

## BIO-DATA

**1. Name** : Dr. Parlad Kumar Garg  
**2. Designation** : Professor  
**3. Department** : Mechanical Engineering  
**4. Date of Birth** : 29-12-1976  
**5. Address** : Department of Mechanical  
 Engg., Punjabi University,  
 Patiala-147002  
**Phone:** 9876184400  
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**6. Area of Specialization** Additive manufacturing, Casting Technology, Surface coatings

**7. Academic Qualifications:** Ph.D.

**8. Membership of Professional Bodies:** Associate Member of Institution of Engineers

**9. Teaching Experience:** PG- 14 Years  
UG- 20 years

**10. Details of Experience:**

Sr. No.	Name of Institute/Employer	Position Held	Duration	Major Job Responsibilities
1	BCET, Ludhiana	Lecturer	06.06.2003 to 02.01.2005	Teaching and research
2	SSIET, Dera Bassi	Lecturer	03.01.2005 to 25.05.2005	Teaching and research
3	MIMIT, Malout	Lecturer	26.05.2005 to 24.08.2009	Teaching and research
4	Punjabi Univ. Patiala	Assistant Professor	25.08.2009 to 25.05.2018	Teaching and research
5	Punjabi Univ. Patiala	Associate Professor	26.05.2018 to 25.05.2021	Teaching and research
6	Punjabi Univ. Patiala	Professor	Working from 26.05.2021	Teaching and research

**11. Published work:**

a) Research Papers in Journals	i) National= Nil ii) International= 38
b) Research Papers in Conferences	i) National= 09 ii) International= 09
c) Books	Nil

**12. R&D Projects : Completed** 1) Investigations on Producing Cost Effective Rapid Investment Casting Using Rapid Prototyping, Funded by **UGC, New Delhi.**

2) Modernization of Manufacturing Lab with Flexible Manufacturing Cell, **Grant 14.5 Lakh**, funded by **AICTE, New Delhi** completed on 03.08.2009.

**: Ongoing** Nil

**13. Invited Talks :** **04**

**14. Ph.D. Students Guided/Under guidance :**

S.No.	Name of the Student	Title of Thesis	Year of Completion
1.	Deepak Dhand	<b>Behavioural comparison of hot and cold sprayed Ni-Al<sub>2</sub>O<sub>3</sub> coated boiler steels subjected to erosive and abrasive wear</b>	2023
2.	Sarpreet Singh	-	Registered
3.	Harpreet Pal Singh	-	Registered
4.	Anil Jindal	-	Registered
5.	Sameer Bhatt	-	Registered

**15. M.Tech. Students Guided:**

S. No.	Name of the Student	Title of Thesis	Year of Completion
1.	Jagdeep Singh	Investigations on performance of Copper Ceramic based composite tool electrode in electric discharge machining process	2012
2.	Navjot Singh	A comparative study of wire electrical discharge machined AISI D3 die steel by using two different cryogenically treated wires	2013
3.	Harvinder Singh	Experimental investigation of wire electrical discharge machining variables of surface roughness and material removal rate of AISI H13 using ANOVA method	2013
4.	Taranveer Singh	Mathematical modelling and optimization of process parameters in cylindrical grinding of AISI 1045 steel using Taguchi Method	2013
5.	Karanvir Singh	Optimization of cylindrical grinding process parameters for grinding heat treated AISI 4140 steel using ANOVA method	2013
6.	Gurpal Singh Bual	Effect of chemical treatment on surface roughness of parts produced by fused deposition modelling	2014

