Biodata

HARPREET SINGH
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Field of Specialization
Surface Engineering-Thermal Spray and Cold Spray, Degradation of Materials, High Temperature Corrosion and its Prevention, Erosion of Hydraulic Turbines and its Control, Biomedical Coatings, Laser Ablation Resistant Coatings; Sustainable Manufacturing; Cold Spray Additive Manufacturing (CSAM); Waste Utilization

Academic Record

Degree	Institution	University	Year
Ph.D.	Indian Institute of Technology Roorkee, Roorkee, UA, India	Indian Institute of Technology Roorkee, Roorkee, UA, India	2004-05
M.E.	GND Engineering College, Ludhiana, Punjab, India	Panjab University, Chandigarh, India	1998-99
B.E.	GZS College of Engineering & Technology, Bathinda, Punjab, India	Punjabi University, Patiala, Punjab, India	1993-94

Ph. D. Thesis Title: HOT CORROSION STUDIES ON PLASMA SPRAY COATINGS OVER SOME Ni- AND Fe-BASED SUPERALLOYS

Teaching and Research Experience

Institution	Year (from-to)	Designation
Indian Institute of Technology Ropar, Rupnagar (Punjab) India	26.07.2017-Till Date	Professor
Indian Institute of Technology Ropar, Rupnagar (Punjab) India	12.10.2012-25.07.2017	Associate Professor
Indian Institute of Technology Ropar, Rupnagar (Punjab) India	31.07.2009-11.10.2012	Assistant Professor
BBSB Engineering College, Fatehgarh Sahib (Punjab) India	10.05.2005-30.07.2009	Assistant Professor
BBSB Engineering College, Fatehgarh Sahib (Punjab) India	01.07.2001- 09.05.2005 *	Senior Lecturer
BBSB Engineering College, Fatehgarh Sahib (Punjab) India	06.02.1995- 30.06.2001	Lecturer
GTB Khalsa Polytechnic, Malout (Punjab) India	22.07.1994-02.02.1995	Lecturer

****includes deputation period from 30.07.2002-06.05.2005 to IITR, Roorkee for pursuing Ph.D. under QIP.***

Administrative Experience

- Chairman, Library Committee, IIT Ropar, February 2023-Till Date
- Member, Building and Works Committee, IIT Ropar, August 2021-December 2024
- Dean-Industrial Consultancy, Sponsored Research and Industrial Interaction, October 2017-May 2021
- Dean-External Relations, August 2017-October 2017

- Chief Coordinator and Director, IIT Ropar-Technology Business Incubator Foundation, January 2016-May 2021
- Associate Dean-Industrial Relations, International and Alumni Affairs, June 2015 to July 2017
- Chairman, Security Committee, IIT Ropar, January 2014 to September 2021
- Coordinator/HoD, School of Mechanical, Materials and Energy Engineering, IIT Ropar, August 2011-March 2015
- Member, IIT Ropar Senate
- Faculty-in-Charge Cultural Activities, IIT Ropar during 2009-11
- Member, Editorial Board, Int. J. Surf. Eng. Mater. Technol.
- Faculty-in-Charge Training and Placement Cell, IIT Ropar for two years 2009-11
- Member, Board of Studies, Mechanical/Production/Industrial Engineering, Punjab Technical University, Jalandhar for several years
- Dean (R & D) from May 2007 to July 2009, BBSB Engineering College, Fatehgarh Sahib
- Was Member, Parent-Teachers' Association for one year, BBSB Engineering College, Fatehgarh Sahib
- Was Officer-in-Charge, Guru Gobind Singh Study Circle Unit for 5 years, BBSB Engineering College, Fatehgarh Sahib
- Was Member, QMS group, BBSB Engineering College, Fatehgarh Sahib
- Hostel Wardenship for one year, BBSB Engineering College, Fatehgarh Sahib

Guidance of Post-Doctoral Fellows and Ph.D. and M.Tech. Students (Annexure A)

