

S. P. Harsha
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Department of Mechanical & Industrial Engineering
Indian Institute of Technology, Roorkee 247667 (UP), INDIA
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E mail: surajfme@iitr.ernet.in , spharsha@gmail.com



AREAS OF INTERESTS

Teaching and Research: Vibrations & Control, Fault Diagnosis and Prognosis of High Speed Machinery, CNT based Mass Sensors, Human Vibration, Rail Vehicle Dynamics, Dynamics of FGM Plats/Membrane Structures

Date of Birth: May 29, 1975 [VARANASI - UP]

Academic Qualifications

- PostDoc Fellow under US Defense Project (ONR) at Villanova University, Philadelphia, USA, 2006 - 07
- PhD (Nonlinear Dynamics & Control) from Mechanical Engineering Department at Birla Institute of Technology and Science, Pilani, India, 2004.
- ME (Mechanical Engineering) from M. B. M. Engineering College, J. N. V. U., Jodhpur, India, 1999.
- BE (Mechanical Engineering) from M. B. M. Engineering College, J. N. V. U., Jodhpur, India, 1996.

Contributions to Professional Societies/Technical Committees (Abroad/India)

- Kay note lecture on 'Prognostics of high Speed Bearings', IIITM Jabalpur, INCRS, 2017
- Kay note lecture on 'whole Body Vibration', IIT Guwahati, ICoVP, 2015
- Kay note lecture on 'CNT based Mass Sensor', MNIT, Jaipur, ICSSD, 2012
- Organizing Secretary, National Tribology Conference (NTC), IIT Roorkee, 8-10 Dec., 2011.
- Chaired sessions in the symposium on Rotor Dynamics ASME International Design Engineering Technical Conference (IDETC) August 30 - September 2, 2009, San Diego, California, USA
- Organizer the symposium on Rotor Dynamics and Control, 2nd International Conference on Dynamics, Vibration and Control, August 10-15, 2009, Sichuan, CHINA
- Organizer the symposium on Rotor Dynamics: Nonlinear Analysis, Control & Diagnostics ASME International Design Engineering Technical Conference (IDETC) September 4-7, 2007, Rio All-Suite Hotel & Casino, Las Vegas, Nevada, USA
- Chaired the symposium on Nonlinear Dynamics and Chaos in International Symposium on Nonlinear Dynamics held in Shanghai, CHINA, 20-21 Dec., 2005.

International Collaborations

- Collaborative Research in the field of Sound and Vibrations Rs. 5 Cr
Funding Agency: European Commission Asia Link Project, EC
Duration: Three years (Completed)
(Participating originations: IITR (coordinator), IITD, KTH Sweden, Loughborough University, UK)
- Study of Low Frequency Vibration in Railway System Rs. 40 Lac
Funding Agency: Sweden International Developing Agency (SIDA), Sweden
Duration: Three Years (Completed); (Participating originations: IITR & KTH Sweden)
- Indo-US Science and Technology Forum (IUSSTF)
Indo-US project on "Elasto hydrodynamic Lubrication Contact" Rs. 29 Lac
Duration Two Years (Completed)
(Participating originations: IIT Roorkee, Northwestern University, Chicago & Akron University, Ohio)

Academic Experience

- Associate Professor, Department of Mechanical & Industrial Engineering, IIT Roorkee, Roorkee from October 2012 to till date.
- Assistant Professor, Department of Mechanical & Industrial Engineering, IIT Roorkee, Roorkee from May, 2007 to September 2012.
- Post Doctoral Fellow, Villanova University, Philadelphia, USA from January, 2006 to April, 2007.
- Assistant Professor, Department of Mechanical, BITS, PILANI from January, 2005 to December, 2005.

