

BIO-DATA



1. **Name** DR. VISHAL GANPATRAO SALUNKHE
2. **Designation** Assistant Professor
3. **Residential Address** Mankhurd, Navi Mumbai. 400709
4. **Date of birth** 24th June
5. **Total Experience** 8.6 yrs
Teaching 8.6 yrs
6. **Qualifications**

Exam Passed	Year	Institution/ University	Branch/Specialization
PhD	2022	Shivaji University, Kolhapur	Mechanical Engineering
M.E.	2015	ADCET, Shivaji University, Kolhapur	Mechanical- Design Engineering
B.E.	2012	Govt. College of Engg. Karad, Shivaji University, Kolhapur	Mechanical Engineering

7. **Employment Record**

Institution	Year (From To)	Designation
Fr. C. Rodrigues Institute of Technology	14/12/2022 to till date	Assistant Professor
ADCET	16/06/2014 to 13/12/2022	Assistant Professor

8. **Undergraduate / Postgraduate Teaching Experience and Subjects Taught**
Subjects Taught at UG level

Sr.No.	Name of Subject	Semester
1.	Kinematics of Machines	III
2.	Material Science & Metallurgy	III
3.	Applied Hydraulics & Pneumatics	VI
4.	Metal Cutting & Tool Design	VII
5.	Manufacturing Technology	VIII
6.	Smart Materials	VII
7.	Machinery Diagnostics	VII

8.	Composite Materials	VIII
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Subjects Taught at PG level

Sr.No.	Name of Subject	Semester

9. Research Experience

10. Research Funding / Consultancy Services:

Sr.No.	Name of the Company	Address	Product	Consulting Service	Consulting Fees	Period
1.	TATA Power	Trombay		Vibration	-	2023-24 (On-going)

Research Grants:

Sr. No.	Name of Funding Organization	Type of Grant	Amount (Rs.)	Year	Name of Research Project
1.	Shivaji University, Kolhapur	Research Initiation Scheme	80,000/-	2017-19	Mathematical and Experimental Studies of Dynamic Characteristics of Rolling Element Bearing Using Dimensional Analysis and Support Vector Machines

Technical Collaboration / Lab Funding with Industries

Sr. No.	Name of the Funding Organization	Type of Support	Amount (Rs.)	Year

11. Professional Societies Fellowship / Membership : ISTE

12. Achievements / Awards / Position

- Received 2nd rank of PhD PET Entrance Exam Shivaji University, Kolhapur June 2018.
- Received 2nd rank for M.E.Design Engineering in Shivaji University, Kolhapur June 2015.

13. Projects guided in UG/PG level : 8 UG

14. Short Term Training Programmes attended :

Sr. No.	Theme/Title of the STTP/ Workshop/ Seminars	Date & Duration
1.	One week STTP on "Mechanics of Fibrous Composites" held at ADCET, Ashta.	23 rd - 27 th June 2014
2.	One week STTP on "MATLAB Based Numerical Methods for Engineers" held at ADCET, Ashta.	24 th - 28 th Nov 2014

