

## Faculty Profile

<p>Name : <b>Dr. Harshavardhan B.</b> Designation : Assistant Professor Department : Mechanical Engineering Contact Details : NIE, Mysuru-570008 E-mail : harshavardhanb@nie.ac.in Phone : 9739867488</p>	
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**About me:** 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.

### **Qualification:**

B.E. in Mechanical Engineering (VTU, Belagavi), M.Tech. in Maintenance Engineering (VTU, Belagavi), Ph.D in Mechanical Engineering Sciences (VTU, Belagavi), AICTE-QIP-PG Certification in Machine Learning (IISc, Bengaluru)

### **Courses Taught:**

#### **First Year courses:**

C Programming, Python Programming, Matlab Programming, Computer Aided Engg. Drawing

#### **UG courses:**

Design of Machine Elements-I and II, Tribology and Bearing Design  
Mechanical Vibrations, Kinematics of Machines, Dynamics of Machinery  
Computer Aided Machine Drawing

#### **PG courses:**

Python Programming & Applications, Optimum Design  
Advanced Theory of Vibrations, Tribology and Bearing Design

### **Research:**

Number of PhD Guiding: 02

Number of Scopus documents: 24

h-index: 06

#### **Area of research:**

- Tribology of composite materials
- Vibration studies in mechanical structures
- Thermal analysis

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**Scopus ID:** 57208749601

## Journal Publications

1. **Harshavardhan B** and Arun C Dixit, (2025): “Influence of strain rate on tensile behavior of polyethersulfone thermoplastic,” *Journal of Polymer Research*, 32(10), p. 344 doi: <http://doi.org/10.1007/s10965-025-04550-6> (Scopus)
2. Arun C Dixit, **Harshavardhan B**, Prakasha K N, Ashok B C (2025): “Personalized and Collaborative Learning Approach for Enhanced Student Engagement,” *Journal of Engineering Education Transformations*, 39(3), pp. 172–179., <https://doi.org/10.16920/jeet/2026/v39i3/26091>. (Scopus)
3. Chelladurai, S.J.S., Jagadeeswaran, K., Sivananthan, S, S. M. Vinu Kumar, **B. Harshavardhan**, A. Anand & B. Suresha (2025): “Optimization of wire electrical discharge machining process parameters of LM24 al alloy - TiB2 - fly ash reinforced hybrid composites,” *Discover Materials*, 5(1), p. 202. Available at: <https://doi.org/10.1007/s43939-025-00376-7>.
4. **Harshavardhan B**, , Vishwas Mahesh, Vinyas Mahesh, Arun C. Dixit, (2025): “Characterization of Potassium Titanate Whisker and UHMWPE-reinforced Polyethersulfone/Short Carbon Fiber composites: Mechanical, thermal, and structural insights”, *Polymer Composites*, pp. 1-17., <https://doi.org/10.1002/pc.29493> (Scopus)
5. Arun C Dixit, K N Prakasha, **B Harshavardhan**, B C Ashok, (2025): “Evaluating the key enablers for implementing Medical 4.0 and patient-centric care technologies using grey DEMATEL method”, *Recent Trends in Healthcare Innovation*, pp. 327-333, <https://doi.org/10.1201/9781003501367> (Scopus)
6. **Harshavardhan B.**, Ravishankar R., Arun Dixit U, and Anandraj, D., (2024): “Tribological Behaviour of Short Carbon Fiber Reinforced Polyethersulfone Composites with PTW Filler,” *Tribology in Industry*, 46(2), pp. 217–235. [doi:10.24874/ti.1532.08.23.10](https://doi.org/10.24874/ti.1532.08.23.10). (Scopus)
7. S. Srinivas , R. Hemanth , **B. Harshavardhan** , G. S. Ananthapadmanabha , B. Suresha, (2024): “Effect of Surface Treated Nanofillers on Abrasive Wear of Carbon Fiber/Polyamide Blend Composites”, *Tribology in Industry*, 46 (4), pp. 664-676, [doi: 10.24874/ti.1719.07.24.09](https://doi.org/10.24874/ti.1719.07.24.09) (Scopus)
8. Arun C Dixit, **Harshavardhan B**, Ashok B C and Mohan Krishna S A., and Prakasha K N, (2024): “Innovative Pedagogical Approaches for Diverse Learning Styles and Student-Centric Learning,” *Journal of Engineering Education Transformations*, 37(IS2), pp. 178–188. [doi: 10.16920/jeet/2024/v37is2/24039](https://doi.org/10.16920/jeet/2024/v37is2/24039). (Scopus)
9. B. Suresha, S. Vidyashree, and **Harshavardhan B**, (2023): “Effect of Filler Materials on Abrasive Wear Performance of Glass/Epoxy Composites,” *Tribology in Industry*, vol. 45, no. 1, pp. 111–120, [doi: 10.24874/ti.1386.10.22.01](https://doi.org/10.24874/ti.1386.10.22.01). (Scopus)
10. S. M. Darshan, B. Suresha, **B. Harshavardhan**, Mohan B. Vanarotti, Sunil Waddar, Shijo Thomas & L. Francis Xavier, (2023): “Mechanical and Wear Behavior of Halloysite Nanotubes Filled Silk/Basalt Hybrid Composites Using Response Surface Methodology”, *Biodegradable and Biocompatible Polymer Nanocomposites*. Elsevier, [doi: 10.1016/C2021-0-00952-4](https://doi.org/10.1016/C2021-0-00952-4). (Scopus)
11. Suresha, S.M. Darshan, S.L. Aravind and **B. Harshavardhan**, (2023): Thermo-mechanical and viscoelastic properties of biodegradable and biocompatible polymer

