Curriculum Vitae of B. K. Mishra

Name & Designation : **Bhanu Kumar Mishra, Professor**

Date & Place of Birth : July 28, 1962, Darbhanga, Bihar, India

Nationality : Indian

Present post : Professor, Department of Mechanical and Industrial Engineering,

Institution : Indian Institute of Technology, Roorkee

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Areas of Interest : Solid Mechanics, Fracture Mechanics, Damage Mechanics, Mechanics of Composite Materials, Finite Element Analysis, Computational Mechanics

Academic Qualifications

Degree	Specialization	Year	Division	Grade	Institution	Distinction/ Scholarship
B. Tech.	Mechanical Engineering	1982	First	8.67	Banaras Hindu University	Honors
M. Tech.	Mechanical Engineering	1985	-	8.74	IIT Kanpur	-
Ph. D.	Mechanical Engineering	1990	-	-	Banaras Hindu University	-

Teaching / Professional / Research Employment

Employer	Post Held	Period of Employment	
		From	To
IIT Roorkee	Professor	June 25, 2007	Date
IIT Roorkee	Associate Professor	June 25, 2001	June 25, 2007
University of Roorkee	Assistant Professor	April 9, 1996	June 25, 2001
University of Roorkee	Lecturer	January 8, 1990	April 9, 1996

Teaching Experience

	From	To	Total
Under Graduate	January 1990	Till Date	**34 years**
Post Graduate			

Subjects Taught

Under Graduate	Engineering Mechanics, Mechanics of Materials Theory of Machines, Engineering Graphics Machine Design, Mechanical Vibration
Post Graduate	Advanced Mechanics of Solids, Fracture Mechanics Mechanics of Composite Materials, Finite Element Method Computer Aided Design, Modeling & Simulation Dynamics of Mechanical Systems, Computer Aided Mechanism Design

Publications: Total = 226

	Published/Accepted	In-Review	Total
Journals	126	1	127
Conference/Symposium	97	2	99

Thesis Supervised

Theses	Awarded	In-Progress	Total
Ph.D.	20	7	27
M. Tech.	67	1	68

Sponsored and Consultancy Projects

Projects	Completed	In-Progress
Sponsored	16	3
Consultancy	2	---

Foreign Visits / Assignments / Projects

- Research Associate, Texas A & M University, **USA, April 1994 – April 1995**.
- **Germany** (Aachen) to present a paper in ECCOMAS Thematic Conference on the XFEM, **September 28 – 30**, **2009**.
- **Singapore** (National Technological University), to present paper in Eleventh Asia-Pacific Conference on Engineering Plasticity and Its Applications (AEPA2012), **December 5-7**, **2012**.
- **Singapore,** ICMAE Conference, **December 12-14, 2015.**

Conferences Organized

- International Conference on Advances in Mechanical and Industrial Engineering, as Joint Organizing Secretary, February **1997.**
- First International & 22nd All India Manufacturing Design & Research (AIMTDR) Conference, as Joint Organizing Secretary, December **2006**.

Book Chapters

- V.B. Pandey, I.V. Singh, B.K. Mishra, Complete Creep Life Prediction Using Continuum Damage Mechanics and XFEM, *Recent Advances in Computational Mechanics and Simulations*, *Lecture Notes in Mechanical Engineering*, Springer, Singapore, **2021**. https://doi.org/10.1007/978-981-15-8315-5_15
- A. Jha, I.V. Singh, B.K. Mishra, R. Singh, R.N. Singh, Numerical Study of Coupled Elasto-Plastic Hydrogen Diffusion at Crack Tip Using XFEM, *Recent Advances in Computational Mechanics and Simulations, Lecture Notes in Mechanical Engineering*, Springer, Singapore, 2021, https://doi.org/10.1007/978-981-15-8315-5_16
- Neha Duhan, B.K. Mishra, I.V. Singh, Electro-Elastic Analysis of Edge Dislocation Dipole in GaN Using XFEM, *Recent Advances in Computational and Experimental Mechanics*, Vol. 1, pp. 141-151, **2022**. https://link.springer.com/chapter/10.1007/978-981-16-6738-1_12

