**, Magesh & S. Sabanayagam, 2024, "Study on the engine characteristics (CI) of using pumpkin-maizeblended biodiesel mixed with additive (diethyl ether)". *Bull. Chem. Soc. Ethiop.* vol, 38, No4, pp.1145-1161
30. **Pushparaj, T**, Vinothkannan V & Bhavesh Kanaber, 2025, "Artificial intelligence based prediction and multi-objective RSM optimization of tectona grandis biodiesel with *Elaeocarpus Ganitrus*" *Scientific Reports*. vol, 15, No 3833,

International Conferences

1. **Pushparaj, T**, Anbudurai, K & Arumugham, V 2010, 'Introducing natural oil in to IC engine powered vehicles to improve its fuel, energy efficiency', International Conference on Emerging Trends in Energy and Environment (ICETEE), Sri Sai Ram Engineering College, Chennai.
2. **Pushparaj, T**, Omezhilan, U, Arumugham, V, & Ramabalan, S 2011, 'Performance and emission studies on an agriculture engine on karanja biodiesel with bio fuel enhancer additives', International Conference on Advances in Engineering and Technology (ICAET-2011), E.G.S. Pillay Engineering college, Nagapattinam.
3. **Pushparaj, T**, Umamaheswari, CT, & Ramabalan, S 2012 'Experimental investigations on the effects of nano- additive blended diesel fuel on CI engine', International Conference on Advances in Engineering and Technology (ICAET-2012), E.G.S. Pillay Engineering college, Nagapattinam.
4. **Pushparaj, T**, Venkatesan, C, & Ramabalan, S 2012, 'Emission studies on karanja biodiesel fuelled diesel engine with ethanol as additive', IEEE- International Conference in Engineering Science and Management (ICAESM- 2012), E.G.S. Pillay Engineering college, Nagapattinam.
5. **Pushparaj, T**, Lalithmuneendirakumar, C & Ramabalan, S 2013, 'Investigations on the effect of bio fuel enhancer additive with cashew nut shell liquid biodiesel blends on engine performance and pollutant emissions in a diesel engine', IEEE- International Conference on Energy Efficient Technologies for Sustainability (ICEETS-2013), St. Xaviers Catholic College of Engineering, Nagercoil.
6. **Pushparaj, T** & Ramabalan, S 2013, 'Green fuel design for diesel engine, combustion, performance and emission analysis', International Conference on Design and Manufacturing (IConDM-2013), Indian Institute of Information Technology Design and Manufacturing (IIITD&M), Chennai.
7. **Pushparaj, T**, Anto Alosius, M, & Ramabalan, S 2014, 'Experimental investigation on the effects of diethyl ether additive on cashew nut shell liquid biodiesel', IEEE- International Conference on Recent Advances in Mechanical Engineering and Interdisciplinary Developments (ICRAMID-2014), Ponjesly College of Engineering, Nagercoil.
8. **Pushparaj, T**, Anto Alosius, M, & Ramabalan, S 2014, 'Effect of injection pressure on performance, emission and combustion characteristics in a DI diesel engine fuelled with CNSL bio-oil', International Conference on Recent Trends in Engineering and Technology (ICRTET '14), Mount Zion College of Engineering and Technology, Pudukkottai.