3.	One week STTP on “Recent Trends In Design, Failure Analysis & Maintenance of Bearing” held at JJMCOE, Jaysinpur.	22 nd – 26 th June 2015
4.	One Day workshop on “Teaching Methodology for Third Year Mechanical & Automation Engineering Revised Syllabus”, ADCET, Ashta.	24 th August 2015
5.	Intellectual Property Rights (IPR), ADCET, Ashta.	15 th Oct 2015
6.	FDP on “Vibration Measurement and Analysis” under lead college activity of Shivaji University, Kolhapur.	31 st Oct -1 st Nov 2015
7.	One week STTP on “Applied Mathematical Modeling & Soft Computing Tools For The Analysis of Vibrations in Rotating Machineries” held at ADCET, Ashta	21 st – 25 th Dec 2015
8.	One day “E – Resource Awareness Workshop organized by Springer at ADCET, Ashta.	4 th Dec 2015
9.	One week STTP on “Optimization for Engineering Design” Centre for Continuing Education held at IIT, Madras.	26 th Sep-1 st Oct 2016
10.	One week STTP on “Tribology in Design” Centre for Continuing Education held at IIT, Madras.	7 th Nov – 12 th Nov 2016
11.	One week STTP on “Introduction to PLC & SCADA Programming” held at ADCET, Ashta.	13 th -18 th Feb 2017
12.	One week STTP on “E-Mobility and Innovations in Sheet Metal Forming”, Quality Improvement program held at IIT, Bombay.	3 rd -7 th Oct 2017
13.	One week STTP on “Vibro-acoustics”, Quality Improvement program held at IIT, Bombay.	4 th -8 th Dec 2017
14.	One Day Faculty Development Program on teaching Methodology for the course Noise & Vibration” held at ADCET, Ashta	17 th March 2018
15.	One week STTP on “Machining Dynamics”, Quality Improvement program held at IIT, Kanpur.	15 th -19 th Oct. 2018
16.	Three Day course on “Research and Development in Condition Monitoring of Rotating Machines”, IIT Indore.	10 th -12 th Dec. 2018
17.	One week virtual STTP on “Structural Dynamics” organized by IIT, Kharagpur.	12 th -18 th Oct. 2020
18.	Five days webinar series “Researches in Surface Engineering for Reliable Tribology” organized by Department of Mechanical Engineering, GIMT Guwahati, sponsored by the collaborative research Scheme of Assam Science and Technology University (ASTU), under TEQIP-III.	1 st -5 th Sept. 2020
19.	AICTE Training And Learning (ATAL) Academy Online FDP on "Artificial Intelligence and Machine Learning Applications in Biomedical Engineering" at University BDT College of Engineering	21 st -25 th Sept. 2021
20.	AICTE Training And Learning (ATAL) Academy Online FDP on "3D Printing & Design" at Bharati Vidyapeeth College of Engineering Khargar, Navi-Mumbai.	14 th -18 th Sept. 2021
21.	One week STTP on “Recent Advances Tribology and Surface Engineering”: series 3 of 4 – Introduction to Special Topics like Nanotribology, Biotribology, Space Tribology, Biomimetics and Tribology in Industry at	12 th -17 th Oct. 2021

	Saintgits College of Engg. Kottayam, Kerala.	
22.	One week STTP on “Recent Advances Tribology and Surface Engineering”: series 4 of 4 – Surface Characterization and Treatments in Tribology at Saintgits College of Engg. Kottayam, Kerala.	23 rd -28 th Nov. 2021
23.	One week STTP on “Recent Advances Tribology and Surface Engineering”: series 2 of 4 – Tribology of Machine Components and applied tribology, during 14-19 September 2020 at Saintgits College of Engg. Kottayam, Kerala.	14 th - 19 th Sept. 2021
24.	One week Online Faculty Development Programme on “Intellectual Property Rights” organized by E&ICT Academy IIT Guwahati held in association with Annasaheb Dange College of B Pharmacy(ADCBP) and Annasaheb Dange College of Engineering and Technology(ADCET).	25 th -30 th Oct. 2021