Administrative Duties

- Student Ombudsperson, IIT Roorkee, **2020 – 2022.**
- Member, Board of Governors, IIT Roorkee, **2019 – 2021.**
- Dean, Faculty Affairs, IIT Roorkee, **2016 –2019.**
- Chairman, Department Research Committee, IIT Roorkee, **2014 – 2016.**
- Vice-Chairman, Graduate Aptitude Test in Engineering (GATE), IIT Roorkee **2014.**
- Associate Dean, Sponsored Research & Industrial Consultancy, IIT Roorkee, **2007 – 2009.**
- Dean in Charge for Student Affairs, IIT Mandi, **April 2010 – Feb 2011.**
- Head of School of Engineering IIT, Mandi, **2010 – 2012.**
- Dean, Planning, IIT Mandi, **2011 – 2013.**
- Coordinator in Charge, IIT Mandi Cell at IIT Roorkee, **2011 – 2017.**

Short Term Course Organized

- Organized a short-term course under QIP scheme on "Design and Analysis using FEM, XFEM and Meshfree Methods" July 12 **–** 16, **2010**.
- Organized a short-term course on "Simulation and Design using Extended Finite Element Method (XFEM)" December 13 **–** 17, **2010**.
- Organized a short-term course under QIP scheme on "Modeling and Simulations using Finite Element Methods" January 7 **–** 11, **2014**.
- Organized a short-term course (under QIP scheme) on "Finite Element Methods for Engineering Applications" June 12 **–** 16, **2017**.

Sponsored Research & Consultancy Projects

1. FEM Modeling and Process Parameter Optimization of Ultrasonic Drilling Process, AICTE, New Delhi, Rs. 5 Lakhs, 2 years **(Completed).**
2. Effect of Asymmetric Heating of Fuel Pins on Fuel Bundle Integrity, BRNS, Mumbai, Rs. 5 Lakhs, 2 years **(Completed).**
3. Pattern Tooling and Quality Optimization for Investment Castings, MHRD, New Delhi, Rs. 8 Lakhs, 3 years **(Completed).**
4. Near Net Shape Manufacturing of Metal Matrix Composite through Investment Casting Process, MHRD New Delhi, Rs. 14 Lakhs, 3 years **(Completed).**
5. Development of Elasto-Plastic Element Free Galerkin Code, BARC, Mumbai, India, April 2008–December 2011, 3 years, Rs. 17.24 lakhs**, (Completed).**
6. Thermo-mechanical Simulations of Elasto-Plastic Fracture Mechanics Problems Using XFEM and Meshless Methods, Indo-Portugal Joint Research Project, DST, New Delhi, January 2011–December 2013, 3 years, Rs. 4.57 lakhs**, (Completed).**
7. Development of Smart/Intelligent Systems for Use in Spacecraft Antenna Reflector, Department of Space, Space Application Centre, Ahmedabad, **(Completed).**
8. Design Analysis and Weight Optimization of Cast Steel Bogies of Freight Stock on Indian Railways, Ministry of Railways, RDSO, Lucknow, Rs. 12.7 Lakhs, January, 2011 – March, 2013 **(Completed).**

