





# Dr. Vishal Patil

- + Ph. D. Mechanical Engineering,
- + Post-Doctoral Fellow, Combustion Research Laboratory, Aerospace Engineering Department, IIT Bombay, India
- + Associate Professor, Mechanical Engineering Department, SITCOE Yadrav



## Contact details

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## Education

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- + **Ph.D. in Mechanical Engineering** 2019  
Birla Institute of Technology and Science, Pilani. CGPA: 10.0/10.0
- + **M. E. in Heat Power (Mechanical) Engineering** 2013  
Padmabhooshan Vasantodada Patil Institute of Technology, (Shivaji University, Kolhapur).  
Percentage: 64.86%
- + **B. E. in Mechanical Engineering** 2009  
Padmabhooshan Vasantodada Patil Institute of Technology, (Shivaji University, Kolhapur).  
Percentage: 64.18%

## Professional Experience

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- + **Post-Doctoral Fellow, Indian Institute of Technology Bombay, India** 9/2021 to 1/2023
  - Facilitate experimental setup, execution, and data analysis for fuel economy and emissions tests

- Long-term engine durability (endurance) test investigations sponsored by Hindustan Petroleum Corporation Limited (HPCL) [engine deposits, effect on lubricating oil, wear of engine component, effect on performance, emission, and combustion characteristics, etc.]
- Support research projects and experiments on gasoline-additive blended fuels.
- Analyze the effect of ketone-gasoline blended fuel and gasoline surrogates in SI engines.
- Assist with ordering and procurement of supplies and equipment and with general maintenance of the laboratory.
- Promote ethical standards for conducting research, including compliance with all regulations.

**✚ Associate Professor in Mechanical Engineering 12/2019 to 9/2021 and 1/2023 to till-date SITCOE, Yadrav India**

- Planed and prepared appropriately for the assigned courses and lectures
- Implementation of the designated curriculum completely in due time
- Supervised UG students in technical projects
- Participated in committee, departmental, and faculty meetings
- Reviewed methods and teaching materials and made recommendations for improvement
- Build knowledge by attending continuing education seminars
- **Subjects taught:** Internal combustion engine, renewable energy, refrigeration, and air-conditioning



**Publication: Peer-Reviewed Journals**

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- [1] **Vishal Patil**, Paramvir Singh, Sachin Sonage, Neeraj Kumbhakarna, Sudarshan Kumar, Applicability of ketone-gasoline blended fuels for spark ignition engine through energy-exergy analyses, **Fuel (Elsevier)**, Volume 339, 127416, 2023. [Impact factor: 8.035; Abstracting and Indexing: SCIE, Scopus, etc.] <https://doi.org/10.1016/j.fuel.2023.127416>
- [2] **Vishal Patil**, Paramvir Singh, Sachin Sonage, Neeraj Kumbhakarna, Sudarshan Kumar, Validation of gasoline surrogates through thermodynamic analysis of spark-ignition engine, **Journal of Energy Resources Technology (ASME)**, 2022, 1-34. [Impact Factor: 3.183; Abstracting and Indexing: SCI, Scopus, etc.] <https://doi.org/10.1115/1.4056527>

- [3] **Vishal Patil**, Paramvir Singh, Sachin Sonage, Neeraj Kumbhakarna, Sudarshan Kumar, Experimental investigation to assess the efficacy of gasoline surrogates with engine testing, **Fuel (Elsevier)**, Volume 324, Part A, 124493, 2022. [Impact factor: 8.035; Abstracting and Indexing: SCIE, SCOPUS, etc.] <https://doi.org/10.1016/j.fuel.2022.124493>
- [4] **Vishal V Patil**, Ranjit S Patil, Investigations on effects of varying ignition delay period for the sunflower oil methyl ester, **Journal of Institution of Engineers (India): Series C (Springer)**, 2022. [Impact Factor: 2.1; Abstracting and Indexing: Scopus] <https://doi.org/10.1007/s40032-021-00779-4>
- [5] Paramvir Singh, Pragya Berwal, **Vishal Patil**, Bhupendra Khandelwal, Sudarshan Kumar, Impact of ammonia blended fuels on NO<sub>x</sub> emissions in a combustion engine, **AIAA (SCITECH)** 2022-1497, 2022. [Abstracting and Indexing: Scopus]. <https://doi.org/10.2514/6.2022-1497>.
- [6] **Vishal V. Patil**, Ranjit S. Patil, Experimental investigations to predict optimistic biodiesel(s) and its optimistic operating conditions by varying ignition delay period and fuel spray pressures for lower emissions and better performance, **Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science (IMEchE: Sage Publications)**, 234 (19), 3809-3902, 2020. [Impact Factor: 1.758; Abstracting and Indexing: SCI and Scopus] <https://doi.org/10.1177/0954406220917>
- [7] **V. V. Patil**, R. S. Patil, Effects of partial addition of butanol in rubber seed oil methyl ester diesel blend, **Journal Materials Today: Proceedings (Elsevier)**, Volume 5, Issue 11, Part 2, 23119-23127, 2018. [Impact Score: 1.46; Abstracting and Indexing: Scopus] <https://doi.org/10.1016/j.matpr.2018.11.042>
- [8] **Vishal V. Patil**, Ranjit S. Patil, Investigations on partial addition of n-butanol in sunflower oil methyl ester powered diesel engine, **Journal of Energy Resources Technology (ASME)**, 140(1), 012205, 2017. [Impact Factor: 3.183; Abstracting and Indexing: SCI and Scopus] <https://doi.org/10.1115/1.4037372>
- [9] **Vishal V. Patil**, Ranjit S. Patil, Effects of partial addition of n-butanol in rubber seed oil methyl ester powered diesel engine, **Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy (IMEchE: Sage Publications)**, 231(7), 607-617, 2017. [Impact Factor: 2.1; Abstracting and Indexing: SCI and Scopus] <https://doi.org/10.1177/0957650917708695>

