

# SRI SAIRAM ENGINEERING COLLEGE

## DEPARTMENT OF MECHANICAL ENGINEERING

Name

**Dr .L.SARAVANAKUMAR**

:



Designation

Professor

:

Qualification

M.E., PhD.

:

Area of

Alternate Fuels / I.C.Engines

Specialization :

Postal Address

Sri Sai Ram Engineering College, Sai Leo  
Nagar, West Tambaram Chennai - 600044  
Tamil Nadu

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Phone Number

(044) 22512222

:

E-mail ID

[saravanakumar.mech@sairam.edu.in](mailto:saravanakumar.mech@sairam.edu.in)

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**Professional Experience: (Teaching: 24 years 6 months / Industry : 5years 5 months)**

S l . N o	College/ Organization	Designatio n	Period From  To	Total period	Nature of work
1.	Sri Sairam Engineering College, Chennai	Profess or	01.06.2022 to Till date	3 Years 1 month	Teachin g & Researc h
		Associ ate Profess or	01.08.2010 to 31.05.2022	11 Years 10 months	
		Sr. Lecturer	31.03.2006 to 31.07.2010	4 Years 4 months	
2.	P.G.P.College of Engineering and Tech., Namakkal	Senio r Lectu rer	December 2000 to March 2006	5 Years 3 months	Teaching
3.	Shanthi Machine	Manufacturi ng Engineer	April 1994 to May 1998	4 Years 1 months	Manufacturi ng the machine

	Works, Trichy.				component, quality
4.	D.R.R.Auto Industries, Chennai	Producti on Engineer	December 1992 to April 1994	1 year 4 months	Production

## Research Work Details:

Title of Ph.D. Thesis : Experimental Investigations and Performance Evaluation of single cylinder 4 stroke diesel engine fueled with Calophyllum Inophyllum Methyl Ester blends with diesel

Faculty in which Ph.D. was awarded : Mechanical Engineering Area

of specialization in Ph.D. : Alternate Fuels – I.C.Engines

## PUBLICATIONS

### International Journals

1. Kumar,I; Margabandu,S; Chitra,M; Saravanakumar,L; Magesh,T; Patel, D; Richard, S; Anusuya, M; Sapthagirivasan, V; Enhancing Thermal and Mechanical Performance of Polymer-Based Phase Change Materials with Graphite Nanoplatelets: A High-Efficiency Approach for Energy Storage Applications, Journal of Polymer & Composites, Vol.13 (3), 150 – 162, 2025.
2. Saravanakumar, L. and Arunprasad, S., “Catalytic Converter—An Integrated Approach to Reduce Carbon Dioxide Emission,” SAE Technical Paper 2024-01-5047, 2024, doi:10.4271/2024-01-5047.
3. Ramesh Velumayil, Asiful Hossain Seikh, vedagiri Balasubramanian, Md. Abul Kalam, Sathyamurthy Ravishankar, Jayaprakash Venugopal, Lakshmikanthan Chitra, Lakshmanasamy Saravanakumar, T.S. Senthilkumar, Performance enhancement of water output via latent heat storage system with single slope solar stills, Thermal Science, 2023 Vol. 27, No. 6B, pp. 4851- 4860, [https:// doi.org/ 10.2298/TSCI221225250V](https://doi.org/10.2298/TSCI221225250V).
4. L.Saravanakumar, S.Arunprasad, Yoghamithra R, Meganathan D, Priyanka A N, Vetrivel A, Role of Internet of Things in Renewable Energy Sources: A Review, 2023 Intelligent Computing and Control for Engineering and Business Systems (ICCEBS) | 2023 IEEE |DOI: 10.1109/ ICCEBS 58601.2023. 10448767.
5. S.Arunprasad, L.Saravanakumar, Akash J Sankar, Anton Joshwa S, Praveen V, Mogana Krishnan R D, An Overview of Machine Learning for Mechanical Applications, 2023 Intelligent Computing and Control for Engineering and Business Systems (ICCEBS) |2023 IEEE | DOI: 10.1109/ICCEBS58601.2023.10448622.
6. PBA VetresSelvan.E, Saravanakumar.L, Ramanan.N, SomasundaramB, Enhancing Performance of Improved Wear and Corrosion Resistance in Nickel-Based Super Alloys via Zirconium Coating, Journal of Propulsion Technology 44 (4), 8229-8241.
7. Abhinav Kumar, Utkarsh Chaudhary, Amit Kumar Dinday, C.G.Mohan, R.Prakash, L.Saravanakumar, S.Prabhakar, Assessment of performance and emission characteristics of an off-highway vehicle engine fuelled with renewable fuel blends, **International Journal of Ambient Energy**, 2022, 43 (1), 6121 – 6131, [tandfonline.com/doi/full/10.1080/01430750.2021.2003241](https://tandfonline.com/doi/full/10.1080/01430750.2021.2003241).

