

Dr Neeraj Bisht

Assistant Professor, Mechanical Engineering Department
 College of Technology, GBPUA&T Pantnagar
 Ph. No.:9760995811, 6398360034

Research Interests: FEM, Fracture Mechanics, Bio-composites, Design Thinking

Software Skills: ANSYS, ProE, Matlab

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ORCID ID: 0000-0001-9097-1983

**Educational Qualifications:**

Degree	Name of the University	Passing Year
B.E. (Mechanical Engineering)	Kumaun University	2009
M.Tech. (Design & Production)	GBPUAT, Pantnagar	2012
Ph.D. (Mechanical Engineering)	GBPUAT, Pantnagar	2015

Professional Experience

Post held	Nature of Employment	Name of the Institution	Period of Employment		No. of Years/ Months	Responsibilities
			from	to		
Assistant Professor	Regular	GB Pant University of Agri. & Tech.	21/11/2015	Till date	9 years/3 months	Teaching, Research, Administrative

Publications:

Publications	Published	Accepted/in print	Communicated
Book Chapter(s)	9	2	3
Research Paper(s)	17	0	1

Patents Filed:

Registration Agency	Patent No./File No. &Year	Title
Indian Patent Office	ApplicationNo. 202211035220A Date of filling Application: 20/06/2022 Publication Date: 08/07/2022	Liquefied Petroleum Gas Refrigeration System
Indian Patent Office	Application No. 202211035222 A Date of filling Application: 20/06/2022 Publication Date: 08/07/2022	Remote Controlled Shutter System

Indian Patent Office	Application No. 202211035224 A Date of filling Application: 20/06/2022 Publication Date: 08/07/2022	Freedom of Movement-Based Parallel Manipulator Device
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Thesis/Dissertation Guidance:

	Completed/Submitted	In Progress	Total
PhD	1	1	2
MTech	6	1	7

Awards/Fellowship:

Name of the Award	Year of the Award	Awarding Organization
GATE Fellowship	2010	Ministry of Human Resource and Development, Government of India
Best Paper Award for the paper titled “Wear Characteristics of Untreated and Alkali-Treated Rice Husk–Epoxy Bio-composite”	2018	ICFTMM 2018 held at Delhi Technical Campus from 26-27 October 2018
Education Excellence Award	2025	Devbhumi Educational Foundation, Uttarakhand

Research Project

Title	Agency	Period	Grant
Development of Agricultural Equipments from hemp and grewiaoptivia based bio composite	Uttarakhand State Council for Science and Technology	2 Years	6 Lakhs

Professional Memberships:

1. Indian Science Congress Association L29141
2. The Institution of Engineers India AM 1637825
3. The Indian Society for Theoretical and Applied Mechanics L/2008
4. The Indian Society for Technical Education. LM 13176

Research Papers:

1. Bisht, Neeraj, Gope, Prakash Chandra and Rani, Nisha. "Rice husk as a fibre in composites: A review" *Journal of the Mechanical Behavior of Materials*, vol. 29, no. 1, 2020, pp. 147-162. <https://doi.org/10.1515/jmbm-2020-0015>
2. Bisht, Neeraj, Gope, Prakash Chandra, Mechanical properties of rice husk flour reinforced epoxy biocomposite, *Int. Journal of Engineering Research and Applications* ISSN :2248-9622, Vol. 5, Issue 6, (Part -3) June 2015, pp.123-128.
3. Prakash Chandra Gope, Neeraj Bisht, Vinay Kumar Singh, Influence of crack offset distance on interaction of multiple collinear and offset edge cracks in a rectangular plate, *Theoretical and Applied Fracture Mechanics*, Volume 70, 2014, Pages 19-29, ISSN 0167-8442, <https://doi.org/10.1016/j.tafmec.2014.04.001>.
4. Bisht, N., Gope, P. C. and Panwar, K. (2015) “Influence of crack offset distance on the interaction of multiple cracks on the same side in a rectangular plate”, *Frattura ed IntegritàStrutturale*, 9(32), pp. pages 1–12. doi: 10.3221/IGF-ESIS.32.01.