- **Lecturer**, Department of Mechanical Engineering, BITS PILANI, from **December, 1999 to December, 2004.**

Administrative Experience

- Nucleolus member of DLDP, BITS – Pilani 2000-2005
- Member of UG/PG Committee (IITR) 2007 – 2009 & 2012-2014
- Member of Doctoral Research Committee (IITR) 2009 – 2012
- In-charge of Vibration & Noise Control Lab (IITR) 2008 – till date
- In-charge of Mechanics of Materials Lab (IITR) 2010 – 2013
- Task Force Manager 2013 – 2016
(Effective Utilization of Noida Campus, IIT Roorkee Extension Center)

Best Paper Award India/Abroad

04

➤ B

est Paper Awards in ICNDME - 14, 2014, MMU, Ambala

- **Best Paper Awards in ASME-2012 IDETC/CIE**, August, 2012, CHICAGO, ILLINOIS, USA
- **Best Poster Paper Presentation Award in ICIT**, 2008, New Delhi
- **Best Paper Award** at Nonlinear Dynamics and Chaos in International Symposium on Nonlinear Dynamics held in Shanghai, CHINA, 2005

Funded Research Projects:

03

- Diagnostic and Prognostic Analysis of High Speed Rolling Element Bearings
Funding Agency: **SERC - DST**, India Rs. 31.84 Lacs
Duration: Three Years (Completed) (**Principal Investigator**)
- Residual Life Prediction and Vibration Analysis of a High Speed Rotor Bearing System
Funding Agency: **ARDB**, DRDO India Rs. 11.64 Lacs
Duration: Three Years (Ongoing) (**Co-Principal Investigator**)
- Design And Development of A Proof of Concept Model of An Adaptive Membrane
Funding Agency: **ISRO**, India Rs. 29.75 Lacs
Duration: Three Years (Ongoing) (**Co-Principal Investigator**)

A. Funded by BHEL – Haridwar: (06)

1.	Design Vetting of Fixture for Road Transport of Stator of 800 MW Turbo-generator.	BHEL – Haridwar 2008-09	12 Months
2.	Design Vetting of Erection Base of 800 MW Turbo-generator used for rotor insertion into Stator at Test Bed without Using Crane.	BHEL – Haridwar 2008-09	8 Months
3.	Design Vetting Of Fixture of 28 Axle Rail Wagon	BHEL Haridwar (2010)	8 month 15 days
4.	Feasibility Study For Use of PTFE (Teflon) Multiball Bearings Support for Condenser	BHEL, Haridwar (2011)	7 months 15 days
5.	Computation And Validation Of Lube Oil And Jacking Oil Flows/Losses As Well As Stiffness And Damping Coefficients In Hydrodynamic Journal Bearings Of Steam Turbine.	BHEL Hardwar (2013)	8 months
6.	A Study on Hydrodynamic Journal Bearings of Steam Turbine to Compute the Lube Oil and Jacking Oil Flow/Losses by Considering the Temperature Variation in Oil Film	BHEL – Haridwar (2015)	12 Months

B. Funded by RDSO - Lucknow: (04)

1.	Study And Design Improvement In CTRB of Freight Stock of Indian Railways	RDSO, Lucknow 2009 – 12	2 years, 4 months
2.	Development of Upgraded Draft Gear For Freight Stock: Development of Testing Regimes	RDSO, Lucknow 2015 – 17	2 years
3.	Evaluation & Validation of Sperling's Ride Index for Indian railway Rolling Stock as per ORE –C-116 (8) (In progress)	RDSO, Lucknow 2017 -	10 months
4.	Technical innovation challenges floated by Indian Railways (In progress)	RDSO, Lucknow 2017 -	1 year

C. Funded by THDC - Rishikesh: (02)

1.	Design of Dewatering and Drainage System for Flood Control at Tehri Dams.	THDC LTD. 2012 - 13	1 year & 10 months	
2.	Vibration Data Analysis of High Speed Rotary Machine and Auxiliaries at Tehri HPP And Koteshwor HEP	THDC LTD. 2014 - 17	2 Years & 4 months	

