

## **CURRICULUM VITAE**



**Dr. PATTETI. SURESH KUMAR**

**B. Tech, M. Tech, PhD (Mechanical Engineering.)**

Mobile: +91 995 76 24 726

email: prohansuresh@gmail.com

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### **Educational Qualification:**

- Doctorate in Mechanical Engineering, Emission control studies of diesel engine fueled with jatropa biodiesel, diesel and their blends awarded in the year 2014 from University of Petroleum & Energy Studies, Dehradun.
- M.Tech Thermal Engineering from JNTUCE, Hyderabad in the Year 1999.
- B.Tech Mechanical Engineering from Sri venkateswara University, Tirupathi. in the Year 1996.
- Board of Intermediate education from Satavahana College Vijayawada in the year 1990.
- Secondary School Certificate from RCM High School, Vijayawada in the year 1988 .

### **Professional Memberships**

1. Life Membership in **The Combustion institute** -INDIAN SECTION (CI-IS): - N  
Reg. Number: LMC- 1311
2. **SOCIETY OF AUTOMOTIVE ENGINEERS.**  
Reg Membership Number: -7140311886
3. Member of Board of Studies (UG & PG) in Mechanical Engineering for Acharya Nagarjuna University

1. Ümit A ̇bulut , T. Sathish , Tiong Sieh Kiong , S. Sambath , G. Mahendran, Sumanth Ratna Kandavalli , P. Sharma , T. Gunasekar , P Suresh Kumar , R. Saravanan. Production of waste soybean oil biodiesel with various catalysts, and the catalyst role on the CI engine behaviors. Energy. <https://doi.org/10.1016/j.energy.2023.130157>. Received 1 May 2023; Received in revised form 5 December 2023; Accepted 26 December 2023. Available online 27 December 2023.
2. T. Sathish , Sivakumar Karthikeyan , Ravishankar Sathyamurthy , K. Rajaram S. Sandeep Kumar , P. Suresh Kumar , Jayant Giri , Kassian T.T. Amesho, Synergistic effects of nano-enhanced waste transformer oil and hydrogen premixing on CI engine performance and emissions. *International Journal of Hydrogen Energy*. <https://doi.org/10.1016/j.ijhydene.2023.12.176> Received 23 September 2023; Received in revised form 12 December 2023; Accepted 17 December 2023. Vol. 56. (2024) 484–497.
3. B. Murali <sup>a</sup>, S.N. Padhi <sup>b</sup>, Chandrashekhar K. Patil <sup>c</sup>, P. Suresh Kumar <sup>d</sup>, M. Santhanakrishnan <sup>e</sup>, Sampath Boopathi <sup>f</sup> Investigation on hardness and tensile strength of friction stir processing of Al6061/TiN surface composite. <https://doi.org/10.1016/j.matpr.2023.10.033>; Received 23 August 2023; Received in revised form 14 September 2023; Accepted 4 October 2023; 2214-7853/Copyright © 2024 Elsevier Ltd. Materials Today: Proceedings
4. V. Kanchana <sup>a</sup>, P. Manoj Kumar <sup>b,\*</sup>, P. Suresh Kumar <sup>c</sup>, I. Kathir <sup>d</sup>, R. Thirumalai <sup>e</sup>, D. Priya <sup>f</sup>, R. Puviarasi <sup>g</sup>, M. Mohan Prasad <sup>h</sup> Investigating underground water salinity in east coastline of Tamil Nadu, India and improving its quality through solar assisted desalination; Urban Climate journal homepage: [www.elsevier.com/locate/uclim](http://www.elsevier.com/locate/uclim). <https://doi.org/10.1016/j.uclim.2023.101440> Received 27 December 2022; Received in revised form 27 January 2023; Accepted 3 February 2023. Published 5 April.
5. S. Dhanasekar, Arul Thayammal Ganesan, Taneti Lilly Rani, Venkata Kamesh Vinjamuri, Medikonda Nageswara Rao, E. Shankar, Dharamvir, P. Suresh Kumar, and Wondalem Misganaw Golie. A Comprehensive Study of Ceramic Matrix Composites for Space Applications. Hindawi, Advances in Materials Science and Engineering, Volume 2022, Article ID 6160591, 9 pages. <https://doi.org/10.1155/2022/6160591>
6. P. Suresh Kumar, N. Prasanthi Kumari , Amit Kumar Sharma, D. Ramesh Kumar and P. Rohan Sathwik. Emission control through the three-way catalytic converter for a diesel engine dosed with ternary blends of jatropha, diesel and diethyl Ether. accepted for publication in IJE (International Journal of Engineering) ID: IJE-2205-5556; Submit Date: 19 May 2022; Accept Date: 05 September 2022

