

## Dr. Ashwani Kumar Singh

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**Research Area(s):** Polymer matrix composites,  
Natural fiber composites, Fatigue of composite materials,  
Composite materials based on rPET, Sustainable composite materials,  
Bio composite materials, Tribology, Hardfacing.



### EDUCATIONAL QUALIFICATIONS/PERFORMANCE

- **PhD in Mechanical Engineering (2024)**  
From Dr. B R Ambedkar National Institute of Technology Jalandhar, Punjab (India).
- **M. Tech in Mechanical Engineering (2016)**  
From Dr. B R Ambedkar National Institute of Technology Jalandhar, Punjab (India).
- **B. Tech. in Mechanical Engineering (2012)**  
From JSS Academy of Technical Education Noida, Uttar Pradesh.
- **B. Sc. Mathematics (2008)**  
From Maha Ranapratap Mahavidyal jungle Dhusan Gorakhpur Uttar Pradesh.
- **Class XII (2005)**  
From Cooperative Inter College Pipraich Gorakhpur Uttar Pradesh.
- **Class X (2003)**  
From Pt. Deen Dyal Inter College, Pipraich Gorakhpur Uttar Pradesh.

### Web Profile Link

<https://scholar.google.com/citations?user=utDzUscAAAAJ&hl=en&oi=ao>

<https://www.researchgate.net/profile/Ashwani-Singh-8>

**ORCID ID**-0000-0002-0682-0099

**Wave of science ID:** AAU-9952-2021

**Scopus Author ID:** 57221149197

### M. Tech Dissertation

Hardfacing of Mild Steel with alloy paste using Submerged Arc Welding Process

### PhD Dissertation

Fatigue Behavior of Fiber-Reinforced Composite Materials Based on Recycled PET

### EXPERIANCE

S. No.	Name of Organization	Designation	Duration
1.	I.K. Gujral Punjab Technical University Campus, Hoshiarpur, Punjab	Assistant Professor (Guest)	18/08/2016-24/12/2016, 02/01/2017-30/05/2017
2	Madan Mohan Malviya University of Technology Gorakhpur	Assistant Professor (Guest)	02/09/2023- 27-06-2024
3	Institute of Engineering and Technology, Deen Dayal Upadhyaya Gorakhpur University Gorakhpur	Assistant Professor	16-10-2024 -present

## RESEARCH PUBLICATION

### *Journal Publication*

1. **Ashwani Kumar Singh**, Raman Bedi, and Balbir Singh Kaith. "*Composite materials based on recycled polyethylene terephthalate and their properties–A comprehensive review.*" Composites Part B: Engineering 219 (2021): 108928, <https://doi.org/10.1016/j.compositesb.2021.108928>
2. **Ashwani Kumar Singh** and Raman Bedi. "*Fatigue life analysis and damage evaluation in Glass Fiber Reinforced Composite materials based on recycled polyethylene terephthalate*" Physica Scripta.98 (2023): 035701 <https://doi.org/10.1088/1402-4896/acb625>.
3. **Ashwani Kumar Singh** and Raman Bedi. "*Effect of graphene nanoplatelets on fatigue performance of Glass Fiber Reinforced Composite materials based on recycled polyethylene terephthalate*" Composites Communications. 40 (2023) 101595. <https://doi.org/10.1016/j.coco.2023.101595>
4. **Ashwani Kumar Singh**, Raman Bedi, Akhil Khajuria. "*Ashwani Kumar Singh, Raman Bedi, Akhil Khajuria. "A review of composite materials based on rice straw and future trends for sustainable composites."* Journal of Cleaner Production, 457 (2024): 142417. <https://doi.org/10.1016/j.jclepro.2024.142417>
5. **Ashwani Kumar Singh**, Raman Bedi, and Balbir Singh Kaith. "*Mechanical properties of composite materials based on waste plastic–A review.*" Materials Today: Proceedings, 26 (2020): 1293-1301. <https://doi.org/10.1016/j.matpr.2020.02.258>
6. Thabah, Wanrahbok, **Ashwani Kumar Singh**, and Raman Bedi. "*Tensile properties of urea treated rice straw reinforced recycled polyethylene terephthalate composite materials.*" Materials Today: Proceedings 56 (2022): 2151-2157. <https://doi.org/10.1016/j.matpr.2021.11.464>

7. **Ashwani Kumar Singh**, Raman Bedi, Ankush Thakur. “*Damage analysis of rPET-Based Graphene-Modified Glass Fiber-Reinforced hybrid composites*” Materials Today: Proceedings. (2024), <https://doi.org/10.1016/j.matpr.2024.04.029>.

