

GMU - Faculty & Staff Profile Template



Contact

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Websites

Google Scholar:

<https://scholar.google.com/citations?user=5K2W5d4AAAAJ&hl=en>

Research Gate:

<https://www.researchgate.net/profile/Murgayya-Basavankattimath>

SCOPUS: 57211011269

<https://www.scopus.com/authid/detail.uri?authorId=57211011269>

Dr. Murgayya Basavankattimath

Associate Professor in Engineering Design

Faculty

Faculty of Engineering and Technology

School/Program

Faculty of Engineering and Technology/

B.Tech. in Engineering Design

Faculty Introduction

Dr. Murgayya S. Basavankattimath is an accomplished academician, researcher and industry consultant specializing in **Vibration Analysis, Rotor Dynamics, Reliability Engineering, and Condition Monitoring**. With over a decade of experience in teaching, research, academic leadership, and industry consultancy, he has contributed significantly through research publications, patents, and industry-oriented projects.

He established the **Vibration & Thermography Consultancy Cell at KLS VBIT** in collaboration with Diagnostic Engineers, Bengaluru, providing industrial training, consultancy, and machinery-failure diagnosis services. His industry experience as a **Vibration Analyst and Consultant** has strengthened his focus on practical, industry-relevant research.

His key expertise includes **vibration signature analysis, rotordynamics, predictive maintenance, modal analysis, structural dynamics, and reliability engineering**. He is committed to advancing research, strengthening industry-academia collaboration, and developing industry-ready engineering professionals.

Qualifications

Ph.D in Mechanical Engineering, Dayananda Sagar University, Bangalore, India - 2016 -2021

Dissertation: Design and Optimization of a Reliability Rotors using Axisymmetric Model, Supervisors: Dr.Saravanbavan B, Dr.H.N.Suresh & Madhusudan N, Diagnostic Engineers (Industry Partner)

M.Tech in Mechanical Engineering, Basaveshwar Engineering College, Bagalkot, India - 2013 – 2015
Machine Design CGPA – 9.24/10 (84.90%)

Dissertation: Static and Dynamics Analysis of Micro cantilever Beams
Supervisor: Dr.S B. Kerur



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B.E. in Automobile Engineering, B.V.Bhoomraddi College of Engineering & Technology, Hubli, India – 2007- 11

Experience

Teaching

- **Associate Professor, Department of Engineering Design & Mechanical Engineering**, Faculty of Engineering & Technology, GM University, Davanagere, 01/09/2026 – Till date
- **Associate Director – Industry Solution and Outreach**, 02/06/2025 – 31/08/2026, Alliance University, Bangalore
Leading strategic collaborations between academia and industry to drive innovation, research, and outreach initiatives.
- **Associate Professor (Mechanical Engineering)**, 02/06/2025 – 31/08/2026, Alliance University, Bangalore
Handling Classes for UG and Research Work.
- **Associate Professor, Department of Mechanical Engineering**, 24/11/2021 – 19/05/2025, KLS Vishwanathrao Deshpande Institute of Technology, Haliyal, Karnataka, India
Handling classes for UG, Research Work for funding received and Administrative.
- **Head & Associate Professor, Department of Mechanical Engineering**, 15/08/2023 – 04/10/2024
KLS Vishwanathrao Deshpande Institute of Technology, Haliyal, Karnataka, India
Handling Classes for UG, Research Work for funding received and Administrative.
- **Dean R&D & Associate Professor, Department of Mechanical Engineering**, 14/08/2022 – 15/08/2023, KLS Vishwanathrao Deshpande Institute of Technology, Haliyal, Karnataka, India
- **Assistant Professor, Department of Automobile Engineering**, 21/07/2015 – 21/11/2021, Dayananda Sagar College of Engineering, Bangalore

Industry

- **Apollo tyres Pvt. Ltd.**, Gurgaon & Belgaum, India
21/12/2011 – 31/01/2013, Business Consultant in Commercial Vehicles Radial.
- **Consultant (Vibration Analyst)** 21/12/2021 – Till Date
(Collaborated with Diagnostic Engineers, Bangalore)

Research

- Vibration Signature Analysis,



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- Rotor dynamics &
- Reliability Analysis.

