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AREAS OF EXPERTISE

Mechanical Engineering

Alternate fuels, Electric Vehicles, Automobile Systems

EDUCATION

PhD (Mechanical Engineering) 2017

CHARUSAT

M.Tech. (Automobile Engineering) 2008

Veermata Jijabai Technological Institute (VJTI)

B.E. (Mechanical Engineering) 2000

Birla Vishvakarma Mahavidyalaya Engineering College (BVM)

PROFESSIONAL EXPERIENCE

Charutar Vidya Mandal University (CVM University) 2019 - Present

Head of the Department

Anand

Charutar Vidya Mandal University (CVM University) 2004 - 2019

Assistant Professor

Anand

HONOURS AND AWARDS

Research Excellence award 2025

Awarded by: CVM University

PROFESSIONAL MEMBERSHIPS

Association for machines and mechanisms 2013

Life Member

The combustion institute-Indian section 2008

Life Member

ISTE 2004

Life Member

COMMITTEE MEMBERSHIPS

Board of studies at ITM University, Vadodara 2021

Member

Evaluator in Toycathon-2021 organised by MHRD & AICTE. 2021

Chair Person

Board of studies at Atmiya University, Rajkot 2020

Member

Board of studies at CVM University, V V Nagar 2019

Member

PUBLICATIONS

1. A text book on: Fundamentals of Automobile Engineering

Dr. Samarth J Shelat, Dr Sanjay M Patel, Dr.Nimit M Patel

A text book on: Fundamentals of Automobile Engineering , Vol. (2026) , pp.

2. Automobile Engineering Concepts: Basics to Applications

Dr. Sanjay M Patel

Automobile Engineering Concepts: Basics to Applications; Akinik Publication, ISBN: 978-93-7150-611-3, 978-93-7150-453-9 , Vol. (2025) , pp.

3. Life Cycle Assessment Of Electric Vehicles: A Comparative Study On Environmental Impact With Conventional Automobiles

Dr. Pareshkumar D. Patel, Dr. Sanjay Maganlal Patel ,Dr. Samarth Jayeshbhai Shelat, Dr. Nimit M. Patel , Dr. Vipul R. Bhatt*

International Journal of Environmental Sciences , Vol. 11 (2025) , pp. 784-793

4. **Stability Assessment of Ethanol Added Algae-Biodiesel Blend for Naturally Aspirated CI Engines**
Kalpesh Vaghela, Sanjay Patel
Journal of Mines, Metals and Fuels , Vol. 73 (2025) , pp. 1707-1717
5. **A pilot investigation into the impact of algae derived bio diesel on CI engine performance and sustainability.**
Kalpesh Vaghela, Dr. Sanjay Patel
International conference: SDSTD 2025 , Vol. (2025) , pp.
6. **Advancements in vehicle aerodynamics: A comprehensive review of emerging technologies in automotive engineering.**
Sanjay M Patel, Raaghav Patel, Samarth J Shelat
International conference: SDSTD 2025 , Vol. (2025) , pp.
7. **Electric vehicle market trends in India: A comprehensive review & 2025 perspective**
Satyavrat P Patel, Dr. Sanjay M Patel, Samarth J Shelat
International conference: SDSTD 2025 , Vol. (2025) , pp.
8. **India's Electric Vehicle Journey: Key trends and what lies ahead in 2025.**
Satyavrat Patel, Dr Sanjay M Patel
International conference: SDSTD 2025 , Vol. (2025) , pp.
9. **Sustainable fuel development: Conversion and characterization of waste plastics into environmentally friendly alternative fuel.**
Samarth J Shelat, Sanjay M Patel, Paresh D Patel, Nimit M Patel
International conference: SDSTD 2025 , Vol. (2025) , pp.
10. **An Experimental Investigation of CI Engine using Environmentally Friendly Waste Plastic Fuels and its Blends with Diesel and Nano Additive**
Shelat S.J.;Patel S.M.
Journal of Mines Metals and Fuels , Vol. 73 (2025) , pp. 385-400
11. **sustainable fuel alternatives:The impact of algae-ethanol blends on engine dynamics and emissions.**
Kalpesh Vaghela, Sanjay Patel
GAU Research Journal (UGC Care) , Vol. 49(1) (2024) , pp. 72-101
12. **Performance Characteristics of a Compression Ignition (CI) Engine Using an Environmentally Friendly Waste Plastic Fuel**
Shelat S.J.;Patel S.M.
Journal of Mines Metals and Fuels , Vol. 72 (2024) , pp. 923-936
13. **A Comprehensive Study for the Algae-Ethanol Biofuels for Diesel Engines: Performance and Environmental Considerations**
Kalpesh Vaghela, Dr. Sanjay Patel
Journal of Harbin Engineering University , Vol. 44 (2023) , pp. 486-514
14. **A review on performance, combustion and emission characteristics of CI engine using alternative fuels and its blends with nano additives.**
Kartikkumar D Chaudhry, Dr Sanjay M Patel
The ciencia & engenharia-Science & engineering journal , Vol. 10 (2022) , pp. 01-18
15. **A review on performance and emission characteristics of IC engine running on waste**

plastic fuel.

