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Postdoctoral Researcher  
Centre for Composite Materials  
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## **CURRENT RESEARCH INTERESTS**

- Polymer/Metal matrix and Carbon-carbon composites for structural applications
- Testing and characterization of composites
- Multiscale mechanics of composites
- Interface/interphase synthesis and characterization
- Thermal analysis of composites

## **EDUCATION**

- 2022 - Present Postdoc** Centre For Composite Materials  
University of Delaware, Delaware, USA  
Materials in Extreme Dynamic Environments (MEDE)  
<https://www.ccm.udel.edu/about-us/personnel/research-professionals/>
- 2014 - 2020 Ph.D.** Dept. of Metallurgical and Materials Engineering  
IIT Roorkee, Uttarakhand, India  
**Thesis Title:** “Developing Carbon Nanofiller Tailored Epoxy Matrix for Carbon Fiber Composites used in Structural Applications  
**Advisor:** Dr. Debrupa Lahiri, MMED, IIT Roorkee
- 2012 - 2014 M.Tech** Dept of Mechanical Engineering  
Design and Production Engineering  
Govind Ballabh Pant University of Agriculture and Technology  
(G.B.P.U.A.T), Pantnagar, Uttarakhand, India  
**Thesis Title:** Thermo-mechanical and Physical Properties of Almond Shell Particle and Jute Fiber Filled Hybrid Bio-Composite  
**Advisor:** Dr. V. K. Singh
- 2007 - 2011 B.Tech** Department of Mechanical Engineering  
Production Engineering  
Bachelor of Technology (B. Tech) in Production Engineering  
Govind Ballabh Pant Engineering College, Pauri, Uttarakhand, India

## **TEACHING EXPERIENCE**

- July 2011 - June 2012 Assistant Professor (Adhoc)**  
Department of Mechanical Engineering,  
Govind Ballabh Pant Engineering College, Pauri, Uttarakhand. India  
<http://www.gbpec.ac.in/departments/me.php>

June 2020 - August 2022

Assistant Professor

Department of Mechanical Engineering,

Women Institute of Technology, Dehradun, India

[https://wit.ac.in/?page\\_id=101](https://wit.ac.in/?page_id=101)

## **PUBLICATIONS**

### **BOOKS PUBLISHED**

“Carbon Nanotubes Reinforced Metal Matrix Composites” Andy Nieto, A Agarwal, Debrupa Lahiri, **Ankita Bisht**, Srinivasa Rao Bakshi, Second Edition, CRC Press, DOI: [10.1201/9780429299582](https://doi.org/10.1201/9780429299582), ISBN: 9780429299582

### **ARTICLES PUBLISHED IN JOURNALS**

1. Vaibhav Jain, **Ankita Bisht**, Satish Jaiswal, Kinshuk Dasgupta, Debrupa Lahiri, “Assessment of Interfacial Interaction in Graphene Nanoplatelets and Carbon Fiber-Reinforced Epoxy Matrix Multiscale Composites and Its Effect on Mechanical Behavior”, **Journal of Materials Engineering and Performance**, 2021, 1-13
2. Souvik Ghosh, Swati Halder, Sumeet Gupta, **Ankita Bisht**, Samrat Chauhan, Viney Kumar, Partha Roy, Debrupa Lahiri, “Anisotropically Conductive Biodegradable Scaffold with Coaxially Aligned Carbon Nanotubes for Directional Regeneration of Peripheral Nerves”, **ACS Applied Bio Materials**, Vol. 3, 2020, 5796-5812
3. **Ankita Bisht**, Sanjay Singh Samant, Satish Jaiswal, Kinshuk Dasgupta, Debrupa Lahiri, “Quantifying nanodiamonds assisted exfoliation of graphene and its effect on toughening behaviour of composite structure”, **Composites Part A: Applied Science and Manufacturing**, Vol. 132, 2020, 105840
4. **Ankita Bisht**, Kinshuk Dasgupta, Debrupa Lahiri, “Evaluating the effect of addition of nanodiamond on the synergistic effect of graphene-carbon nanotube hybrid on the mechanical properties of epoxy based composites”, **Polymer Testing**, Vol. 81, 2020, pp. 106274
5. **Ankita Bisht**, Kinshuk Dasgupta, Debrupa Lahiri, “Investigating the role of 3D network of carbon nanofillers in improving the mechanical properties of carbon fiber epoxy laminated composite” **Composites Part A: Applied Science and Manufacturing**, Vol. 126, 2019, pp. 105601
6. **Ankita Bisht**, Vijayesh Kumar, Palash Chandra Maity, Indranil Lahiri, Debrupa Lahiri, “Strong and transparent PMMA sheet reinforced with amine functionalized BN nanoflakes for UV-shielding application” **Composites Part B: Engineering**, Vol. 176, 2019, pp. 107274
7. **Ankita Bisht**, R. Manoj Kumar, Kinshuk Dasgupta, Debrupa Lahiri, “Spatial distribution of nanodiamond and its effect on mechanical behaviour of epoxy based composite using 2D modulus mapping” **Mechanics of Materials**, Vol. 135, 2019, pp. 114-128
8. **Ankita Bisht**, Kinshuk Dasgupta, Debrupa Lahiri, “Effect of Graphene and CNT Reinforcement on Mechanical and Thermomechanical Behaviour of Epoxy - A Comparative Study” **Journal of Applied Polymer Science** Vol. 135, 2018, pp. 46101
9. **Ankita Bisht**, Vijayesh Kumar, Lu Hua Li, Ying Chen, Arvind Agarwal, Debrupa Lahiri, “Effect of warm rolling and annealing on the mechanical properties of aluminum composite reinforced with boron nitride nanotubes” **Materials Science & Engineering A**, Vol. 710, 2018, pp. 366-373.