9. Development of XFEM Software for the Simulation of Fracture and Ductile Crack Tearing in Nuclear Components, BARC, Mumbai, India, Rs. 23.0 Lakhs, January 2011–June 2013, **(Completed).**
10. Development of Meshfree Codes for the Simulation of Damage in Metallic Materials Used in Nuclear Industries, BARC, Mumbai, India, Rs. 22.0 Lakhs, April 2013–November **2015 (Completed).**
11. The Study of Tensile and Impact Behaviour of Reduced Activation Ferritic-Martensitic Steel, BARC, Mumbai, India, Rs. 40.0 Lakhs, Feb 2015–Feb **2017 (Completed).**
12. Prediction of Graphite Failure Strength using RVE Approach and XFEM, BRNS, DAE, Mumbai, India, Rs. 24.58 Lakhs, August 2014–August **2017, (Completed).**
13. Failure Analysis of Engineering Components of Intricate Shape using Extended Isogeometric Analysis, DST, New Delhi, India, Rs. 19.50 Lakhs**,** September 2014–September **2017** (**Completed).**
14. Simulation of High Temperature Elasto-plastic Fatigue Crack Growth using XFEM, DMRL, DRDO, Hyderabad, India, Rs. 29.78 Lakhs, Nov 2014 - Nov 2018, **(Completed).**
15. Development of Stochastic Multiscale Framework Based on Microstructural Features for Predicting the Bulk Response of Heterogeneous Materials, Rs. 18.31 Lakhs, CSIR, New Delhi July 2018- July 2021 **(Completed).**
16. Numerical Crack Growth Studies in Hydrided Pressure Tube of PHWR, Rs. 17.73 Lakhs, AERB, DAE, Mumbai, June 2018 – Dec 2021 **(Completed).**
17. Development of XFEM based Damage Tolerance Philosophy for the Remaining Life Assessment of Aeroengine Components, Rs. 23.54 Lakhs, AR&DB, New Delhi, December 2018- December 2021 **(Completed).**
18. Microstructure based Three-dimensional Elasto-plastic Fatigue Crack Growth Simulations using XFEM, Rs. 49.99 Lakhs, DMRL, DRDO, Hyderabad, March 2020 - December 2022. **(Completed).**
19. Effect of Sequence of Loading on the Fatigue Life of GFRP Composites, Rs. 145.34 Lakhs, AR&DB, DRDO, New Delhi, April 2023- April 2026. **(In-Progress).**
20. Modelling of Creep and Rolled Joint Leak Tightness in Pressure Tubes, Rs. 47.48 Lakhs, BRNS, DAE, Mumbai, April 2023- April 2026. **(In-Progress).**
21. Fracture-Fatigue Behavior of GFRP Laminated Composites under Hygroscopic Environment, Rs. 102.5 Lakhs, AR&DB, DRDO, New Delhi, January 2024- January 2027. **(In-Progress).**

PhD. Thesis Supervised

1. S.K. Srivastava, Investigation of the Effect of Inertia Forces on Elastothermodynamic Damping in Composite Materials, Co-supervisor: Prof. S.C. Jain (**2001**), (**Completed)**.
2. R.S. Jadoun, Investigation of Process Parameters Affecting the Quality of Holes Drilled in Alumina Based Ceramics by Ultrasonic Machining, Co-supervisor: Dr. Pradeep Kumar & Dr. R.C.S. Mehta (**2005**), (**Completed)**.
3. Rajeev Kumar, Shape and Vibration Control of Smart Structures, Co-supervisor: Prof. S.C. Jain (**2007**), (**Completed)**.
4. Balwinder Singh, Effect of Process Variables on Castings Produced by Ceramic Shell Investment Casting Process, Co-supervisor: Dr. Pradeep Kumar **(2007),** (**Completed)**.
5. K.K.S. Mer, Deformation Behaviour of Gradient Materials based on Al–Al_2O_3 Particulate Composite, Co-supervisor: Prof S. Ray **(2007),** (**Completed)**.