### **Conference Proceedings**

1. **Ashwani Kumar Singh**, Modassir Akhtar, Akhil Khajuria, and Raman Bedi. "Recent developments in FRC technology for enhanced impact resistance properties: innovations and opportunities." In Ukieri Concrete Congress. 2019.
2. **Ashwani Kumar Singh** and Raman Bedi. “Fatigue behavior of glass fiber reinforced composite laminates based on recycled PET” in Composites Meet Sustainability – Proceedings of the 20th European Conference on Composite Materials, ECCM20 (Lausanne, Switzerland) 26-30 June 2022.

### **PATENT FILED/GRANT**

1. Applied for “**Portable Water Filter**” in Indian Patent Office (Application No. 202431006177).
2. Applied for “**A Dovetail Joint with a Wedge Lock**” in Indian Patent Office (Application No.202411036880).

### **SHORT TERM COURSES/WORKSHOPS/CONFERENCES/FDP PARTICIPATED**

S. No.	Corse title/Topic	Organizing /Institute
1	<b>GIAN</b> course on “smart manufacturing” 19-24 February 2018	Organized by the Department of Mechanical Engineering and, the Department of Production and Industrial Engineering, Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA.
2	One-week short-term course on “Industrial Engineering A Paradigm Shift in Manufacturing and Service” 6-10 July 2018	Organized by Department of Production and Industrial Engineering, Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA. (Sponsored by TEQIP-III)
3	Tow day faculty development program on “Pedagogical Skills for Teachers” 22-23 July 2018	Organized by Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA. (Sponsored by TEQIP-3)
4	<b>GIAN</b> course on “Advances in reliability engineering” 31 July -4 August 2018	Department of Production and Industrial Engineering, Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA.
5	Workshop on “Project management and methodology maintenance and	Organized by Department of Civil Engineering, Dr B R National Institute of Technology,

	vigilance awareness” 25 August 2018	Jalandhar, Punjab, INDIA.
6	<b>GIAN</b> course on “Manufacturing Automation-Robotic and Process Integration” 17-22 December 2018	Organized by the Department of Mechanical Engineering and, the Department of Production and Industrial Engineering, Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA.
7	International UKIERI Concrete Congress Concrete: The Global Builder, 5-8 March 2019	Organized by Department of Civil Engineering, Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA.
8	Received Certificate of Appreciation of 1 <sup>st</sup> International conference on materials science and engineering 11-12 June 2019	Organized by Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA.
9	Participated and received the Certificate of Appreciation for One-week Short-term course on “Materials Characterization Techniques” 17-21 June 2019	Organized by the Department of Physics and Department of Mechanical Engineering, Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA. (Sponsored by TEQIP-III)
10	One-week Short-term course on “Advanced in Construction materials and methods” 1-5 July 2019	Organized by Department of Civil Engineering, Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA. (Sponsored by TEQIP-III)
11	<b>GIAN</b> course on “Fatigue of composite materials” 11-15 November 2019	Organized by the Department of Mechanical and Civil Engineering, Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA.
12	10 <sup>th</sup> International conference on Materials processing and characterization (ICMPC-2020), 21-23 February 2020	Organized by the Department of Mechanical Engineering, GLA University Mathura, Gokaraju Ranagaraju institute of engineering and technology Hyderabad, and The Indian institute of metals Mathura Chapter.
13	One-week Short-term course on “Microwave Material Processing: Opportunities and Challenges” 14-18 December 2020	Organized by the Department of Mechanical Engineering, NIT Uttarakhand, Srinagar (Garhwal) (Sponsored by TEQIP-III)
14	One-week Short-term course on “Sustainable Composites: Processing, Characterization, and Applications” 22-26 February 2021	Organized by the Department of Mechanical Engineering, NIT Uttarakhand, Srinagar (Garhwal) (Sponsored by TEQIP-III)
15	Certificate of Appreciation for One-week Training Program on Advanced Research Instruments”	Organized by the National Institute of Technology Warangal and Dr B R National Institute of Technology, Jalandhar, Punjab,

	6-12 February 2023	INDIA.
16	Certificate for presentation on “Damage analysis of rPET-based graphene-modified glass fiber-reinforced hybrid composites” In 3 <sup>RD</sup> ICMSE November 23-25, 2023.	Organized by the National Institute of Technology Warangal and Dr B R National Institute of Technology, Jalandhar, Punjab, INDIA.
17	Faculty development program on Progress in composite materials and application (PCMA2025) April 21-25, 2025	Organized by the MMM University of Technology Gorakhpur.

### Professional affiliations (Journal Reviewer)

1. Journal of Nanostructure in Chemistry (SCI), Elsevier
2. Journal of Polymers and the Environment (SCI), Springer Nature
3. Applied surface science (SCI), Elsevier
4. Applied Mathematical Modelling (SCI), Elsevier
5. Journal of Cleaner Production (SCI), Elsevier
6. Waste and Biomass Valorization, (SCIE) springer.
7. Cellulose (SCIE) springer.
8. Environmental Engineering and Management Journal (SCI).
9. Journal of Materials Science Research and Reviews