7. P. Suresh Kumar, Prasanthi Kumari, N, D S Rawat, A. K Sharma and D. Ramesh Kumar. Production of biodiesel from Jatropha and Castor oil using waste egg shell and its utilization in CI engine. , accepted for publication in JNEP journal
8. Ramesh Kumar Donga and P. Suresh Kumar. Enhancement of heat transfer in a semicircular absorber of PTC receiver using a fin, JP Journal of Heat and Mass Transfer, accepted for publication. <http://www.pphmj.com>, <http://dx.doi.org/10.17654/0973576322>. P-ISSN: 0973-5763. Pages:-1-13
9. P. Suresh Kumar, Shaohai Li, Moslem Paidar, Shoufa Liu, Sadok Mehrez, V. Mohanavel. Importance of pin number on mechanical properties and wear Performance during manufacturing of AA6061/316 surface composite Via FSP. Materials Letters. Elsevier, Page 1-8; July-2022.
10. P. Suresh Kumar, N. Prasanthi Kumari Energy Management Prediction in Hybrid PV-Battery Systems using Deep learning Architecture. International Journal of Photo energy. Hindawi Publications. Page 1-7; volume2022; May-2022.
11. P. Suresh Kumar, N. Prasanthi Kumari, Amit Sharma Sathwik, P. Rohan, "Utilization of ethanol in municipal waste plastic biodiesel blends and their impacts on performance and emissions of a diesel engine" by has been full consideration for publication in Heat Transfer -2022 March.
12. P. Suresh Kumar<sup>1</sup>, N. Prasanthi Kumari, Srinivas Tadepalli and K.S.R. Murthy; Removal of chromium and Iron using mixed adsorbent for synthetic and industrial samples in a continuous column reactor. YMER || ISSN: 0044-0477, **Volume** 21, **Year** 2022, Jan. **Pages** 98-111.
13. P. Suresh Kumar, H. Upender, K. Anand Kishore, T. Srinivas, S. Mishra Effect of restitution coefficient in CFD simulation of solid-liquid tapered inverse fluidized-bed hydrodynamics. Palarch's Journal Of Archaeology Of Egypt/Egyptology, **Volume** 8, **Year** 2021, **Pages** 4113-4139.
14. P. Suresh Kumar, N. Prasanthi Kumari, Amit Sharma and H. Upender Comparison of Performance and Emissions Characteristics of Mustard oil and Jatropha multi blended Bio-diesel with the Base Streak Diesel. International Journal of Application or Innovation in Engineering & Management (IJAEM)" (ISSN 2319 - 4847); Volume 10, Issue 7, July 2021; pp :29-39. **DOI:**<https://doi.org/10.2648/IJAEM.1671.3292>
15. P. Suresh Kumar<sup>1</sup>, N. Prasanthi Kumari, Amit Sharma, "Cut-off percentage of ethanol in diesel- biodiesel based fuel blends and analysis of emissions in four stroke - compression ignition engines" Technoscience Publications and