6. Abhay Sharma, Process Modelling of Twin Wire Submerged Arc Welding, Co-supervisor: Dr. Navneet Arora **(2008), (Completed)**.
7. Ashish Srivastava, Dynamic Characteristics of Inflated Space Structures, Co-supervisor: Prof. S.C. Jain (**2009**), **(Completed)**.
8. K.S. Aprameya, Ultrasonic NDE Modelling for Prediction of Flaw Response in Polycrystalline Metals, Co-supervisor: Dr. R.S. Anand **(2009), (Completed)**.
9. Saroj Kumar Panigrahi, Vibration Based Damage Detection in Structural Systems using Genetic Algorithm, Co-supervisor: Dr. S. Chakraverty **(2009), (Completed).**
10. Mohit Pant, Meshfree Simulation of Fracture Mechanics Problems under Thermo-Mechanical Loading, Co-supervisor: Dr. Indra Vir Singh (**2010**).
11. Somnath Bhattacharya, Numerical Simulation of Fatigue Fracture in Functionally Graded Materials using XFEM, Co-supervisor: Dr. Indra Vir Singh (**2012**), **(Completed).**
12. Vineet Kumar, Numerical Simulation of Fracture Mechanics Problems, Co-supervisor: Dr. Indra Vir Singh, **2014**, **(Completed).**
13. Kamal Sharma, Numerical Simulation of Crack Growth Problems Using EFGM/XFEM, Co-supervisor: Dr. Indra Vir Singh, **2015**, **(Completed).**
14. Sachin Kumar, Simulation of Large Deformations Using XFEM, Co-supervisor: Dr. Indra Vir Singh, **2015**, (**Completed).**
15. Roshan Patil, Failure Analysis of Heterogeneous Materials Using Phase Fields Methods, **2019**, (**Completed).**
16. Vibhuti Bhushan Pandey, Simulation of High Temperature Elasto-plastic Fatigue Crack Growth using XFEM, Co-supervisor: Dr. Indra Vir Singh, **2021 (Completed).**
17. Subrato Sarkar, Failure Analysis using Gradient Damage Mechanics with implementation through Isogeometric Analysis, Co-supervisor: Dr. Indra Vir Singh, **2021 (Completed)**.
18. Patil Ajeet Pandurang, Diagnosis of Rolling Element Bearing using Viobration and Acoustic Emission Signals, Co-supervisor: S.P. Harsha, **2021 (completed).**
19. Anjali Jha, Numerical Crack Growth Studies in Hydrided Pressure Tube of PHWR, Co-supervisor: Dr. Indra Vir Singh, **2024 (Completed).**
20. Duhan Neha Rajkumar, Simulations of Dislocations in Semiconductor Materials using XFEM, Co-supervisor: Dr. Indra Vir Singh, **2024 (Completed).**
21. Shyam Kishor Sharma, Modelling of Creep in Pressure Tubes and Evaluation of Change in Leak Tightness of Rolled Joint between Pressure Tube and End-Fitting, Co-supervisor: Dr. Indra Vir Singh **(In-progress).**
22. Ankur, Numerical Modeling of GFRP Composites under Fatigue Loading, Co-supervisor: Dr. Indra Vir Singh **(In-progress).**
23. Nilanjan Bhardwaj, Mechanical and Fatigue Behaviour Study of Bi-Directional GFRP Composites, Co-supervisor: Dr. Indra Vir Singh **(In-progress).**
24. Saurabh Saket, Numerical Study of Composites under Dynamic Loading, Co-supervisor: Dr. Indra Vir Singh **(In-progress).**
25. Adil Khan, Fracture-Fatigue Study of Additively Manufactured Stainless Steel Joints, Co-supervisor: Dr. Indra Vir Singh **(In-progress).**
26. Vishal Sharma, Numerical Modelling of Joint Leak Tightness in Pressure Tubes, Co-supervisor: Dr. Indra Vir Singh **(In-progress).**

27. Amanpreet Kaur, Fracture Fatigue Study of Additively Manufactured Al F357 Alloy for Aerospace Applications, Co-supervisor: Dr. Indra Vir Singh **(In-progress).**