Samarth J Shelat, Dr Sanjay M Patel
METSZET Journal , Vol. 7 (2022) , pp. 57-62

16. **Study of Electric Vehicle Component, Technologies, Challenges and Impact on Future Directional Development**
Dr Nimit M Patel, Dr Sanjay M Patel, Samarth J Shelat
Alochana Chakra Journal , Vol. 9 (2020) , pp. 4294-4307
17. **Influence of Tire Stiffness on Automotive Quarter Car Suspension System**
Sanjay M Patel, Dr A D Patel
Research Journal of Engineering And Technology , Vol. 8 (2017) , pp. 97-100
18. **Performance & emission analysis of Piaggio diesel engine using exhaust gas recirculation**
Narendra H Gothi, Sanjay M Patel
22nd ISTE annual state faculty convention and national conference , Vol. (2017) , pp.
19. **Selection of Parameters in Design and Analysis of Automotive Suspension System: A Review**
Samarth J Shelat, Dr Sanjay M Patel
ADIT Journal of Engineering , Vol. 14 (2017) , pp. 49-53
20. **Dynamic analysis of Automotive Full Car Passive Suspension System**
Sanjay M Patel, Dr A D Patel
European Journal of Scientific Research , Vol. 142 (2016) , pp. 369-373
21. **Performance of diesel engine using measured properties of diesel and jatropha biodiesel- A review**
Samarth J Shelat, Sanjay M Patel
ADIT Journal of Engineering , Vol. 13 (2016) , pp. 37-45
22. **Experimental investigation of aerodynamic drag on vehicle models using wind tunnel**
Sanjay M Patel
ADIT Journal of Engineering , Vol. 12 (2015) , pp. 43-45
23. **Investigation and analysis of Quarter car automotive suspension system using mathematical model**
Sanjay M Patel, Dr A D Patel
Indian Journal of Research , Vol. 2 (2013) , pp. 86-88
24. **Exhaust emission analysis and performance optimization of a direct injection diesel engine fuelling diesel and its blends with rapeseed oil**
Ayanesh Y Joshi, Sanjay M Patel, Paresh D Patel
Indian Journal of Applied Research , Vol. 3 (2013) , pp. 239-241
25. **Study of performance and exhaust emissions of a 4-stroke 4-cylinder diesel engine using esterified jatropha, mustard oil and palm oil**
Paresh D Patel, Sanjay M Patel, Vipul R Bhatt, Mazar A Shaikh
International Journal of Advances in Thermal Sciences and Engineering , Vol. 1 (2010) , pp. 51-56
26. **An Experimental Comparison of Performance & Exhaust Emission of 4 stroke 4 cylinder Diesel Engine using Esterified Jatropha, mustard oil & Palm oil with Diesel Fuel**
Paresh D Patel, Sanjay M Patel, Vipul R Bhatt, Mazar A Shaikh

International Conference ICAME - 09 , Vol. (2009) , pp. 282-287

27. **Performance and exhaust emission of direct injection diesel engine operating on bio diesel (mustard) and its blends with diesel**

Paresh D Patel, Mazar A Shaikh, Sanjay M Patel

International Journal of Emerging Technologies and Applications in Engineering, Technology and Sciences , Vol. 2 (2009) , pp. 696-700

28. **Investigation & Analysis of Quarter Car Automotive Suspension System using Mathematical Model**

Sanjay M Patel

National Conference IAMTES-2008 , Vol. (2008) , pp.

29. **Performance and exhaust emission of direct injection diesel engine using biodiesel (Jatropha) and its blends with diesel**

Sanjay M Patel, Sanjay M G

National conference NCME-2008 at Thapar University , Vol. (2008) , pp.

30. **Intelligent Anti Lock Brake System in Automobile**

Sanjay M Patel

2nd National Symposium on Data & Knowledge Engineering-2005. , Vol. (2005) , pp.