D. Funded by ISGEC - Yamuna Nagar: (02)

1.	Design Vetting of Column Bearing Housing	ISGEC, Yamunagar (2011)	11 month 10 days	
2.	Mechanical Fault Diagnosis of Gear Under Various Conditions	ISGEC, Yamunagar (2015)	1 year	

E. Funded by JP Associates - Noida: (02)

1.	Analysis of 250 MW Francis Turbine Components for Karcham Wangtoo HEP	M/s JP Associates Ltd. Noida (2013)	1 year	
2.	Erosion Analysis of Guide Vane- for Karcham Wangtoo HEP	M/s JP Associates Ltd. Noida (2015)	1 year	

F. Funded by National Horticulture Board, Ministry of Agriculture (GOI), ND (01)

1.	Planning And Design of Gravity Ropeway in Nagaland.	National Horticulture Board, Ministry of Agriculture (GOI), ND (2013 -15)	2 years	
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G. Funded by Punj Lloyd Ltd - Gurgaon (01)

1.	Study and Root Cause Analysis of High Vibration Analysis in Circulating Water Pumps 2x250 MW Thermal Power Plant, Chabbra (Rajasthan)	M/s Punj Lloyd Ltd. Gurgaon (2014)	10 onths	
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H. Funded by Eicher tractors ltd. Bhopal (01)

1	Vibration Analysis of Main Components Of Eicher Tractors	Eicher Tractors Ltd. Bhopal (2014)	8 months	
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I. Funded by Makino Pvt Ltd, Noida (01)

1	Design and Development of Multiplate Clutch for High Speed Engines (In Progress)	M/s Makino Pvt Ltd, Noida (2016)	6 Months	
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J. Funded by Pioneer Fabrication Pvt Ltd., Meerut (01)

1	Design Of 650 KN Lifting System	Pioneer fabrication (p) Ltd., Meerut (2015)	2 months	
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K. Funded by M/s Shri Ganesh Pump Fire Equipment Ltd, New Delhi (01)

1	Performance Enhancement Of Multipurpose High Low Pressure- Fire Pump (In Progress)	Shri Ganesh Fire Equipments(p) ltd., New Delhi (2015)	2 years	
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L. Funded by M/s Shail Shikhar Associates, Mussoorie (20)

1	Inspection of Ropeway at Gun Hill point, Jhulaghar	M/s Shail Shikhar Associates (regd.), Mussoorie	In every Six months since 2007	
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Foreign Visits

- **Visited Northwestern Univ. Chicago & Akron Univ. OH, USA,** June 17 - July 5, 2014 for IUSSTF meeting and collaborative research work
- **Visited Hongkong,** April'14 for presenting research paper in Nanotechnology materials and Devices Conf.

- **Visited Chicago** USA, Oct 2012 for presenting research paper in Int. Conf. and Expo on Material Science, Oct. 22-24, 2012 at Doubly Tree Hotel, Chicago, USA
- **Visited Washington DC**, USA August, 2011 for presenting a research paper and chairing sessions in ASME International Design Engineering Technical Conference (IDETC) August 28 – 31, 2011, Washington DC, USA.
- **Visited San Diego**, USA August, 2009 for presenting a research paper and chairing sessions in ASME International Design Engineering Technical Conference (IDETC) August 30 – Sept. 2, 2009, San Diego CA, USA.
- **Visited Las Vegas** USA for the symposium on Rotor Dynamics: Nonlinear Analysis, Control & Diagnostics ASME International Design Engineering Technical Conference (IDETC) September 4-7, 2007, Rio All-Suite Hotel & Casino, Las Vegas, Nevada, USA
- **Visited London**, UK, August 2007 to attend 4th Consortium Meeting of EU-Asia Link Program on Sound and Vibration.
- **Visited Amsterdam** (August 17-19, 2008) in to attend 6th Consortium Meeting of EU-Asia Link Program on Sound and Vibration.
- **Visited Stockholm** (August 20-24, 2008) in to attend 6th Consortium Meeting of EU-Asia Link Program on Sound and Vibration.
- **Visited Seoul**, Korea, May 2007 for presenting a research paper on Railway research at World Congress on Railway Research, 2008.
- **Visited Virginia Tech Blacksburg**, Virginia, USA June, 2008 for presenting a research paper in Int. Conf. on Nonlinear Dynamics.
- **Visited Virginia Tech Blacksburg Blacksburg**, Virginia, USA August, 2006 for presenting a research paper in Int. Conf. on Nonlinear Dynamics.
- **Visited Shanghai**, China, Dec 2005 for Chairing the sessions in International Conf. on Nonlinear Dynamic.

