

CURRICULUM VITAE

Dr. Amit Bansal
Ph.D. (Mechanical & Industrial Engineering)
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Professional Experience

Organization	Designation	Time Period
Punjab Technical University (PTU), Kapurthala	Assistant Professor	30 May 2017 to till date
Lovely Professional University (LPU), Phagwara	Assistant Professor	01 August 2014- 29 April 2017
RIMT (Institute of Engineering and Technology), Mandi Gobindgarh.	Assistant Professor	3 August 2009 to 20 July 2011
R & D polytechnic college, Ludhiana	Lecturer	04 August 2006 to 31 July 2007

Area(s) of Interest Processing of materials using microwave energy (Joining, cladding, casting, etc.), Manufacturing science, Strength of materials, Materials characterization.

Educational Qualifications

Qualification	Year	Board/Institution	CGPA*/%
Ph. D	2011-2015	IIT Roorkee	A grade
M.Tech	2007-2009	IIT Roorkee	8.31
B.Tech	2002-2006	Guru Nanak Dev Engineering College, Ludhiana.	79.01% (silver medalist)
Intermediate	2002	Satish Chandar Dhawan Govt. College, Ludhiana.	77.33%
High School	2000	Bharti Bal Vidya Mandir High School, Ludhiana.	85.01%

Scholarship Awarded

- MHRD Scholarship during M.Tech. at IIT Roorkee
- SRF Scholarship for doing project work (BRNS Mumbai) along with Ph.D. at IIT Roorkee.

Publication Metrics

S. No	Metrics	Value
1.	Citations on Google Scholar	70
2.	h-index (Google Scholar)	5
3.	i-index (Google Scholar)	3
4.	Total impact points	10.6
5.	Research Gate score	14.00

List of Publication

[A] Summary of Publication

S. No	Journal/ Conference	Total	Present study	
			Published	In-process
1.	Journals	22	17	5
2.	International Conferences	6	6	-

3.	National Conferences	--	-	-
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[B] Journals

S No.	Total = 17
1.	Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, 2017, “Galvanic corrosion behaviour of microwave welded and post-weld heat treated Inconel-718 joints”, <i>Journal of Materials Engineering and Performance</i> . (Accepted) (SCI; IF = 1.1).
2.	Amit Bansal , Sunny Zafar, Apurbba Kumar Sharma, 2016, “Influence of heat treatment on microstructure of Inconel-718 microwave clads”, <i>Surface Engineering</i> . (Accepted) (SCI; IF = 1.19).
3.	Amit Bansal , Sunny Zafar, Apurbba Kumar Sharma, 2015, “Microstructure and abrasive wear performance of Ni-WC composite microwave clad”, <i>Journal of Materials Engineering and Performance</i> , 24(10):3708-3716. (SCI; IF = 0.915).
4.	Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, Shantanu Das, 2015, “Structure property correlations in microwave joining of Inconel-718”, <i>The Journal of The Minerals, Metals & Materials Society (TMS)</i> , 67(9):2087-2098. (SCI; IF = 1.757).
5.	Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, Shantanu Das, 2016, “On microstructure and strength properties of microwave welded Inconel 718/ stainless steel (SS-316L)”, <i>Proc. IMechE Part-L: Journal of Materials: Design and Applications</i> , 230(5):939-948. (SCI; IF = 0.672).
6.	Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, Shantanu Das, 2016, “Investigations on microstructure and mechanical properties of the dissimilar weld between MS and SS-316 formed using microwave energy”, <i>Proc. IMechE Part-B: Journal of Engineering Manufacture</i> . 230(3): 439-448. (SCI; IF = 0.661).
7.	Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, Shantanu Das, 2014, “Characterization of bulk stainless steel joints developed through microwave hybrid heating”, <i>Materials Characterization</i> . 91:34-41. (SCI; IF = 1.925).
8.	Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, Shantanu Das, 2015, “On microstructural and strength characterization of microwave welded Inconel 718 joints at 2.45 GHz frequency”, <i>Kovove materialy – Metallic Materials</i> . 53:1-9 (SCI; IF = 0.406).
9.	Amit Bansal , Apurbba Kumar Sharma, Shantanu Das, 2013, “Metallurgical and mechanical characterization of mild steel-mild steel joint formed by microwave hybrid heating process”, <i>Sadhna</i> , 38(4):679-686. (SCI; IF = 0.587).
10.	Sunny Zafar, Amit Bansal , Apurbba Kumar Sharma, Navneet Arora, CS Ramesh, 2014, “Dry erosion behaviour of Inconel 718 microwave clad”, <i>Surface Engineering</i> , 30(11):852-859 (SCI; IF = 1.51).
11.	Rahul Anjana, Sumit Sharma, Amit Bansal , (2016), “Molecular dynamics simulation of carbon nanotube reinforced polyethylene composites”, <i>Journal of Composite Materials</i> , doi:10.1177/0021998316674264 (SCI; IF = 1.15).
12.	Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, Shantanu Das, 2012, “Joining of mild steel plates using microwave energy”, <i>Advanced Materials Research</i> , 585:465-469.
13.	Amit Bansal , Apurbba Kumar Sharma, 2014, “3D electromagnetic field simulation of silicon carbide and graphite plate in microwave oven”, <i>International Journal of Mechanical Engineering and Robotics Research</i> , 1(1):7-12.

