

Faculty Profile

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About me: I have been working as an Assistant Professor at the Department of Mechanical Engineering since 2015. I have taught design courses for under graduation students. My primary objective is to share my knowledge in the simplest way with the learners, especially mechanical engineering students, so that students will acquire the ability to design the systems which fulfill the need of our environment and society. My research interests are in the fields of Tribology, Rheology, Grease and Lubrications in food processing, agricultural applications, Mechanical vibration.

Qualification:

Ex: B.E. (VTU, Belagavi.), M-Tech (VTU, Belagavi), Ph.D. (VTU, Belagavi)

Courses Taught:

UG

1. Mechanical Vibrations
2. Dynamics of machinery
3. Kinematics of machinery
4. Coordinate Metrology
5. Mechatronics
6. Computer Aided Engineering Drawing
7. Theory of Machines

PG

1. Tribology and Bearing Design

Publications:

1. Ravikiran, Mohd. J. Shariff, H. Kaushil, S. Likhitha, N. Bhootpur, and S. Mohan, "Design and Development of a Cost-Effective Reloadable Motor for sounding Rocket," in *Lecture notes in mechanical engineering*, 2020, pp. 443–450. doi: 10.1007/978-981-15-6619-6_48.
2. R. Kiran, P. K. R, P. Anth, P. H, A. V. M, and A. S. L, "Viscosity and Tribological Characteristics of Sunflower Oil with ZnO as Additive," *International Journal of Mechanical Engineering*, vol. 9, no. 9, pp. 1–7, Sep. 2022, doi: 10.14445/23488360/ijme-v9i9p101.

3. Ravikiran, S. Kundargi, S. L. Aravind, V. M. Akhil, and R. Madhusudhana, "Rheological and tribological characterization of completely biogenic grease," in *Springer Proceedings in Materials*, 2022, pp. 155–162. doi: 10.1007/978-981-19-5395-8_12.
4. V. M. Akhil, S. L. Aravind, R. Kiran, S. S. P, and S. Mohan, "Experimental investigations on the effect of infill patterns on PLA for structural applications," *Materials Today Proceedings*, vol. 76, pp. 636–639, Nov. 2022, doi: 10.1016/j.matpr.2022.10.292.
5. Ravikiran, A. Savant, D. Patil, A. S. Lathika, A. V. Muraleedharan, and M. Ramanna, "Design and development of helium assisted quadcopter with object recognition," *AIP Conference Proceedings*, vol. 2766, p. 020014, Jan. 2023, doi: 10.1063/5.0139353.
6. V. M. Akhil, S. L. Aravind, and R. Nayak, "Comparison of Fault Detection Data from Defective Ball Bearings Using Artificial Neural Networks," in *Lecture notes in mechanical engineering*, 2023, pp. 589–598. doi: 10.1007/978-981-99-1288-9_61.
7. Ravikiran *et al.*, "Experimental investigation of tribological characterization of Bio-Nanolubricants," in *Advances in sustainability science and technology*, 2023, pp. 1–11. doi: 10.1007/978-981-99-4189-6_1.
8. Ravikiran, Akhil V M, S.L.Aravind, Rahul N, Rakesh D, Chethan D, Experimental investigations on condition monitoring of spur gear using empirical mode decomposition method during dry and wet conditions, Tuijin Jishu/Journal of Propulsion Technology ISSN: 1001-4055 Vol. 44 No. 5 (2023).
9. R. Ravikiran, K. R. Prakash, A. S. Lathika, M. Ramanna, S. Bandadka, and A. Anand, "Experimental Study on Tribological, Rheological and Bio-degradability Characteristics of Canola Oil with TiO₂ Nanoparticles as Bio-nanolubricants," *Tribology in Industry*, vol. 3, no. 46, pp. 458–466, Sep. 2024, doi: 10.24874/ti.1591.12.23.02.
10. B. Sachin *et al.*, "Interactive design and development of an intelligent vision-driven 3D printed precision sorting mechanism for silk cocoons," *International Journal on Interactive Design and Manufacturing (IJIDeM)*, Aug. 2024, doi: 10.1007/s12008-024-02086-5.
11. S. L. Aravind, B. Suresha, S. Nalinakshan, V. M. Akhil, Ravikiran, and B. Sachin, "Experimental investigations on Thermo-Kinetic properties of Ramie and glass fibre reinforced epoxy hybrid composites," in *Springer Proceedings in Materials*, 2024, pp. 167–179. doi: 10.1007/978-981-97-7071-7_13.
12. Ravikiran, B. Sachin, T. Raghavendra, R. Madhusudhana, S. L. Aravind, and G. Kashyaup, "Investigation of viscosity and tribological characteristics of cashew nut shell oil and castor oil blends using ZDDP as additives," in *Advances in Science, Technology & Innovation/Advances in science, technology & innovation*, 2025, pp. 169–176. doi: 10.1007/978-3-031-73816-6_19.
13. Ravikiran, H.Rishab, Charan P, Tejasvi S., "Development of Biodegradable Tracheobronchial Stent". *Journal of Bio-Medical & Instrumentation Engineering*, Volume 6 Issue 1, 2021.
14. B. Sachin *et al.*, "Design and fabrication strategies for enhancing patient comfort and sustainability through PETG based 3D-printed orthoses," *Progress in Additive Manufacturing*, vol. 10, no. 9, pp. 5937–5956, Jan. 2025, doi: 10.1007/s40964-024-00945-x.
15. Ravikiran, K. R. Prakash, K. M. Vaibhav, B. Sachin, C. D. Prasad, and R. N. Babu, "Enhancing biodegradable lubricants with SiO₂ and TiO₂ nanoparticles: effects on viscosity, tribological behavior, rheological performance, and sustainability," *Biomass Conversion and Biorefinery*, vol. 15, no. 24, pp. 31575–31590, Apr. 2025, doi: 10.1007/s13399-025-06804-1.
16. Ravikiran *et al.*, "Sustainable Lubrication solutions: Rheological and tribological analysis of ZDDP-Enhanced castor and cashew nut shell oil biogenic greases," *Johnson Matthey Technology Review*, Aug. 2025, doi: 10.1595/205651326x17549280158352.
17. M. Ramanna *et al.*, "Study of the hole behavior properties of ITO/ZNO/VOPC/MOO₃ /AL devices by varying the temperature and thickness via impedance spectroscopy," *Eurasian*

Journal of Physics and Functional Materials, vol. 9, no. 4, p. 1, Jan. 2025,
doi: 10.69912/2616-8537.1259.

Other achievements:

Design Patent Granted:

- Title: Twin Pin Double Shoulder Friction Stir Welding Tool, Granted by: UK , Patent No: 6356330, Grant date: 10 April 2024

Design Patent registered:

- Title: Gear vibration test rig: India, Patent No: 477626-001, applied date: 10 April 2024.