15. List of Journal Papers Published

- Salunkhe, V. G., Khot, S. M., Desavale, R. G., and Yelve, N. P., (2023). "Unbalance Bearing Fault Identification Using Highly Accurate Hilbert–Huang Transform Approach." *ASME J Nondestructive Evaluation*. <https://doi.org/10.1115/1.4062929>
- Salunkhe V.G., Desavale R.G., Khot S.M., Yelve N.P., 2023, “A Novel Incipient Fault Detection Technique for Roller Bearing Using Deep Independent Component Analysis and Variational Modal Decomposition”, *ASME, Journal of Tribology*. <https://doi.org/10.1115/1.4056899>
- Raut A.S., Khot S.M., Salunkhe V.G., 2023, “Optimization of Geometrical Features of Spur Gear Pair Teeth for Minimization of Vibration Generation”, *Springer, Journal of Vibration Engineering & Technologies*. <https://doi.org/10.1007/s42417-023-00857-0>
- Salunkhe V.G., Desavale R.G., Kumbhar S.G., 2021, “Vibration Analysis of Rolling Bearing Using Finite Element Method And Dimension Analysis ”, *ASME, Journal of Tribology*. <https://doi.org/10.1115/1.4053262>
- Salunkhe V.G., Desavale R.G., T. Jagadeesha., 2021, “Experimental Frequency-Domain Vibration Based Fault Diagnosis of Roller Element Bearings using Support Vector Machine”, *ASME, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering*. <https://doi.org/10.1115/1.4048770>.
- Salunkhe V.G., Desavale R.G., 2021, “An Intelligent Prediction for Detecting Bearing Vibration Characteristics using Machine Learning Model”, *ASME. Journal of Nondestructive Evaluation, Diagnostics and Prognostics of Engineering Systems*. <https://doi.org/10.1115/1.4049938>.
- M.B. Kumbhar, V.G. Salunkhe, A.V. Borgaonkar, T. Jagadeesha., 2020 "Mathematical Modelling and Experimental Evaluation of an Air Spring-Air Damper Dynamic Vibration Absorber" *Springer, Journal of Vibration Engineering & Technologies*, 020-00263-w, <https://doi.org/10.1007/s42417>.
- Salunkhe V.G., Desavale R.G., T. Jagadeesha., 2021, “A Numerical Model for Fault Diagnosis in Deep Groove Ball Bearing Using Dimension Theory”, *Elsevier, Journal of Material Today Proceedings*, Vol. 47, Part 11, 2021,

9. Salunkhe V.G., Pawar D. N., Kathavate V. S., 2020, “ Micromechanics Based Models for the Effective Evaluations of Elastic Properties of Polymer Matrix Composites”, *Elsevier, Journal of Material Today Proceedings*, Vol. 21, Part 2, 2020, pp.1298-1302. <https://doi.org/10.1016/j.matpr.2020.01.166>
10. Borgaonkar A.V., Salunkhe V.G., Kumbhar M.B., Koli A.R., Potdar S.B., “Theoretical and experimental investigation of effect of boundary conditions on SEA parameters for idealised subsystems”, *Elsevier, Journal of Material Today Proceedings*, Vol. 11, Part 1, 2020, pp.198-104. [10.1016/j.matpr.2020.06.267](https://doi.org/10.1016/j.matpr.2020.06.267)
11. Borgaonkar A.V., Salunkhe V.G., Mandale M.B., Potdar S.B., “Experimental investigations of different fiber orientations on damping loss factor of fiberglass composite specimens, *Elsevier, Journal of Material Today Proceedings*, Vol. 26, Part 2, 2020, pp.256-260. <https://doi.org/10.1016/j.matpr.2019.11.208>
12. Salunkhe V.G., Amith Kumar. G., Rakesh J. R., T. Jagadeesha., 2019, “Design And Finite Element Analysis Of External Fixator Used In Orthopaedics”, *Journal of American Insitute of Physics Conf. Proc. 2080*, pp. 04002-04008. <https://doi.org/10.1063/1.5092920>
13. Salunkhe V.G., Amith Kumar. G., Rakesh J. R., T. Jagadeesha., 2019, “Simulation and Experimental Studies on Sliding Wear of Aluminium Alloy Under Dry Condition Using Asymmetric Contact models”, *Journal of American Insitute of Physics Conf. Proc. 2080*, pp. 02007-04014. <https://doi.org/10.1063/1.5092890>.
14. Salunkhe V.G., Desavale R.G 2016 “Damage Detection of Roller Bearing System Using Experimental Data, *Elsevier Procedia Engineering*, 144, 2016, pp. 202-207. <https://doi.org/10.1016/j.proeng.2016.05.025>.
15. Salunkhe V.G., Walunj B.S., Ingale A.S., 2017, “Splintering Portrayal of Strung Rebar and Coupler”, *Journal of Advances in Science and Technology (JAST)* Volume:13. Issue:1, pp.287-291. <http://ignited.in/a/4808>