M.E. Dissertation

1. Asif Iqbal, Delamination of Laminated Composite under Compressive Force, June **2020**. (Co-guide: Dr. I. V. Singh).
2. Amit Sharma, Crack Growth in Pressure Tubes, June **2020**. (Co-guide: Dr. I. V. Singh).
3. Roshan Kumar, Effect of Ageing on Mechanical and Fatigue Behaviour of 2014 Aluminium Alloy, June **2019.** (Co-guide: Dr. I. V. Singh).
4. Gynendra Saini, Effect of Cryorolling on Mechanical and Fatigue Crack Growth Behavior of Al Alloy 6351, June **2019** (Co-guide: Dr. I. V. Singh).
5. Rijul Singla, Modelling of Crack in Preesure Vessels BY IGA Using Thin Shell Theory, June **2018** (Co-guide: Dr. I. V. Singh & Dr. Xiaoying Zhuang).
6. Lalit Mohan, Crack Growth Modeling Using XIGA, June **2017**, (Co-guide: Dr. I. V. Singh).
7. Mohit Goel, Fracture Analysis of Piezoelectric Material by XFEM, June **2016** (Co-guide: Dr. I. V. Singh).
8. Aakash Bhuwal, Elasto-plastic Crack Growth Simulation using XFEM, June, **2015** (Co-guide: Dr. I. V. Singh).
9. Amit Kumar Sharma, Modeling and Simulation of Nonlinear Problems Using XFEM, June, **2015** (Co-guide: Dr. I. V. Singh).
10. Rajat Pratap, Modelling and Simulation of Nuclear Graphite using XFEM, June, **2015** (Co-guide: Dr. I. V. Singh).
11. Kirti Sharma**,** Modelling and Simulation of Solid Mechanics Problems using Isogeometric Analysis**,** June, **2015** (Co-guide: Dr. I. V. Singh).
12. Shantanu Kumar Das, Experimental Investigation and Numerical Simulation of Accumulative Roll Bonded 5080 Aluminium Alloy, June, **2014** (Co-guide: Dr. I. V. Singh).
13. Suneel Kumar Sharma, Nonlinear Simulation of Solid Mechanics Problems Using EFGM/XFEM, June, **2014** (Co-guide: Dr. I. V. Singh).
14. Virender Kumar, Numerical Simulation of Cracked Plate Using Isogeometric Analysis, June, **2014** (Co-guide: Dr. I. V. Singh).
15. Yogesh Bisht, Multiscale Modelling of Nuclear Graphite Using XFEM, June, **2014** (Co-guide: Dr. I. V. Singh).
16. Subrato Sarkar, Extended Isogeometric Finite Element for the Simulation of Fracture Mechanics Problems, December **2013** (Co-guide: Dr. I. V. Singh).
17. Amit Shedbale, Numerical Analysis of Nonlinear Solid Mechanics Problems Using XFEM, June **2013** (Co-guide: Dr. I. V. Singh).
18. Azher Jameel, Numerical Simulation of Contact Problems Using XFEM/EFGM**,** June **2013** (Co-guide: Dr. I. V. Singh).
19. Sushil Kumar Maurya, Crack Growth Analysis and Weight Optimization of Railway Casnub Bogie by Using FEM, June 2013 (Co-guide: Dr. I. V. Singh).
20. Pramod Kumar, 3-D Simulation of Interpenetrating Phase Composites By FEM/EFGM, June **2013** (Co-guide: Dr. I. V. Singh).
21. Vivek Kumar Sharma, Numerical Simulation of Branched and Intersecting Cracks in the Presence of Multiple Discontinuities Using XFEM, June **2013** (Co-guide: Dr. I. V. Singh).
22. Ankit Agarwal, Failure Analysis of Interpenetrating Phase Composites by Meshfree Methods, June **2012** (Co-guide: Dr. I. V. Singh).
23. Anil Kumar Sahoo, Multi-scale modeling and simulation of 3D-Braided Composites Using FEM/XFEM, June **2012**, (Co-guide: Dr. I. V. Singh).