- nanocomposites, *Biodegradable and Biocompatible Polymer Nanocomposites*. Elsevier, [doi: 10.1016/C2021-0-00952-4](https://doi.org/10.1016/C2021-0-00952-4). (Scopus)
12. Anjum, N., Suresha, B., Prasad, S. L. A., and **Harshavardhan, B.**, (2020): “Wear Behaviour of Sansevieria and Carbon Fiber Reinforced Epoxy with Nanofillers: Taguchi Method,” *Tribology in Industry*, p. 18, [doi: 10.24874/ti.861.03.20.06](https://doi.org/10.24874/ti.861.03.20.06) (Scopus)
  13. M. K. S. Kumar, and **B. Harshavardhan**, (2020): “Wear Analysis of T6 Heat Treated Al 7075/Graphene Composite by Stir Casting Technique,” in *International Journal of Research in Engineering, Science and Management*, vol. 3, no. 3, pp. 212-216,
  14. **B. Harshavardhan**, R. Ravishankar, B. Suresha, and S. Srinivas, (2019): “Static and Dynamic Mechanical Performance of Carbon Fiber Reinforced Polyethersulfone Composites,” *Applied Mechanics and Materials*, vol. 895, pp. 265–271, [doi: 10.4028/www.scientific.net/AMM.895.265](https://doi.org/10.4028/www.scientific.net/AMM.895.265).

### Conference Proceedings

15. Arun C Dixit, **B Harshavardhan**, K N Prakasha, (2025): A Game Theory Approach to Optimizing Electric Vehicle Charging Infrastructure in Urban Areas, *E3S Web of Conferences*, 619, 01004, pp. 1-19, <https://doi.org/10.1051/e3sconf/202561901004> (Scopus)
16. Arun C Dixit, B C Ashok, **Harshavardhan B**, and Mohan Krishna S A, (2024): “Barriers for Adoption of Green Hydrogen in Indian Transportation Sector: A Fuzzy ISM Approach,” *E3S Web of Conf.*, 559, p. 03011. [doi: 10.1051/e3sconf/202455903011](https://doi.org/10.1051/e3sconf/202455903011). (Scopus)
17. Aravind, S. L., Bharath, H. P., Suresha, B., **Harshavardhan, B.**, Jamadar, I. M., Samal, P. K., and Anand, A., (2023): “Experimental Investigations on the Effect of Carbon Nanotubes and Nanoclay Additives on Thermo-Kinetics and Mechanical Characteristics of Acrylonitrile Butadiene Styrene (ABS),” *Proceedings of the International Symposium on Lightweight and Sustainable Polymeric Materials (LSPM23)*, S. Mavinkere Rangappa, and S. Siengchin, eds., Springer Nature Singapore, Singapore, pp. 291–303, [doi: 10.1007/978-981-99-5567-1\\_22](https://doi.org/10.1007/978-981-99-5567-1_22). (Scopus)
18. Arun C Dixit, Ashok B C, Mohan Krishna S A and **Harshavardhan B**, (2023): “Green Hydrogen for Karnataka: Regional Solutions for a Clean Energy Future,” *E3S Web Conf.*, 455, p. 02020. [doi: 10.1051/e3sconf/202345502020](https://doi.org/10.1051/e3sconf/202345502020). (Scopus)
19. **Harshavardhan, B.**, Ravishankar, R., Suresha, B., and Srinivas, S., (2021): “Experimental and Numerical Modal Analysis of Short Carbon Fiber Reinforced Polyethersulfone Composites,” *IOP Conf. Ser.: Mater. Sci. Eng.*, 1189(1), p. 012017. [doi: 10.1088/1757-899X/1189/1/012017](https://doi.org/10.1088/1757-899X/1189/1/012017).
20. **Harshavardhan, B.**, Ravishankar, R., Suresha, B., and Arun C Dixit, U., (2021): “Elastic Modulus Measurement of Thermoplastic Composites through Modal Analysis,” *IOP Conf. Ser.: Mater. Sci. Eng.*, 1189(1), p. 012020. [doi: 10.1088/1757-899X/1189/1/012020](https://doi.org/10.1088/1757-899X/1189/1/012020).
21. Dixit, A. C., **Harshavardhan, B.**, Shivashankar, R., Gururaja, S., and Vismay, K. G., (2021): “Effect of Dry Sliding Wear Parameters on the Tribological Behavior of Aluminum Hybrid Metal Matrix Composites,” *Materials Today: Proceedings*, [doi: 10.1016/j.matpr.2020.12.113](https://doi.org/10.1016/j.matpr.2020.12.113) (Scopus)