5. Neeraj Bisht, P.C. Gope, Effect of Alkali Treatment on Mechanical Properties of Rice Husk Flour Reinforced Epoxy Bio-Composite, *Materials Today: Proceedings*, Volume 5, Issue 11, Part 3, 2018, Pages 24330-24338, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2018.10.228>.
6. Bisht, Neeraj and Chandra Gope, Prakash. "Effect of rice husk (treated/untreated) and rice husk ash on fracture toughness of epoxy bio-composite" *Journal of the Mechanical Behavior of Materials*, vol. 29, no. 1, 2020, pp. 177-185. <https://doi.org/10.1515/jmbm-2020-0018>.
7. Nisha Rani, Neeraj Bisht, Analysis of unsymmetrical cracks emanating from a hole placed centrally in a thin plate using FEM, *International Journal of Mechanical and Thermal Engineering*, 5(2), 2024, 1-6.
8. Neeraj Bisht, Nisha Rani, Effect of rice Husk Ash on the tensile strength of epoxy based bio-composite, *Advances in Research*, 2024, 25(4), 258-70.
9. Basant Kumar, Virender Singh, Rajat Gangwar, Neeraj Bisht Study of optical, structural and radiation shielding properties of (55-x) TeO₂-20ZnO-25BO-xErO glass matrix, 2024, *International Journal of Material Research*
10. Neeraj Bisht, P C Gope, Influence of Crack offset and crack tip distances on the interaction of multiple cracks in a rectangular plate, *International Journal of Advanced Research in Science and Engineering*, 2015, 4(1), 193-198.
11. Neeraj Bisht et Al., Drill Hole Optimization for Augmenting Structural Integrity, 2023, 11(1), *Journal of Graphic Era University*.
12. Nisha Rani, Neeraj Bisht, Evaluation of T stress using FEM in an Unsymmetrical crack emanating from a hole placed centrally in a thin plate, 2024, *Journal of Materials and Metallurgical Engineering*.
13. Nisha Rani, Neeraj Bisht, Influence of Crack Inclination Angle and Thickness on Mode-mixity Using FEM, *Advances in Research*.
14. Neeraj Bisht et al., Design and Fabrication of an Arduino based Automatic Waste Segregator, 2020, *Recent Trends in Sensor Research and Technology*, 6(3), 1-5.
15. Nisha Rani, Neeraj Bisht and Pritosh Tomar. 2024. Digital Image Correlation: A Review. *IJMMST*. 61-71.
16. Nisha Rani, Neeraj Bisht and Sonika Chauhan. 2024. Analysis of unsymmetrical cracks emanating from a hole placed centrally in a thin plate using fem. *International Journal of Mechanical and Thermal Engineering*. 5(2):01-06.
17. Renu, Neeraj Bisht, Sonika Chauhan, and Nisha Rani. 2024. *International Journal of Metallurgy and Alloys*. 10(1): 12-24.

Book Chapters

1. Bisht, N., Gope, P.C. (2019). Wear Characteristics of Untreated and Alkali-Treated Rice Husk-Epoxy Bio-composite. In: Singh, I., Bajpai, P., Panwar, K. (eds) *Trends in Materials Engineering. Lecture Notes on Multidisciplinary Industrial Engineering*. Springer, Singapore. https://doi.org/10.1007/978-981-13-9016-6_4.
2. Panwar Kuldeep; Pandey Supriya; Rawat Kamal; Bisht Neeraj, "Predictor System for Tracing COVID-19 Spread," in *Use of AI, Robotics, and Modern Tools to Fight Covid-19*, River Publishers, 2021, pp.79-87.
3. Bisht, N., Gope, P.C. (2020). Wear Characteristics of Silica-Reinforced Rice Husk-Epoxy Hybrid Bio-composite. In: Singh, I., Bajpai, P., Panwar, K. (eds) *Advances in Materials Engineering and Manufacturing Processes. Lecture Notes on Multidisciplinary Industrial Engineering*. Springer, Singapore. https://doi.org/10.1007/978-981-15-4331-9_5.

4. Bisht, N., Kumar, H., Singh, V., Chauhan, S. (2022). Effect of Geometrical Parameters on Branched Cracks: A Finite Element Method-Based Computational Approach. In: Verma, A., MavinkereRangappa, S., Ogata, S., Siengchin, S. (eds) Forcefields for Atomistic-Scale Simulations: Materials and Applications. Lecture Notes in Applied and Computational Mechanics, vol 99. Springer, Singapore. https://doi.org/10.1007/978-981-19-3092-8_17
5. Ansari, G.A., Bisht, N. (2020). Effects of Secondary Parallel Cracks on the Fracture Parameters in a Rectangular Plate Under Static Loading. In: Singh, I., Bajpai, P., Panwar, K. (eds) Advances in Materials Engineering and Manufacturing Processes. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-15-4331-9_11
6. Nisha Rani, Neeraj Bisht, Sakshi Chauhan - Dynamic mechanical analysis of thermosetting polymer composite materials, Editor(s): Akarsh Verma, Naman Jain, Sanjay Mavinkere Rangappa, Suchart Siengchin, Danuta Matykiewicz, Dynamic Mechanical and Creep-Recovery Behavior of Polymer-Based Composites, Elsevier, 2024, 79-112.
7. Gunwant, D., Bisht, N. (2024). Multiscale Modelling of Polymer Composites. In: Sethi, S.K., Gupta, H.S., Verma, A. (eds) Polymer Composites: From Computational to Experimental Aspects. Materials Horizons: From Nature to Nanomaterials. Springer, Singapore. https://doi.org/10.1007/978-981-97-0888-8_3
8. Sakshi Chauhan, Neeraj Bisht, Fabrication of Piezoelectric and energy harvesting while walking, Recent Advances in Energy Harvesting Technologies, Taylor and Francis Group, 2023.
9. Niharika Bisht, Neeraj Bisht, Anil Kumar, Emotional Maturity among college students: Gender Perspective, Advances in Agriculture, Technology and Allied Sciences for Sustainable Development, Shakti Publishers and Distributors, ISBN: 978-93-81499-34.