Supervision of Ph. D Theses [Ph. D – 15 Awarded and 07 in progress]

22

**A.
The**

sis Guided on Bearing Dynamics (Awarded – 04, In progress – 03)

1. Title: **A Theoretical and Experimental Study of Nonlinear Aspects of High Speed Rolling Element Bearings**

Candidate	-	Sanjay K. Upadhyay (QIP Scheme)
Co – Supervisor	-	Dr. S.C. Jain
Year	-	2007-2009 (Completed)
Remarks:	-	Associate Prof., MIED, IIT Roorkee
2. Title: **Fault Diagnosis of High Speed Rotor Bearing Systems**

Candidate	-	Pavan K. Kankar (MHRD Scheme)
Co – Supervisor	-	Dr. S.C. Sharma
Year	-	2009-2011 (Completed)
Remarks:	-	Assistant Prof., Mech. Engg Dept., IIITDM Jabalpur
3. Title: **Nonlinear Analysis of High Speed Rolling Element Bearings Due to Various Defects**

Candidate	-	Divyang Pandya (QIP Scheme)
Co-Supervisor	-	Dr. S. H. Upadhyay
Year	-	2011 – 2013 (Completed)
4. Title: **Study and Analysis of failure of Line Contact Element under Micro-EHL conditions**

Candidate	-	G. D. Thakre (Scientist at IIP Dehradun; Part – Time)
Co-Supervisor	-	Dr. S. C. Sharma & Dr. M. R. Tyagi
Year	-	2011 – 2016 (Completed)
5. Title: **Experimental Study of Run Time to Failure Analysis of High Speed Rolling Element Bearings**

Candidate	-	Vinod Nistane (QIP Scheme)
Year	-	2015 –
6. Title: **Diagnostics of High Speed Cylindrical Roller Bearings**

Candidate	-	Pravjyoti Patra (MHRD Scheme)
Co-Supervisor	-	Dr. V. H. Saran
Year	-	2016 –
7. Title: **Dynamics Analysis of Cartridge Tapered Roller Bearings of Freight Wagons**

Candidate	-	Perbant Singh (QIP Scheme)
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B. Thesis Guided on Rail Vehicle Dynamics (Awarded – 02, In progress – 02)

8. Title: **Nonlinear Dynamics of Rail Wheel Contact of Freight Wagons**
 Candidate - Nagvendra K (MHRD Scheme/RDSO Lucknow)
 Co-Supervisor - Dr. S. C. Sharma
 Year - 2011 – 2014 (Completed)
 Remarks: - Manager Design, Titagarh Wagon Ltd, Kolkata
9. Title: **Dynamic Analysis of Draft Gear of freight Vehicle of Indian Railways**
 Candidate - Sachin Harak (QIP Scheme/RDSO Lucknow)
 Co-Supervisor - Dr. S. C. Sharma
 Year - 2011 – 2015 (Completed)
10. Title: **Dynamical Response Analysis High Speed Rail Vehicle Using CFD**
 Candidate - Vineet Kumar (QIP Scheme)
 Co-Supervisor - Dr. V. H. Saran
 Year - 2017 -
11. Title: **Condition Monitoring of Rails for High Speed Trains**
 Candidate - Vivek Parmar (MHRD Scheme)
 Co-Supervisor - Dr. V. H. Saran
 Year - 2017 -