Training Program Attended / Conducted for Industries & Academic

- **Trainer for the employees of Dheya Engineering Technologies Pvt. Ltd. Bangalore** on “Advanced Vibration Analysis” on 9/2/2024 – 10/2/2024 at Dheya Engineering Technologies Pvt. Ltd. Bangalore. The training was conducted in depth covering topics on Rotordynamics using Xlrotor” & “Modal Analysis & ODS Analysis”. The sessions were also associated with Madhusudan N, Vibration Analyst CAT II, Diagnostic Engineers, Bangalore & Dr.Ramakrishna, Scientist, Ex NAL, Bangalore. Overall, 8 Engineers of the company attended the training. The company gave good feedback and employees were happy to attend the program.
- **Trainer for the Industry Engineers** at Meggitt Aerospace Pvt.Ltd., Bangalore, India for one day on “Rotordynamic Analysis using Xlrotor” covering in detail on undamped and damped critical speeds of rotor, bearings design, bearings selection, response of the rotor, Campbell diagram etc. on 06/04/2022 – 09/04/2022 at Meggitt Aerospace Pvt.Ltd. Bangalore.
- **Trainer for One day Faculty Development Programme (FDP)** on “Vibration Monitoring of Rotating Equipments” to the Polytechnic faculty and Industry Engineers. The FDP was conducted on 26/02/2024 in the smart class room. It included both the theory part and hands-on training on Vibration FFT analyzer in Vibration Signature Analysis lab. This FDP enhanced the knowledge of the participants in the Areas of Vibrations, Signal Processing, Causes of Failures in Rotating Equipment’s, Analysis using Advanced Vibration FFT Analyzer.
- **Keynote Speaker in 12th International Conference on Mechanical Science and Engineering (ICMSE2024) through online mode on June 27, 2024, Beijing, China.** The participants and speakers were from China University of Mining and Technology, China, Ho Chi Minh City University of Technology and Education, Vietnam, Siksha „O“ Anusandhan University, India, Technical University of Denmark, Denmark, University of Science Malaysia (USM), Malaysia, South Ural State University, Russia, Wroclaw University of Science and Technology, Poland, Universiti Putra Malaysia, Selangor, Malaysia and many more.
- **Keynote Speaker in 13th International Conference on Mechanical Science and Engineering (ICMSE2025) on Dec 11, 2025, Beijing, China.** 1357 participants participated from across the World.
- **Resource Person at Online AICTE Short Term Training Programme (STTP)** on “Rotordynamics using XL rotor



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Software with Case Studies" at Dr. Ambedkar Institute of Technology, Bangalore for one day in the 2021.

- **Subject Matter Expert** in Design for Reliability and Design for Noise, Vibration and Harshness for the Client BOSCH, Bengaluru.
CLIENT: BOSCH, Bengaluru

Research Interest

- Vibration Signature Analysis, Rotor dynamics & Reliability Analysis.
- Vibration Data collection, Data interpretation, Diagnosis and Trending of Rotating Machines.
- Hands on Experience on usage of Vibration Data Collectors and Analyzers for Vibration Monitoring of Mechanical Equipment's.
- Trouble shooting of Rotating Machines (misalignment, looseness, bent shaft etc.)
- Natural Frequency measurements of Turbine Blades, Foundations and Sub-Structures.
- Sound Spectrum Analysis.
- Thermal Analysis.
- Advanced Materials
- Solid Waste Management

