

Resume

- **Name and Designation**

Dr. Brijesh Gangil
Associatet Professor
Mechanical Engineering Department,
S.O.E.T, H.N.B. Garhwal, University,
(A Central University), Srinagar- Garhwal,
Uttarakhand.
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Organization

HNB Garhwal University, (Central University), Srinagar- Garhwal, 246174, India

- **Educational Qualification (Bachelor to Doctoral):**

Name of Examination	Board/University	Year of Passing	Class/Div.
High school	U.P. Board	1993	I st
Intermediate	U.P. Board	1995	I st
B.E.(Mechanical)	North Maharashtra, University, Jalgaon	2001	I st
M.Tech (Design)	M.N.N.I.T, Allahabad (U.P.)	2004	I st
Ph.D (Mechanical Engineering)	N.I.T Hamirpur, (H.P.)	Awarded on April 2014	

- **Professional Experience**

S.No.	Position and Organization	Nature of Job	Period
1.	Associate Professor, HNB Garhwal University, Srinagar- Garhwal, Uttarakhand, India	Teaching and Research Works	25-04-2022 to till date
2.	Asstistant Professor, HNB Garhwal University, Srinagar- Garhwal, Uttarakhand, India	Teaching and Research Works	28.06.12 to 24-04-2022
3.	Asstistant Professor, G.B. Pant Institute of Engg. & Tech. Pauri-Garhwal, Uttarakhand, India	Teaching and Research Works	15.02.2010 to 27.06.2012
4.	Lecturer, IET, Bundelkhand University, Jhansi, India	Teaching	23-09-2004 to 09-02-2010

- **Specialization and Expertise**

Research Area for Doctoral Thesis:

“Investigations on Thermo-Mechanical and Sliding Wear Behaviour of Homogeneous and Functionally Graded Short Fibre Reinforced Vinyl Ester Composites”

Short fibre reinforced functionally graded polymer composites are now-a-days used in numerous structural applications and are useful in applications where high wear resistance and high bulk toughness are a necessity. This thesis consists of two parts: The first part has provided the description of the experimental analysis and has presented the physical, mechanical, thermo-mechanical, thermal-analysis and the second part has reported the effect of different fiber/filler on the sliding wear behavior of homogenous and functionally graded short fiber reinforced vinyl ester composites. The centrifugation technique which has been adopted in this work, successfully fabricates the FGMs, which prove to be more wear resistance than their homogenous counterparts.

▪ **Research Interests**

- Graded composites can be used for tools, coatings, aircraft, space science and automotive industry. Unusual structure and properties of these materials can be obtained by using appropriate methods.
- Biocomposites fabrication and characterization which can be utilized in the porta cabin as well as in bio-toilets.
- Fabrication and Chaterization of metallic foam ands its applicability in automobiles

Academic Responsibility Assigned by Institute/ University

S.No	Name of the Job	Institute level / Department level	College/ university	Duration
1.	Incharge- Head, Mechanical Engineering Department	University level	H.N.B.G.U, Srinagar (Uttarakhand)	13-09-2012 to 20-09-2017 and 21-01-2021 to till date.
2.	Assistant Director, IQAC, HNBSGU	University level	H.N.B.G.U, Srinagar (Uttarakhand)	15-03-2021
3.	Assistant Examination Controller, Chauras Campus	University level	H.N.B.G.U, Srinagar (Uttarakhand)	01-08-2021 to till date
4.	Member of Institute Innovation cell, HNB Garhwal University	University level	H.N.B.G.U, Srinagar (Uttarakhand)	2020-2021 2021-2022
5.	Coordinator, Community College	University level	H.N.B.G.U, Srinagar (Uttarakhand)	01/03/2014 to 30-09-2017
6.	Warden B.J.J.R. Boys hostel	University level	H.N.B.G.U, Srinagar (Uttarakhand)	01/03/2013 to 22/09/2014
7.	Warden Sridev Suman Boys hostel	University level	H.N.B.G.U, Srinagar (Uttarakhand)	23/09/2014 to 30-04-17
8.	Warden, Swami Vivekanand boys Hostel	University level	H.N.B.G.U, Srinagar (Uttarakhand)	01-05-17 to till date
9.	Member of Inspired Teachers Network	University level	H.N.B.G.U, Srinagar (Uttarakhand)	26-12-13 to 25-12-2015
10	Warden, 180 Seated Hostel, GB Pant Engineering College, Pauri	Institute level	G.B.Pant Engg College, Pauri (Uttarakhand)	09-02-2011 to 25-06-2012