C. Thesis Guided on Human Vibration (Awarded – 02, In progress – 02)

12. Title: **Effect of Whole Body Vibration on Activity Comfort**
 Candidate - Mahesh Bhiwapurkar (SRF under Euro Asia Link project)
 Co - Supervisor - Dr. V. H. Saran
 Year - 2009-2011 (Completed)
 Remarks: - Prof. & Head, OP Jindal College, Raipur
13. Title: **Effect of Low Frequency Vibration on Human Comfort**
 Candidate - A. S. Prasanth (MHRD Scheme)
 Co-Supervisor - Dr. V. H. Saran
 Year - 2009 – 2014 (Completed)
 Remarks: - AIT, Bangalore

D. Thesis Guided on Nano-Sensors/Nano-composites (Awarded – 04, In progress – 02)

14. Title: **Dynamic Analysis of Carbon Nanotube Based Mass Sensors.**
 Candidate - Anand Y. Joshi (QIP Scheme)
 Co-Supervisor - Dr. S. C. Sharma
 Year - 2009-2011 (Completed)
 Remarks: - Professor, Mechatr. Dept., GH Patel College, Anand
15. Title: **Design Analysis of Multi-walled CNT Reinforced Polymer based Nano-composites**
 Candidate - Anand Gupta (IRDE (DRDO), Dehradun; Part – Time)
 Year - 2011 – 2015 (Completed)
16. Title: **CNT Reinforce Nano-composites: Modeling, Evaluation of Mechanical Properties and Defects Analysis**
 Candidate - Ms Unnati A. Pandya (MHRD Scheme)
 Co-Supervisor - Dr. S. C. Sharma
 Year - 2010-2012 (Completed)
 Remarks: - Assoc. Prof., Mech. Engg Dept., ADIT College, Anand
17. Title: **Dynamic Analysis of Boron Nitride Reinforced Nano Composite as Mass Sensor**
 Candidate - Sandesh Trivedi (QIP Scheme)
 Co-Supervisor - Dr. S. C. Sharma

Year - 2011 - 2015 (Completed)

18. Title: **Atomistic Finite Element Analysis of CNT Reinforced Functionally Graded Polymer Composites**

Candidate - Mohit Goel (Scientist at IRDE, Dehradun; Part time)

Year - 2015 -

19. Title: **Manufacturability of In situ TiC Reinforced Metal Matrix Composite**

Candidate - Deepak Mehra (QIP Scheme)

Co-Supervisor - Dr. MM Mahapatra

Year - 2015 -

E. Thesis Guided on Dynamics (Awarded - 02, In progress - 02)

20. Title: **Dynamic Analysis of High Pressure Steam Turbine Blades**

Candidate - Akash Shukla (BHEL - Haridwar; Part - Time)

Year - 2011 - 2016 (Completed)

21. Title: **Dynamic Analysis of Inflatable Membrane Structure For Space Application**

Candidate - Sachin G (MHRD Scheme)

Co-Supervisor - Dr. S. H. Upadhyay

Year - 2011 - 2013 (Completed)

Remarks: - Associate. Prof., Govt. Engg Col, Durg

22. Title: **Dynamic Analysis of CNT Reinforced Functionally Graded Plates**

Candidate - Simaranjit Singh (MHRD Scheme)

Year - 2016 -

23. Title: **Coronary Stent Design and Analysis Under Dynamic Load**

Candidate - Rajesh Govindan (MHRD Scheme)

Year - 2017 -

Supervision of M. Tech Dissertations:

