# CURRICULUM VITAE


## Mr. K. Sunil Kumar

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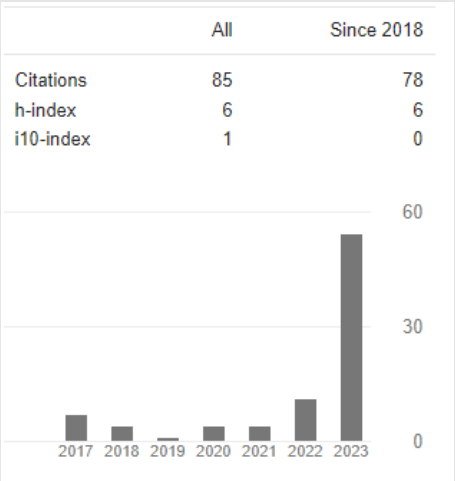
**Google Scholar Citations:**





Scopus ID: 0000-0002-5093-7307
ResearcherID: HSG-0789-2023


## Objective:

Looking for the best opportunity where I would be able to utilize and enhance my potential while being resourceful, innovative and flexible.
( Interested in Research Activities and Publications)

## Professional Background:

### Doctorate of Philosophy (Pursuing from 2021 to still now)

***Pursuing Phd in the field of Biodiesel-Completed Course work and waiting for Synopsis Meeting.***

Discipline : Mechanical Engineering /Alternative Fuels
University : Veltech Rangarajan Dr. Sagunthala R&D Institute Of Science and Technology, Avadi, Chennai, India.
Ph.D Thesis Title : Performance,Combustion and Emission Analysis on Diesel Engine Using Waste plastic Oil extracted from double stage Energy Efficient Reactor.

### Masters of Engineering (2009 - 2011)

Discipline : Energy Engineering
University : College of Engineering, Anna University,
Class : First Class (8.3 CGPA)
Project title : Studies on Noise and Vibration Reduction in Wind Mill Gearbox for 5 Mw Wind Turbine,

### Bachelor of Engineering (2004 - 2007)

Discipline : Mechanical Engineering
University : Anna University
Class : First Class with Distinction (83%)
Project title : Design and analysis of Lifting bogie for railway bogie.

### Diploma in Engineering (2002- 2004)

Discipline : Marine Engineering
University : DOTE
Class : First Class with Distinction and Honours (91%)

### Higher Secondary (H.Sc.) (2000 - 2001)

Discipline : Maths
Board : State Board of Tamilnadu
Percentage : 69 %

### S.S.L.C. (1999)

Discipline : General Education
Board : State Board of Tamilnadu
Percentage : 66 %

## Teaching Experience: 9.6 years

**1. College** **: Mohamed Sathak A.J. College of Engineering, IT Park Siruseri, Chennai, India**
Department :Mechanical Engineering.
Year : 17.06.2023 to till date

**2. College/University** **: Veltech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Avadi, Chennai**
Department : Mechanical Engineering.
**Years of experience** **: 26.02.2014- 31.05.2023**
Faculty position : Assistant Professor

## Industrial Experience: 4 years

**1. Industry Name** **: Suzlon Energy Limited.**
Department : Research and Development
**Years of experience** **: 01.01.2012 to 06.06.2013**
Position : Senior Engineer - Gearbox Division

**2. Industry Name** **: JKM Automotive Limited.**
Department : Production Department
**Years of experience** **: 01.06.2007 to 06.03.2009**
Position : Engineer.

## Research Interests

1. Reactor Design – Double-Stage Waste Plastic Reactor with Chromium Alloy is designed for Optimal yielding.
2. Oil Synthesis - Extraction of Oil from Various Waste Plastics.
3. Analysis - Analysis of Oil on Diesel Engine to Measure the Performance and Combustion.
4. Nano Additives - Various Nano Additives with different PPM is to be implemented on blended Oils

## Analytical Techniques:

- Physical Properties tests on Various blended fuels with ASTM Standards.
- Gas Chromatography and Mass Spectrophotometer Analysis on blended fuels.
- FTIR Analysis on blended fuels.
- Performance, Combustion and Emission Analysis on Diesel Engine with different blended fuels with Nano Additives.

## Additional/ Academic Responsibilities at University:

- Appointed as Admission Officer from 2020 Onwards.
- Appointed as a Training and Placement Cell in charge from 2014 march to 2016 march.
- Appointed as Department library in charge to purchase latest books from 2016 to 2020.