Publications during the last five years (2018-2023)

1. Singh, T., Chauhan, R., Patnaik, A., Gangil, B., Nain, R., & Kumar, A. (2018). Parametric study and optimization of multiwalled carbon nanotube filled friction composite materials using Taguchi method. *Polymer Composites*, 39(S2), E1109-E1117. SCI, Impact factor 2.0
2. Bisht, A., & Gangil, B. (2018). Structural and physico-mechanical characterization of closed-cell aluminum foams with different zinc additions. *Science and Engineering of Composite Materials*, 25(4), 789-795. SCI, Impact factor 0.8
3. Tejyan, S., Singh, T., Patnaik, A., Fekete, G., & Gangil, B. (2019). Physico-mechanical and erosive wear analysis of polyester fibre-based nonwoven fabric-reinforced polymer composites. *Journal of Industrial Textiles*, 49(4), 447-464. SCI, Impact factor 1.7.
4. Kumar, S., Patel, V. K., Mer, K. K. S., Fekete, G., Gangil, B., & Singh, T. (2018). Influence of woven bast-leaf hybrid fiber on the physico-mechanical and sliding wear performance of epoxy based polymer composites. *Materials Research Express*, 5(10), 105705. SCI, Impact factor 1.44.

5. Singh, T., Patnaik, A., Fekete, G., Chauhan, R., & Gangil, B. (2019). Application of hybrid analytical hierarchy process and complex proportional assessment approach for optimal design of brake friction materials. *Polymer Composites*, 40(4), 1602-1608. SCI, Impact factor 2.0.
6. Singh, T., Gangil, B., Patnaik, A., Kumar, S., Rishiraj, A., & Fekete, G. (2018). Physico-mechanical, thermal and dynamic mechanical behaviour of natural-synthetic fiber reinforced vinylester based homogenous and functionally graded composites. *Materials Research Express*, 6(2), 025704. SCI, Impact factor 1.44.
7. Nadda, R., Kumar, R., Singh, T., Chauhan, R., Patnaik, A., & Gangil, B. (2018). Experimental investigation and optimization of cobalt bonded tungsten carbide composite by hybrid AHP-TOPSIS approach. *Alexandria engineering journal*, 57(4), 3419-3428. SCI, Impact factor 1.2.
8. Singh, T., Gangil, B., Patnaik, A., Biswas, D., & Fekete, G. (2019). Agriculture waste reinforced corn starch-based biocomposites: effect of rice husk/walnut shell on physico-mechanical, biodegradable and thermal properties. *Materials Research Express*, 6(4), 045702. SCI, Impact factor 1.44.
9. Kumar, S., Mer, K. K. S., Gangil, B., & Patel, V. K. (2019). Synergy of rice-husk filler on physico-mechanical and tribological properties of hybrid Bauhinia-vahlia/sisal fiber reinforced epoxy composites. *Journal of Materials Research and Technology*, 8(2), 2070-2082. SCI, Impact factor 5.1.
10. Gangil, B., Kukshal, V., Sharma, A., Patnaik, A., & Kumar, S. (2019, January). Development of hybrid fiber reinforced functionally graded polymer composites for mechanical and wear analysis. In *AIP Conference Proceedings* (Vol. 2057, No. 1, p. 020059). AIP Publishing LLC. Scopus Indexed.
11. Gairola, S., Joshi, A., Gangil, B., Rawat, P., & Verma, R. (2019). Correlation of tensile properties and fracture toughness with microstructural features for Al-Li 8090 alloy processed by cryorolling and post-rolled annealing. *Transactions of the Indian Institute of Metals*, 72(7), 1743-1755. SCI, Impact factor 1.3.
12. Kumar, S., Patel, V. K., Mer, K. K. S., Gangil, B., Singh, T., & Fekete, G. (2019). Himalayan natural fiber-reinforced epoxy composites: Effect of grewia optiva/bauhinia vahlia fibers on physico-mechanical and dry sliding wear behavior. *Journal of Natural Fibers*, 1-11. SCI, Impact factor 2.4.
13. Bisht, A., Gangil, B., & Patel, V. K. (2019). Physico-compression, sliding wear and energy absorption properties of Zn/Mg infiltrated closed cell aluminum foam. *Materials Research Express*, 6(10), 106583. SCI, Impact factor 1.44.
14. Singh, T., Gangil, B., Singh, B., Verma, S. K., Biswas, D., & Fekete, G. (2019). Natural-synthetic fiber reinforced homogeneous and functionally graded vinylester composites: Effect of bagasse-Kevlar hybridization on wear behavior. *Journal of Materials Research and Technology*, 8(6), 5961-5971. SCI, Impact factor 5.1.
15. Verma, S. K., Gupta, A., Singh, T., Gangil, B., Jánosi, E., & Fekete, G. (2019). Influence of dolomite on mechanical, physical and erosive wear properties of natural-synthetic fiber reinforced epoxy composites. *Materials Research Express*, 6(12), 125704. SCI, Impact factor 1.44.
16. Kumar, S., Mer, K. K. S., Gangil, B., & Patel, V. K. (2020). Synergistic effect of hybrid Himalayan Nettle/Bauhinia-vahlia fibers on physico-mechanical and sliding wear properties of epoxy composites. *Defence Technology*, 16(4), 762-776. SCI, Impact factor 1.5.
17. Singh, T., Pruncu, C. I., Gangil, B., Singh, V., & Fekete, G. (2020). Comparative performance assessment of pineapple and Kevlar fibers based friction composites. *Journal of Materials Research and Technology*, 9(2), 1491-1499. SCI, Impact factor 5.1.
18. Bisht, A., Gangil, B., & Patel, V. K. (2020). Selection of blowing agent for metal foam production: A review. *Journal of Metals, Materials and Minerals*, 30(1). ESCI.

