


## FACULTY ACADEMIC PROFILE

Name	Dr. Hazoor Singh Sidhu			
Designation	Professor			
Department/ Section/ Subject	Mechanical Engineering			
Official Address	Yadavindra College of Engineering, Punjabi University Guru Kashi Campus, Talwandi Sabo (Distt. Bathinda) Punjab India - 151302			
Contact No. (s)	+91-8146260200			
Email (s)	<a href="mailto:hazoors@yahoo.com">hazoors@yahoo.com</a>			
Thrust Areas/ Research Interests	<ol style="list-style-type: none"> <li>1. Surface Engineering</li> <li>2. Coating and Material Technology</li> <li>3. Welding Technology</li> </ol>			
Subjects Taught	<ol style="list-style-type: none"> <li>1. Material Technology</li> <li>2. Welding Technology</li> <li>3. Basic Thermodynamics</li> <li>4. Non-Conventional Machining methods</li> </ol>			
Total Experience (Years)	19	Teaching Experience	19	Industry Experience
Employment History	<ol style="list-style-type: none"> <li>1. R.E.C. Kurukshetra</li> <li>2. SLIET Longowal</li> <li>3. Yadavindra College of Engineering, 04.02.2005 to till date</li> </ol>			
Membership of Punjabi University Academic Bodies	<ol style="list-style-type: none"> <li>1. Board of Study</li> <li>2. ACD</li> </ol>			
Administrative/ Academic Duties performed.	<ol style="list-style-type: none"> <li>1. Head, YCoE (2016-2019)</li> <li>2. Incharge Mechanical Section (2008-2015)</li> <li>3. Warden Boys Hostel-II (2005)</li> <li>4. Incharge ECA</li> <li>5. Incharge M.Tech</li> <li>6. Incharge College Discipline Committee</li> </ol>			

### ACADEMIC QUALIFICATIONS

Degree	Degree Name	Thesis Title	University
PhD	PhD		
Post-Graduation	M.Tech (Mech. Engg.)		
Graduation	B.Tech (Mech Engg.)	---	
Any other			

## FACULTY RESEARCH PROFILE

Google Scholar ID	<a href="https://scholar.google.com/citations?user=dd56ge8AAAAJ&amp;hl=en">https://scholar.google.com/citations?user=dd56ge8AAAAJ&amp;hl=en</a>		
Impact Factor	2.22+1.45+0.76+1.261+2.129+5.87+1.449+0.73+0.231+0.87+0.35+1.87+1.47+0.87+0.37+0.11+0.6+5.15+0.35+3.192+2.129+3.192+1.3+0.35+2.129+3.192+2.24+3.192+2.129+1.47+1.427+4.178+3.192+1.47+2.12		
	Citation Index	<b><u>795</u></b>	I10-index <b><u>21</u></b>
	h-Index	<b><u>14</u></b>	SJR <b><u>0.973</u></b>
	SNIP	<b><u>1.435</u></b>	
No. of Candidates (Completed PhD)	<b><u>05</u></b>	No. of Candidates (Ongoing PhD)	<b><u>08</u></b>
PG Thesis guided	<b><u>43</u></b>	PG Thesis Ongoing	
Research Projects Completed <b>1. Title 2. Amount in lakhs 3. Date of completion</b>	<ol style="list-style-type: none"> <li>1. Technological Innovations to improve degradation resistance of pulverized coal burner nozzle (PCBN), Rs 2412000/-, D.O.C. : 2014</li> <li>2. Development of Cr<sub>3</sub>C<sub>2</sub> – NiCr Corrosion and Erosion Resistant HVOF Sprayed Coatings for Boiler Tube Steels Operating at Elevated Temperatures, Rs3870000/-, D.O.C. : 2014</li> </ol>		
Research Projects Ongoing	-----		
Research Projects Submitted	-----		
Papers in International Journals	<b><u>46</u></b>	Papers in National Journals	<b><u>11</u></b>
Papers in International Conferences	<b><u>11</u></b>	Papers in National Conferences	<b><u>06</u></b>
Names of Foreign Countries Visited for Academic Purpose	Singapore		
International Conferences Attended	8	National Conferences Attended	<b><u>3</u></b>
Books Published as Single Author	---	Books Published as Joint Author	<b><u>2</u></b>
Edited Books	----	Book Chapters	<b><u>---</u></b>
International Conferences/ Workshops/ Seminars /STCs/ FDPs organized		National Conferences/ Workshops/ Seminars/ STCs/ FDPs organized	<b><u>06</u></b>
Memberships of International Professional Bodies		Memberships of National Professional Bodies	<b>ISTE, IE, SOMME</b>