## List of Faculty Development Programme Attended:

1. Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on "Electric Vehicles" from 2020-11-2 to 2020-11-6 at Hindustan Institute of Technology and Science.
2. Participation in our one-week FDP on “Basic Concepts in Turbomachinery and its Applications during August 24-28, 2020, organized by the Department of Mechanical Engg, National Institute of Engineering Mysore,
3. Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on "Energy Engineering" from 2020-9-17 to 2020-9-21 at VELAMMAL ENGINEERING COLLEGE.
4. Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Electric Vehicles: Challenges and Opportunities in Future India" from 20/09/2021 to 24/09/2021 at RMK COLLEGE OF ENGINEERING AND TECHNOLOGY.
5. Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Implementation of Emerging Waste-To-Energy Technologies - An Opportunity and The challenges On Energy Recovery Systems" from 15/11/2021 to 19/11/2021 at New Horizon College of Engineering.
6. Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Alternative fuels : Biofuels" from 04/10/2021 to 08/10/2021 at P D A College of Engineering Kalaburagi

## National/ International Journals Publications: (SCOPUS and SCI) – IMPACT FACTOR -7.139 (HYDROGEN ENERGY)

| | |
|---|---|
| NO OF PAPERS IN SCI | 04 |
| NO OF PAPERS IN SCOPUS | 19 |

1. Kumar, K.S., Kalos, P.S., Akhtar, M.N., Shaik, S., Sundara, V., Fayaz, H., Khan, S.A. and Asif, M., 2023. Experimental and theoretical analysis of exhaust manifold by uncoated and coated ceramics (Al2O3, TiO2 and ZrO2). Case Studies in Thermal Engineering, p.103465.
2. J.M. Babu, Sunil Kumar. K, R.Ramesh Kumar, Ümit Ağbulut, Abdul Razak, Deepak Thakur, Vikram Sundara and Mohammad Asif, 2023, June Production of HHO gas in the water-electrolysis unit and the influences of its introduction to CI engine along with diesel-biodiesel blends at varying injection pressures. International Journal of Hydrogen Energy, Article in press. 10.1016/j.ijhydene.2023.06.078
3. K. Sunil Kumar, 2023, July. Measurement of Temperature flow analysis by Condition monitoring system for WTG gearbox to evaluate the Thermal performance associated with Plant Load factor, Journal of thermal engineering,.
4. E.Raghavendra kumar, V.Kamalakar and K.Sunil Kumar, 2024. March. An Investigation in Temperature Data Analysis of Middle Atmospheric Variation from Saber Satellite. Nature Environment and Pollution Technology. Vol. 23, No. 1 (March), Year 2024.Article in Press.
5. Kumar, K.S., Babu, J.M., Prakash, P.J. and Nagappan, M., 2023, May. Modal analysis of natural rubber-enhanced suspension system for vibration reduction. In AIP Conference Proceedings (Vol. 2715, No. 1). AIP Publishing.
6. Nagappan, M., Babu, J.M. and Jayaprakash, P and K. Sunil Kumar., 2023, May. The effects of additives to biodiesel and ethanol for enhancement of combustion characteristics and pollution reduction: A review. In AIP Conference Proceedings (Vol. 2715, No. 1). AIP Publishing.
7. Kannan, R., Palani, S. and Kurugundla, S.K., 2023, June. Numerical investigation on swirl flow through burner with the effect of rotation. In AIP Conference Proceedings (Vol. 2766, No. 1). AIP Publishing.
8. Srimanickam, b. and kumar, s., 2021. Drying investigation of coriander seeds in a photovoltaic thermal collector with solar dryer.pp - 659–668
9. Sunil Kumar, K and Bishnoi, D., 2022. Pressure exertion and heat dissipation analysis on uncoated and ceramic ($Al_2O_3$, $TiO_2$ and $ZrO_2$) coated braking pads. *Materials Today: Proceedings*.

10. Sunil Kumar, K., Babu, J.M. and Venu, H., 2022. Performance, combustion and emission characteristics of a single-cylinder DI diesel engine fuelled with lotus biodiesel-diesel-n-butanol blends. International Journal of Ambient Energy, pp.1-11.
11. Sunil Kumar, K., Babu, J.M., Venu, H. and Muthuraja, A., 2022. Waste plastic as a source of biofuel for stationary diesel engine: a critical review. International Journal of Ambient Energy, pp.1-15.
12. Kumar, S.K., Muniamuthu, S., Mohan, A., Amirthalingam, P. and Anbu Muthuraja, M., 2022. Effect of charging and discharging process of PCM with paraffin and $Al_2O_3$ additive subjected to three point temperature locations. Journal of Ecological Engineering, 23(2).