19. Khare, J. M., Dahiya, S., Gangil, B., & Ranakoti, L. (2021). Influence of different resins on Physico-Mechanical properties of hybrid fiber reinforced polymer composites used in human prosthetics. *Materials Today: Proceedings*, 38, 345-349. Scopus Indexed.
20. Gairola, S. P., Tyagi, Y. K., Gangil, B., & Sharma, A. (2021). Fabrication and mechanical property evaluation of non-woven banana fibre epoxy-based polymer composite. *Materials Today: Proceedings*, 44, 3990-3996. Scopus Indexed.
21. Gupta, R., Kushwah, K., Goyal, S., Gangil, B., & Sharma, A. (2021). Ramie-glass fiber reinforced epoxy composites: Impact of walnut content on mechanical and sliding wear properties. *Materials Today: Proceedings*, 44, 3984-3989. Scopus Indexed.
22. Tejyan, S., Sharma, D., Gangil, B., Patnaik, A., & Singh, T. (2021). Thermo-mechanical characterization of nonwoven fabric reinforced polymer composites. *Materials Today: Proceedings*, 44, 4770-4774.
23. Verma, S., Verma, A., Kumar, V., & Gangil, B. (2021). Concentrated photovoltaic thermal systems using Fresnel lenses— A review. *Materials Today: Proceedings*, 44, 4256-4260.. Scopus Indexed.
24. Gupta, A., Joshi, A., Tejyan, S., Gangil, B., & Singh, T. (2021). Comparative study of mechanical properties of orange peel filled epoxy composites joined by a mechanical fastener. *Materials Today: Proceedings*, 44, 4671-4676. Scopus Indexed
25. Singh, T., Gangil, B., Ranakoti, L., & Joshi, A. (2021). Effect of silica nanoparticles on physical, mechanical, and wear properties of natural fiber reinforced polymer composites. *Polymer Composites*, 42(5), 2396-2407. SCI, Impact factor 2.1.
26. Mishra, S. K., Dahiya, S., Gangil, B., Ranakoti, L., & Agrawal, N. (2021). Mechanical properties of fibre/filler based polylactic Acid (PLA) composites: a brief review. *Acta Innovations*.
27. Gairola, S. P., Tyagi, Y., Gangil, B., & Jha, K. (2021). Physio-mechanical & wear performance of banana fiber/walnut powder based epoxy composites. *Acta Innovations*.
28. Ranakoti, L., Rakesh, P. K., & Gangil, B. (2021). Role of Wood Flour on Physical and Mechanical Properties in Polymer Matrix Composites-A Critical Review. *Revue des Composites et des Matériaux Avancés*, 31, 81-92.
29. Khare, J. M., Dahiya, S., Gangil, B., Ranakoti, L., Sharma, S., Huzafah, M. R. M., ... & Li, C. (2021). Comparative analysis of erosive wear behaviour of epoxy, polyester and vinyl esters based thermosetting polymer composites for human prosthetic applications using taguchi design. *Polymers*, 13(20), 3607.
30. Verma, S. K., Gangil, B., Gupta, A., Rajput, N. S., & Singh, T. (2022). Dolomite dust filled glass fiber reinforced epoxy composite: Influence of fabrication techniques on physicomechanical and erosion wear properties. *Polymer Composites*, 43(1), 551-565.
31. Rajawat, A. S., Singh, S., Gangil, B., Ranakoti, L., Sharma, S., Asyraf, M. R. M., & Razman, M. R. (2022). Effect of marble dust on the mechanical, morphological, and wear performance of basalt fibre-reinforced epoxy composites for structural applications. *Polymers*, 14(7), 1325.
32. Ranakoti, L., Gangil, B., Mishra, S. K., Singh, T., Sharma, S., Ilyas, R. A., & El-Khatib, S. (2022). Critical review on polylactic acid: Properties, structure, processing, biocomposites, and nanocomposites. *Materials*, 15(12), 4312.
33. Ranakoti, L., Gangil, B., Rajesh, P. K., Singh, T., Sharma, S., Li, C., ... & Mahmoud, O. (2022). Effect of surface treatment and fiber loading on the physical, mechanical, sliding wear, and morphological characteristics of tasar silk fiber waste-epoxy composites for multifaceted biomedical and engineering applications: Fabrication and characterizations. *Journal of Materials Research and Technology*, 19, 2863-2876.