## PHD SUPERVISION DETAILS

Sr.	Candidate Name	Registration No.	University
<b>Completed</b>			
1	Sukhpal Singh	YCE (TS)-145	Punjabi University Patiala
2	Rakesh Bhatia	PUP-Ph.D (2010)-6	Punjabi University Patiala
3	Tejinder Pal Singh Sarao	PUP (Ph.D) 2009-254	Punjabi University Patiala
4	Gurpreet Singh	PUP (Ph.D) 2009- 287	Punjabi University Patiala
5	Khushdeep Goyal	7141-13-1117	Punjabi University Patiala

## PUBLICATION INTERNATIONAL REFEREED JOURNALS

1. Amrit pal, Sukhpal Singh Chatha, Hazoor Singh Sidhu, "Experimental investigation on the performance of MQL drilling of AISI 321 stainless steel using nano-graphene enhanced vegetable-oil-based cutting fluid", Tribology International, 151 (2020), 106508.
2. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Behaviour of carbon nanotubes-Cr2O3 thermal barrier coatings in actual boiler", Surface Engineering, vol. 36, no. 2, pp. 124-134, 2020. (SCI Indexed, Impact Factor: 2.22)
3. Roshan Lal Viridi, Sukhpal Singh Chatha, Hazoor Singh Sidhu, "Processing Characteristics of Different Vegetable Oil-based Nanofluid MQL for Grinding of Ni-Cr Alloy", Advances in Materials and Processing Technologies, 2020.  
<https://doi.org/10.1080/2374068X.2020.1800312>
4. Puneet Bansal, Gurpreet Singh Hazoor Singh Sidhu, "Investigation of corrosion behavior and surface properties of plasma sprayed HA/Sr reinforced coatings on CoCr alloys", Materials Chemistry and Physics, Available online 5 June 2020,  
<https://doi.org/10.1016/j.matchemphys.2020.123330>
5. Sandeep Kumar, Rakesh Bhatia, Hazoor Singh, "Hot corrosion behaviour of CNT-reinforced zirconium yttrium composite coating at elevated temperature", Materials Today: Proceedings 2020 Chd  
<https://doi.org/10.1016/j.matpr.2020.04.836>
6. Manish Kumar, Hazoor Singh Sidhu, Buta Singh Sidhu, "Effect of different operating parameters on the slurry erosion behavior of cryo-treated hydro-turbine steel", Materials Today: Proceedings 2020,  
<https://doi.org/10.1016/j.matpr.2020.04.816>

7. Roshan Lal Viridi, Sukhpal Singh Chatha, Hazoor Singh Sidhu, "Performance Evaluation of Inconel 718 under vegetable oils based nanofluids using Minimum Quantity Lubrication Grinding", Materials Today: Proceedings 2020, <https://doi.org/10.1016/j.matpr.2020.03.802>
8. Roshan Lal Viridi, Sukhpal Singh Chatha, Hazoor Singh Sidhu, "Performance evaluation of Minimum Quantity Lubrication grinding of hard to machine material under the influence of CuO based Nanofluids", Materials Today: Proceedings 2020, <https://doi.org/10.1016/j.matpr.2020.04.836>
9. Roshan Lal Viridi, Sukhpal Singh Chatha, Hazoor Singh, "Experiment evaluation of grinding properties under Al<sub>2</sub>O<sub>3</sub> nanofluids in minimum quantity lubrication", Materials Research Express, 2019. (SCI Indexed, Impact Factor: 1.45) <https://doi.org/10.1088/2053-1591/ab301f>
10. Goyal, Khushdeep, Singh Hazoor, Bhatia Rakesh, "Hot-corrosion behavior of Cr<sub>2</sub>O<sub>3</sub>-CNT-coated ASTM-SA213-T22 steel in a molten salt environment at 700 C", International Journal of Minerals, Metallurgy, and Materials, vol. 26, no. 3, pp. 337-344, 2019. (SCI Indexed, Impact Factor: 1.261)
11. Singh, Harkulvinder, Chatha Sukhpal Singh, Sidhu Hazoor Singh, "Influence of Heat Treatment and Sealing on Hot Corrosion Behavior of 80Ni-20Cr Coatings", Journal of Thermal Spray Technology, vol. 28, no. 7, pp. 1478-1491, 2019. (SCI Indexed, Impact Factor: 2.129)
12. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Experimental investigations of carbon nanotubes reinforcement on properties of ceramic-based composite coating", Journal of the Australian Ceramic Society, vol. 55, no. 2, pp. 315-322, 2018. (SCI Indexed, Impact Factor: 0.76)
13. Khushdeep Goyal, Hazoor Singh, Rakesh Bhatia, "Mechanical properties of carbon nanotubes reinforced composites: a review", Journal of Emerging Technologies and Innovative Research, vol. 5, no. 8, pp. 1012-1016, 2018.
14. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Hot corrosion behaviour of carbon nanotubes reinforced chromium oxide composite coatings at elevated temperature",