- **Post-Doctoral** : 10
- **Ph.D.** **:** Produced-24, Supervising-12
- **M. Tech.** **:** 27

Membership of Professional Bodies

- Fellow, Institution of Engineers (India): F-120599-0
- Life Member, Tribology Society of India (TSI)
- Life Member, Indian Institute of Metals (IIM)
- Life Member, Punjab Academy of Sciences India
- Life Membership, Indian Society for Technical Education (MISTE) India
- Life Member, Society of Materials and Mechanical Engineers
- Chartered Engineer, Institution of Engineers (India) F-120599-0
- Life Member, Society of Materials and Mechanical Engineers
- Life Member and Founder President, Indian Thermal Spray Association (ITSA)

Subjects Taught

- Smart Manufacturing
- Manufacturing with Metallic and Non-Metallic Materials
- Manufacturing Technology, Automation
- Tribology
- Machine Design
- Surface Engineering
- Product Design and Realization
- Machine Drawing

Salient Short-Term Courses/Conferences Organized

- One-day National Thermal Spray Awareness Workshop, March 10, 2025
- Hands-on Workshop on Cold Spray Technology, July 15-19, 2024
- Centre for Australia-India Relations (CAIR), Maitri Research Program - Networking Workshop, CII Chandigarh, October 15, 2024
- Centre for Australia-India Relations (CAIR), Maitri Research Program - Networking Workshop, TAMCOE Chennai, October 17, 2024
- One-day National Thermal Spray Awareness Workshop, July 21, 2023
- National Thermal Spray Conference (NTSC 2023) as President and Conference Chair, February 18-19, 2023
- International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME-2019), December 5-7, 2019

- Indo-UK Workshop on 'Sustainable Food Supply Chain' April 12, 2019
- One-day Workshop on 'Sustainable Manufacturing' March 19, 2019 sponsored by Materials and Manufacturing Panel, Aeronautics Research and Development Board
- Coordinator, GIAN Course on 'Surface Engineering' during June 23-28, 2017
- Coordinated a faculty development programme on 'Industrial Tribology' during January 3-8, 2011
- A joint research colloquium for the faculty and students of Aston University, UK and IIT Ropar during April 12-17, 2010
- Coordinated a staff development programme on 'Thermal Spray Techniques and their Applications in Surface Engineering' during June 22, 2009 to July 3, 2009
- International Conference on 'Advances in Mechanical Engineering (AME2006)' during December 1-3, 2006 at BBSB Engineering College, Fatehgarh Sahib, India co-sponsored by DST, New Delhi
- Coordinated STC on 'Modeling and Simulation of Engineering Systems', 2002 sponsored by ISTE, New Delhi