10. **Ankita Bisht**, Mukul Srivastava, R. Manoj Kumar, Indranil Lahiri, Debrupa Lahiri, “Strengthening mechanism in graphene nanoplatelets reinforced aluminium composite fabricated through spark plasma sintering” **Materials Science and Engineering A**, Vol 695, 2017, pp. 20-28.
11. Andy Nieto, **Ankita Bisht**, Debrupa Lahiri, Cheng Zhang, Arvind Agarwal “Graphene reinforced metal and ceramic matrix composites: a review” **International Materials Reviews**, Vol. 62, 2017, pp. 241-302
12. Vinay Kumar Singh, Gagan Bansal, Pratibha Negi, **Ankita Bisht**, “Characterization of flexural and impact strength of jute/almond hybrid biocomposite” **Journal of Testing and Evaluation**, Vol. 45, 2016, pp. 763-772
13. Mayank Agarwal, Mohd. Arif, **Ankita Bisht**, Vinay Kumar Singh, Sunanda Biswas, “Investigation of toughening behavior of epoxy resin by reinforcement of depolymerized latex rubber” **Science and Engineering of Composite Materials**, Vol. 22, 2015, pp. 399-404

#### ARTICLES PUBLISHED IN CONFERENCE

1. **Ankita Bisht**, Munetaka Kubota, John W. Gillispie Jr, “Investigating the Structure of CVD Deposited Amino Silane on Silica Substrate via High Resolution Characterization Methods” PROCEEDINGS OF THE AMERICAN SOCIETY FOR COMPOSITES-THIRTY-EIGHT TECHNICAL CONFERENCE, **2023** DOI:10.12783/asc38/36690
2. **Ankita Bisht**, RManoj Kumar, Kinshuk Dasgupta, Debrupa Lahiri, “Evaluating the micron level phase distribution in composite structures and its effect on mechanical behavior using 2D modulus mapping” International Conference on Composite Materials (22nd: 2019: Melbourne, VIC.), **2019**, pp. 590-598.

#### CONFERENCES

1. Vaibhav Jain, **Ankita Bisht**, Kinshuk Dasgupta, Debrupa Lahiri, “Graphene and Carbon Fiber Reinforced based Multiscale Epoxy Composites for Structural Application”, AMPCO 2017, IIT Roorkee, India, 30th November–2nd December 2017.
2. Vaibhav Jain, **Ankita Bisht**, Kinshuk Dasgupta, Debrupa Lahiri, “Multiscale Composite Material for Structural Application based on Graphene, Carbon Fiber and Reinforced Epoxy”, NMD-ATM 2018, Kolkata, India, 14th-16th November 2018.
3. **Ankita Bisht**, Pallavi Gupta, Debrupa Lahiri, “Influence of Carbon Nanotube and Graphene on Mechanical and Damping Characteristics of Epoxy Matrix Composite- A Comparative Analysis”, TMS Annual Meeting 2017, San Diego, USA, 26th February – 2nd March, 2017.
4. **Ankita Bisht**, Pallavi Gupta, Debrupa Lahiri, “Nanodiamond: A Potential Reinforcement for Epoxy Composites”, TMS Annual Meeting 2017, San Diego, USA, 26th February – 2nd March, 2017.
5. **Ankita Bisht**, R. Manoj. Kumar, Kinshuk Dasgupta, Debrupa Lahiri, “Effect of introduction of nanodiamond on the mechanical behavior of epoxy matrix under tensile stress”, Nanoyantrika, Thiruvananthapuram, India, 17th – 20th September, 2017.
6. **Ankita Bisht**, Manoj. Kumar, Debrupa Lahiri, “Investigating the nanomechanical behavior of nanodiamond reinforced epoxy matrix through nanoindentation”, 55th National Metallurgists’ Day NMD ATM 2017, Goa, India, 11th – 14th November, 2017.