24. Rajesh Kumar, Numerical Simulation of Elasto-Plastic Large Deformation Problems Using FEM/EFGM, June **2012**, (Co-guide: Dr. I. V. Singh).
25. Pravin Kumar, An Isogeometric Approach for the Simulation of Solid Mechanics Problems, June **2012**, (Co-guide: Dr. I. V. Singh).
26. Mangesh Brahamnkar, Numerical simulation of 3-D fracture mechanics problems using EFGM, June **2011**, (Co-guide: Dr. I. V. Singh).
27. Roshan U. Patil, Numerical simulation of 2-D fracture mechanics problems using XFEM, IIT Roorkee, June **2011**, (Co-guide: Dr. I. V. Singh).
28. Sumit Vispute, "Numerical simulation of fatigue crack problems using element free Galerkin method", IIT Roorkee, June **2010**, (Co-guide: Dr. I. V. Singh).
29. Ch. Raghuveer, "The numerical simulation of bi-material problems using meshfree methods", IIT Roorkee, June **2009**, (Co-guide: Dr. I. V. Singh).
30. Damage detection in a smart beam through its vibratory response by H. K. Chauthiya, Co-supervisor – Dr. S. C. Jain, **2007**.
31. Active vibration control of cantilever beam by J. R. Mevada, Co-supervisor – Dr. S. C. Jain, **2007**.
32. Shape control of deployment system for space-based Antenna by G. Daggaupati, Co-supervisor – Dr. S. C. Jain, **2007**.
33. Dynamic Response of Structure containing Cracks by Neeraj K. Gupta, **2006**.
34. Penetration / Perforation of a Plate by a Projectile by Ashish Pandey, **2006**.
35. Simulation of Solidification of Ceramic Shell Investment Castings using FEM by Ashwani K. Jaiswal, Co-supervisor – Dr. Pradeep Kumar, **2006**.
36. Residual stress analysis in a butt-welded plate and pipe joint by Sachin Jadhav, Co-supervisor – Dr. P. K. Ghosh, **2006**.
37. Finite Element Analysis of High Strain Rate Material Deformation by Sudhanshu Sharma, Co-supervisor Mr. V. M. Chavan, BARC, **2005**.
38. Stress Analysis of a Fixed Wheel Vertical–Lift Gate by Md. Abdul Wahab, Co-supervisor –Prof. Gopal Chauhan, **2005**.
39. Static Analysis of Inflatable Torus using Piezoelectric Actuators by G. Sowjanya, **2005**.
40. Pattern Tooling and Finite Element Modeling of Investment Casting Process by P. B. S. Raju, Co-supervisor – Dr. Pradeep Kumar, **2005**.
41. Three-Dimensional Stress Analysis of Radial Gate using FEM (ANSYS Software) by Manoj K. Sharma, Co-supervisor – Dr. B. N. Ashthana & Prof. Gopal Chauhan, **2004**.
42. Modeling and Control of Active Aperture Antenna by Ashwin M. Dhoke, **2004**.
43. Structural Health Monitoring using Optical Fibre by Jagdish B. Dhunde, **2004**.
44. Modeling of Mechanism of Material Removal in EDM using Finite Element Method by Amit K. Sharma, Co-supervisor – Dr. Pradeep Kumar, **2004**.
45. FEM modeling of a Smart Beam by Ashok Gupta, Co-supervisor – Dr. S. P. Nigam, **2003**.
46. Modeling of Mechanism of Material Removal in Ultrasonic Drilling using Finite Element Method by J. Bala Chandra Sekhar, Co-supervisor – Dr. Pradeep Kumar, **2003**.
47. Finite Element Modeling of Casting Fluidity by A. Sofwan F.A., Co-supervisor – Dr. S. Ray, **2003**.
48. Modeling of Material Removal in Abrasive Flow Machining by Satyendra Kumar Sharma, Co-supervisor – Dr. Pradeep Kumar, **2002**.
49. Analytical Study of Shear Actuation Mechanism in a Sandwich Beam by K. K. Bhairam **2002**.
50. Theoretical Modeling of a Plate with Induced Strain actuation by Ram Gyan Singh, **2002**.
51. Application of Finite Element Method in Analysing Generator Barrel Foundation by Uma Shankar Vidyarthi, Co-supervisor –Dr. B. N. Ashthana & Dr. Gopal Chauhan, **2001**.