8. J.S.Adhishesan, S.Abirama Sundaram, L.Saravanakumar, Experimental investigations of a single cylinder four stroke diesel engine using modified piston bowl fuelled with Jojoba biodiesel blend, **Materials Today: Proceedings**, 2021, vol.46, p 9844-9849, <https://doi.org/10.1016/j.matpr.2020.11.414>.
9. N.Gunasekar, C.G.Mohan, R.Prakash, L.Saravanakumar, Utilization of coconut shell pyrolysis oil diesel blends in a direct injection diesel engine, **Materials Today: Proceedings**, 2020, vol.45, p 713 - 717, <https://doi.org/10.1016/j.matpr.2020.02.744>.
10. L. Saravanakumar and R. Prakash, Validation of performance and emissions of a CI engine fueled with calophyllum inophyllum methyl esters using soft computing technique, **Fuel** 266 (2020) 117070.
11. L.Saravana Kumar, B.R.Ramesh Babu and R.Prakash, Consequences of exhaust gas temperature on emissions in CI engine fueled with Calophyllum Inophyllum methyl ester blends with diesel, **Progress in Industrial Ecology – An International Journal**, Vol. 13, No.3, 2019.
12. B.R.Ramesh Babu, L.Saravanakumar and B.Durga Prasad, Effects of combustion chamber geometry on combustion characteristics of a DI Diesel engine fueled with CalophyllumInophyllum Methyl Ester, **Journal of the Energy Institute**, 90(1) (2017) 82 – 100.
13. L.Saravanakumar, B.R.Ramesh Babu and B.Durga Prasad, Effect of injection pressure and combustion chamber geometry on diesel engine fueled with Calophyllum Inophyllum Methyl Ester, **International Journal of Applied Engineering Research**, Vol. 10 No.50 (2015) 679 – 684.
14. L.Saravanakumar, B.R.Ramesh Babu and B.Durga Prasad, Effect of Combustion Chamber Geometry on Performance and Emission Characteristics of a Diesel Engine Fueled with Mahua Biodiesel Blends, **Advanced Materials Research**, Vol. 984-985 (2014) pp 900-906.
15. L. Saravanakumar, B.R. Ramesh Babu and B. Durga Prasad, Performance and Emission Characteristics of a CI Engine Operating on Methyl Esters blended Diesel with Di-Methyl Carbonate Additives, **International Energy Journal**, 14 (2014) 121-132.
16. L.Saravanakumar, B.R.Ramesh Babu and B.Durga Prasad, Preparation and performance study of cottonseed biodiesel fuelled in greaves 4-stroke single cylinder Diesel engine, **CiiT International Journal of Automation and Autonomous Systems**, 3(3) (2011) 139 – 146.
17. L Saravanakumar, R Dwarakesh, G Premkumar, BR Ramesh Babu, B Durga Prasad, Biodiesel synthesis and analysis: a technical review, **Int J Sci Eng Res.**, (4) 2013, 205.

18. L Saravanakumar, BR Ramesh Bapu, Analysis and Effect of Squish Generation Using CFD on Variable Compression Ratio CI Engine, **International Journal of Engineering Research and Technology**, 2013.

### **Conference**

#### **Publications    National**

#### **Conference:**

1. L.Saravana kumar, B.R.RameshBapu, B.DurgaPrasad, Biodiesel Synthesis and Analysis : A Review – 2<sup>nd</sup> National Conference on Technological Advancements in Mechanical Engineering (TAME – 2013)
2. L.Saravanakumar, B.R.Ramesh Bapu and B.Durga Prasad, Effect of injection pressure and combustion chamber geometry on diesel engine fueled with Calophyllum Inophyllum Methyl Ester, in the National Conference on Advancements in Mechanical, Environment, Safety and Health Engineering (AMESHE-2015) held on 9<sup>th</sup> May 2015 at Knowledge Institute of Technology, Salem.
3. L.Saravana kumar, B.R.RameshBapu, B.DurgaPrasad, Effect of Combustion Chamber Geometry and Compression Ratio on Performance and Emission parameters, 24<sup>th</sup>National Conference on I.C.Engines and Combustion (24<sup>th</sup> NCICEC 2015)
4. L.Saravana kumar, B.R.RameshBapu, B.DurgaPrasad, A.Rajendra Prasad, Effects of Piston Bowl Geometry and Injection Pressure on Performance and Emissions of a Diesel Engine Fueled with Calophyllum Inophyllum Methyl Ester (25<sup>th</sup> NCICEC 2017).