Awards/Prizes/Citations

- **Eminent Engineering Personality Award** by Institution of Engineers (India), September 13, 2024
- **Achievers Award** for the year 2019 by the Government of Punjab on 550th birthday of Shri Guru Nanak Dev Ji for overall contribution as an educationist
- **Mid-career Faculty Research and Innovation Awards (FRIA)** for the year 2017-18 by IIT Ropar, which constitutes (a) One conference attendance sponsorship each year, for 2 years (b) Professional activity (such as equipment, travel, inviting collaborators, etc.) grant of Rs.30 lakh (c) A Post-Doctoral Scholar for two years at Institute's cost/two professional society membership costs for two years (d) Deemed automatically eligible for Institutional nomination to suitable prestigious national/international recognition
- **Kansai Nerolac Excellence Award for the Excellence in Coating Research** by the Society for Surface Protective Coatings (India) for the year 2013-14. The award has been given for excellent and dedicated research work in surface coatings as well as creating excellent facilities for Coating Research. The Award comprised a Cash Award of Rs. 21,000/- and a Plaque from Kansai Nerolac
- **Career Award for Young Teachers (CAYT)** for the year 2006-07 by All India Council for Technical Education, New Delhi for his contribution to technical education and research proposal on 'Role of Post-Coating Treatments on the Erosion-Corrosion Performance of the Thermal Spray Coatings'. The award consists of a research and development grant of Rs. 10.5 lac
- **Maharashtra State National Award for the Best Research Work done by Teachers of Engineering Colleges** for the year 2007byIndian Society for Technical Education, New Delhi.
- **Young Scientist Award** for the year 2006 by Punjab Academy of Sciences, Patiala during the 9th Punjab Science Congress held at Guru Nanak Dev Dental College and Research Institute, Sunam on February 8, 2006
- The findings of the Ph.D. work along biodata appeared in "**Meet Our New Colleagues" column of International Journal of Thermal Spray Technology, Vol. 14, No. 3, September 2005 published by ASM, USA**
- **ARCI Best Technical Paper Award** worth Rs. 2500/- at International Symposium of Research Scholars on 'Material Science & Engineering,' December 20-22, 2004, IITM, Chennai, INDIA
- **Certificate of Merit in recognition of research paper** at XIII National Conference of Indian Society of Mechanical Engineers (ISME-2003) held at Indian Institute of Technology Roorkee, Roorkee, December 2003
- Was awarded **QIP fellowship by AICTE, New Delhi** for pursing Ph.D. at Indian Institute of Technology Roorkee, Roorkee from July 2002 to July 2005
- Working as a Reviewer for several journals of reputed publishers such as Sciencedirect/Elsevier/IMech
- Associate Editor for a Special Issue of Journal of Thermal Spray Technology 2019, Wiley

National Funded Sponsored Projects-15

1. *Process Parameters optimization for Laser Ablation Resistive Coatings*; CARS-DRDO, Collaborating Laboratory: DLJ Jodhpur (Dr. R.K. Doot), PI and Co-PIs: Prof. Harpreet Singh, Dr. Ravi Kant, Dr. Manpreet Kaur, **Rs. 57.78 Lac, 2024, ongoing**
2. *Cold Spray Coating of High Entropy Alloy (HEA) on Nickel-Aluminium-Bronze (NAB) Alloy to Improve its Cavitation Erosion and Corrosion Behaviour in the Marine Environment;* NRB, Collaborating Laboratory: NMRL (Dr. Gautam), PI and Co-PIs: Dr. Rajiv Kumar, Prof. Harpreet Singh and Dr. M.K. Mishra, **Rs. 50.312 Lac, 2024-Ongoing**

3. *CoE - Degradation Resistant Thermal Spray Coatings Engineered for Indigenous Industrial Applications;* AMT-DST, Industry Partners: AM and MEC India, Partner Institutions: IMMT, PEC, TIET, BBSBEC and CU, **Rs. 379.50 lac, 2023-Ongoing**
4. *Erosion, Corrosion and Deposition Resistant Coatings for Coal-Fired Boilers;* IMPRINT, MHRD, Co-PIs: Dr. Manpreet Kaur; Industry Partner: GE India, **Rs. 96 lac, 2017 – 2020, Completed**
5. *Development of Cold-Spraying Based Additive Manufacturing Process for Industrial Application;* Uchhtar Avishkar Yogna (UAY), MHRD-DST, Co-PIs: Dr. H.S. Grewal, Dr. H.S. Arora, Dr. N. Singh; Industry Partner: GE, India, **Rs. 285.17 lac, 2016 – 2020, Completed**
6. *Parametric Studies of Modulation Assisted Machining of Difficult-to-machine Materials and its Effect on Chip Characteristics;* ARDB-DRDO, **Rs. 24.91 lac, 2016-19, Completed**
7. *Development of Thick Pure Cu Cladding/Coating on SS 304/SS316 Substrates with Cold Spray Technology for In-Vessel Components of Fusion Reactor Application;* BRNS-DAE, Co-PI: Dr. Ramesh B. Kumar, **Rs. 44.67 lac, 2015-19, Completed**
8. Fund for Infrastructure for Science and Technology (FIST); DST, **Rs. 2.15 Crore,** Role: Coordinator**, 2014 – Onwards**
9. *Development of Slurry Erosion Resistant Coatings for Hydro Turbines;* Council of Scientific and Industrial Research (CSIR), **Rs. 15.92 lac, 2012-2015, Completed**
10. *Development of Magnesium Alloy based In-situ Nano-composites for improved Material Properties using Friction Stir Processing;* DRDO, Co-PI: Prof. B.K. Dhindaw, **Rs. 14.10 lac, 2011-2013, Completed**
11. *Surface Engineering to Control Erosion-Corrosion of Steam Generating Plants by Nano-particle Coatings;* Department of Science and Technology (DST), Co-PI: Dr. Narinder Singh, **Rs. 42.5 lac, 2010-2013, Completed**
12. *Development and Performance Evaluation of Bioactive Coatings for Biomedical Applications;* ISIRD Grant, Indian Institute of Technology Ropar, **Rs. 7 lac, 2009-2011, Completed**
13. *Characterization & Machining Performance of Cryogenically Treated Cutting Tools;* Research Promotion Scheme, All India Council for Technical Education (AICTE), PI: Dr. Rupinder Singh, **Rs. 8 lac, 2008-2011, Completed**
14. *Investigations on the Role of Cold Spray Coatings to Control Hot Corrosion of Steam Generating Plants;* CSIR, Co-PI: Dr. Niraj Bala, **Rs. 9 lac, 2007-2010, Completed**
15. *Development of Erosion-Corrosion Resistant Thermal Spray Coatings for Power Plant Boilers;* DST-SERC Fast Track Proposals for Young Scientists Scheme, **Rs. 7.68 lac, 2006-2009, Completed**