34. Gangil, B., Ranakoti, L., Verma, S. K., & Singh, T. (2022). Utilization of waste dolomite dust in carbon fiber reinforced vinylester composites. *Journal of Materials Research and Technology*, 18, 3291-3301.
35. Ranakoti, L., Rakesh, P. K., & Gangil, B. (2022). Effect of Tasar silk waste on the mechanical properties of Jute/Grewia optiva fibers reinforced epoxy laminates. *Journal of Natural Fibers*, 19(15), 10462-10474.
36. Uniyal, A., Prajapati, Y. K., Ranakoti, L., Bhandari, P., Singh, T., Gangil, B., ... & Eldin, S. M. (2022). Recent Advancements in Evacuated Tube Solar Water Heaters: A Critical Review of the Integration of Phase Change Materials and Nanofluids with ETCs. *Energies*, 15(23), 8999.
37. Gairola, S. P., Tyagi, Y. K., Gangil, B., & Kumar, S. (2023). Synergy of wood ash on mechanical and sliding wear properties of banana/walnut-based epoxy composites and optimisation with grey relational analysis. *International Journal of Materials and Product Technology*, 66(1), 70-86.
38. Bisht, A., Gangil, B., Patel, V. K., & Kumar, S. (2023). Effect of zinc addition on the tribological behavior of aluminum-based close cell metal foams. *Kovove Mater*, 61, 49-57.
39. Ranakoti, L., Gangil, B., Bhandari, P., Singh, T., Sharma, S., Singh, J., & Singh, S. (2023). Promising Role of Polylactic Acid as an Ingenious Biomaterial in Scaffolds, Drug Delivery, Tissue Engineering, and Medical Implants: Research Developments, and Prospective Applications. *Molecules*, 28(2), 485.

Books Chapter Published (2018-2023)

1. Shashi Kant Verma, Ashutosh Gupta, Vinay Kumar Patel, Brijesh Gangil, and Lalit Ranikoti. "The Potential of Natural Fibers for Automotive Sector." In *Automotive Tribology*, pp. 31-49. Springer, Singapore, 2019. Bisht, A., Patel, V. K., & Gangil, B. (2019). Future of metal foam materials in automotive industry. In *Automotive Tribology* (pp. 51-63). Springer, Singapore.
2. Kumar, S., Gangil, B., Mer, K. K. S., Biswas, D., & Patel, V. K. (2019). Asbestos Free Braking Pads by Using Organic Fiber Based Reinforced Composites for Automotive Industries. In *Automotive Tribology* (pp. 327-343). Springer, Singapore.
3. Bisht, A., Patel, V. K., & Gangil, B. (2019). Future of metal foam materials in automotive industry. In *Automotive Tribology* (pp. 51-63). Springer, Singapore.
4. Kumar, S., Gangil, B., Mer, K. K. S., Gupta, M. K., & Patel, V. K. (2020). Bast Fiber-Based Polymer Composites. *Hybrid Fiber Composites: Materials, Manufacturing, Process Engineering*, 147-167. Wiley-VCH Verlag GmbH & Co. KGaA.
5. Gangil, B., Ranakoti, L., Verma, S., Singh, T., & Kumar, S. (2020). Natural and Synthetic Fibers for Hybrid Composites. *Hybrid Fiber Composites: Materials, Manufacturing, Process Engineering*, 1-15. Wiley-VCH Verlag GmbH & Co. KGaA.
6. Ranakoti, L., Gangil, B., Kumar Rakesh, P., & Agrawal, N. (2021). Synthesis and Utilization of Biodegradable Polymers. *Biobased Composites: Processing, Characterization, Properties, and Applications*, 167-174.
7. Gupta, M. K., Gangil, B., Ranakoti, L., Rakesh, P. K., & Patel, V. K. (2021). Effects of Tool Pin Profiles on Mechanical Properties of Al/TiB₂ Surface Composite Fabricated by Friction Stir Process. In *Advances in Engineering Design* (pp. 137-147). Springer, Singapore.
8. Gangil, B., Gupta, M. K., Ranakoti, L., & Singh, T. (2021). Thermal and Thermo-Mechanical Analysis of Vinyl-Ester-Carbon/CBPD Particulate-Filled FGMS and Their Homogenous Composites. In *Advances in Engineering Design* (pp. 159-167). Springer, Singapore.