14.	Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, Shantanu Das, 2012, “Application of electromagnetic energy for joining of Inconel 718 plates”, <i>i'managers Journal of Mechanical Engineering</i> , 2(4):18-23.
15.	Shantanu Das, Amit Bansal , Apurbba Kumar Sharma, 2012, “Theory of welding of metallic parts in microwave cavity applicator”, <i>Fundamental Journal of Modern Physics</i> , 3(2):125-155.
16.	Shantanu Das, Rajesh Kumar, Titto John George, Amit Bansal , Nitin Kumar Lautre, Apurbba Kumar Sharma, 2013, “Physics of electrostatic resonance with negative permittivity and imaginary index of refraction for illuminated plasmoid in the experimental setup for microwave near field applicator”, <i>Fundamental Journal of Modern Physics</i> , 5(2):19-46.
17	Abhisekh Sahu, Amit Bansal , Kamlesh kumar Mishra, 2016, “Investigation on mechanical behaviour of ferrous copper alloy produced by powder metallurgy route”, <i>i'managers Journal of Mechanical Engineering</i> , 6(4):27-32.

[C] Conferences

S No.	Total = 6
1.	Amit Bansal , Sumit Sharma, 2016, “Investigation on dissimilar joint (Inconel 718/ MS) fabricated through microwave hybrid heating” , <i>CPIE-IV</i> , NIT Jalandhar, India, December 19-21, pp. 1-10
2.	Hitesh Vasudev, Lalit Thakur, Amit Bansal , 2016, “A review on performance of glass mould coated with different coating techniques”, <i>CPIE-IV</i> , NIT Jalandhar, India, December 19-21, pp. 1-12.
3	Amit Bansal , Apurbba Kumar Sharma, Pradeep kumar, 2014, “Microstructural characterization of microwave composite cladding on mild steel”, <i>PFAM-23</i> , IIT Roorkee, India, December 05-07, pp. 468-476.
4.	Akshay Atul Mali, Amit Bansal , Apurbba Kumar Sharma and Inderdeep Singh, 2013, "Simulation of microwave heating of materials with different dielectric properties" <i>International Conference on Smart Technology for Mechanical Engineering (STME-2013)</i> , Delhi Technological University, Delhi, 821-824.
5.	Titoo John George, Amit Bansal , Apurbba Kumar Sharma, Pradeep Kumar, 2012, “Microwave drilling: A review and case study of drilling of metallic materials”, <i>Proceedings of International Conference on Mechanical Engineering Technology</i> , Kerala, January 20-21, pp. 205-211.
6.	Amit Bansal , Apurbba Kumar Sharma, 2012, “Investigations on microstructural characterization of microwave composite clads on austenitic stainless steel”, <i>Proc. of The 2nd Annual International Conference on Materials Science, Metal & Manufacturing (M3 2012)</i> , November 19-20, Singapore, pp. 108–113.

Reviewer Assignment

- Science and engineering of composite materials De Gruyter publisher.
- Advances in mechanical engineering (AIME), Sage publisher open access journal
- Journal of manufacturing processes (Elsevier publication)
- Proc. IMechE Part-B: Journal of Engineering Manufacture (Sage Publication)

Guest Lecture

- To give a guest lecture on “Microwave Joining of Materials” at national symposium on “Microwave Processing of Materials” held at Malnad College of Engineering Hassan from 17th -18th March, 2017.