Foreign Collaboration Projects-07

1. IUSSTF funded Indo-U.S. Virtual Networked Joint Center project titled, “Development of Durable Advanced Materials for Bio-implants”, Rs. 30 lac, Role: PI (India), 2018-2020
2. SERB-DST funded VAJRA Program, “Joint Institute of Advanced Surface Engineering: Transforming Science into Industrial Solutions” with Prof. Christopher C. Berndt, Swinburne University of Technology, Australia, USD 35000, Role: Co-PI (India), 2018-2021
3. RCUK/BBSRC funded project titled, “Transforming India's Green Revolution by Research and Empowerment for Sustainable Food Supplies (TIGR2ESS)”, Main Coordinating Institute: University of Cambridge, Rs. 95 lac, Role: PI (India), 2018-21
4. Indo Mexican DST CONACYT, “Photo Degradation of Azo Dye Contaminants by New Hybrid Ionic Liquid Decorated ZnO Nanoparticle in Water”, Rs. 35 Lac, Role: Co-PI
5. DST-EPSRC Project titled, “Engineering Driven Sustainable Supply Networks - A UK/India Collaborative Study” under the UK & India Partnership in Advanced Manufacturing Research, in which teams from IIT Ropar, IIM Lucknow and University of Cambridge participated, Rs. 30 lac approx., Role: PI (India), 2014-17
6. Principal Investigator, Aston University-IIT Ropar Bioenergy Research Program, Role: PI (India), 2011-15
7. A project grant of 40000 GBP from British Council (UKIERI) for carrying out collaborative work with Drs. David McPhail and S. Barbara, Materials Department, Imperial College London in the field of surface engineering and friction-stir processing, Role: PI (India), 2012-14

