


Name	Ajaya Bharti		
Designation	Assistant Professor		
Highest Qualification	B. Tech. (Mechanical), M.Tech. (Material Science and Engineering), Ph.D. (submitted)		
Specialization	Material Science & Engineering		
Current Research Interest	Fatigue & Fracture Mechanics, Synthesis & Characterization of Advance Materials, Severe Plastic Deformation (SPD)		
Contact: C-47, Staff colony, MNNIT, Post-Teliyerganj, Allahabad-211004 U.P. (India)	Email	abharti@mnnit.ac.in , ajayamnnit@gmail.com	
	Phone No	+91-532-2271211(O), +91-532-2271954(R)	
	Mobile	---	
View Profile			

(I) ACADEMIC PROFILE

Sl. No.	Programme	Branch /Specialization	University/ Institute	Year of Award
1.	Ph.D.	Applied Mechanics	Motilal Nehru National Institute of Technology Allahabad (India)	Thesis Submitted
2.	M. Tech.	Material Science and Engineering	Motilal Nehru National Institute of Technology Allahabad (India)	2005
3.	B. Tech.	Mechanical Engineering	Kamla Nehru Institute of Technology. Sultanpur (India)	2001

(II) PROFESSIONAL PROFILE

(A) Teaching Experience

Sl. No.	Organization	Designation	From	To
1.	Motilal Nehru National Institute of Technology Allahabad-211004 (INDIA)	Assistant Professor	May 2006	Till date
2.	Motilal Nehru National Institute of Technology Allahabad-211004 (INDIA)	Visiting Faculty	July 2005	May 2006

(B) List of Courses Taught to:

(a) UG Students

- (i) Material Science & Engineering
- (ii) Engineering Mechanics
- (iii) Strength of Materials / Mechanics of Solids
- (iv) Engineering Thermodynamics
- (v) Quality Control and Measurement
- (vi) Machine Design
- (vii) Theory of Machine

(b) PG Students

- (i) Characterization of materials
- (ii) Powder Metallurgy
- (iii) Physical Metallurgy
- (iv) Mechanical Behavior of Materials and Fracture Mechanics

(C) M.Tech. Theses Guided:

- (i) Mr. Subhash Chandra Ram completed his M.Tech. Thesis work on **“Fabrication and Mechanical Characterization of Glass-fibre and Flax-Fibre Reinforced Laminated Hybrid Composite”** during session 2007-08 under guidance of Er. Ajaya Bharti
- (ii) Mr. Puneet Chaudhary completed his M.Tech. Thesis work on **“Enhancement of Mechanical Properties of Commercial Aluminium Alloy through E-CAP (Equal Channel Angular Pressing)”** during session 2008-09 under supervision of Er. Ajaya Bharti.
- (iii) Mr. Mahesh Chandra Kaushal completed his M.Tech. Thesis work on **“Linear Static Analysis of Magneto-Electro-Thermo-Elastic Sandwich Plate”** during session 2009-10 under supervision of Prof K. M. Gupta and Er. Ajaya Bharti

- (iv) Mr. Deepak Kumar completed his M. Tech thesis work on **“Experimental Study on Variations of Mechanical Properties of Al-alloy 6061 with the Age-hardening”** during session 2009-10 under supervision of Er. Ajaya Bharti and Prof. K. M. Gupta.
- (v) Mr. Sudhendu Nath Tiwari completed his M.Tech. Thesis work on **“Effect of Torque Tightening at Low and High Value of Stress Amplitude on the Fatigue Behaviour of 2024-T4 Aluminium Alloy Double Lap Bolted Joints”** during session 2010-11 under supervision of Er. Ajaya Bharti & Dr. K.M. Gupta
- (vi) Ms. Artika Rao completed his M.Tech. Thesis work on **“Effect of Artificial Ageing on Fretting-Fatigue Behaviour of 2024 Al alloy”** during session 2010-11 under supervision of Er. Ajaya Bharti & Dr. K.M. Gupta.
- (vii) Mr. Ravikant Barnwal completed his M.Tech Thesis work on **“Synthesis and Characterization of Zinc-Copper Ferrite for LPG Sensing”** during session 2010-11 under supervision of Dr. Anuj Jain & Er. Ajaya Bharti.
- (viii) Mr. Amit Yadav completed his M.Tech Thesis Work on **“Fatigue behavior of bolted plate subjected to Overloading”** during session 2011-12 under supervision of Er. Ajaya Bharti.
- (ix) Mr. Sachin Pal completed his M.Tech Thesis Work on **“Fatigue behavior of bolted plate subjected to Block-loading ”** during session 2011-12 under supervision of Er. Ajaya Bharti.