- Materials Research Express, vol. 5, no. 11, pp. 116408, 2018. (SCI Indexed, Impact Factor: 1.449)
15. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Effect of carbon nanotubes on properties of ceramics based composite coatings", Advanced Engineering Forum, vol. 26, pp. 56-66, 2018.
  16. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Cyclic high temperature corrosion studies of carbon nanotubes-Cr<sub>2</sub>O<sub>3</sub> composite coatings on boiler steel at 900° C in molten salt environment", Anti-Corrosion Methods and Materials, vol. 65, no. 6, pp. 646-657, 2018. (SCI Indexed, Impact Factor: 0.73)
  17. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Mechanical and microstructural properties of carbon nanotubes reinforced chromium oxide coated boiler steel", World Journal of Engineering, 2018. (SCI Indexed, Impact Factor: 0.231)
  18. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Experimental investigations of carbon nanotubes reinforcement on properties of ceramic-based composite coating", Journal of the Australian Ceramic Society, 2018. ( Impact Factor: 0.76)
  19. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Carbon Nanotubes: A Material for Composites", A Journal of Nanotechnology and Its Applications, vol. 19, no. 2, pp. 42-49, 2017.
  20. Chatha Sukhpal Singh, Sidhu, Hazoor S, Sidhu, Buta Singh, "Performance of 75Cr3C2-25NiCr coating produced by HVOF process in a coal-fired thermal power plant", Advanced Materials Research, vol. 1137, pp. 88-100, 2016. (Impact Factor: 0.87)
  21. Goyal Khushdeep, Singh Hazoor, Bhatia Rakesh, "Current status of thermal spray coatings for high temperature corrosion resistance of boiler steel" Journal of Material & Metallurgical Engineering, vol. 6, no. 1, pp. 29-35, 2016.
  22. Singh Jarnail, Singh Hazoor, "Erosion behavior of Pulverized Coal Burner Nozzle material hardfaced by solid wire and flux cored wire electrode", Materials Science Forum, vol. 808, pp 1-10, 2015. ( Impact Factor: 0.35)
  23. Bhatia Rakesh, Sidhu Hazoor Singh, Sidhu Buta Singh, "High temperature behavior of Cr<sub>3</sub>C<sub>2</sub>-NiCr coatings in the actual coal-fired boiler environment", Metallurgical and Materials Transactions E, vol. 2, no. 1, pp. 70-86, 2015. (Impact Factor: 1.87)