7.	Tej pal Singh	A comparative study of various surface finishing techniques for parts produced by fused deposition modelling	2014
8.	Jaspinder Singh Manni	To study the effect of different working environments on mechanical properties of ABS plastic parts	2014
9.	Manjotvir Singh Virk	Investigations on producing cost effective investment casting using rapid prototyping technology	2014
10.	Mandeep Singh	Investigations on performance of an internal combustion engine fuelled with blends of diesel and butanol	2015
11.	Ajay Garg	Investigations on reducing surface roughness of fused deposition modelled parts by using chemical treatment	2015
12.	Amandeep Kaur	Investigations on using different biomass fuels in a dual fuel engine	2015
13.	Jeevan Kumar	To investigate the influence of different tool parameters on the mechanical behaviour of copper in friction stir processing	2016
14.	Tejinder Singh Ghuman	Experimental investigation for making EDM electrodes by using FDM assisted investment casting	2016
15.	Kultar Singh Saini	Investigations on machining of D3 die steel by using cryogenically treated wire in WEDM	2016
16.	Arshveer Singh	Optimization of process parameters for TIG welding of AISI 304 stainless steel	2016
17.	Ankit Galotra	Comparison of detonation spray coatings on EN45 steel for wear behaviour	2016
18.	Charanpal Singh	An alternative cost effective technique to fabricate dental implant surgical templates using fused deposition modelling	2017
19.	Amandeep Kumar	Effect of Heat Treatment on mechanical properties of parts produced by using PETG material on FDM Machine	2017
20.	Abhishek Sharma	Effect of Pongamia bio-lubricant and Pongamia biodiesel on the performance and emission characteristics of a diesel engine	2017
21.	Simranjeet Singh	Reduction in Cost and Shell Cracking in FDM Pattern based Investment Casting	2017
22.	Sameer Bhatt	Performance Analysis of a Compression Ignition Engine Fuelled with Blends of Diesel and n-Butanol	2018
23.	Vinay Srivastava	A comparative study of ZNO and AIN thin films for mems based piezoelectric sensors	2020
24.	Ajay Kumar	Effect of electroplating on mechanical properties of ABS plastic parts fabricated by fused deposition modelling	2022

25	Ajay Kumar	Effect of electroplating on mechanical properties of PLA plastic parts fabricated By fused deposition modelling	2023
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#### 16. List of Papers Published:

International Journals				
S. No.	Year of Publication	Authors	Title of Research Paper	Name of Journal
1	2012	Ashish Malik, Parlاد Kumar	Performance Characteristics Of Diesel Engine Fuelled By Biodiesel Of Jatropha Oil And Soybean Oil	Asian Review of Mechanical Engineering, Vol.1, No.2, pp. 30-33
2	2012	Rajesh Choudhary, Parlاد Kumar, Jagdeep Singh	Analysis Of Electro Discharged Machined Surfaces Of AISI D3 Steel By Composite Tool Electrode	International Journal of Surface Engineering & Materials Technology, Vol. 2 No. 2, pp. 53-58
3	2012	Parlad Kumar, I.P.S. Ahuja, Rupinder Singh	Application of fusion deposition modelling for rapid investment casting – a review	Int. J. Materials Engineering Innovation, Vol. 3, Nos. 3/4, 2012, pp. 204-227
4	2013	Parlad Kumar, Rupinder Singh, I.P.S. Ahuja	A Framework for Developing a Hybrid Investment Casting Process	Asian Review of Mechanical Engineering, Vol. 2 No. 2, 2013, pp. 49-55
5	2013	Harvinder Singh, Khushdeep Goyal, Parlاد Kumar,	Experimental Investigation of WEDM Variables on Surface Roughness of AISI H13	Manufacturing Science and Technology 1(2): 23-30, 2013
6	2013	Navjot Singh, Parlاد Kumar, Khushdeep Goyal	Effect of Two Different Cryogenic Treated Wires in Wire Electrical Discharge Machining of AISI D3 Die Steel	Journal of Mechanical Engineering, Vol. ME 43 , No. 2, pp. 54-60 Transaction of the Mechanical Engineering Division, The Institution of Engineers, Bangladesh.
7	2014	Navjot Singh, Parlاد Kumar, Khushdeep Goyal	Experimental Investigation of WEDM Variables on Surface Roughness of AISI D3 Die Steel By Using Two Cryogenically Treated Different Wires	Manufacturing Science and Technology Vol. 2, No.1, pp. 20-25.
8	2014	Gurpal Singh Bual, Parlاد kumar	Methods to Improve Surface Finish of Parts Produced by Fused Deposition Modeling	Manufacturing Science and Technology, Vol. 2, No.3, pp. 51-55
9	2014	Taranvir Singh, Parlاد Kumar, Khushdeep Goyal	Optimization of Process Parameters for Minimum Out-of-Roundness of Cylindrical Grinding of Heat Treated AISI 4140 Steel	American Journal of Mechanical Engineering, Vol. 2, No. 2, 34-40