(D) Research Publications:

(a) International Journal:

- (i) Anuj Jain, Ravi Kant Baranwal, **Ajaya Bharti**, Z. Vakil, and C. S. Prajapati “Study of Zn-Cu Ferrite Nanoparticles for LPG Sensing” The Scientific World Journal, Volume 2013, Article ID 790359, PP. 1-7.

(b) International Conferences:

- (i) **Bharti**, I. K. Bhat, R. Kumar “Comparative Study on Wear of Different Commercially Available Aluminium Alloys in Presence of Different Lubricants” Proceeding of “11th International conference on Metrology & Properties of Engineering Surfaces (2007)”
- (ii) Sudhendu N. Tiwari, Artika Rao, **Ajaya Bharti**, Gupta K. M. “ Effect of Torque Tightening at low and high value of stress amplitude on the fatigue strength of Al 2024-T4 double lap bolted joints” Proceeding of International conference “ICAM 2011” page 79.
- (iii) Artika Rao, Sudhendu N. Tiwari, **Ajaya Bharti**, Gupta K. M. “Effect of artificial aging on fretting fatigue behaviour of 2024 Aluminium alloy” Proceeding of International conference “ICAM 2011” page 80
- (iv) **Ajaya Bharti**, K. N. Pandey, K. M. Gupta, “Effect of Mean -stress on the performance of Double-lap Bolted Joint” Proceeding of International Conference on Metallurgical & Materials Processes, Products and Applications (January 8-10, 2014), India pp. 69
- (v) **Ajaya Bharti**, K. N. Pandey, K. M. Gupta, “Effect of Cryorolling on Microstructure of Al 2024” Proceeding of International Conference on Metallurgical & Materials Processes, Products and Applications (January 8-10, 2014), India pp. 111

(E) Seminars / Conferences / Workshops Organised:

- (i) Two week ISTE workshop on “**Engineering Mechanics**” under the project “National Mission on Education through Information and Communication Technology (NMEICT)” funded by MHRD, Government of India, during November 26-December 06, 2013 jointly organized by MNNIT Allahabad and IIT Bombay.

(F) Seminars / Conferences / Workshops Attended :

- (i) Short-term course on “**Energy Management**” jointly organized by **MNNIT, Allahabad and National Institute of Technical Teachers, Training & Research, Chandigarh**, at MNNIT Allahabad during March 27-31, 2006.

- (ii) Short-term course on **“Process Machines”**, at **MNNIT-Allahabad** during April 10th-14th, 2006.
- (iii) QIP sponsored short-term course on **“Ultra-Fine Grained Materials and Nanocomposites” (NANOMAT-2007)**, held at **IIT Kanpur** during May 12th-16th, 2007.
- (iv) Short term course **“Advances in the Material Characterization: Principles and Practice (AMCPP-2008)”** conducted from 7-10 January 2008 at **IIT Kanpur**.
- (v) Staff Development Programme on **“Experimental and Computational Methods in Fluid Dynamics”** from 7th to 19th July, 2008 at **MNNIT Allahabad**.
- (vi) Staff Development Programme on **“CAD & FEM”**, from 21ST July to 2nd August, 2008. at **MNNIT Allahabad**.
- (vii) Workshop on **“Computational Materials Science” (CMS-09)** held in the **IISc, Bangalore**, during 6th – 8th March 2009.
- (viii) Workshop on **“Virtual Instrumentation & its Applications (WVIA 09)** sponsored by TEQIP, MNNIT & National Instruments, at **MNNIT Allahabad** during March 18-20, 2009.
- (ix) **“Seminar cum Workshop on Particle Characterization of Nano-Pharmaceuticals”** held on 20th March 2010 at **IT BHU Varanasi**.
- (x) Workshop on **“Application of Thermomechanical Simulator in Advanced Materials Research”** organized by the **IIT Roorkee** during February 4-5, 2011.
- (xi) One Week ISTE workshop on **“Engineering Mechanics”** under the project “National Mission on Education through Information and Communication Technology (NMEICT)” funded by MHRD, Government of India, during September 16-September 20, 2013 organized by **IIT Bombay**.