16. P. Suresh Kumar<sup>1</sup>, Swapnil Joshi, N. Prasanthi Kumari, Amit Sharma, Sathyajit Nair and Suman Chatterjee. Reduction of Emissions in a Biodiesel Fuelled Compression Ignition Engine Using Exhaust Gas Recirculation and Selective Catalytic Reduction Techniques. Journal of Heat Transfer - Asian research. <https://mc.manuscriptcentral.com/heattransfer>. 6th AUG 2020.
17. P. Suresh kumar, N. Prasanthi kumari, Amit sharma. Environmental Impacts of Electric Mobility in India © Third International Conference on Intelligent Communication, Control and Devices (ICICCD) Springer website <http://www.iciccd.in/doc/springerformat.doc>. pp 978-989, 28 August 2019.
18. N. Prasanthi kumari, P. Suresh Kumar, G. M. G. Madhuri and B. Praveen Kitti Design of Microstrip Antenna with Extended Ground. Third International Conference on Intelligent Communication, Control and Devices (ICICCD) Springer website <http://www.iciccd.in/doc/springerformat.doc>. pp 957-963, 28 August 2019.
19. P. Suresh Kumar, Swapnil Joshi, N. Prasanthi Kumari, Sathyajit Nair, Suman Chatterjee Modification of Existing Regenerative Braking System for electric vehicle. 'International Journal of Innovative Technology and Exploring Engineering' ISSN: 2278-3075, Volume-8 Issue-11, <https://www.scopus.com/sourceid/21100889409..> pp 1675-1682, Sep 10<sup>th</sup> -2019.
20. P. Suresh Kumar, Swapnil Joshi, N. Prasanthi Kumari "Design and Fabrication of Four-Wheel Steering System for Efficient Transportation Systems". 'International Journal of Innovative Technology and Exploring Engineering' ISSN: 2278-3075, Volume-8 Issue-10, <https://www.scopus.com/sourceid/21100889409>. pp401-407. (2019).
21. P. Suresh Kumar, N. Prasanthi Kumari, Teaching Learning Aspects for Current Technical Education. © Springer Nature Switzerland AG 2020 W. Karwowski et al. (Eds.): AISC 963, 2020. [https://doi.org/10.1007/978-3-030-20135-7\\_18](https://doi.org/10.1007/978-3-030-20135-7_18). pp. 184–189. (2020).
22. P. Suresh Kumar, Amit Kumar Sharm , Shaik Hussain, Ghanta Ravi Kumar Comparative Study of Performance And Emission Characteristics For Different Diesel Blend. , International Journal of Research in Advent Technology (IJRAT) Special Issue "ICADMMES 2018" E-ISSN: 2321-9637 Available online at [www.ijrat.org](http://www.ijrat.org). (2018).
23. P. Suresh Kumar, N. Prasanthi kumari, Ghanta Ravi Kumar Experimental Investigation of Tribological Properties of Multi Grade Engine Oil With Tio2 Nano Particles, International Journal of Research in Advent Technology (IJRAT) Special Issue "ICADMMES 2018" E-ISSN: 2321-9637 Available online at [www.ijrat.org](http://www.ijrat.org). (2018).

24. P. SURESH KUMAR, AMIT KUMAR SHARMA Performance and emission characteristics of a diesel engine using complementary blending of castor and karanja biodiesel has been published on Taylor & Francis Online. It is available at: <http://www.tandfonline.com/doi/full/10.1080/17597269.2016.1256552>. Pp 53-60 (01-12-2016).
25. P. Suresh Kumar, Prasanthi kumari and P. K. Sahoo (June- 2015) Emission Control Studies of Conventional Engine Fueled with Diesel, Jatropha Biodiesel and Their Blends. International Journal of Advanced Engineering Research and Science (IJAERS).] ISSN: 2349-6495; Vol-1, Issue-6, Nov.- 2015.
26. P. Suresh Kumar, Prasanthi kumari and P. K. Sahoo (June- 2014) Experimental Comparative Study Between Performance and Emissions of Jatropha biodiesel, Karanja and Diesel Under varying EGR rates. Internatioal Journal of Engineering Sciences & Techhnology. ISSN: 1371-53684, Vol. 3, pp 91-107.
27. P. Suresh Kumar, D. Rmesh kumar and P. K. Sahoo (December 2013), Experimental Investigation on Combined Effect of EGR and Three-way Catalytic Converter on IDI Diesel Engine. Internatioal Journalof Engineering Sciences & Technology ISSN: 0975-5462, Vol. 5, pp 1898-1905.
28. P. Suresh Kumar, Francis Antony and P. K. Sahoo (April 2013), The Performance and NOX Emissions of a IDI Diesel Engine at Distinct EGR Rates Fuelled with JB 100, JB 80, JB 60, JB40, JB 20 and diesel, ISSN: 0975-54627, Vol. 5, pp 519-526.
29. P. Suresh Kumar, Aditya Bhatnagar and P. K. Sahoo (March-2013), Reduction of NOX Emissions with Three-Way Catalytic Converter for IDI Engine Fuelled with Diesel, JBD and Their Blends. International Journal of Engineering Sciences Technology, ISSN:22278-0181, Vol. 05, pp 98-121.
30. P. Suresh Kumar, Ramesh Kumar Donga and P. K. Sahoo (Feb-2013), Experimental comparative study of performance and emissions of Jatropha biodiesel and Diesel under varying Injection Pressures.; International Journal of Engineering Research & Technology, ISSN: 2231-6604 Vol- 02, pp 523-539. 28
31. P. Suresh Kumar, Prasanthi kumari and P. K Sahoo (Aug-12), Experimental Investigation of a Diesel Engine Fuelled by Diesel Jatropha Biodiesel Blends with Special Attention to Exhaust Emission, International Journal of Engineering Sciences & Emerging Technologies. Vol.3, pp 577-584.
32. P. Suresh Kumar, Prasanthi kumari and P. K Sahoo, (February-2012), Experimental Investigation of a Diesel Engine Fuelled by Diesel Jatropha Biodiesel blends with special attention to Exhaust emission. International Journal of Engineering Science & Research, ISSN2230-8504; e-ISSN: 2230-8512, Vol. 03, pp 341-353.

