

CURRICULUM VITAE

Dr. Naresh Kumar Raghuwanshi

Assistant Professor

Department of Mechanical Engineering

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Research Areas

Vibration Control, Noise Analysis and Fault Diagnosis of Machines.

Educational Qualifications

S.No.	Degree	Discipline	College/University	Year of passing	Percentage/CGPA/GGPA
1.	10 th	All subjects	MP Board Bhopal	2002	71.8%
2.	12 th	Maths Group	MP Board Bhopal	2004	81.5%
3.	B.E.	Mechanical Engineering	S.A.T.I. Vidisha	2009	69.38%
4.	M.Tech	Stress and Vibration Analysis	M.A.N.I.T. Bhopal	2013	8.6 GGPA
5.	Ph.D.	Mechanical Engineering	IIT Indore	2017	8.22 CGPA

Ph.D. Thesis Title

“Experimental Techniques for the Measurement of Gear Mesh Stiffness”

Thesis Supervisor: Prof. Anand Parey, IIT Indore

Teaching Experiences

- **Assistant Professor** in the Department of Mechanical Engineering at **Malaviya National Institute of Technology, Jaipur** (11 February 2020 to continue)
- **Assistant Professor** (Under TEQIP-III, MHRD, Govt. of India) in the Mechanical Engineering Department at **Madhav Institute of Technology and**

Science, Gwalior, MP (01 September 2018 to 10 February 2020)

- **Assistant Professor** (Under TEQIP-III, MHRD, Govt. of India) in Mechanical Engineering Department at **Government Engineering College Banswara, Rajasthan** (02 January 2018 to 31 August 2018)
- **Lecturer** in Mechanical Engineering at Bansal College of Engineering, Mandideep M.P. (31 August 2009 to 20 July 2011).

Software Proficiencies

- ANSYS
- MATLAB
- Inventor
- MATLAB Simulink

Research Project

SN	Project title	Amount in Lacs	Year	Funding Agency	Role
1	Analysis and control of noise pollution in hospitals	21.83	2019-2020	National Project Implementation Unit, MHRD Govt. of India	PI
2	Thermo-mechanical characterization of lac blends and development of equipment for partial mechanization of bangle making process	5.00	2023-2024	District Industries and Commerce Centre - Jaipur, Government of Rajasthan	Co-PI

List of Publications

International Journal Papers

1. **Raghuwanshi N.K.**, Parey A., Mesh stiffness measurement of cracked spur gear by photoelasticity technique, *Measurement*, 73 (2015) 439–452. (**Elsevier**) ISSN: 0263-2241
2. **Raghuwanshi N.K.**, Parey A., Experimental measurement of gear mesh stiffness of cracked spur gear by strain gauge technique, *Measurement*, 86 (2016) 266–275. (**Elsevier**) ISSN: 0263-2241
3. **Raghuwanshi N.K.**, Parey A, Effect of back-side contact on mesh stiffness of

- spur gear pair by **finite element method**, *Procedia Engineering*, 173 (2017) 1538-1543. (**Elsevier**)
4. **Raghuwanshi N.K.**, Parey A, Experimental measurement of spur gear mesh stiffness using digital image correlation technique, *Measurement*, 111 (2017) 93-104 (**Elsevier**) ISSN: 0263-2241
 5. **Raghuwanshi N.K.**, Parey A, Experimental Measurement of mesh stiffness by laser displacement sensor technique, *Measurement*, 128 (2018) 63-70. (**Elsevier**) ISSN: 0263-2241
 6. **Raghuwanshi N.K.**, Parey A, A new technique of gear mesh stiffness measurement using experimental modal analysis, *Journal of Vibration and Acoustics*, 141 (2019) 021018-1-13. (**ASME**) ISSN: 1048-9002
 7. Sharma, V., **Raghuwanshi, N.K.**, Jain, A.K, Sensitive Sub-band Selection Criteria for Empirical Wavelet Transform to Detect Bearing Fault Based on Vibration Signals, *Journal of Vibration Engineering & Technologies*, 9 (2021) 1603–1617 (**Springer**), <https://doi.org/10.1007/s42417-021-00316-8>, ISSN 2523-3920
 8. Preeti Chauhan, Amit Kumar Singh, Naresh K. Raghuwanshi, The state of art review on prosthetic feet and its significance to imitate the biomechanics of human ankle-foot, *Materials Today: Proceedings*, 62 (12) (2022) 6364-6370. <https://doi.org/10.1016/j.matpr.2022.03.379> Online ISSN: 2214-7853.