- [10] **Vishal V. Patil**, Ranjit S. Patil, Effect of exhaust gas recirculation on various characteristics of diesel engine powered by rubber seed oil methyl ester-butanol blend, **ISHMT Digital Library**, 2017. DOI:10.1615/IHMTC-2017.1950
- [11] Parag P. Mangave, **Vishal V. Patil**, Nilesh D. Pawar, Ranjit S. Patil, Experimental investigations on emissions and performance of a spark-ignition engine fuelled with butanol-pentane-gasoline blends, **Lecture Notes in Mechanical Engineering (Springer)** (In press) [Abstracting and Indexing: Scopus].



## Conferences

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- [1] **Vishal Patil**, Paramvir Singh, Neeraj Kumbhakarna, Sudarshan Kumar, Investigations of super premium octane rating ketone-gasoline blends fuelled spark ignition engine characteristics, VII International Conference on Sustainable Energy and Environmental Challenges, organized by the International Society for Energy, Environment, and Sustainability, **Banaras Hindu University (BHU)**, India 16<sup>th</sup> -18<sup>th</sup> December 2022.
- [2] Paramvir Singh, **Vishal Patil**, Sachin Sonage, Sudarshan Kumar, Experimental investigation surrogate fuel with conventional gasoline-powered in spark ignition engine, 6<sup>th</sup> International Conference on Sustainable Energy and Environmental challenges, organized by the International Society for Energy, Environment, and Sustainability, **Indian Institute of Technology Kanpur**, India from 27<sup>th</sup> to 29<sup>th</sup> December 2021.
- [3] **Vishal V. Patil**, Ranjit S. Patil, G. Karthikeyan, Effect of addition of butanol in sunflower oil methyl ester diesel blend in a diesel engine, 23<sup>rd</sup> National Heat and Mass Transfer Conference and 1<sup>st</sup> International ISHMT-ASTFE Heat and Mass Transfer Conference, **ISRO Thiruvananthapuram**, 17<sup>th</sup> -20<sup>th</sup> December 2015.
- [4] **V. V. Patil**, R. S. Patil, G. Karthikeyan, Experimental investigations on rubber seed oil methyl ester by varying the load conditions and compression ratio in a diesel engine, 5<sup>th</sup> International Conference on Advances in Energy Research, **Indian Institute of Technology Bombay**, 15-17<sup>th</sup> December 2015.

- [5] **Vishal V. Patil**, Ranjit S. Patil, Influence of addition of butanol in neem seed oil methyl ester diesel blend in a diesel engine, 17<sup>th</sup> ISME Conference on Advances in Mechanical Engineering, **Indian Institute of Technology Delhi**, 3-4<sup>th</sup> October 2015.
- [6] **V. V. Patil**, R. S. Patil, Effects of partial addition of butanol in a rubber seed oil methyl ester diesel blend, 5<sup>th</sup> International Conference on Advances in Energy Research, **Indian Institute of Technology Bombay**, 15-17<sup>th</sup> December 2015.



## Published Patent

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Bahubali Sangame, Pratapsinh Chougule, **Vishal Patil**, Adik Takale, Shital Udgave, Viddya Patil, Hydraulic flood protection system at global industry, Indian Patent, Application number: 202321034729, 16.06.2023.



## Reviewer Activities

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### ✚ Journal Publication

- Applied Energy (Publisher: Elsevier; Abstracting and Indexing: SCI and Scopus)
- Journal of Engines (Publisher: SAE International; Abstracting and Indexing: Scopus)
- World Journal of Science, Technology and Sustainable Development, Emerald Publishing
- American Journal of Engineering and Applied Sciences Publication (Science Publication)

### ✚ International Conference

- International Conference on Frontiers in Engineering, Science, and Technology (ICFEST-2020) organized by the Department of Mechanical Engineering, Yenepoya Institute of Technology, Moodbidri. Karnataka

### ✚ Book

- Engineering Thermodynamics by Prof. P. K. Nag McGraw Hill Publications



## Administration

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- ✚ Worked as **Dean Academics** (from 09/2020 to 07/2021)
- ✚ Worked as **Member Secretary, Institute Academic Council** ( from 09/2020 to 07/2021)
- ✚ Worked as **Controller of Examination** (from 2019 to 08/2021)

- ✚ Worked as a **Member of the Institute Internal Quality Assurance Cell [IQAC]** (from 09/2020 to 07/2021)
- ✚ Worked as a **Member of the Institute NAAC Accreditation Steering Committee**
- ✚ Worked as **Member, Institute Autonomous Accreditation Preparation Committee**
- ✚ Worked as **Coordinator** for Mechanical Engineering Department, National Board of Accreditation (NBA) preparation process (A. Y. 2019 to 08/2021)
- ✚ Worked as a **Member** of the **Mechanical Department Academic Advisory Board (DAAB)** (A. Y. 2019 to till date)
- ✚ Worked as **Central Assessment Process (CAP) Director** (Supplementary Exam at SITCOE Yadrav) Dr. Babasaheb Ambedkar Technological University, Lonere (01.01.2020 to 15.01.2020)



### Professional Society Membership

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- Indian Society For Technical Education (ISTE) Life membership (LM-108877)



### Invited talks/lectures

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- Resource person in a one-week faculty orientation program on **academic writing and IPR** (organized by department of mechanical engineering department, SITPOLY, Yadrav)



### References

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#### ✚ Prof. Rahul Mulik

##### Associate Professor

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