58

M. Tech - 56 (Completed), 02 (In progress)

S. No.	Name	Co-Guide	Year
1	G Pavan Kumar	-	2005
2	Ashok Boda	Dr. IV Singh	2008
3	G Lokeshwari	Dr. IV Singh	2008
4	Smith Topnov Salvo	Dr. VH Saran	2008
5	Vikrant Bende	Dr. PM Pathak	2008
6	Ravi Kant Mittal	Dr. SC Sharma	2009
7	Pushpendra Rana	Dr. SC Jain	2009
8	Mahendra Jangid	Dr. SC Sharma	2009
9	Abhijit Deokar	Dr. PM Pathak	2009
10	Phool Singh	Dr. VH Saran	2010
11	Kalyan Manohar B	Dr. SC Sharma	2010
12	Ashish Bhatanagar	Dr. SC Sharma	2010
13	Desta Milk (Ethiopia)	Dr. VH Saran	2010
14	Sanjay Bhinse (DRDO, Pune)	Dr. SC Jain	2010
15	Priti Joshi	Dr. SC Sharma	2011
16	Kuldeep Gupta	Dr. SC Sharma	2011
17	J. Ganesh	Dr. NK Mehta	2011
18	Amar Kishore	Dr. VH Saran	2011
19	Sabbir Ahmad	Dr. VH Saran	2011
20	Ankit Gupta	Dr. SC Sharma	2012
21	Alok Mishra	Dr. SH Upadhyay	2012

22	Ganesh Vinayak	Dr. SH Upadhyay	2012
23	Pankaj K Bhardwaj	Dr. SC Sharma	2012
24	Prakash Kumar	Dr. VH Saran	2012
25	Dipen Saradara	Dr. SH Upadhyay	2012
26	Himanshu Yadav	Dr. SH Upadhyay	2013
27	Surinder Kumar	-----	2013
28	Prabhat Kumar Tripathi	Dr. SH Upadhyay	2013
29	Tony Thomas	Dr. SC Sharma	2013
30	Mulu Girmay	Dr. SC Sharma	2013
31	Saurabh Chauhan	Dr. SC Sharma	2013
32	Nimesh K Patel	Dr. SH Upadhyay	2013
33	Mh. Waqar Khan	Dr. SH Upadhyay	2013
34	Lokesh Kumar	Dr. SH Upadhyay	2014
35	Paras Ram (DRDO, Pune)	Dr. SH Upadhyay	2014
36	K. Sanket Pawar	Dr. SC Sharma	2014
37	Akshay V. Salunke	Dr. SH Upadhyay	2014
38	Asheesh Kumar	Dr. SC Sharma	2014
39	Akshay Kumar	Dr. SH Upadhyay	2014
40	Shashank Kedare	Dr. SC Sharma	2015
41	Asish K Pandey	Dr VH Saran	2015
42	Shurbhi Bhagwat	Dr. VH Saran	2015
43	Abhishek Rawat	Dr. SC Sharma	2015
44	Jeevan Chandra Atwal	Dr. SC Sharma	2015
45	Ankur Mittal	-----	2016
46	Lalit Kumar (DRDO, Dehradun)	-----	2016
47	Devanshu Kaithwas	Dr. VH Saran	2016
48	Anuj Kumar Singh (DRDO, Pune)	Dr. AK Parashar	2016
49	Sahil Jaggi	Dr. SC Sharama	2016
50	Mohd. Asif	Dr. VH Saran	2016
51	Prem Kumar Singh	Dr. VH Saran	2016
52	Amit Goyal	Dr. VH Saran	2017
53	Teetu Kumar	Dr. VH Saran	2017
54	Aman Kumar	Dr. VH Saran	2017
55	Shiv Kumar Dubey	-----	2017
56	Prashant Varshney	Dr. RK Singh (BARC)	2017
57	Vedant Yadav	Dr. VH Saran	Pursing
58	Pramod Kumar	Dr. VH Saran	Pursing

Supervision of B. Tech Dissertations:

42 (groups)

Short Term Organized:

12

- August 11 - 15, 2007 - Role of Sound and Vibrations in Industries by European Comm., at Continuing Education Center IITR
- Dec 03 - 06, 2008 - Bearing Technology & Maintenance, Continuing Education Center, at IITR
- Dec. 15 - 17, 2008 - Vibration and Noise: Issues and Challenges by SIDA & EC at Jodhpur
- January 25, 2008 Organized Workshop on “ Noise and Vibration Issues in Railways” , at Research Design & Standards Organization (RDSO), Lucknow, EU-Asia Link Program & Swedish International Development Cooperation Agency,