Publication / Patents

- Granted patent(s): Basavankattimath, Murgayya; N., Madhusudan and Suresh, H. N., Effective Method for Rotordynamic Analysis with Couplings, 2021103910 - Granted
- Sudeep V B R Rohit, Dr. S. Jenoris Muthiya, Venkatesh Gowda B S, Dr. Murgayya S Basavankattimath, Aakash K P, Design of Electric Bike Chassis with Frontal Storage for Convenient Access, 202141053831 – Granted.
- Savnur S, Sridhar I, Basavankattimath MS, et al. Experimental vibration analysis and baseline signature establishment for a high-speed vapour blower gearbox assembly. *Noise & Vibration Worldwide*. 2026;0(0). doi:[10.1177/09574565261475111](https://doi.org/10.1177/09574565261475111)
- Savanur, S., Sridhar, I., Basavankattimath, M.S. et al. Experimental frequency response analysis of an artificial notch defect in Kaplan turbine blades. *Life Cycle Reliab Saf Eng* (2026). <https://doi.org/10.1007/s41872-026-00451-9>
- Savanur, S., Sridhar, I., Basavankattimath, M.S. et al. Investigation of Rotor Assembly Model for Vibration Signature Analysis by Xlrotor Tool. *J. Vib. Eng. Technol.* 13, 561 (2025). <https://doi.org/10.1007/s42417-025-02116-w> (Scopus and SCI Indexed) (2025)
- Praveen Kumar T, Buvaanesh R, Saimurugan M, Naresh G, Jenoris Muthiya S, Basavankattimath M. Performance evaluation of deep learning approaches for fault diagnosis of rotational mechanical systems using vibration, sound and acoustic emission signals. *Journal of Low Frequency Noise, Vibration and Active Control*. 2024;0(0).

doi:10.1177/14613484241240927 (Scopus and SCI Indexed) (2024) (OA)

- Murgayya S. Basavankattimath, R. J. Talapati "Rotordynamic analysis of non-uniform rotor assembly and prediction of failures due to abrupt using Xlrotor technique" Int J Syst Assur Eng Manag, Scopus & SCI Indexed, Springer Publications <https://doi.org/10.1007/s13198-024-02254-6> (SCI & Scopus Indexed) (2024)
- Basavanakattimath, M.S., Madhusudan, N. & Suresh, H.N. Effect of Vibrations on Rotor Model Assembly Due to Modifications in Coupling Design. J. Vib. Eng. Technol. (2022). (Scopus & SCI Indexed) <https://doi.org/10.1007/s42417-022-00564-2> (SCI & Scopus Indexed) (2022)
- 5. R Manoj Samson, Ashvin Sridhar, R Ranjith, Solomon Jenoris Muthiya, Joshuva Arockia Dhanraj, Murgayya S Basavankattimath, Agegnehu Shara Shata, "Experimental Investigation of Heat-Treated Tool on Wire Electric Discharge Machining of Titanium Alloy (Ti-6Al-4V)" Advances in Mechanical Engineering, Volume 2022 | Article ID 4160276 | <https://doi.org/10.1155/2022/4160276> (SCI & Scopus Indexed) (OA) (2022)
- Murgayya, S.B., Suresh, H.N., Madhusudan, N. et al. Reliability analysis of machine tool spindle-bearing system using XLrotor. Life Cycle Reliab Saf Eng 10, 151–160 (2021). (Scopus & SCI Indexed) <https://doi.org/10.1007/s41872-020-00157-6> (SCI & Scopus Indexed) (OA) (2021)
- S.B. Murgayya, H.N. Suresh, N. Madhusudhan, D. SaravanaBhavan, Effective Rotordynamics Analysis of High Speed Machine Tool Spindle – Bearing System, Materials Today: Proceedings, Volume 46, Part 18, 2021, Pages 8905-8909, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2021.05.359>. (SCI & Scopus Indexed) (OA) (2021)
- Murgayya S B, Suresh H N, Madhusudhan N, and Saravanabavan D. Optimization of High Speed Rotor-Bearings System to Assess the Reliability using XLrotor [J]. Int J Performability Eng, 2020, (Scopus Indexed) 16(7): 991-998. doi:10.23940/ijpe.20.07.p1.991998 (SCI & Scopus Indexed) (2020)
- Murgayya S B, H N Suresh, Madhusudhan N, and Sarvanabavan B. Reliability based Maintenance Model to Assess the Condition of Rotor using XLrotor [J]. Int J Performability Eng, 2019, (Scopus Indexed) 15(8): 2019-2030. doi:10.23940/ijpe.19.08.p1.20192030 (SCI & Scopus Indexed) (OA) (2019)
- S. B. Kerur, B. S. Murgayya, " Static and Dynamic Analysis of Microcantilever Beam" World Academy of Science, Engineering and Technology International Journal of Electronics and Communication Engineering Vol:2, No:11, (2015)