33. P. Suresh Kumar, Prasanthi kumari and P. K Sahoo (September 2-3, 2011), Experimental Investigation of a Diesel Engine Fuelled by Diesel Jatropha Biodiesel blends with special attention to Exhaust Emission; National Seminar "Renewable Energy Technology: Issues & Prospects" Northeastern Regional Institute of Science & Technology.

34. P. Suresh Kumar, Prasanthi kumari and P. K Sahoo, (September 24-25, 2010), Refrigeration & Air-conditioning of Group Housing Employing Vapour Absorption System by Using Renewable Energy Sources; 127 National Seminar. Renewable Energy Technology: Issues & Prospects Northeastern Regional Institute of Science & Technology.

### Doctoral Theses Guided

#### Ph. D Projects UNDER Progress: 5

1. Guiding Repalle. Naveen ,Asst.Prof.,Dept of Mechanical Engineering, St. Mary's Institute of Engg. & Technology, as a supervisor who registered at ANU, in 2023.
2. Guiding G. Budireddy ,Asst.Prof.,Dept of Mechanical Engineering, as a supervisor who registered at ANU, in 2023.
3. Guiding Madhusudhana Rao, as a supervisor who registered at ANU, in 2023.
4. Guiding Salva satyanarayana, as a supervisor who registered at ANU, in 2023.
5. Guiding Ratnakar Babu Mikkili, as a supervisor who registered at ANU, in Dec- 2023

#### Textbooks

1. Dr. P. Suresh Kumar, Dr. P. K. Sahoo, Engineering Drawing-Text Book (2011), ISBN: 978-81-89131 45-6; ----- Research India Press. 129.
2. Dr. N. Prasanthi Kumari, Dr. P. Suresh Kumar and Shannmukha Naga Raju Vonteddu "FUNDAMENTALS OF SIGNAL CONDITIONING & DATA ACQUISITION SYSTEMS" -----Notion Press.
3. Dr. N. Prasanthi Kumari, Dr. P. Suresh Kumar and Shannmukha Naga Raju Vonteddu "An Overview on Embedded Systems" -----Notion Press.
4. Dr. Richa kher, Dr. S. Jaisenkar, Mr. Saurabhraj and **Dr. P. Suresh Kumar** "Principles and Concepts of Solar Energy"-----Scientific International Publishing House (SIPH); ISBN:-978-93-5757-495-2
5. Elements of Mechanical Engineering:- ISBN: 9789357577830; Dr. A. Rajendra Prasad, Dr.C.Sailaja, Mr.V.Dinesh Kumar, DR. P. SURESH KUMAR; Scientific International Publishing House (SIPH).