10	2014	Karanvir Singh, Parlad Kumar, Khushdeep Goyal	To Study the Effect of Input Parameters on Surface Roughness of Cylindrical Grinding of Heat Treated AISI 4140 Steel	American Journal of Mechanical Engineering, 2014, Vol. 2, No. 3, pp.58-64
11	2014	Taranveer Singh, Khushdeep Goyal, Parlad Kumar	To Study the Effect of Process Parameters for Minimum Surface Roughness of Cylindrical Grinded AISI 1045 Steel	Manufacturing Science and Technology 2(3): 56-61.
12	2014	Taranveer Singh, Khushdeep Goyal, Parlad Kumar	Effect Of Process Parameters For Optimum Material Removal Rate of Cylindrical Grinding of AISI 1045 Steel	Journal of Mechanical Engineering, Transaction of the Mechanical Engineering Division, The Institution of Engineers, Bangladesh ,Vol. 44, No. 2, pp. 100-104.
13	2015	Tej pal Singh, Parlad Kumar	Surface finishing techniques for Investment Casting patterns produced by using Fused Deposition Modelling	International Journal of Manufacturing Science and Engineering. Vol. 06, No. 01, pp. 163-175
14	2015	Jaspinder Singh Manni, Parlad Kumar	Effect of Different Working Environments on Mechanical properties of ABS plastic parts	International Journal of Mechanical engineering and Materials Sciences Vol.08, No. 01, pp. 103-109
15	2015	Harvinder Singh, Khushdeep Goyal, Parlad Kumar,	Effect of WEDM Variables on Material Removal Rate of AISI H13 Material	International Journal of Mechanical engineering and Materials Sciences Vol.08, No. 01, pp.7-13
16	2015	Parlad Kumar, Rupinder Singh, I.P.S. Ahuja	Investigations for Mechanical Properties of Hybrid Investment Casting: A Case Study	Materials Science Forum, Vol.808, pp. 89-95.
17	2015	Parlad Kumar, Rupinder Singh, I.P.S. Ahuja	Investigations on dimensional accuracy of the components prepared by hybrid investment casting	Journal of Manufacturing Processes, Vol. 20, No. 3, pp. 525–533
18	2016	Parlad Kumar, I.P.S. Ahuja, Rupinder Singh	Experimental investigations on hardness of the biomedical implants prepared by hybrid investment casting	Journal of Manufacturing Processes, 21, No. 1, pp. 160- 171
19	2016	Parlad Kumar, I.P.S. Ahuja, Rupinder Singh	Effect of process parameters on surface roughness of hybrid investment casting	Progress in Additive Manufacturing, Vol.1, pp. 45-53
20	2017	Kultar Singh Saini, Parlad Kumar	Effect of Cryogenically Treated Wire on Surface Roughness in Wire EDM Process	International Journal of Advanced Mechatronics and Robotics, Vol.9, No.1, pp. 9-14. ISSN: 0972-6108
21	2017	Kultar Singh Saini, Parlad Kumar	Enhancement of Material Removal Rate by Using	International Journal of Advanced Mechatronics and