52. Effect of Valley Slope on Performance of Earth and Rockfil Dams by Debasis Deb, Co-supervisor–Dr. B. N. Ashthana & Dr. R. P. Singh, **2001**.
53. Computer Aided Optimization Approach to Piston Design Based on Genetic Adaptive Search by Praveen Kumar Verma, Co-supervisor – Dr. Pradeep Kumar, **2000**.
54. Studies on Design of Aluminum Butt Weld Joint Using Finite Element Analysis by Ritesh Kumar Saini, Co-supervisor – Dr. P. K. Ghosh, **2000**.
55. Propagation of Lamb Waves in Composite Laminates by P. L. R. Suresh Babu, Co-supervisor –Dr. Narendra Singh, **1999**.
56. Design of Aluminium Weld Joints subjected to Static and Dynamic loading by B. Aruna Prasad, Co-supervisor – Dr. P. K. Ghosh, **1999**.
57. Elastothermodynamic Damping Analysis of a Griffith Crack using FEM by A.K. Gupta, 1998.
58. Propagation of Lamb Waves in Thin Orthotropic Plates by K. Balaji, Co-supervisor –Dr. Narendra Singh, **1998**.
59. Crack-Tip Opening Displacement of a Griffith Crack at a Bimaterial Interface by P. V. Srikanth, **1997**.
60. Elastothermodynamic Damping in Metal-Matrix Composites with Spherical Reinforcement by G. Padmanaban, **1997**.
61. Optimal Selection of FRP Constituents for Structural Application by Parveen Kumar Beri, Co-supervisor –Prof. D. P. Shukla, **1996**.
62. Knowledge Based System for Design of Tall Pressure Vessel by Pankaj E. Dahad, Co-supervisor – Prof. S. C. Jain, **1996**.
63. Investigation of End Effects in Composite Plates by Gaurav Gupta, **1994**.
64. Hygroscopic Effects on the Buckling Behaviour of Composite Laminated Plates by H. Thajudeen, **1993**.
65. Dynamic Response of an Adhesive Bonded Lap-Joint Connecting Two Composite Beams by Anurag Sharma, **1993**.
66. Hygroscopic Effects on the Natural Frequency of Composite Plates by Virendra Kumar, **1992**.
67. Prediction of Tire Tread Wear Life by V. L. Sulapani, Co-Supervisor – Prof. V. K. Goel, **1990**.

International Journal Publications

1. Shyam K. Sharma, B.K. Mishra, I.V. Singh, A Multiobjective Optimization Framework based on FEA, ANN, and NSGA-II to Optimize the Process Parameters of Tube-to-Tubesheet Joint, *Finite Elements in Analysis & Design*, Vol. 241, Article 104225, 2024.
2. Anjali Jha, Subrato Sarkar, I.V. Singh, B.K. Mishra, Ritu Singh, A Microstructure-based Modeling of Delayed Hydride Cracking in Zr-2.5Nb Pressure Tube Material, *Engineering Fracture Mechanics*, Vol. 295, Article 109781, 2024.
3. Anjali Jha, Neha Duhan, I.V. Singh, B.K. Mishra, Ritu Singh and R.N. Singh, Numerical Study of the Hydride Embrittlement in Zirconium Alloy using XFEM, *International Journal of Structural Stability and Dynamics*, 2023.
4. Shyam K. Sharma, Subrato Sarkar, I.V. Singh, B.K. Mishra, Rishi K. Sharma, A Numerical Estimation of Leak-Tightness in Rolled Joint under Thermal Creep, *International Journal of Pressure Vessels and Piping*, Vol. 205, Article 105005, 2023.
5. Neha Duhan, B.K. Mishra, I.V. Singh, XFEM for Multiphysics Analysis of Edge Dislocations with Nonuniform Misfit Strain: A Novel Enrichment Implementation, *Computer Methods in Applied Mechanics and Engineering*, Vol. 413, Article 116079, 2023.
6. V.B. Pandey, I.V. Singh, B.K. Mishra, A New Creep-Fatigue Interaction Damage Model and CDM-XFEM framework for Creep-Fatigue Crack Growth Simulations, *Theoretical and Applied Fracture Mechanics*, Vol. 124, Article 103740, 2023.