1. **Book chapter:-Sustainable developments of Modern soil –less Agro- Cultivation systems**

Worked in DST project, published 30 papers and Authored 2 books detailed list below.

DST Funded Project: -“ Feasibility of harnessing concentrated solar thermal energy to produce and store pyrolysed biofuels for automotive engine applications at Dehradun”.  
43 lakhs-(CO-PI: - for 3years;).

**Keynote speaker for International Conference: ICEDET-2017; 11-12 November Organized by Mechanical and Civil Engineering Department. SHIVALIK COLLEGE OF ENGINEERING; DEHRADUN. Topic: - Environmental Emissions: Industry and Automobiles.**

### **Workshops & Guest lecture conducted & Attended 35**

#### **Patents**

1. “Wheel Chair with Floor Cleaning Arrangement” Dr. Suresh Kumar Patteti; Prasanthi Kumari Nunna . Government of India Patent No. 208744
2. “Cooking Stove” Dr. Suresh Kumar Patteti; Prasanthi Kumari Nunna. Government of India Patent No. 345570-001
3. Solar Stirling engine with paraboloid dish collector for power generation. Filed. In April-2022.
4. Leave Shredder, Sucking, crushing of Dry leaves filed in June-2022
5. Heat engine operated by solar energy in January-2023
6. Incorporation of electric preheating and oil distribution in IC Engine in May-2023
7. A system and method for context-based simulation models using iot for improved analysis in May-2023.
8. Ultra-lightweight natural fiber composites for aerospace applications in June-2023.
9. A Nano robotic arm to operate in nanorobotic arm to operate in the endoscopy in June-2023.
10. A Control system for internal combustion engines utilizing flexible alternative fuels and method thereof in July-2023.
11. An automated decompression mechanism for valve regulated internal combustion engines in Sep-2023.
12. Investigation on emission reduction potential of Nickle and Zinc coated catalytic converters. In Sep-2023.
13. Natural Fiber composites with improved impact resistance and preparation method thereof. In Sep-2023
14. A novel natural fiber composites enhanced thermal conductivity.
15. Solar powered seawater desalination apparatus-Application number-396724-001-Published on 1-12-2023.
16. Automatic pesticide spraying robot- Application number- 396719-001-Published on 25/01/2024.
- 17.

#### **FDPs Attended:**

1. P. Suresh Kumar attended five-day FDP “ HYBRID ELECTRIC VEHICLES” Jointly organized by the Departments of Mechanical Engineering of GMR Institute of Technology, Rajam and Velagapudi Ramakrishna Siddhartha Engineering College, Vijayawada during 21st -25<sup>th</sup> November 2022.
2. P. suresh Kumar attended five-day FDP “Innovations in Mechanical Engineering” organized by the Department of Mechanical Engineering, Vasireddy Venkatadri Institute of Technology, Nambur. during 26-12-2022 to 30-12-2022.
3. P. suresh Kumar attended five-day FDP “VEHIC ULAR VIBRATIONS CONTROL WITH MODERN SUSPENSION SYSTEM” Jointly organized by the Departments of Mechanical Engineering NIT KARNATAKA 21st - 25<sup>th</sup> AUGUST 2023.
4. P. Suresh Kumar attended One-day FDP “One earth-One family –One future” organized by National Institute of Technology ;Andahara Pradesh during 10-08-2023.
5. P. Suresh Kumar attended Five-day FDP “The new product development process” organized by Andhra Pradesh state skill development corporation (APSSD) in association with Dassault systems from 13-11-2023 to 18-11-2023.

### **Academic Identity**

<https://vidwan.inflibnet.ac.in/profile/96888>

**Orcid Id**[0000-0003-3222-2604](https://orcid.org/0000-0003-3222-2604)

**Scopus Id**[57210785730](https://scopus.com/authid/detail.uri?authorId=57210785730)

**Google Scholar Id**[g7SCU\\_MAAAAJ](https://scholar.google.com/citations?user=g7SCU_MAAAAJ)

**Web of Science:-**

<https://www.webofscience.com/wos/author/record/AAT-8951-2020>