### **Funded projects**

- ✓ Received an amount of Rs.5,50,000 (Rs. Five lakhs Fifty Thousand) under Modernization and Removal of Obsolescence Scheme (MODROBS) from AICTE. (co-principal investigator)
- ✓ Received an amount of Rs. 75,000 under SRPG Scheme, for student projects, through ISHRAE Professional Society.

### **Patent details**

- ✓ Waste heat in to Electricity – Patent No. 201941052773 – Patent published on 03/01/2020.
- ✓ Chemoselective Click Reactions for Synthesis of Organic Compounds – Patent No. 202341090238 – Patent published on 26.01.2024.
- ✓ Efficient Solar Dryers using Evacuated Tubes for Sustainable Food Preservation and Drying Technology – Patent No. 202441092552 – Patent published on 06/12/24

### **Book Authored**

- ✓ Power Plant Engineering – IK International Publishing House, New Delhi, 2007.

### **Ph.D Supervisor**

- ✓ Recognized Ph.D supervisor by Anna University for guiding Ph.D scholars (Ref.No:4120051) and **three scholars** are doing their research work under my supervision.

### **Workshop/Conferences/FDP Participated:**

1. Presented a paper titled “Heat Exchanger Analysis using twisted inserts” in National Conference held at Erode Sengunthar Engg. College, Erode in Jan’2006.
2. Presented a paper titled “Experimental Investigation of 4-Stroke C.I.Engine using Pongamia oil with EGR Techniques” in National Conference held at SJCS Engg. College, Mysore in Nov’2006.
3. Participated in Fifteen days faculty Development Programme on “Engineering Graphics” conducted during 11 – 23 June 2007 at Anand Institute of Higher Technology, Chennai.
4. Participated in Five days workshop on “Finite Element Analysis Concepts and Applications” conducted during 26 – 30 March 2008 at VIT University, Vellore.
5. Presented a paper titled “Preparation and performance study of cottonseed Biodiesel fuelled in greaves 4-stroke single cylinder Diesel engine” in International Conference held at Veltech Engg. College, Chennai in Jan’2010.
6. Participated in DRDO sponsored One day workshop on “Biofuel and its Applications in IC Engines” organized by Department of Mechanical Engineering, Faculty of Engineering and Technology, Annamalai University on 30<sup>th</sup> August 2010.
7. Participated in Two days workshop on “Virtual Instrumentation in Industrial Automation” conducted in association with Trident Techlabs during 24 – 25 June 2011 by Department of Instrumentation and Control Engineering at Sri Sairam Engineering College, Chennai.
8. Participated in 8 days Faculty Development Programme in ME 2041 Advanced I.C.Engines, organized by Anna University, Chennai-24, from 10th December 2012 to 17th December 2012.
9. Two days national workshop on “Computational Fluid Dynamics (NWCED 2015)” organized by the department of Mathematics, SSN College of Engineering, Chennai.
10. Participated in Two days FDP on “Outcome Based Education” conducted by IQAC of Sri Sairam Engineering College held on 5<sup>th</sup> and 6<sup>th</sup> April 2019.
11. Participated in Two days workshop on “Design of solar PV and Thermal Energy Systems” organized by Department of Mechanical Engineering during 19<sup>th</sup> and 20<sup>th</sup> July 2019 at Kongu Engineering College, Erode.
12. Participated in Five days ATAL FDP on “3D Printing & Design” from 23<sup>rd</sup> to 27<sup>th</sup> November 2020 at Maharshi Dayanand University.
13. Participated in Five days ATAL FDP on “Soft Computing Techniques” from 2<sup>nd</sup> to 6<sup>th</sup> November 2020 at Dr. S. & S. S. Ghandhy Government Engineering College.
14. Participated in Five days ATAL FDP on “Bioconversion Technologies and Start-up Opportunities in Biofuels Production” from 14<sup>th</sup> to 18<sup>th</sup> June 2021 at Silver Jubilee

Govt College.