Book Chapters:

- H.N Suresh, Madhusudan N, Saravanbavan B, Murgayya SB, "Analysis of Jeffcott Rotor & Rotor with Disk using XLRotor",



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Title Series “Assets Analytics- Performance and Safety Management” Book Series “Strategic System Assurance and Business Analytics” ebook ISBN978-981-15-3647-2, Series ISSN 2522-5162, Springer Nature Singapore Pte Ltd., Scopus Indexed, DOI:10.1007/978-981-15- 3647-2(2020) (SCI & Scopus Indexed) (2020)

- H.N.Suresh, Madhusudan.N, Sarvanabavan B, Murgayya SB, “A Study on Reliability of Rotors using Xlrotor” Series Title “Springer Series in Reliability Engineering” Book Title “Advances in RAMS Engineering”, ISBN978-3-030-36518-9, Series ISSN 1614- 7839, Springer Nature Switzerland AG Publication Pte. Ltd., Scopus Indexed DOI: 10.1007/978-3-030-36518-9 (2019) (SCI & Scopus Indexed) (2019)

International Conference/National Conference:

- Murgayya S B, H N Suresh, Madhusudhan N, Sarvanabavan B, “Effective Rotordynamic Analysis of High Speed Machine Tool Spindle Bearing System”, International Conference on Advanced Trends in Mechanical and Aerospace Engineering, (ATMA -2019), Proceedings in Materials today, Elsevier, Dayananda Sagar University, Bangalore, India (SCI & Scopus Indexed) (OA) (2019)
- Murgayya S.B, H.N.Suresh, Sarvanabavan B, “Condition Monitoring of Rotating Equipment”s using Vibration Signature Analysis- a Review” International Conference on Advancements and Innovations in Engineering, Technology & Management” (ICAET 2017), Sponsored by IEEE, Computer Society of India, ISTE & IETE, on 28th- 29th December 2017, Hyderabad, India. (2017)
- Murgayya S.B, H.N.Suresh, Madhusudhan N, Sarvanabavan B “Vibration Signature Analysis of Blower – Coupling Assembly using Xlrotor”, Awarded “Best Paper” Virtual International Conference on Advances in Mechanical Engineering Sciences & Management (ICAMESM-2020) held from 7th to 9th of December 2020, DSCE, Bangalore, India. (2020)
- Ayush Kumar, *Murgayya S B, Sekhar N, “Shape Optimization of Microcantilever beam used as Biosensors using Resonance Frequency Shift Method” ICCI-SEM 2017 – Scopus Indexed, 18th & 19th Feb 2017, Proceedings (2017)
- Murgayya S. Basavankattimath, Rajath R. Jain, “Analysis of Micro-Cantilever Beam under Adsorption Induced Deflection Mode using ANSYS”, Proceedings of AMEAS2016, ISBN 978-93-84935-77-1, pp 21-23, 19th and 20th Feb, 2016, DSCE. (2016)
- Murgayya B S, S B Kerur, “Static Analysis of Nano Beam” IAETSD: International Conference on Current Innovations in Engineering and Technology ICCIET - 2015, Salem. (2015)

Professional Membership

- Institution of Engineers (India) - IEI

Awards & Recognitions

- Official Partner (Reviewer):
International Journal of System Assurance Engineering and Management.



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Journal of Mechanical Science and Technology.

Journal of the Brazilian Society of Mechanical Sciences and Engineering.

Journal of Vibration & Control

Journal of Vibration Engineering & Technologies.