			Cryogenically Treated Wire in Wire EDM Process	Robotics, Vol.9, No.1, pp. 1-7. ISSN: 0972-6108
22	2017	Parlad Kumar, Rupinder Singh, I.P.S. Ahuja	Multi-objective optimization of dimensional accuracy, surface roughness and hardness of hybrid investment cast components	Rapid Prototyping Journal, Vol.23, No.5, pp. 845-857
23	2017	Sarpreet Singh, Deepak Goyal, Parlad Kumar Garg	Review of Laser Cladding Process to Control Wear Of Different Materials	Journal of emerging trends in Engineering, sciences and Technology, vol.5, No. 2., 2017 ISSN:2394-5354 pp. 10-12
24	2017	Sarpreet Singh, Parlad Kumar Garg, Deepak Goyal	Comparison of Laser Cladding And Thermal Spraying Techniques Used For Wear Control	Research Cell: An International Journal of Engineering Sciences Special Issue November 2017(ETME-17), Vol. 25, pp. 222-229. ISSN: 2320-0332(Online)
25	2019	Anil Jindal, Dr. Parlad Kumar & Dr. Sushil Mittal	Study On Abrasive Flow Machining for The Metal Matrix Composites	International Journal of Mechanical and Production Engineering Research and Development (IJMPERD) ISSN: 2249-8001 Vol. 9, Special Issue, Jun 2019, 1035-1045
26	2020	Sarpreet Singh, Deepak Kumar Goyal, Parlad Kumar and Anuj Bansal	Laser cladding technique for erosive wear applications: a review	Materials Research Express, Volume 7, Number 1 Mater. Res. Express 7 (2020) 012007 ISSN: 2053-1591
27	2021	Simranjeet Singh, Parlad Kumar, Jagmeet Singh	An approach to eliminate shell cracking problem in fused deposition modeling pattern based investment casting process	IOP Conference Series: Materials Science and Engineering, Vol. 1091 Article no. 012035 ISSN:1757-8981
28	2021	Anil Jindal, Parlad Kumar and Sushil Mittal	Effect of process parameters on material removal rate in magnetic abrasive flow machining of Al/SiC/B4C metal matrix composites	IOP Conference Series: Materials Science and Engineering Vol. 1091 Article no. 012053 ISSN:1757-8981
29	2021	Deepak Dhand, Parlad Kumar and Jasmaninder Singh Grewal	A review of thermal spray coatings for protection of steels from degradation in coal fired power plants	Corrosion Reviews vol. 39, no. 3, 2021, pp. 243-268. ISSN: 2191-0316
30	2021	Sarpreet Singh, Parlad Kumar, Deepak Kumar	Erosion behavior of laser clad Colmonoy-6 + 50%WC on SS410 steel under	International Journal of Refractory Metals and Hard Materials 98 (2021) 105573

		Goyal, Anuj Bansal	accelerated slurry erosion testing	ISSN: 0263-4368
31	2021	Deepty Bansal, Parlad Kumar, Ashu Chouhan	Role of Technology in The growth of Startups in India	PIMT Journal of Research Vol. 13, No. 2 (B), (Jan-Mar, 2021), pp. 70-73 ISSN: 2278-7925
32	2021	Harpreet Pal Singh, Parlad Kumar	Developments in the human machine interface technologies and their applications: a review	Journal of Medical Engineering & Technology, 45(7):552-573 ISSN: 1464-522X
33	2021	Deepak Dhand, Jasmaninder Singh Grewal and Parlad Kumar	Study and comparison of wear behaviour of Ni-Al <sub>2</sub> O <sub>3</sub> coatings deposited by hot and cold spray	Surface Topography: Metrology and Properties, Volume 9, Number 4 9 045056 ISSN: 2051-672X
34	2022	Vinay Srivastava, Jaspreet Singh, Parlad Kumar, Sataypal Singh Arora, Satinder Pal Singh, Surinder Singh	A comparative study of structural, mechanical and electrical properties of ZnO and AlN thin films for MEMS based piezoelectric sensors	Materials Research Express Vol.9, No. 2, 026402 ISSN: 2053-1591
35	2022	Sarpreet Singh, Deepak Kumar Goyal, Parlad Kumar, Anuj Bansal	Influence of Laser Cladding Parameters on Slurry Erosion Performance of NiCrSiBC+50WC Claddings	International Journal of Refractory Metals and Hard Materials, Volume 105, 105825 ISSN: 0263-4368
36	2022	Deepak Dhand, Parlad Kumar and Jasmaninder Singh Grewal	Wear behaviour and microstructural characteristics of cold sprayed nickel-alumina coatings on boiler steel	Journal of Electrochemical Science and Engineering 12(5), 841–849. ISSN 1847-9286
37	2022	Deepak Dhand, J S. Grewal and Parlad Kumar	Application of the high-velocity oxy-fuel technique to combat surface degradation in power generation industry – a review	Journal of Mines, Metals and Fuels, Vol. 70(3A), pp. 84–91. ISSN : 0022-2755
38	2023	Sarpreet Singh, Anuj Bansal, Parlad Kumar, Deepak Kumar Goyal	Slurry erosion behaviour of Hogonas+50%WC cladded SS304 steel prepared using variable laser cladding parameters	International Journal of Refractory Metals and Hard Materials, Volume 115, 106326 ISSN: 0263-4368