15. Participated in One week FDP on “Advancements in Thermal and Renewable Energy Technologies (ATRET-2022)” from 4<sup>th</sup> to 9<sup>th</sup> July 2022 at Lakireddy Bali Reddy College of Engineering, Mylavaram, Krishna (Dt.), Andhra Pradesh, India.
16. Participated in Five days online National Level FDP on “Recent Advancements in Sustainable Energy Storage & Concersion” from 23<sup>rd</sup> to 27<sup>th</sup> January 2023 at G.Pulla Reddy Engineering College, Kurnool, Andhra Pradesh.
17. Participated in Three days FDP on “Oil and Gas Industry” from 2<sup>nd</sup> to 4<sup>th</sup> May 2023 conducted by PALS in Association with Indian Oil Corporation through online.
18. Participated in Two days workshop on “Mobility Engineering” at Internal Combustion Engineering Division, Department of Mechanical Engineering, College of Engineering, Guindy campus, Anna University, Chennai from 23<sup>rd</sup> to 24<sup>th</sup> May 2023.
19. Participated in Three days Hands on Training on “MMATLAB & SIMULINK for Engineers: An Interdisciplinary Approach ” held at PSG Institute of Technology and Applied Research , Coimbatore from 12<sup>th</sup> to 14<sup>th</sup> October 2023.

#### **Workshop/Conferences/FDP organized :**

##### **Conference:**

1. Coordinator for International Conference on Emerging Trends in Energy and Environment at Sri Sai Ram Engineering College, Jan’2010 and Jan’2014.

##### **Workshops:**

1. Two day workshop on Computational Fluid Dynamics on 14/09/2016 and 15/09/2016 at Sri Sairam Engineering College, Chennai-44.
2. One day workshop on Renewable Energy on 28/02/2017 at Sri Sairam Engineering College, Chennai-44.
3. One day workshop on Energy Conservation on 14.02.2 at Sri Sairam Engineering College, Chennai.
4. One day workshop on Matlab on 26.09.23 under automobile club at Sri Sairam Engineering College, Chennai.
5. One day hands on training program on Accredited Practical Training Program for Maintaining Air Conditioners, ISHRAE SEC CHAPTER, 23.04.24 at Sri Sairam Engineering College, Chennai.

##### **FDP Organised:**

1. Coordinator for Five days Faculty Development Training Programme on “ Latest Innovations and Trends in Automotive Industry” from 17.02.25 to 21.02.25 at Sri Sairam Engineering College, Chennai-44.
2. Coordinator for Six days Faculty Development Training Programme on “Thermal Engineering-I” from 28.12.20 to 04.01.21 at Sri Sairam Engineering College, Chennai-44.

3. Coordinator for Six days Faculty Development Training Programme on “Automobile Engineering” from 29.11.17 to 05.12.17 at Sri Sairam Engineering College, Chennai-44.

### **RESOURCE PERSON**

1. Resource person to present a session for the FDP, AICTE-ISTE Sponsored Refresher/Induction Program on Innovative Teaching and Outcome Based Education during 07.02.2022 to 12.02.2022 conducted by Dhirajlal Gandhi College of Technology, Salem.
2. Resource person to present a session for six days FDP on Concepts of Applied Thermodynamics, Heat and Mass Transfer and Kinematics of Machinery during 25.11.21 to 01.12.21 conducted by Valliammai Engineering College, Chennai.
3. Resource person to present a session for five days FDP on “Engineering Thermodynamics and Thermal Engineering” organized by department of Mechanical Engineering, Valliammai Engineering College, Chennai from 29.05.24 to 04.06.24.

### **VALUE ADDED COURSES (NPTEL)**

1. Steam and Gas Power Systems, April 2018
2. IC Engines and Gas Turbines Jan – April 2019
3. Fundamentals of Artificial Intelligence – October 2019
4. NBA Accreditation and Teaching-Learning in Engineering (NATE)-April 2021
5. Refrigeration and Air-Conditioning – September 2021
6. Renewable Energy Engineering: Solar, Wind and Biomass Energy Systems – April 2022
7. Solar Energy Engineering and Technology-October 2023
8. Introduction to Intellectual Property – May 2024
9. Basic Environmental Engineering and Pollution Abatement – October e2024
10. Energy Resources, Economics, and Sustainability – April 2025

### **Membership in Professional Societies:**

- Member in “Society of Automotive Engineers (SAE)”.

- Member in “Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE)”.
- Life member in “The Indian Society for Technical Education (ISTE)”.
- Senior Member in “Institute of Electrical and Electronics Engineers (IEEE)”.