7. **Ankita Bisht**, Vijayesh Kumar, Debrupa Lahiri, “The Reinforcing Effect of BNNT on Mechanical Properties and Microstructural Evaluation of Warm Rolled and Annealed Aluminum”, 55th National Metallurgists’ Day, NMD ATM 2017, Goa, India, 11th – 14th November, 2017.
8. Jijo Christudasjustus, **Ankita Bisht**, Debrupa Lahiri, “Mechanical behaviour of Al-Gr composite as a result of thermo-mechanical treatment”, 55th National Metallurgists’ Day NMD ATM 2017, Goa, India, 11th – 14th November, 2017.
9. **Ankita Bisht**, Vijayesh Kumar, Palash Chandra Maity, Indranil Lahiri, Debrupa Lahiri “Mechanical and UV-Shielding Properties of Boron Nitride Nanoflakes Reinforced Poly(methyl methacrylate) Composite” AMPCO, IIT Roorkee, India, 30th November – 2nd December, 2017.
10. Jijo Christudasjustus, **Ankita Bisht**, Debrupa Lahiri, “Effect on Mechanical behaviour of Al-Gr composite due to work hardening” AMPCO, IIT Roorkee, India, 30th November – 2nd December, 2017.
11. **Ankita Bisht**, Mukul Srivastava, Manoj Kumar R, Indranil Lahiri, Debrupa Lahiri “Effect of Graphene Nanoplatelet (GNP) addition on Aluminium based Composite”, 54th Annual Technical Meeting of Indian Institute of Metals, IIT Kanpur, Indian, 13th – 16th November, 2016.
12. **Ankita Bisht**, Debrupa Lahiri, “Thermal and Mechanical Properties of Nanodiamond Reinforced Epoxy Composites”, 54th National Metallurgists’ Day IIT Kanpur, India, 11-14 November, 2016.
13. **Ankita Bisht**, Debrupa Lahiri, “Carbon Nanofiller Reinforced Epoxy Composites for Structural Application”, 53rd National Metallurgists’ Day, NMD ATM 2015, Coimbatore, India, 13th - 16th November, 2015.

### **OTHER PROFESSIONAL ACTIVITIES**

1. Reviewer for:
  - Materials Today Communications Journal
  - SAMPE Journal
2. External Expert for M.Tech Thesis Evaluation at
  - G B Pant University of Agriculture and Technology, Pant Nagar India
  - Uttarakhand Technical University, Dehradun India

### **ADMINISTRATIVE RESPONSIBILITIES**

1. Convenor/Chairman Institute Academic, Cultural and Technical committee at WIT, Dehradun from August 2020-August 2022
2. Member of institute admissions, discipline, employability committee at WIT Dehradun from August 2020-August 2022
3. Served as Office Incharge and Additional Office Incharge in different labs and programs at Mechanical Engineering Department, WIT Dehradun India.
4. Developed Advanced Strength Of Materials lab at Mechanical Engineering Department WIT Dehradun under TEQIP-III
5. Member committee for various purchases under TEQIP-III

### **AFFILIATION TO PROFESSIONAL SOCIETY**

Indian Institute of Metals (IIM)- Life Member

## REFERENCES

<p><b><u>Dr. Debrupa Lahiri</u></b> <b><u>(Research Supervisor)</u></b> Associate Professor, <a href="http://faculty.iitr.ac.in/~dlahifmt/">http://faculty.iitr.ac.in/~dlahifmt/</a> <u>Biomaterials and Multi scale Mechanics Lab</u> <u>Department of Metallurgical and Materials Engineering,</u> <u>Indian Institute of Technology Roorkee,</u> <u>Roorkee – 247667, Uttarakhand, India.</u> Phone: + 91-1332-28-5137 E-mail: <a href="mailto:debrupa.lahiri@gmail.com">debrupa.lahiri@gmail.com</a></p>	<p><b><u>Dr. Kinshuk Dasgupta</u></b> <u>Head, Advanced Carbon Materials Section</u> GAMD, Materials Group Bhabha Atomic Research Centre Mumbai 400085, India Tel:+91 22 25594951 (O) Fax: +91 22 25505151 Email: <a href="mailto:kdg@barc.gov.in">kdg@barc.gov.in</a> <a href="mailto:dasguptakinshuk@yahoo.com">dasguptakinshuk@yahoo.com</a></p>
<p><b><u>Dr. Indranil Lahiri</u></b> Associate Professor <a href="http://faculty.iitr.ac.in/~indrafmt/">http://faculty.iitr.ac.in/~indrafmt/</a> <u>Nanomaterials &amp; Applications Lab</u> <u>Department of Metallurgical and Materials Engineering,</u> <u>Indian Institute of Technology Roorkee,</u> <u>Roorkee – 247667, Uttarakhand, India.</u> Phone: + 91-1332-28-5261 E-mail: <a href="mailto:indranil.lahiri@gmail.com">indranil.lahiri@gmail.com</a></p>	<p><b><u>Dr. Sagar Doshi</u></b> Associate Scientist <a href="https://www.ccm.udel.edu/about-us/personnel/research-professionals/">https://www.ccm.udel.edu/about-us/personnel/research-professionals/</a> Centre For Composite Materials University of Delaware Newark-19716, USA Phone: +1-484-702-2311 Email: <a href="mailto:smdoshi@udel.edu">smdoshi@udel.edu</a></p>