13. Kumar, S., Muniamuthu, S. and Tharanisrisakthi, B.T., 2022. An Investigation to Estimate the Maximum Yielding Capability of Power for Mini Venturi Wind Turbine. Ecological Engineering & Environmental Technology, 23(3), pp.72-78.
14. Muniamuthu, S., Kumar, K.S., Raja, K. and Rupesh, P.L., 2022. Dynamic characterization of hybrid composite based on flax/E-glass epoxy composite plates. *Materials Today: Proceedings*, *59*, pp.1786-1791.
15. Rupesh, P.L., Raja, K., Kumar, K.S., Vijaydharan, S., Reddy, A.M.M. and Kumar, P.D., 2022. Experimental evaluation of thermal stress on the surface of butterfly specimen through irreversible colour change of thermal paint. *Materials Today: Proceedings*, *59*, pp.1768-1775.
16. Babu, J.M., Sarath Chandra, M., Ravi Chandra Ganesh, P., Jayaprakash, P., . Sunil Kumar, K. and Nagappan, M., 2022. Experimental evaluation of direct injection diesel engine performance and emissions with acacia biodiesel. *International Journal of Ambient Energy*, pp.1-8.
17. Vivekananthan, V., Vignesh, R., Vasanthaseelan, S., Joel, E. and Kumar, K.S., 2022. Concrete bridge crack detection by image processing technique by using the improved OTSU method. Materials Today: Proceedings.

18. Karthickeyan, N.K., Arun, S., Mohan, G.S. and Kumar, S., 2017. Structural analysis of exhaust manifold for 1500 Hp engine. *International Journal of Mechanical Engineering and Technology*, *8*(3), pp.379-387.
19. Arun, S., Nagoorvali, S.K., Kumar, K.S. and Mohan, G.S., 2017. Automation of Main Bearing Bolt and Cap Loosening Machine for Automobile Crankshaft. *International Journal of Mechanical Engineering and Technology*, *8*(2).
20. Kumar, K.S., Palanisamy, R., Aravindh, S. and Mohan, G.S., 2016.Design And Analysis Of Windmill Blades For Domestic Applications. . *International Journal of Mechanical Engineering and Technology*, *6*(2).
21. Kumar, K.S., Raju, D.B.N., Arulmani, J. and Amirthalingam, P., 2016. Design and Structural Analysis of Liquified Cryogenic Tank under Seismic and Operating Loading. *International Journal of Mechanical Engineering and Technology*, *7*(6).
22. Kumar, K.S., Muniamuthu, D.S., Arun, S. and Mohan, A., 2016. Identification Experimental Analysis of Noise and Vibration Reduction in Windmill Gear Box for 5MW Wind Turbine. *International Journal of Mechanical Engineering and Technology*, *7*(6).
23. Muniamuthu, S., Raju, N.L., Sathishkumar, S. and Kumar, K.S., 2016. Investigation On Mechanical Properties Of Al 7075-$Al_2O_3$ Metal Matrix Composite. *International Journal of Mechanical Engineering and Technology*, *7*(6).

## International Conferences:

1. K.Sunil Kumar, has participated “International Conference on Materials, Energy and Mechanical Engineering 2021 “ICME2-2021” on 17 th and 18 Dec 2021.
2. K.Sunil kumar, has participated “Second International Conference on Materials and Technologies MATERIALTECH 2022”, held at National Institute of Technology Raipur, 492010, C.G., India. 28th-29th, 2022.
3. K.Sunil kumar, has participated “International conference on ICRAMERD-2022”, held at Siksha 'O' Anusandhan Deemed to be University Bhubaneswar-751030, Odisha, India on Aug 2022.

## Professional Activities:

1. Life time membership in the professional body “Indian Society for Technical Education” IIT (D) Campus,Newdelhi-110016

## Software Skills:

1. Pro-E and Ansys Workbench
2. Hypermesh

## Personal Data:

Father’s Name : Mr.K.BALARAM
Mother’s Name : Mrs. K.SARASWATHI
Spouse Name : AARTHI.M
Date of Birth : 21.10.1983
Age : 39 years
Sex : Male
Nationality : Indian
Martial : Married

Pass Port Number:  F7671646

Languages **: TELUGU (MOTHER TONGUE), TAMIL and ENGLISH**

**Declaration:**

I hereby declare that all the information presented above is true to the best of my knowledge.

**Place** **:** Yours Sincerely,

**Date** **:**

**[K. SUNIL KUMAR)**