Conference Publications				
S. No.	Year of Publication	Authors	Title of Research Paper	Name of Conference
1	2008	Parlad Kumar,	Experimental performance of an engine using traditional	Proceedings of International conference on Recent Developments in Mechanical

		Roshan Lal Viridi, Ashish Malik	diesel and biodiesel from Palm Oil, Coconut oil and waste cooking oil.	Engineering from 23 to 25 January 2008 at SUS college of Engineering & Technology, Tangori. pp. 174-178
2	2008	Parlad Kumar, Ashish Malik	Prospectus of Biodiesel as I.C. Engine fuel in India	Proceedings of National conference on Trends in Mechanical Engg. from 8 to 9 February 2008 at Chandigarh Engg. College Landran. pp.58-65
3	2008	Parlad Kumar, Ashish Malik	Impact of Biodiesel on Environment	Proceedings of National Conference on Recent Advances in the Development of Sustainable Environment from 3 to 4 May 2008 at Haryana Engg. College, Jagadhari. pp. 217-222
4	2009	Ashish Malik, Parlad Kumar	Utilisation of Bio Residues as an Engine Fuel	Proceedings of National Conference on Innovative Development in Engineering Applications from 26 to 27 March 2009 at Bhai Gurdas Institute of Engg. & Tech. Sangrur. pp. 319-322
5	2013	Ashish Malik, Parlad Kumar	Solid Waste Disposal in Urban Areas: A Threat to Environment	International conference on manufacturing excellence, organised by department of mechanical and automation engineering, Amity school of engineering and technology, Amity University NOIDA. 30-31 may 2013, pp 284-287.
6	2013	Ashish Malik, Parlad Kumar, Sujata Saha	Performance Evaluation Of A Spark Ignition Car Engine Fuelled By Gasoline-Ethanol Blends	International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (October 3-6, 2013), PTU Jalandhar. pp.496-499
7	2014	Navjot Singh, Parlad Kumar, Khushdeep Goyal	Effect of cryogenic treatment on machining process: A review	TEQIP-II Sponsored National Conference on "Latest Developments in Materials, Manufacturing and Quality Control" from 13-14th February, 2014 by Deptt of Mech. Engg. GZSPTU campus Bathinda. pp. 159-162.
8	2014	Parlad Kumar, Deepty Bansal	Economic Analysis of Investment castings Produced by using Fused Deposition modelling	International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (October 16-18, 2014), PTU Jalandhar. pp. 558-563
9	2014	Ashish Malik, N.P. Singh, Parlad Kumar, Deepty Bansal	Economic Analysis Of Producing Biogas From Rural Waste-A Case Study	International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (October 16-18, 2014), PTU Jalandhar. pp.553-557
10	2015	Amandeep Kaur, Parlad Kumar	Utilization of biomass for generating electricity	TEQIP-II Sponsored National Conference on "Latest Developments in Materials, Manufacturing and Quality Control" from 19-20th February, 2015, by Deptt of Mech .Engg. GZSPTU campus Bathinda. pp.394-397
11	2015	Amandeep Kaur, Parlad Kumar	Status and Potential of Bio-energy in India	TEQIP-II Sponsored National Conference on "Latest Developments in Materials, Manufacturing and Quality Control" from 19-20th February, 2015, by Deptt of Mech .Engg. GZSPTU campus Bathinda. pp.398-400