24. Singh Gurpreet, Singh Hazoor, Sidhu Buta Singh, "In vitro corrosion investigations of plasma-sprayed hydroxyapatite and hydroxyapatite-calcium phosphate coatings on 316L SS", *Bulletin of Materials Science*, vol. 37, no. 6, pp. 1519-1528, 2014. (SCI Indexed, Impact Factor: 0.87)
25. Singh Gurpreet, Singh Hazoor, Sidhu Buta Singh, "Characterization and investigation of in-vitro Corrosion behavior of plasma Sprayed hydroxyapatite and hydroxyapatite– Calcium phosphate coatings on AISI 304", *Journal of Corrosion Science and Engineering*, vol. 17, pp. 1-14, 2014. ( Impact Factor: 0.11)
26. Singh Tejinder Pal, Singh Harpreet, Singh Hazoor, "Characterization of Thermal Sprayed Hydroxyapatite Coatings on Some Biomedical Implant Materials", *Journal of Applied Biomaterials & Functional Biomaterials*, vol. 12, no.1, pp. 48 – 56, 2014. ( Impact Factor: 0.37)
27. Rakesh Bhatia, Hazoor Singh, and Buta Singh Sidhu, "Hot Corrosion Studies of HVOF-Sprayed Coating on T-91 Boiler Tube Steel at Different Operating Temperatures", *Journal of Materials Engineering and Performance*, vol. 23, no.2,pp. 493-505, 2014. ( SCI Indexing, Impact Factor: 1.47)
28. Gurpreet Singh, Hazoor Singh, Buta Singh Sidhu, "Characterization and corrosion resistance of plasma sprayed HA and HA–SiO<sub>2</sub> coatings on Ti–6Al–4V," *Surface & Coatings Technology*, vol. 228, pp. 242–247, 2013. (SCI Indexed, Impact Factor: 3.192)
29. Gurpreet Singh, Hazoor Singh, Buta Singh Sidhu, "Corrosion behavior of plasma sprayed hydroxyapatite and hydroxyapatite-silicon oxide coatings on AISI 304 for biomedical application," *Applied Surface Science*, vol. 284, pp. 811– 818, 2013. (SCI Indexed, Impact Factor: 5.15)
30. Gurpreet Singh, Hazoor Singh, Buta Singh Sidhu, "The Effect of CaP Concentration on Corrosion Behavior of Plasma Sprayed Hydroxyapatite Coating on Titanium in Simulated Body Fluid," *Biomimetics Biomaterials and Tissue Engineering*, vol. 18, Issue 1, 2013., doi: 10.4172/1662-100X.1000103, (SCI Indexed, Impact Factor: 0.11)
31. Hazoor S. Sidhu, Buta S. Sidhu, "Erosion characteristics of HVOF developed Cr<sub>3</sub>C<sub>2</sub>-NiCr and WC-Co coatings", *Recent Advancement in Manufacturing Processes, Materials Science Forum*, vol. 751, pp. 71-79, 2013.

32. Sukhpal Singh Chatha, Hazoor S. Sidhu, Buta S. Sidhu, "Hot corrosion in power plant boilers and role of coatings: A review", *Steam and Boiler Review*, vol.7, no. 2, pp 199-201, 2013.
33. Sukhpal Singh Chatha, Hazoor S. Sidhu, Buta S. Sidhu, "High Temperature behavior of a NiCr coated T91 boiler steel in the Platen super heater of coal fired boiler", *Journal of Thermal Spray Technology*, vol.22, no.1, pp. 838-847, 2013. (SCI Indexed, Impact Factor: 2.129)
34. Rakesh Bhatia, Hazoor S. Sidhu, Buta S. Sidhu, "Characterisation of 80 % Cr<sub>3</sub>C<sub>2</sub> - 20 % (Ni-20Cr) coating and erosion behavior" *Asian Journal of Engineering and Applied Technology*, vol. 1, no. 2, pp. 5-12, 2012.
35. Rakesh Bhatia, Hazoor S. Sidhu, Buta S. Sidhu, "characteristic parameters and erosion behaviour of 65% Cr<sub>3</sub>C<sub>2</sub> –35% NiCr coating", *International Journal of Surface Engineering and Materials Technology*, vol.2, no.2, pp 39-47, 2012.
36. Tejinder Pal Singh, Hazoor Singh, Harpreet Singh, "Characterization and In-Vitro Corrosion Investigations of Thermal Sprayed Hydroxyapatite and Hydroxyapatite-Titania Coatings on Ti-Alloy", *Metallurgical and Materials Transactions-A*, vol. 43, no.11, pp. 4365-4376, 2012. (SCI Indexed, Impact Factor: 2.24)
37. Tejinder Pal Singh, Hazoor Singh, Harpreet Singh, "Characterization and In-vitro Investigations of Thermal Sprayed HA and HA/TiO<sub>2</sub> Coatings on 316L SS", *Journal of Thermal Spray, Technology*, vol. 21, no.5, pp. 917-927, 2012. (SCI Indexed, Impact Factor: 2.129)
38. Sukhpal Singh Chatha, Hazoor S. Sidhu, Buta S. Sidhu "High temperature hot corrosion behaviour of NiCr and Cr<sub>3</sub>C<sub>2</sub>-NiCr coatings on T91 boiler steel in an aggressive environment at 750 °C", *Surface and coating technology*, vol. 206, no. 19-20, pp. 3839-3850, 2012. (SCI Indexed, Impact Factor: 3.192)
39. Sukhpal Singh Chatha, Hazoor S. Sidhu, Buta S. Sidhu "The effects of post-treatment on the hot corrosion behaviour of the HVOF sprayed Cr<sub>3</sub>C<sub>2</sub>-NiCr coating," *Surface and coating technology*, vol. 206, no. 19-20, pp. 4212-4224, 2012. (SCI Indexed, Impact Factor: 3.192)
40. Sukhpal Singh Chatha, Hazoor S. Sidhu, Buta S. Sidhu "Characterisation and corrosion-erosion behaviour of carbide based thermal spray coatings", *The Journal of Minerals and*