16. List of Papers Published in National and International Conferences

1. Salunkhe V.G., Desavale R.G., T. Jagadeesha., 2021, “A Numerical Model for Fault Diagnosis in Deep Groove Ball Bearing Using Dimension Theory”, *International Conference on Advances in Mechanical Engineering and Nanotechnology (ICAMEN)* 2021 to be held at Manipal University Jaipur, India during March 18-19, 2021.
2. Salunkhe V.G., Desavale R.G., 2021, “A Novel Support Vector Machine Based Fault Identification Approach For Roller Element Bearing” *VETOMAC - XVI 16th International Conference on Vibration Engineering and Technology of Machinery*, 16-18th Dec. 2021 BMS COE Bangalore, India.
3. Salunkhe V.G., Desavale R.G., 2021, “Experimental Mathematical Model for Diagnosis of Vibrations Generated in Defective Rolling Element Bearings” *International Conference on Advancements in Design and Tribology (ICADT 2021)*, 17-18 Dec.2021, SVNIT Surat, India.
4. Salunkhe V.G., Desavale R.G., 2021, “Numerical Studies on Roller Bearings

Using Empirical Model and Response Surface Method”, *2nd Virtual Inter. Tribology Research Symposium (ITRS 2021)* 8-10 Dec. 2021 SRM (SRMIST) Kakankulathur, Tamil Nadu, India.

5. Salunkhe V.G., Patil P.B, Patil P.S., 2017,” Experimental Investigation of Static & Dynamic loading conditions for Glare Material,” *International Conference on Advances in Thermal Systems, Materials & Design Engineering*, 21st-22ndDecember2017, VJTI, Mumbai. <http://dx.doi.org/10.2139/ssrn.3101692>.
6. Salunkhe V.G., Gavali A.B, Patil S.A., 2017,” Automization of Oil Engine Guide Valve for Productivity Enhancement,” *International Conference on Advances in Thermal Systems, Materials & Design Engineering*, 21st-22ndDecember2017, VGTI, Mumbai.
7. Salunkhe V.G., Desavale R.G, T. Jagadeesha., Mali A.R., 2017,” Experimental Empirical Model For Forensic analysis of Defective Frequency Provoke Inball Bearing,” *International Conference On Advances In Engineering Sciences: Icaes2017*, 3 – 5 July 2017, Thailand.
8. Salunkhe V.G., Desavale R.G., Mali A.R., “Dynamic Modeling of Taper Roller Bearings with Surface Defects using Matrix Method”. *1st International and 18th ISME Conference* February 23rd – 25th, 2017, NIT Warangal, Warangal.
9. Salunkhe V.G., Kumbhar M.B., “Dynamitic Vibration Absorbers using Pendulum Structures” *1st International and 18th ISME Conference* February 23rd – 25th, 2017, NIT Warangal, Warangal.
10. Salunkhe V.G., Desavale R.G., Mali A.R., “Experimental Mathematical Model for Diagnosis of Vibrations Generated in Defective rolling Element Bearings”, *1st International and 18th ISME Conference* February 23rd – 25th, 2017, NIT Warangal, Warangal.
11. Salunkhe V.G., Desavale R.G, T. Jagadeesha., Mali A.R., 2017, “Dynamic Modelling Of A Rotor Bearing Structure And Vibration Based Surface Defect Analysis”, *13th International Conference on Vibration Problems*, IIT Guwahati. Dec-2017.
12. Salunkhe V.G., Mali A. R.,Desavale R.G, T. Jagadeesha., 2017, “Influence of instantaneous defective frequency on speed and life of ball bearing”, *13th International Conference on Vibration Problems*, IIT Guwahati. Dec-2017.
13. Salunkhe V.G., Rakesh J. R., T. Jagadeesha., 2017, “Effect of Residual Stress on Life of Stabilising Bar using Finite Element Fatigue Analysis” *7th International & 28th All India Manufacturing Technology, Design and Research Conference* (AIMTDR 2018), Anna University Chennai, 3th – 15th December 2018.
14. Salunkhe V.G., Rakesh J. R., T. Jagadeesha., 2017, “Life prediction of Crankshaft using Finite Element Fatigue Analysis” *7th International & 28th All India Manufacturing Technology, Design and Research Conference* (AIMTDR 2018), Anna University Chennai, 3th – 15th December 2018.
15. Salunkhe V.G., Amith Kumar. G., Rakesh J. R., T. Jagadeesha., 2017, “Design and Finite element analysis of external fixator used in Orthopaedics” *International Conference on Emerging Trends in Mechanical Engineering* (ICETME 2018), St Joseph Engineering College – Mangaluru, Karnataka, India, 10th – 11th August 2018. Anna University Chennai, 3th –