Industrial Consultancy

Serial No.	Client, Year	Consultants	Title	Amount (INR)
1.	ABB Global Industries and Services Private Limited, 2021	Prof. Harpreet Singh	Cold-sprayed composite coatings on copper substrate	6.52 lac
2.	PTU/Government of Punjab, 2019 onward	Prof. S.K. Das, Prof. Harpreet Singh (PI), Dr. Narinder Singh, S.S. Padheee, Dr. Puneet Goyal, Dr. Asad H. Sahir	Proposal for infrastructure and curriculum development for Shri Guru Gobind Singh Skill Institute, Shri Chamkaur Sahib	60 lac
3.	Excise and Taxation, Government of Punjab	Dr. Asad H. Sahir, Dr. Narinder Singh, Prof. Harpreet Singh	Proposal for conducting a Scientific study towards measurement / quantification of production of extra neutral Alcohol (ENA)	30 lac
4.	Cedrus Lifestyle	Dr. Narinder Singh, Prof. Harpreet Singh	Development of coating to resist the Microbial attack on the surface of given samples	10 lac
5.	Association of Hand Tool Industries, Jalandhar	Dr. Narinder Singh and Prof. Harpreet Singh	Investigation of Ni(II)-Cr(III) content in the slug of hand tool industries at Jalandhar (Sensor and Treatments)	10 lac
6.	Wedge Slot (India) Private Limited, Panchkula	Prof. Harpreet Singh and Dr. Himanshu Tyagi	Technical opinion on difference between fabricated cage type V-wire screen (Type D) and pipe	0.1 Lac

Industrial Collaboration

1. Metallizing Equipment Company Private Limited (MEC), Jodhpur, Rajasthan, India
2. Generic Electric (GE), India
3. Applied Materials India Private Limited, India
4. Guru Gobind Singh Thermal Superpower Plant, Ropar, Punjab, India
5. ASB Industries, Inc, Barberton, Ohio, USA
6. ABB, India
7. Cheema Boiler Limited, Rupnagar, India

Foreign Visits-22

1. Attended International Thermal Spray Conference and Exposition (ITSC-2023) at **Quebec City, Canada** during May 22-25, 2023
2. Visited **Nanyang University of Technology, Singapore** as a participant of MHRD's "Leadership for Academicians Program (LEAP)" during December 3-7, 2018
3. Visited **University of North Texas, US** as PI of Indo-U.S. Virtual Networked Joint Center project titled, "Development of Durable Advanced Materials for Bio-implants" during October 3-11, 2018
4. Visited **US and Canada** as a part of academic delegation of the institute during May 19-30, 2018
5. Visited **Canada, US and Germany** as a part of academic delegation of the institute during October 1-10, 2017
6. Visited **Australia and Singapore** as a part of academic delegation of the institute during April 23-May 3, 2017
7. Visited **Cardiff University, UK** for conducting collaborative work during October 17-21, 2016
8. Visited **UK, Canada and US** as a part of academic delegation of the institute during May-June 2016
9. Attended Regional Pravasi Bharatiya Divas, Ministry of Overseas Indian Affairs (MOIA), Government of India as a delegate in **Los Angeles, USA** during November 14-15, 2015
10. Attended International Thermal Spray Conference and Exposition (ITSC-2014) at **Barcelona, Spain** during May 21-23, 2014

11. Visited **Imperial College, London, UK** under UKIERI Project from June 10-24, 2013
12. Attended International Thermal Spray Conference and Exposition (ITSC-2013) at **Busan, South Korea** during May 13-15, 2013 and chaired a session on "Cold Sprayed Powders"
13. Attended International Conference on X-Rays & Related Techniques in Research & Industry 2012 (ICXRI 2012) at **Penang, Malaysia** during July 3-5, 2012
14. Attended International Thermal Spray Conference and Exposition (ITSC-2011) at **Hamburg, Germany** during September 27-29, 2011
15. Visiting faculty at **Imperial College, London, UK** under UKIERI Program from March 14-25, 2011
16. Attended Cold Spray Conference 2010 at **Akron, Ohio, USA** during September 27-28, 2010
17. Attended the 49th Annual International Conference of Metallurgists (COM 2010) at **Vancouver, BC, Canada** during October 3-6, 2010
18. Attended the 47th Annual International Conference of Metallurgists (COM 2008) at **Winnipeg, Manitoba, Canada** during August 24-27, 2008
19. Attended International Thermal Spray Conference and Exposition (ITSC-2008) at **Maastricht, The Netherlands** during June 2-4, 2008
20. Attended The Sixth Pacific Rim International Conference on Advanced Materials and Processing during November 5-9, 2007 at **ICC Jeju, Jeju, South Korea**
21. **Visited ASB Industries Inc, Barberton, Ohio, USA** to have an interaction on Cold Spray Process during July 12-14, 2007
22. Attended MS&T'06 Material Science and Technology 2006 Conference and Exposition during October 15-19, 2006 at **Cincinnati, Ohio, USA**