European Journal of Mechanics; A/Solids

Journal of Low Frequency Noise, Vibration and Active Control

Journal of Metals, Materials and Minerals (JMMM)

Journal of Computers, Mechanical and Management

ScienceDirect, Elsevier - Heliyon Cell Press

- **Guest Editors:**

Journal of Low Frequency Noise, Vibration and Active Control Sage publishers for a Special issue in “Recent Advances in Rotating Machines” Scopus and Web of Science indexed, impact factor of 2.38. (OA) (07 Articles)

Administrative Responsibilities

- **Institution Level**

- Associate Director - Industry Solutions & Outreach
- NAAC Coordinator
- NBA Criteria 3 Coordinator
- Dean R&D at KLS VIT, Haliyal

- **Department Level**

- HOD, Mechanical Engineering, KLS VIT, Haliyal
- Industry Institute Cell Coordinator

Projects Guided

- **Ph.D Co-Guide for an Industry Research scholar:**

Mr. Krishnappa G C, BOSCH, Bangalore, India.

University Seat Number: PH24MEPT03

Title - Reliability of Quality Tools

Department: Mechanical Engineering

University: Dayananda Sagar University, Bangalore, India

Status: Awaiting for OS1 & OS2

- **Ph.D Co-Guide for Academic VTU faculty**

Mr. Santosh Savanur, KLS VIT, Haliyal

Title - “Modeling, Analysis and Health Monitoring of Complex Rotating Systems Using XLRotor and Advanced Vibration Diagnostic Techniques for Root Cause Analysis.”

Department: Mechanical Engineering

University: Visvesvaraya Technological University (VTU), Belagavi

Status: Pre-Colloquium completed.

- **Under Graduate: (Listed only funded by KSCST, practicing since 2015)**

Mr. Vijay Praveen S, Mr. Sharath Keshav T J, Mr. Santhosh N V and Mr. Goutham S S

Title: Optimization of Safety and Comfort In 2-Wheelers.



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University: Visvesvaraya Technological University (VTU),
Belagavi, India

Department: Automobile Engineering

College: Dayananda Sagar College of Engineering,
Bangalore, India

Status: Completed

Funded Projects / Grants Received

- **Research Grant:** Established "Vibration Signature Analysis Lab" as Principal Investigator at KLS Vishwanathrao Deshpande Institute of Technology, Haliyal, Karnataka, India of Rs. 20 Lakhs (INR) supported by Department of IT, BT & Electronics, Govt. of Karnataka, Karnataka Science and Technology Promotion Society (KSTPS) – Vision Group Science & Technology Scheme (K-FIST 2) Grant No. GRD 1027.
- **Undergraduate Research Fellowship:** Project titled "Optimization of Safety and Comfort in 2-Wheelers" as Project Guide of Rs. 6,000/- (INR) under Karnataka Science and Technology Promotion Society (KSTPS), Govt. of Karnataka, Karnataka State Council for Science and Technology – Student Project Proposal. Grant No.43S_BE_2071
- **Co-Coordinator for AICTE ATAL FDP Sponsored** – 1 Week online mode "Title: Recent Advances in Manufacturing Systems with integration of Industry 4.0" Rs.1 Lakhs.
- **Coordinator for Karnataka Council Technological Upgradation – MSME under Raising Accelerating MSME's Performance Programs,**
 - o LEAN & ZED Awareness – Target Audience 100 MSME's – Fund Rs. 2 Lakhs
 - o Incubation Awareness – Target Audience 100 Students – Fund Rs.1 Lakhs
 - o TReDs Sensitization Awareness - Target Audience 100 MSME's – Fund Rs. 2 Lakhs
 - o Export Promotion and Facilitation Awareness – Target Audience 100 MSME's – Fund 1.40 Lakhs
 - o Environmental & Social Management Awareness – Target Audience 100 MEMS's – Fund 0.7 Lakhs
 - o "National Pension System" for MSME's of Karnataka, PFRDA, New Delhi Sponsored Program, Grant received 1 Lakhs.

- Any Other Contributions