9. **Pushparaj, T**, John Panneer Selvam, D, & Vadivel, K 2015, "Studies on diesel engine performance and emission characteristics fuelled with pongamia pinnata biodiesel at varied injection pressures" International Conference on Future Trends in Engg & Tech (ICFTET-2015), PSNA College of Engineering and Technology, Dindigul.
10. **Pushparaj, T**, & Shanker, R 2016, "Effects of nano additive on Cashew Nut Shell Liquid bio-oil blends in diesel engine", International Conference on Emerging Trends in Engineering, Technology and Science (ICETES-2016), Kings College of Engineering, Punalkulam, Thanjavur. ISSN: 978-1-4673-6725-7/16 pp.813-817 (2016).
11. **Pushparaj, T**, & Ganesh, R 2016, "Cold flow analysis of various biomass mixtures in self circulating fluidized bed biomass gasifier", International Conference on Emerging Trends in Engineering, Technology and Science (ICETES-2016), Kings College of Engineering, Punalkulam, Thanjavur. pp.825-832 (2016)
12. **Pushparaj, T**, & Guruprasath, K 2016, "Shell side flow behavior analysis with various tube bundle alignment in shell and tube heat exchanger using CFD", International Conference on Emerging Trends in Engineering, Technology and Science (ICETES-2016), Kings College of Engineering, Punalkulam, Thanjavur. pp.825-832 (2016)
13. **Pushparaj, T**, & Guruprasath, K 2016, "Shell side flow behavior analysis with baffles configuration in shell and tube heat exchanger using CFD", International Conference on Advances in Mechanical and Civil Engineering (ICAMC-2016), E.G.S. Pillay Engineering college, Nagapattinam.
14. **Pushparaj, T**, Shantharaman, & P.P, Prabhaker, M 2017, "Performance and Emission studies on Cashewnut Shell Liquid Bio-oil Fuelled Diesel Engine with Acetone as Additive", International Conference on (ICEEE 2017), TRP Engineering College, Tiruchirappalli.
15. **Pushparaj, T**, Babu, M, & Hariharn, S 2017, "Performance analysis of linear Fresnel reflector concentrating solar system with horizontal and vertical absorber with varying width of reflector" International Conference on Innovative Research in Engineering and Science (IRES-2017), Asian Institute of Technology, Thailand
16. **Pushparaj, T**, & Agilan, H, 2019, "Comprehensive assessment of performance and emission characteristics of Pumpkin seed oil with C₂H₅ 20 and Jojoba seed oil with C₅H₁ 20 in CI engine" International Conference on Nanotechnology: Ideas, Innovations and Initiative(ICN2K19), Mahamed Sathack Engineering College, Ramanathapuram.

17. **Pushparaj,T,** & Aravind, V, 2024“Mechanical Properties of Stir Cast Hybrid Metal Matrix Composites with Al-7075,B4C, and Graphite Reinforcement”, International Conference on Emerging Trends in Management, Education, Engineering, Science and Technology (ICEMEEST 2024), ISBN – 978-81-965070-7-7, organized by Indira Ganesan College of Engineering, Trichy on 22.02.24 to 23.02.24.
18. **Pushparaj, T.** & Agilan, H, 2024, “Performance and Emission Characteristics of CI Engine Fuelled with Hybrid Biodiesel and 1 Pentanol as an Additive”, International Conference on Emerging Trends in Management, Education, Engineering, Science and Technology (ICEMEEST 2024), ISBN – 978-81-965070-7-7, organized by Indra Ganesan College of Engineering, Trichy on 22.02.24 to 23.02.24.
19. **Pushparaj,T,** Adikarnesan, M & Aakash, M, 2024, “Performance and Emission Study of Anona and Juliflora Biodiesel Blends in Diesel Engine” International Conference on Recent Trends in Engineering and Science (ICRTES-2024), ISBN – 978-93-85057-34-2, organized by Kings College of Engineering, Punalkulam, on 02.05.2024 and 03.05.2024.
20. **Pushparaj, T,** Misfar,M & Mohamed Arshath, M, 2024. “Development of Frictionless Power Generation Using Flywheel for Electric Vehicles” International Conference on Recent Trends in Engineering and Science (ICRTES-2024), ISBN – 978-93-85057-34- 2 organized by Kings College of Engineering, Punalkulam, on 02.05.2024 and 03.05.2024.

National Conferences

1. **Pushparaj, T,** Stephen leon,R & Arumugam, V 2009, “Analysis of performance and emission characteristics of high speed diesel engine using palm oil biodiesel as fuel”, National Conference on low carbon Technologies in Automobiles (LCTA 2009), Annamalai University, Chithambaram.
2. **Pushparaj, T,** Stephen leon,R & Arumugam, V, 2009, “Enhancing of various parameters influencing CI engine operation fuelled by producer gas”, National Seminar on Renewable Energy (NSRE 2009), PRIST University, Thanjavur.
3. **Pushparaj, T,** Ramabalan, S & Sankar, R, 2010, “Analysis, performance and emission characteristics of high speed diesel engine using palm oil biodiesel with additives”, National Conference on Clean and Green Environment by Implementing Renewable Energy Technologies (NCCGEIRET-2010), Oxford Engineering College, Trichy, pp. 102-108.
4. **Pushparaj, T,** Azhagappan, M & Silvester, KIJ, 2011, “Enhancing the performance of diesel fuel by additives”, National Conference on Advanced design and Manufacture (NCADM-2011), Einstein college of Engineering, Tirunelveli, pp. 49-55.