International Conference Papers

1. **Raghuwanshi N.K.** and Parey A., Radial location of strain gauge on cracked tooth root of spur gear for accurate determination of stress intensity factor, 2nd international conference on Intelligent Robotics, Automation and Manufacturing (IRAM 2013), **IIT Indore**, 16-18 Dec. 2013.
2. **Raghuwanshi N.K.**, Parey A., Experimental measurement of gear mesh stiffness by photoelasticity, *Vibrations in Rotating Machinery (VIRM-11)*, **University of Manchester, UK**, 13-15 September 2016.
3. **Raghuwanshi N.K.**, Parey A., Effect of Back-Side Contact on Mesh Stiffness of Spur Gear Pair by Finite Element Method, 11th international symposium IMPLAST, IIT Delhi, 12-14 December 2016.
4. Sharma V., Saxena A, **Raghuwanshi N.K.**, Noise Analysis of an Industrial Fan

- Bearing- A Case Study, International conference on Advances in Design, Materials, Manufacturing and Energy Systems, **MREC Hyderabad**, 15 Sep. 2018.
5. Varun, **Raghuwanshi N.K.**, Gupta T.C, Effect of square type pitting fault on stiffness of ball bearing, International Conference in Advancements in Design and Tribology, **SVNIT Surat**, 17th -18th December, 2021.
 6. Meena D.S., Kumar D, **Raghuwanshi N. K.**, Delamination Growth Analysis of Composite Laminates Under DCB, ENF, MMB Test Using Cohesive Zone Model Under Cyclic Loading, International Conference in Advancements in Design and Tribology, **SVNIT Surat**, 17th -18th December, 2021.
 7. Raghuwanshi NK, Stiffness and Modal Parameter Analysis of Cracked Rotor Used in Electric Motor, 7th International Conference on Mechanical Engineering and Robotics Research, Krakow Poland, December 9-11, 2022.
 8. Arunava Biswas, Raghuwanshi NK, Recent Technological Advancements in Wing Structures for Improved Aircraft Performance and Safety, International Conference (Hybrid Mode) on New Vistas of Development in Aerospace Engineering and Societal Development (ICAE-2023), Aerospace Engineering Division Board, IEI, Rajasthan State Centre, Jaipur, April 7-9, 2023.
 9. Preeti Chauhan, Raghuwanshi NK, The State of Art Review on Aerodynamics of Flapping Wings and Aerodynamic Modelling, International Conference on New Vistas of Development in Aerospace Engineering and Societal Development (ICAE-2023), Aerospace Engineering Division Board, IEI, Rajasthan State Centre, Jaipur, April 7-9, 2023.
 10. Vijay Saini, Raghuwanshi NK, Impact of Advances in Aerospace Technologies on the Future of Space Exploration, International Conference on New Vistas of Development in Aerospace Engineering and Societal Development (ICAE-2023), Aerospace Engineering Division Board, IEI, Rajasthan State Centre, Jaipur, April 7-9, 2023.
 11. Vishal Chunletia, Raghuwanshi NK, Advanced Fuel Technology for Aerospace Application and Their Impact on Society, International Conference on New Vistas of Development in Aerospace Engineering and Societal Development (ICAE-2023), Aerospace Engineering Division Board, IEI, Rajasthan State Centre, Jaipur, April 7-9, 2023.
 12. Arunava Biswas, Raghuwanshi NK, Active Vibration Control of Vehicle

Driver Seat Using Receptance Method, 1st International Conference on Mechanical Design and Manufacturing, IEST Shibpur, INDIA, April 27-28, 2023.