- December, 15, 2009 Organized Workshop on “Noise and Vibrations: Their Influence on Quality of Life and Product”, at College of Engineering, Trivandrum, Organized by Swedish International Development Cooperation Agency (SIDA), on.
- Dec. 13 – 14, 2009 - Maintenance Systems: Proactive to Predictive by SIDA, Sweden at IITD
- July 6 – 10, 2009 – Sound and Vibration: Fundamentals, Measurement and Diagnostic Analysis at Continuing Education Center IITR
- April 3-6, 2010 Diagnostics and Condition Monitoring of Rotating Machines Sponsored by RDSO, NTPC, THDC, CEC, at IIT Roorkee
- March 7-11, 2011 Vibration Condition Monitoring Techniques for fault Diagnosis Continuing Education Center, Indian Institute of Technology Roorkee
- June 5-9, 2011 Dynamics and Controls of Mechanical Systems” QIP, IIT Roorkee
- Dec. 12 – 14, 2012 Noise Monitoring and Control Technique sponsored by Pollution Control Board of India organized at IIT Roorkee
- Dec. 30 – Jan. 03, 2014 Modeling and Simulation of Dynamical Systems QIP, IIT Roorkee

Courses Taught (at BITS – Pilani & IIT Roorkee)

- Engineering Graphics/ Engineering Thermodynamics (UG)
- Mechanics of Solids/ Advanced Mechanics of Solids (UG)
- Theory of Machines/Dynamics of Machines (UG)
- Fundamentals of Sound & Vibration (UG, Institute Electives)
- Dynamics of Mechanical Systems (PG)
- Advanced Mechanical Vibrations (PG)
- Modelling & Simulations (PG)

Courses Developed under NPTEL (MHRD Scheme):

03

- Video Lectures on “**Solid Mechanics**” course (40 lectures) delivered and uploaded on web by IITM under the NPTEL scheme.
- Web and Video Lecture on “**Vibration Control**” course (40 lectures)) delivered and uploaded on web by IITM under the NPTEL scheme.
- Web and Video Lecture on “**Dynamics of Mechanical Systems**” course (40 lectures) is in process under the NPTEL

Patent Filed

02

- “An efficient method to compute performance characteristics of two-lobe Hydrodynamic Journal Bearing” by Navin Kumar*, Akash Shukla*, Sanjay Bansal*, Dr. Satish Chandra Sharma+, **Dr. S. P. Harsha**+, Saurabh Kumar Yadav+ and Chandra B Khatri+, CR_NO: 150284HW and 5136/2016-CO/L. * Bharat Heavy Electricals Limited, India and + Indian Institute of Technology Roorkee, India.
- “Program to compute performance characteristics of two-lobe Hydrodynamic Journal Bearing” by Navin Kumar*, Akash Shukla*, Sanjay Bansal*, Dr. Satish Chandra Sharma+, **Dr. S. P. Harsha**+, Saurabh Kumar Yadav+ and Chandra B Khatri+, CR_NO: 150278HW and 5119/2016-CO/SW. * Bharat Heavy Electricals Limited, India and + Indian Institute of Technology Roorkee, India.


Research Publications:

- International Journals 134*
- National Journal 02
- Book Chapter 01
- International/ National Conference 83.....