Expert/Invited Lectures-106

S. No.	Host Organisation	Title of Talk	Event and Date Details
1.	IIT Ropar-CII	Cold Spray: Introduction and Applications	IIT Ropar-CII Online Postgraduate Professional Development Program in Corrosion Management and Technology, April 4, 2025
2.	Mechanical Engineering Department, IIT Ropar	Perspectives on Cold Spray: Introduction, Evolution and Applications (Online)	One Day Workshop on Thermal Spray and its Applications, March 10, 2025
3.	Punjabi University Patiala	Smart Manufacturing: A Paradigm Shift in Manufacturing	2nd International Conference of Advances in Environmental and Sustainable Engineering (CAESE-2025) March 7, 2025
4.	SLIET, Longowal	Perspectives on Cold Spray: Introduction, Evolution, Future and Application	One-week online STTP, "Additive Manufacturing and Material Characterization (AMMC-2025)", February 27, 2025
5.	CSIR-IMMT and (iTSA)	Perspectives on Cold Spray: Introduction, Evolution, Future and Applications	2nd Thermal Spray Conference and Exposition, February 22, 2025
6.	SRM University, Delhi-NCR	Perspectives on Cold Spray: Introduction, Evolution, Future and Applications	11th International Conference on Advancements & Futuristic Trends in Mechanical & Materials Engineering, February 13, 2025
7.	CGC Landran, India	Thermal Spray and its Applications	ATAL Six-day FDP on "Sustainable Materials for Future Technology", December 16, 2024
8.	BITS Mesra, India	Perspectives on Cold Spray: Introduction, Evolution and Future	2nd Indo-European Symposium on "Surface Engineering (IESSE-2024)", December 11, 2024
9.	IIT Ropar, India	Fundamentals of Cold Spray	Hand-on Workshop on "Cold Spray Technology", July 15-19, 2024
10.	IIT Ropar, India	Cold Sprayed Coatings for Marine Environment Application	Hand-on Workshop on "Cold Spray Technology", July 15-19, 2024