Editor

Guest Editor in a special issue Latest Developments in Computational Fluid Dynamics published by River Publishers, CRC Press

Resource Person/Participation in Training/Conference:

1. Keynote Speaker in International Conference on Emerging Developments in Engineering and Technology 2022 organized by Shivalik College of Engineering, Dehradun.
2. Session Chair in International Conference on Emerging Developments in Engineering and Technology held at Shivalik College of Engineering Dehradun, 2022
3. Session Chair in International Conference on Emerging Developments in Engineering and Technology held at Shivalik College of Engineering Dehradun, 2016.
4. Expert Speaker in TEQIP sponsored training on material testing: Fundamental and Practices, 2018
5. Keynote Speaker in 1st International Conference on Interdisciplinary Research in Technology, Management, Pharmacy & Education organized by Apex Group of Institutions, Rampur, UP on 27-28 Feb 2025.

6. Paper presentation in International Conference on Academic Research in Engineering, Management and Information Technology organized by MJP Rohailkhand University from 21-23 February 2015.
7. Paper presentation in International Conference on Emerging Developments in Engineering and Technology organized by Shivalik College of Engineering from 22-23 April 2022.
8. Expert Speaker in Two days workshop on the topic Design Thinking for Social Innovation organized by MIET Kumaun, Haldwani on 14-15 March 2023.
9. Coordinator of Intellectual Property Awareness Program under National Intellectual Property Awareness Mission organized by the Office of the Controller General of Patents, Design and Trademarks on December 14 2022 organized at College of Technology, Pantnagar.
10. Organized Expert talk on the topic Power Plant Familiarization delivered by Mr. Buddhiraja, Deputy Manager, Quality and Business Excellence BHEL on 22nd Jan 2022.
11. Organized Expert talk on the topic Finite Element Method delivered by Dr. Kuldeep Panwar, FEA Engineer, General Electricals Power India Ltd
12. Co-coordinator in 5 days workshop on Experimental and Numerical Methods in Thermal Engineering organized by Department of Mechanical Engineering, College of Technology, Pantnagar from 24th-29th September 2018.
13. Co-Coordinator in GIAN program on Electrical Vehicles-Design, Modelling and Simulation organized at College of Technology, Pantnagar 29th JAN 2018- 2nd Feb 2018.
14. Rapporteur Scientific session in the 7th International Conference on Innovative Approaches in Basic and Applied Sciences for Societal Development held at GBPUA&T, Pantnagar from 24-25 March 2023.
15. Co-convener in the International Conference on Emerging trends in STEM & Health-Agri Sciences for Sustainable Development on 11th and 12th March 2024 at MIET Kumaun, Haldwani
16. Co-convener in scientific session in the 7th International Conference on Innovative Approaches in Basic and Applied Sciences for Societal Development held at GBPUA&T, Pantnagar from 24-25 March 2023.
17. Co-organizing secretary in 2nd International Conference on Advances in Agriculture, Technology and Advanced Sciences for sustainable development held during 9-10 October 2021 at Graphic Era Hill University, Dehradun.
18. Organising Secretary in 2nd International Conference on Advances in Agriculture, Technology and Advanced Sciences for sustainable development held during 9-10 October 2021 at Graphic Era Hill University, Dehradun.
19. Organising Secretary in Workshop on Industry Academia Gap: Diagnosis and Remedies jointly organized by College of Technology, Pantnagar and The Institution of Engineers India, Pantnagar Local Centre on 15/02/2020.

Administrative Responsibilities

1. Workshop Superintendent PCT Workshop, GBPUA&T, Pantnagar October 2018 to March 2023
2. Staff Counselor, College of Technology, GBPUA&T, Pantnagar June 2022 till date
3. Manager, Government Inter College, Pantnagar June 2023-June 2024