* Papers published in the following journals:


- Journal of Sound & Vibration (Elsevier)
- ASME Jr. of Dynamic Systems, Measurements & Control
- Int. Journal of Non Sc & Num Simulations
- Mechanical Systems & Signal Processing (Elsevier)
- Int. Journal of Mechanical Sc. (Elsevier)
- Chaos, Soliton and Fractals (Elsevier)
- Applied Soft Computing (Elsevier)

- Physica E (Elsevier)
- European Journal of Mechanics / A Solids (Elsevier)
- Expert Systems (Elsevier)
- Int. Journal Nonlinear Dynamics (Springer)
- Journal of Vibration & Control (SAGE)
- ASME Jr. of Nanotechnology in Engineering and Medicine
- Nuro-Computing (Elsevier)
- Sensors and Actuator (Elsevier)
- Sensors Reviews (Emerald)
- Int. Journal of Acoustics & Vibration
- IMechE Proc. of Multi-body Dynamics, Part K
- Industrial Health
- ASME Jr. of Computational and Nonlinear Dynamics
- Current Nano science (Bentham Sc. Pub.)
- Int. Journal of Computational and Theoretical Nano Science (American Sc. Pub.)
- Nano Journal (World Scientific press)
- IET Nano-biotechnology (IEEE)
- Composite -part B (Elsevier)
- Engineering Failure Analysis ((Elsevier))
- AIAA

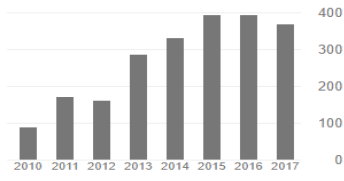


Suraj P Harsha

Associate Professor at MIED, [IIT Roorkee](#)
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Vibration and Control










	ALL	SINCE 2012
Citations	2425	1936
h-index	26	24
i10-index	52	48



TITLE	CITED BY	YEAR
Fault diagnosis of ball bearings using machine learning methods PK Kankar, SC Sharma, SP Harsha Expert Systems with applications 38 (3), 1876-1886	163	2011
Fault diagnosis of ball bearings using continuous wavelet transform PK Kankar, SC Sharma, SP Harsha Applied Soft Computing 11 (2), 2300-2312	152	2011
Non-linear dynamic behaviors of rolling element bearings due to surface waviness SP Harsha, K Sandeep, R Prakash Journal of sound and vibration 272 (3), 557-580	129	2004
The effect of speed of balanced rotor on nonlinear vibrations associated with ball bearings SP Harsha, K Sandeep, R Prakash International Journal of Mechanical Sciences 45 (4), 725-740	120	2003
Rolling element bearing fault diagnosis using wavelet transform PK Kankar, SC Sharma, SP Harsha Neurocomputing 74 (10), 1638-1645	97	2011
Vibration signature analysis of single walled carbon nanotube based nanomechanical sensors AY Joshi, SP Harsha, SC Sharma Physica E: Low-dimensional Systems and Nanostructures 42 (8), 2115-2123	96	2010
Nonlinear dynamic analysis of a high-speed rotor supported by rolling element bearings SP Harsha Journal of Sound and Vibration 290 (1), 65-100	91	2006
Stability analysis of a rotor bearing system due to surface waviness and number of balls SP Harsha, PK Kankar International Journal of Mechanical Sciences 46 (7), 1057-1081	90	2004
Nonlinear dynamic response of a balanced rotor supported by rolling element bearings	87	2006

Co-authors

	P.K. Kankar Assistant Professor, PDPM India...	>
	Anand Y. Joshi Professor, G.H.Patel College of ...	>
	Unnati Joshi Associate Professor	>
	Sandeep Kumar Professor of Mechanical Enginee...	>
	Ravi Prakash Professor, Advisor and Director, ...	>
	Divyang Pandya Professor of Mechanical Enginee...	>
	C Nataraj Villanova University	>

INTERNATIONAL JOURNAL PAPERS:

(Full Papers Published)

(2003)

1. **Harsha, S. P.,** Sandeep K. and Prakash R, (2003) "The Effect of Speed of Balanced Rotor on Nonlinear Vibrations Associated With Ball Bearings." **International Journal of Mechanical Sciences**, Vol. 45, No. 4, pp 725 – 740. *Elsevier publishers* (Impact Factor 1.288) (Citation: 120)
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