5. **Pushparaj, T**, Rajesh, M & Karthikeyan, S, 2010, "Enhancing the performance of petrol and diesel engine by fuel additives", National Conference on Recent Advances in Mechanical and Material Processing (RAMMP-10), Mookambigai College of Engineering, Pudukkottai.
6. **Pushparaj, T**, Surendhar, A, & John Panneer Selvam, D, 2015, "Emission studies on Rice Bran biodiesel fuelled diesel engine with diethyl ether as additive" National Conference on Advancements in Mechanical, Safety, and Health Engineering (AMSHE-2015), Knowledge Institute of technology, Salem.
7. **Pushparaj, T**, Shantharaman, P.P & Balachandar, K 2015, "Effects of Ethanol Additive on Mahua Biodiesel in DI Diesel Engine" National Conference on Advancements in Mechanical, Safety, and Health Engineering (AMSHE-2015), Knowledge Institute of technology, Salem.
8. **Pushparaj, T**, Agilan, H, & Sabanayagam, S, 2024, "Performance and Emission Characteristics of CI Engine Fuelled with Biodiesel and 1 Pentanol as an Additive", National Conference on Emerging Trends in Engineering and Technology (ETET 2024), ISBN – 978-93-91977-49-8, organized by NIT, Pandicherry on 15.02.24 to 16.02.24.

Book & Book Chapters

1. **Pushparaj, T**, & Shantharaman P.P., "Internal Combustion Engines", 2021, ISBN:9789354373404, Kings Publications.
2. **Pushparaj, T**, Shantharaman P.P., & Prabhakar, M, "Study on Performance and Emission Studies on Cashew Nut Shell Liquid Bio-Oil Fuelled Diesel Engine with Acetone as Additive" New Ideas Concerning Science and Technology Vol. 10, 68-76, 2021.
3. **Pushparaj, T** & Vinothkannan. V, "Characteristics Analysis of Performance as well as Emission of Elaeocarpus Additive Based Pumpkin and Juliflora Mixed Biodiesel blend in CI Engines". Diesel Engines and Biodiesel Engines Technologies. Doi:10.5772/interchopen.102924.

FDP/Seminar/Webinar attended

1. Attended the on line Webinar on Recent development in Automobile Technology on 17/08/2023 organized by NITTTR Chennai.
2. Attended the on line Webinar on Awareness Program in IPR registration on 27/09/2023 organized by SRM Madurai college of Engineering.
3. Attended the on line seminar on First aid in digital world on 09/08/2023 organized by Excel college of Engineering.

4. Attended one week on line FDP on cutting edge developments and research frontiers in Mechanical Engineering from 4 to 9 Dec 2023 organized by SRM Madurai college of Engineering.
5. Attended the FDP on Outcome Based Education organized by Kings College of Engineering on 27/08/2024
6. Attended the State-wide Conference on Naan Muthalvan Initiatives with Heads of Institutions organized by Barathidasan University, Tiruchirappalli on 04/09/2024.
7. Attended one week on line FDP on Energy, Thermal and Refrigeration and Air conditioning from 16 to 20 Dec 2024 organized by NITTTR Chennai.

Program organized

1. One day seminar on MaNam program of training and wellness session on 4/10/2023 for all department topper students.
2. Three days skill development program (TITAN LeAP) for all final year students on 15 to 17 Nov 2023.
3. One day workshop on LinkedIn Profile Building for all 1st and 2nd year students on 29/11/2023.
4. On 23/09/2024 internal staff seminar is given to our staff in the topic of Recent trends in Engine Fuels.