13. Preeti Chauhan, Naresh K. Raguwanshi, Amit Kumar Singh, Implementation of supervised machine learning algorithms for gait alteration classification of the human foot, ICMech-REC-2023, NIT Warangal, June 23-25, 2023

Book Chapters

1. Choudhary, S., Raghuwanshi, N.K., Sharma, V. (2023). Classification Accuracy Analysis of Machine Learning Algorithms for Gearbox Fault Diagnosis. In: Yadav, R.P., Nanda, S.J., Rana, P.S., Lim, MH. (eds) Proceedings of the International Conference on Paradigms of Computing, Communication and Data Sciences. **Algorithms for Intelligent Systems**. Springer, Singapore. https://doi.org/10.1007/978-981-19-8742-7_21

Work as a Reviewer for the Reputed Journals

- Mechanical Systems and Signal Processing (**Elsevier**)
- Engineering Failure Analysis (**Elsevier**)
- IET Renewable Power Generation (**IET Digital Library**)
- IET Electric Power Applications (**IET Digital Library**)
- IET Generation, Transmission & Distribution (**IET Digital Library**)

Workshops/Programs Organized

- Coordinator, National Short Term Course on **Finite Element Method and Applications** at MNIT Jaipur, Jaipur, India from 28-12-2020 to 01-01-2021.
- Coordinator, National Workshop on **ABAQUS and FRANC3D** at MNIT Jaipur, Jaipur, India from 24-03-2021 to 28-03-2021.
- Coordinator, National Workshop on **Modelling and Simulation Using ANSYS** at MNIT Jaipur, Jaipur, India from 05-03-2022 to 09-03-2022

Workshops/Programs Attended

- **Faculty Induction Program on Advance Pedagogy and Digital Tool** by **TEQIP-III** (MHRD Govt. of India) at **IIT Indore**. (24-28 June 2019)

- Participated in TEQIP-III sponsored STTP on ANSYS at **Government Engineering College Banskara**. (24-28 July 2018)
- **Faculty Induction Program**, on **Pedagogy** by **TEQIP-III** (MHRD Govt. of India) at **IIT Gandhinagar**. (29 January to 02 February 2018)
- A Short Term Course on “**Condition Monitoring of Rotating Machine Elements**”, **IIT Indore** (21-23 December 2015)
- A Short Term Course on “**Condition Monitoring of Mechanical and Electrical Systems using Advanced Signal Processing Techniques**”, **IIT Indore**, 06-07 March 2017.

Expert Talks:

SNo.	Type	Title	Event	Place	Schedule
1	Talk	Strength of Material	Expert talk on Strength of Materials, Oct. 12-17, 2020	Engineering College Banskara	Oct-2020
2	Talk	Condition Monitoring and Fault Diagnosis	Workshop on Hands-On Introduction to LabVIEW and its Applications	IIT Kota and MNIT Jaipur	Sep-2020
3	Talk	One dimensional element and their stiffness matrix	Short Term Course on Finite Element Method and Applications	MNIT Jaipur	Dec-2020

Country Visited

- England, UK
- Krakow, Poland

Membership

- Life Member of ISTE (The Indian Society for Technical Education)

Referees

1. Dr. Anand Parey (Professor)

Mechanical Engineering Discipline, IIT Indore, Indore, India, 453552

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2. Dr. P.L. Verma (Professor)

Mechanical Engineering Discipline, SATI Vidisha, India, 464001

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3. DR. PRATESH JAYASWAL (Professor)

Mechanical Engineering Department, MITS Gwalior, MP, India 474005

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Personal Information

Father's Name	Mr. Khilan Singh Raghuwanshi
Mother's Name	Mrs. Parwati Bai Raghuwanshi
Category	General
Date of birth	15/05/1987
Gender	Male
Marital status	Married
Nationality	Indian
Languages	Hindi and English
Permanent Address	Village Nolai, Post -Manora, Tehsil - Gyaraspur Dist.:- Vidisha (M.P.) 464331

Declaration

I hereby declare that all above furnished information are true to the best of my knowledge.

Place: Jaipur, Rajasthan

Date: 22 /08/ 2023

Naresh Kumar Raghuwanshi