7. Anjali Jha, Subrato Sarkar, I.V. Singh, B.K. Mishra, Ritu Singh, R.N. Singh, A Study on the Effect of Residual Stresses on Hydride Assisted Crack in Zr-2.5Nb Pressure Tube Material using XFEM, *Theoretical and Applied Fracture Mechanics*, Vol. 121, Article 103536, 2022.
8. Subrato Sarkar, I.V. Singh, B.K. Mishra, A Simple and Efficient Implementation of Localizing Gradient Damage Method in COMSOL for Fracture Simulation, *Engineering Fracture Mechanics*, Vol. 269, Article 108552, 2022.
9. Neha Duhan, R.U. Patil, B.K. Mishra, I.V. Singh, Y.E. Pak, Nonlinear Thermo-Elastic Analysis of Edge Dislocations with Internal Heat Generation in Semiconductor Materials, *Mechanics of Materials*, Vol. 169, Article 104322, 2022.
10. Sandipan Baruah, Subrato Sarkar, I.V. Singh, B.K. Mishra, A Computational Framework Based on FEA, ML and GA for Estimation of Welding Residual Stresses, *Finite Elements in Analysis & Design* Vol. 205, Article 103753, 2022.
11. Subrato Sarkar, I.V. Singh, B.K. Mishra, A Localizing Gradient Plasticity Model for Ductile Fracture, *Computer Methods in Applied Mechanics and Engineering*, Vol. 388, Article 114205, 2022.
12. A.S. Shedbale, I.V. Singh, B.K. Mishra, Indentation Behavior of Metal Matrix Composites Reinforced with Arbitrary Shape Particle using a Coupled FE-EFG Approach, *Mechanics of Advanced Materials and Structures*, 2021.
13. Subrato Sarkar, I.V. Singh, B.K. Mishra, A Simplified Continuous-Discontinuous Approach for Fracture based on Decoupled Localizing Gradient Damage Method, *Computer Methods in Applied Mechanics and Engineering*, Vol. 383, Article 113893, 2021.
14. Neha Duhan, R.U. Patil, B.K. Mishra, I.V. Singh, Y.E. Pak, Thermo-Elastic Analysis of Edge Dislocation using Extended Finite Element Method, *International Journal of Mechanical Sciences*, Vol. 192, Article 106109, 2021.
15. V.B. Pandey, I.V. Singh, B.K. Mishra, A Strain-based Continuum Damage Model for Low Cycle Fatigue under Different Strain Ratios, *Engineering Fracture Mechanics*, Vol. 242, Article 107479, 2021.
16. A.P. Patil, B.K. Mishra, S.P. Harsha, Fault diagnosis of rolling element bearing using autonomous harmonic product spectrum method, Vol. 235, pp. 396-411, *Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics*, 2021.
17. A.P. Patil, B.K. Mishra, S.P. Harsha, Raceway defect analysis of rolling element bearing for detecting slip and correlating the force on rolling element with peak acceleration due to impact *Measurement*, Vol. 179, Article 109394, 2021.
18. A.P. Patil, B.K. Mishra, S.P. Harsha, Analytical model of rolling element bearing for studying its wear modelled as change in its clearance, *Materials Today: Proceedings*, Vol. 46, pp. 10741-10746, 2021.
19. A.P. Patil, B.K. Mishra, S.P. Harsha, A mechanics and signal processing based approach for estimating the size of spall in rolling element bearing, *European Journal of Mechanics-A/Solids*, Vol. 85, Article 104125, 2021.
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