9. Bhandari, A., Gangil, B., Ahmad, F., & Bisht, T. (2020). Finite Element Analysis Based on Mechanical Vibration characteristics of Femur Bone. In 2020 International Conference on Advances in Computing, Communication & Materials (ICACCM). IEEE. Scopus Indexed.
10. Ranakoti, L., & Gangil, B. (2022). Synthesis and surface treatments of bio-based fibers. In Advances in Bio-Based Fiber (pp. 21-32). Woodhead Publishing.
11. Ranakoti, L., Gangil, B., & Verma, S. (2021). Liquid Phase Processing Techniques for Functionally Graded Materials. In Functionally Graded Materials (FGMs) (pp. 39-48). CRC Press.
12. Gangil, B., Ranakoti, L., & Rakesh, P. K. (2021). Mechanical and Dynamic Properties of Kenaf-Fiber-Reinforced Composites. Mechanical and Dynamic Properties of Biocomposites, 121-133.
13. Agrawal, N., Mahendra, M., Singh, T., & Gangil, B. (2021). Nanobiology in medicine. In Nanomedicine Manufacturing and Applications (pp. 57-71). Elsevier.
14. Singh, B., Jain, S., & Gangil, B. (2021). Effectiveness of homogeneous and heterogeneous catalyst on biodiesel yield: a review. Advances in Clean Energy Technologies: Select Proceedings of ICET 2020, 375-385.

Teaching Activities

Subjects	Credit	Online Certificate
Strength of Materials	03	
Kinematics of Machine	03	
Machine Design I & II	03	
Dynamics of Machines	03	
Composite Materials	03	

Projects Implemented/ Ongoing

S.No	Title of Project	Cost in Lakh	Duraton	P.I. Name	Awarding Agency	Status of Project
1.	Design and Development of Biomechanical analysis of Femur bone joint	2,20,000/-	02	Ms. Anamika Bhandari, Mr. Faraz Ahamad, Dr. Brijesh Gangil	Competative Research of Technical Education Quality Improment Programme (TEQIP-III), Uttarakhand	Completed

2.	Investigating Mechanical and Tribological Properties of Hybrid Aluminum Metal Foam for automotive application	1,76,400/-	02	Dr. Brijesh Gangil	Minor Research project Scheme, HNB Garhwal University, Srinagar- Garhwal	Ongoing
3.	Development of Jute composite for application in Prosthetic leg	39 Lacs	02	Dr. T. Gangopadhyay (PI) Dr. Brijesh Gangil (Co-PI)	National Jute Board, Kolkata	Ongoing

▪ **Summary of research output**

Publication in International Journals	50	Patent	01	Cumulative Impact factor	92
Publications & Presentation in National/ International Conferences/Seminars	24	Project	03	h-Index	19
Book Chapter published in Edited book	15	Key-Note Speaker in conference/STC	08	Total Citations (Google Scholar)	967
Research Supervision	Ph.D 02 (Awarded) 02 (ongoing)		M.Tech 07		

Awards and honours

- Received Best Researcher Award in International Scientist Awards 2020 On Engineering, Science and Medicine by VD Good, Trichy, India.
- Manufacture the Low cost Sanitizing tunnel for the University in the Corona Panedamic.

Referee for International/ National Journals

1. Ceramic International, Elsevier
2. Silicon, Springer
3. Science and Engineering of Composite Materials, SECM, Degruyter
4. Journal of Industrial Textiles, SAGE
5. Polymer composite, Wileys

Declaration:

I hereby declare that the previously mentioned information is correct to the best of my knowledge and belief.

Brijesh Gangil