22. **Harshavardhan B**, Ravishankar R, Suresha B, Srinivas S and Arun C Dixit U, (2020): “Influence of short carbon fiber content on thermal properties of polyethersulfone composites”, *Materials Today Proceedings*, [doi: 10.1016/j.matpr.2020.08.769](https://doi.org/10.1016/j.matpr.2020.08.769). (Scopus)
23. **Harshavardhan B**, Ravishankar R, Suresha B, Srinivas S and Arun C Dixit U, (2020): “Thermal characterization of polyethersulfone composites filled with self lubricants”, *Materials Today Proceedings*, [doi: 10.1016/j.matpr.2020.08.768](https://doi.org/10.1016/j.matpr.2020.08.768). (Scopus)
24. Suresha, B., **Harshavardhan, B.**, Rao, A. M., Koushik, U. R., and Hemanth, R., (2019), “Role of Nano-Fillers on Tribological Behaviour of Ultra High Molecular Weight Polyethylene Composites,” *Materials Today: Proceedings*, [doi: 10.1016/j.matpr.2019.09.089](https://doi.org/10.1016/j.matpr.2019.09.089). (Scopus)
25. B. Suresha, **B. Harshavardhan** and R. Ravishankar, (2018):, “Tribo-performance of epoxy hybrid composites reinforced with carbon fibers and potassium titanate whiskers”, *Advances in Mechanical Design, Materials and Manufacture. American Institute of Physics*, pp. 020069-1-9, [doi: 10.1063/1.5029645](https://doi.org/10.1063/1.5029645) (Scopus)

### Professional Memberships

1. Associate Member of IEI (Institute of Engineers, India) (AM1539887)
2. Member of ISHRAE (Indian Society of Heating, Refrigerating and Air-conditioning Engineers) (MY/00/AM/0137)

### Invited Talks Delivered:

1. FDP on Innovative teaching strategies, Mangalore Institute of Technology & Engineering, 03 June 2023, MITE, Moodabidri,
2. ISTE Approved One Week Online Short Term Training Program on Finite Element Analysis (FEA) Using ABAQUS and MATLAB, Finite Element Analysis Using Beam Element in ABAQUS, 30/06/2022, NIE, Mysuru
3. ISTE approved One Week Online Short Term Training Program (STTP) on Mechanical Vibration Problems: Modeling, Simulation & Case Studies, 13-17 September 2021, NIE, Mysuru

### NPTEL Courses Completed:

1. Python for Data Science, Mar-Apr 2025
2. Programming in Modern C++, Jul-Oct 2024
3. Introduction to Machine Learning Jul-Oct 2024
4. Data Base Management System, Jul-Sept 2024
5. Data Science for Engineers, Jan-Mar 2024
6. Programming, Data structures and Algorithms using Python, Jan-Mar 2024
7. Programming in Java, Jan-Apr 2023
8. Ideal Fluid Flows using Complex Analysis, Feb-Mar 2023
9. Dealing with Materials Data: Collection, Analysis and Interpretation, Jan-Apr 2020
10. Friction and Wear of Materials: Principle and Case Studies, Jan-Mar 2020
11. Computer Numerical Control CNC of Machine Tools and Processes, Aug-Oct 2019
12. Accreditation and Outcome Based Learning, Aug-Oct 2019

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