- Materials Characterization and Engineering, vol. 11, no. 6 pp. 569-586, 2012. (SCI Indexed, Impact Factor: 1.33)
41. Hazoor S. Sidhu, Buta S. Sidhu, S. Prakash, "Performance of HVOF sprayed NiCr and Stellite-6 coatings under Pin on Disc wear testing", Rapid Casting Solutions, Materials Science Forum, vol. 701, pp 21-29, 2012. (SCI Indexed, Impact Factor: 0.35)
  42. Sukhpal Singh Chatha, Hazoor S. Sidhu, Buta S. Sidhu "Role of Post Treatment in Thermal Spray Coatings", International Journal of Materials Science and Engineering, vol. 2, no. 1-2, pp. 153-162, 2011.
  43. Hazoor S. Sidhu, Buta S. Sidhu, S. Prakash, "Wear characteristics of Cr<sub>3</sub>C<sub>2</sub>-NiCr and WC-Co coatings deposited by LPG fueled HVOF" Tribology International, vol. 43, pp. 887-890, 2010. (SCI Indexed, Impact Factor: 3.51)
  44. T. S. Sarao, H. S Sidhu, H. Singh, R. Chhibber, "Metallic Biomaterials", Indian Journal of Engineering, Science & Technology, vol.4, No.1, pp 46-50, 2010.
  45. Hazoor Singh, Buta Singh and S. Prakash, "Solid particle erosion of HVOF sprayed NiCr and Stellite-6 coatings", Surface and Coatings Technology, vol. 202, pp. 232-238, 2007. (SCI Indexed, Impact Factor: 3.192)
  46. Hazoor Singh, Buta Singh and S. Prakash, "Hot Corrosion Behavior of HVOF Sprayed Coatings on ASTM SA213-T11 Steel", Journal of Thermal Spray Technol. (ASM), vol. 16 (3), pp. 349-354, 2007. (SCI Indexed, Impact Factor: 2.129)
  47. Hazoor Singh, Buta Singh and S. Prakash, "Mechanical and Microstructural Properties of HVOF sprayed WC-Co and Cr<sub>3</sub>C<sub>2</sub> -NiCr coatings on the boiler tube steels using LPG as the fuel gas", Journal of Material Processing Technology, vol. 171, pp. 77-82, 2006. (SCI Indexed, Impact Factor: 4.178)
  48. Hazoor Singh, Buta Singh and S. Prakash, "The role of HVOF coatings in improving hot corrosion resistance of ASTM-SA210 GrA1 steel in the presence of Na<sub>2</sub>SO<sub>4</sub>-V<sub>2</sub>O<sub>5</sub> salt deposits", Surface and Coatings Technology, vol.200, pp. 5386-5394, 2006. (SCI Indexed, Impact Factor: 3.192)
  49. Hazoor Singh, Buta Singh and S. Prakash, "Evaluation of the hot corrosion behavior of LPG assisted HVOF NiCr wire sprayed boiler tube steels in molten salt environments", Journal of ISIJ International, vol. 46, no.7, pp. 1067-1074, (2006). (SCI Indexed, Impact Factor: 1.427)



50. Hazoor Singh, Buta Singh and S. Prakash, "Cyclic hot corrosion of HVOF sprayed coatings on ASTM SA213-T22 steel at 9000C. Journal of Science and Engg-Corrosion, vol.62, No1, pp 1028-1038, 2006. (SCI Indexed, Impact Factor: 2.12)
51. Hazoor Singh, Buta Singh and S. Prakash, "Comparative characteristic and erosion behaviour of NiCr coatings deposited by various HVOF spray processes", Journal of Materials Engineering and Performance (ASM), vol.15, no.6, pp. 699-704, 2006. (SCI Indexed, Impact Factor: 1.47)
52. R.Arulmani and Hazoor Singh, "Effect of Hardfacing on the performance of ploughshares" Australasian Welding Journal- vol. 49, pp. 50-53, Third Quarter-2004.