- (xii) International Conference on “**Metallurgical & Materials Processes, Products and Applications**”(January 8-10, 2014), Raigarh, India.

(G) Presented Research Paper/Research Article/Notes

- (i) Research paper on “Effect of Mean -stress on the performance of Double-lap Bolted Joint” at **International Conference on Metallurgical & Materials Processes, Products and Applications** (January 8-10, 2014) , Raigarh, India
- (ii) Research paper on “Effect of Cryorolling on Microstructure of Al 2024” at **International Conference on Metallurgical & Materials Processes, Products and Applications**(January 8-10, 2014), Raigarh, India

(H) Proposed and Developed New Laboratory

- (i) Experimental Solid Mechanics Laboratory (Under development)
- (ii) Powder metallurgy Laboratory (Under proposal)
- (iii) Composite Laboratory (Under proposal)
- (iv) Video Conferencing Laboratory (Under proposal)

(I) Contribution Towards Development of Curriculum

- (i) Contributed in modification of Course curriculum of PG classes (2007)
- (ii) Contributed in modification of Course curriculum of PG classes (2010)
- (iii) Contributed in modification of Course curriculum of PG classes (2013)
- (iv) Contributed in modification of Course curriculum of UG classes (2013)

(J) Project Executed

- (i) Project under DST –FIST scheme was proposed, sanctioned and executed at departmental level from 2006-2013 to upgrade the research facilities and infrastructure like INSTRON 8501/8801etc.

(K) Testing and Consultancy

Sl. No.	Type of Testing /Consultancy	For Organizations	Duration	Cost (Approx.) Rs.
1.	(i) Tensile Test, Bend and re-bend test, Torsion test; of metals and alloys, using IS codes and ASTM Standards (ii) Shear test of wood	(i) IFFCO Phoolpur, Allahabad, India (ii) North Central Railway Allahabad, India (iii) U.P. Bridge Corporation , Allahabad, India	2006- till date	1.6 Lakhs

(III) ADMINISTRATIVE PROFILE:

(A) Acted As An Officer In-Charge Of:

- (i) “Non-destructive Testing Laboratory” from 2006-2008
- (ii) “Experimental Stress Analysis Laboratory” from 2006-2008
- (iii) “Vibration Laboratory” from 2006-2008
- (iv) “Dynamics of Machine Laboratory” from 2008-20010
- (v) “Material Science and Engineering Laboratory” from 2008-2010
- (vi) “Experimental Solid Mechanics Laboratory” 2013-till date.

(B) Acted As A Course Coordinator Of:

- (i) Experimental Techniques in Material Science (P.G. Course) from 2006-07
- (ii) Characterization of Material (P.G. Course) from 2007-08, 2010-11
- (iii) Powder metallurgy (P.G. Course) from 2007-08
- (iv) Physical Metallurgy (P.G. Course) from 2008-09, 2010-13

(v) Mechanical Behavior and Fracture Mechanics of Material (P.G. Course) from 2008-10

(vi) Engineering Mechanics (U.G. Course) from 2013-14

(IV) OTHER PROFILE

(A) Membership

(i) Life Member of “**Indian Society for Technical Education (ISTE)**” IIT Delhi Campus, New Delhi, India

(ii) Life member of “**Materials Research Society of India**” IISc. Bangalore campus, India