17. Patents/Books/Reports/General articles etc.

Patents :-

- Patent application no: 2021102312. A system for dynamic vibration absorber and method of operation.

Books :-

- Performance Investigation of Adsorption Refrigeration System: Performance Investigation of Adsorption Refrigeration System Using Activated Carbon- NH₃ (Lambert Publication).
- Modification of Rice Mill (Lambert Publication).

Book Chapter :-

1. Salunkhe V.G., T. Jagadeesha., 2020., “Investigation of Crack Detection Technique in a Rotating Shaft by Using Vibration Measurement”, *Springer, Advances in Industrial Automation and Smart Manufacturing*. https://doi.org/10.1007/978-981-15-4739-3_54
2. Salunkhe V.G., T. Jagadeesha., 2020., Experimental Evaluation of Cutting Process Parameters in Cryogenic Machining of Duplex Stainless Steel”, *Springer, Advances in Industrial Automation and Smart Manufacturing*. https://doi.org/10.1007/978-981-15-4739-3_44
3. M. B. Kumbhar, P. E. Lokhande, U. S. Chavan, V.G. Salunkhe., 2021 “A Global Scenario of Sustainable Technologies and Progress in a Biodiesel Production”, *Wiley- Scrivener, Biodiesel Technology and Application*. <https://doi.org/10.1002/9781119724957.ch7>
4. Salunkhe V.G., T. Jagadeesha., 2021., “Simulation and optimization of materials used for prosthetic leg for above-knee amputees using MR fluid”, *Springer* <https://www.sciencedirect.com/science/article/pii/S2214785321009597>.
5. Salunkhe V.G., T. Jagadeesha., 2021., “Theoretical and experimental investigation of effect of boundary conditions on SEA parameters for idealised subsystems”, *Springer* <https://www.sciencedirect.com/science/article/pii/S2214785320347350>.
6. Raut A.S., Khot S.M., Salunkhe V.G., 2023, “Application of Finite Element Method for Analyzing the Influence of Geometrical Parameters of Spur Gear Pair on Dynamic Behavior”, *Vibration Engineering: Modeling, Simulation, Experimentation, and Applications, CRC Press, Taylor and Francis* (Under Consideration).

18. Invited Lectures in FDP/ STTP :

- Invited lecture on “Fault Diagnosis in Rolling Element Bearing” in One week STTP on "Condition Monitoring of Rotating Machines" organized by Mechanical Engineering Department, ADCET, Ashta, on 15th April 2020.

19. International Conference Technical Program Committee Member / Reviewer :

Reviewer of International Journal

- ISA Transactions, Elsevier
- Alexandria Engineering Journal, Elsevier
- Journal of Non-destructive Evaluation, Diagnostics and Prognostics of Engineering Systems (JNDE), ASME
- ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering , ASME
- Journal of Tribology, ASME
- Machines MDPI
- JVE International (Vibromechanika)
- Journal of Vibroengineering (JVE)