Research Guidance

S No.	Topic	Name of student	M.Tech/ Ph.D	Year
1.	Enhancing the surface properties of mild steel using TIG cladding	Suneet kumar	M. Tech	2015
2.	Mechanical behaviour of ferrous copper (Fe-Cu) alloy produced by powder metallurgy route.	Abhisekh Sahu	M. Tech	2015
3.	Identifying enablers of technological innovation in micro, small and medium enterprises	Shantanu Das	M. Tech	2015
4.	Enhancing the surface properties of aluminium using friction stir processing.	Gagandeep Singh	Ph.D	2015 (on-going)
5.	To develop and characterized the nano composites.	Shivraj Puggal	Ph.D	2015 (on-going)

Projects

Outline of Self Ph. D. Work:

Amit Bansal has worked as SRF in a project work sponsored by Board of Research in Nuclear Sciences (BRNS), Mumbai in the Mechanical and Industrial Engineering Department at Indian Institute of Technology Roorkee leading to the Ph.D. thesis on “Joining of advanced materials using microwave hybrid heating technique”. Microwave heating is well known for uniform and volumetric heating of materials at the molecular level. This volumetric and uniform nature of heating reduces processing time significantly and results in better microstructure and mechanical properties of the materials as compared to the conventional processing of materials. The work involved joining of advance materials in similar (Inconel-718 - Inconel-718) and dissimilar (Inconel-718 - SS-316L) form through the concept of microwave hybrid heating technique. Inconel-718 is a precipitation hardenable Ni and Fe based superalloy widely used in high temperature applications in aerospace, gas turbine, power and nuclear industries, due to its excellent corrosion and oxidation resistance at high temperature. The fabricated weldment was characterized in terms of their metallurgical, mechanical and corrosion aspects through various techniques. Further the simulation study of the microwave induced weldment was also performed using Comsol Multiphysics Software Tool.

M Tech work

Computer aided process planning with environment consideration (dissertation) (6 month)

In this project the impact of manufacturing on the environment is considered. A formalized approach towards integrating environment factor into the process planning is considered.

Identification and analysis of sources of wastes in machining (6 month)

In this project a single score for the overall environmental impact of process is to be considered .This single score system helps to identify, among all the viable processes, which is the most environmentally friendly process.

B Tech work

Hydraulic attachment on lathe machine (6 months)

In this project a hydraulic attachment for a lathe machine was fabricated. It helps in faster drilling on lathe machine.

Skills

Computer Languages: C, C++

Software Packages: Arena, Pro Engineering, Matlab

Academic Achievements: University 2nd position (Silver medalist)

Languages Known: English (Speak, Read, and Write); Hindi (Speak, Read, and Write); Punjabi (Speak, Read and Write); German (Read);

Internship

Highway Industries Limited (6 month)

Exposed to various machining processes involved in making Auto parts like crank shaft Connecting rod, joint kick arm and spindle starter.

Aarti Steels Limited (4 weeks)

Exposed to the various processes involved in making steel making and detailed procedure of continuous casting process

Short Term Program Attended

S. No.	Course Name	Duration
1.	Waste Management and Optimization Techniques under TEQIP – II	Two weeks (27 th Dec, 2015 to 05 th Jan, 2015)
2.	QIP workshop on “Microwaves in Material Processing” by IIT Roorkee	One day on 20 th June, 2014
3.	QIP programmed on “Microwave Material Processing, Modeling and Nondestructive Testing” by IIT Kanpur	One week (16 th Sep, 2013 to 20 th Sep, 2013).
4.	QIP workshop on “Advancement in Aerospace Materials Joining” by IIT Roorkee	One day on 13 th March, 2013
5.	QIP workshop on “Advances in Surface Modification Technologies: Friction Stir Processing” by IIT Roorkee	One day on 30 th Nov, 2013.
6.	Latest development in the “Engineering Green Technologies based on the Application of Microwave Energy to Material Processing” sponsored by DRDO, INSA New Delhi	Three days (20 th August, 2012 to 22 th August, 2012)
7.	Workshop on “Library Orientation Program and Workshop on Scopus and Science Direct” by IIT Roorkee	One day on 27 th Feb, 2012
8.	Faculty Development Program sponsored by PTU, Jalandhar	One week (07 th June, 2011 to 14 th June, 2011)
9.	Faculty Development Program sponsored by the Department of Science and Technology, Govt. of India, New Delhi.	One week (16 th Dec, 2009 to 23 th Dec, 2009).

Extra Curricular

Model display (2005) First prize
Intra Bhawan Cricket Tournament (2008) Runner up

Personal Details

Date of Birth: 24-12-1984 **Gender:** Male **Category:** General

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References

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Shantanu Das (Principal collaborator in Project)

Designation: Scientist H+; BARC

Senior Research Professor, (CMPRC) Dept. of Physics, Jadavpur University Kolkata

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UGC Visiting Fellow. Dept of Appl. Mathematics; Univ. of Calcutta.

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