12	2015	Mandeep Singh, Parlad Kumar	Emission characteristics of IC engines working on biodiesel	TEQIP-II Sponsored National Conference on "Latest Developments in Materials, Manufacturing and Quality Control" from 19-20th February, 2015, by Deptt of Mech .Engg. GZSPTU campus Bathinda. pp. 290-293
13	2016	Parlad Kumar, Ashish Malik, Mandeep Singh	Performance Evaluation of an IC Engine Fuelled with Blends of Diesel and Butanol	3rd International conference on manufacturing excellence, (MANFEX 2016), 17-18 March 2016 organised by department of mechanical engineering, Amity school of engineering and technology, Amity University NOIDA. pp 111-116. ISBN: 978-93-84935-85-6
14	2016	Parlad Kumar, Ashish Malik, Amandeep Kaur, Deepty Bansal	Economic analysis of using different biomass fuels in a dual fuel engine	3rd International conference on manufacturing excellence, (MANFEX 2016), 17-18 March 2016 organised by department of mechanical engineering, Amity school of engineering and technology, Amity University NOIDA. pp 240-247. ISBN: 978-93-84935-85-6
15	2016	Arshveer singh, Parlad Kumar, Mandeep Singh	Optimization of TIG Welding Parameters -A Review	3rd DAV National Congress: Science, Technology, Humanities and Management, organised by DAV Institute of Engineering and Technology on May 20-21, 2016, Vol.2, pp. 39-41, ISBN: 978-93-5254-976-4
16	2016	Ankit Galotra, Parlad Kumar, Baljeet Singh Bhullar	A Review of Wear Resistant Coatings	3rd DAV National Congress: Science, Technology, Humanities and Management, organised by DAV Institute of Engineering and Technology on May 20-21, 2016, Vol.2, pp. 28-31, ISBN: 978-93-5254-976-4
17	2017	Sarpreet Singh,Deepak Goyal, Parlad Kumar Garg	Application of Laser Cladding Technique to Control Wear of Materials: An Overview	Proceedings of International conference on advancements in science and technology held on April 20-21, 2017 at University School of Sciences, Ryat Bahra University Mohali. Punjab ISBN:9789386171429 pp. 163-165.
18	2023	Deepak Dhand, Jasmaninder Singh Grewal, Parlad Kumar	The microstructural characterization and wear behaviour of HVOF sprayed Nickel-Alumina coatings on boiler grade steel	AIP Conference Proceedings, Volume 2715, Issue 1, 020021 15 May 2023

#### 17. List of Courses Taught at PG and UG level:

S.No.	Subject	Class
1.	Additive Manufacturing	M.Tech.
2.	Foundry Technology	M.Tech.
3.	Product Design and Development	M.Tech.
4.	Welding Technology	M.Tech.
5.	Non-Conventional Energy Resources	B.Tech.
6.	Machine Drawing	B.Tech.
7.	Manufacturing Technology	B.Tech.
8.	Theory of Machines	B.Tech.

9.	Machine Design	B.Tech.
10.	Engineering Drawing	B.Tech.
11.	Industrial Safety and Environment	B.Tech.

**18. Administrative responsibilities:**

1. Worked as Placement co-coordinator of the department.
2. Worked as a member of ACD.
3. Worked as member of Board of Studies.
4. Worked as convener and member of many purchase committees.
5. Worked as convener of syllabus revision committees.
6. Working as Coordinator for AICTE affiliation and Extension of approval.

**(Dr. Parlad Kumar Garg)**