11.	IEI, Chandigarh, India	Smart Manufacturing: A Paradigm Shift in Manufacturing	39th National Convention of Mechanical Engineers and the National Seminar on "Innovations in Mechanical Engineering, Sustainable Manufacturing Technologies, Design, and Energy Systems (IMESMTDES-2024)" September 13-14, 2024
12.	CAIR-MAITRI Networking Workshop, Chandigarh, India	Introduction to Cold Spray Process and IIT Ropar Cold Spray Laboratory	Centre for Australia-India Relations (CAIR), Maitri Research Program - Networking Workshop, CII Chandigarh, October 15, 2024
13.	CAIR-MAITRI Networking Workshop, Chennai, India	Introduction to Cold Spray Process and IIT Ropar Cold Spray Laboratory	Centre for Australia-India Relations (CAIR), Maitri Research Program - Networking Workshop, TAMCOE Chennai, October 17, 2024
14.	CSIR-IIP Dehradun, India	Erosion of Hydraulic Turbines Components and its Control	16th Summer School in Tribology (SST), by Tribology Society of India, June 24-28, 2024
15.	CGC Jhanjheri, India	Preparing and Executing Research Proposals and Availing Research Grants	FDP on "Navigating the Research Landscape: Guide to Writing Research Papers", May 8, 2024
16.	Online	High Temperature Corrosion-Case Studies	IIT Ropar-CII Online Postgraduate Professional Development Program in Corrosion Management and Technology, April 20, 2024
17.	SLIET Longowal, India	Cold Spray: Introduction, Evolution and Applications	National Conference on "Advanced and Emerging Materials for Technological Applications (AEMTA-2024)", March 15-16, 2024
18.	Punjabi University Patiala, India	Preparing and Executing Research Proposals and Availing Research Grants	Punjabi University Patiala, February 19, 2024
19.	TIET Patiala, India	Cold Spray based Additive Manufacturing	NCAM-sponsored 5-days Faculty Development Program on "Additive Manufacturing: from Principles to Practice", February 12-16, 2024
20.	CU Kharar, India	Writing and Executing a Research Proposal	Online five-day FDP, "Research Excellence for Publications and Grant Proposals", January 2-6, 2024
21.	Online	Cold Spray and its Applications	IIT Ropar-CII Online Postgraduate Professional Development Program in Corrosion Management and Technology, January 19, 2024
22.	SLIET Longowal, India	Cold Spray based Additive Manufacturing	One-week online FDP, "Recent Trends in Additive Manufacturing (RTAM-2023)", December 18-22, 2023
23.	IIT Ropar, India	Cold Spray: Introduction, Evolution and Applications	International Conference on Fundamental and Industrial Research in Materials ([iConFIRM 2023), December 12-14, 2023
24.	IIT Madras, India	Experimental Investigations on Cold Sprayed Ti-Based Coatings for Bio-Implant Applications	Asian Thermal Spray Conference (ATSC-2023), November 2-4, 2023
25.	MRSPTU Bathinda, India	Experimental Investigations on Cold Sprayed Ti-Based Coatings for Bio-Implant Applications	11th International Conference on "Advancements & Futuristic Trends in Mechanical & Materials Engineering (AFTMME-2023)", October 26-28, 2023
26.	NIT Srinagar, India	Experimental Investigations on Cold Sprayed Ti-Based Coatings for Bio-Implant Applications	TriboIndia-2023, Tribology Society of India (TSI), October 6, 2023

27.	DST-AMT CoE - IIT Ropar, India	Cold Spray and its Applications	One-day Thermal Spray Awareness Workshop, July 21, 2023
28.	CGC Landran, India	Writing a Research Proposal and Executing the Project	Summer Research Symposium, July 3, 2023
29.	TSI at IISc Bangalore, India	Slurry Erosion of Hydraulic Turbines and its Control	15th Summer School in Tribology, June 15, 2023
30.	PEC Chandigarh, India	Development of Innovative Waste Utilization Methodologies	DST Karyashala on "Smart Manufacturing and Circular Economy", February 22, 2023
31.	Jodhpur, India	Strategies to Improve Adhesion Strength of Cold-Sprayed Coatings	National Thermal Spray Conference, February 18, 2023
32.	SUT, Australia	Development of Cold Sprayed Coatings for Biomedical Applications	SEAM Webinar, December 7, 2022
33.	PEC Chandigarh, India	Materials Research Directions- A Perspective	Inaugural Talk, International Conference on "Advanced Materials, Metallurgy and Manufacturing", November 1, 2022
34.	Online	An Introduction to Cold Spraying	ITSA Workshop on "Cold Spray Technology: From Laboratory to Market", October 17, 2022
35.	NIT Srinagar, India	Development of Cold Sprayed Coatings for Biomedical Applications	1st Indo-Russian International Symposium/ FDP "Tribological aspects of Smart Materials and Adaptive coatings for Space/Industrial Applications", October 3-7, 2022
36.	IIT Ropar, India	Development of Innovative Waste Utilization Methodologies	DST STUTI sponsored Hand-on-training course on "Analytical Techniques for Environmental Monitoring Remediation", September 23-29, 2022
37.	Digitalised Surface Manufacturing Network, UK	Perspectives on Cold Spray: Introduction, Evolution and Future	"Thermal Spray Week", March 22, 2022
38.	Punjabi University Patiala, India	Milestones in Science and Technology: Major Achievements	"Science Week Festival-Vigyan Sarvatra Pujyate", February 24, 2022
39.	IIT Roorkee, India	Cold Spray and its Applications for Additive Manufacturing	Two-day Seminar on "Additive and Subtractive Manufacturing for Advanced Engineering Applications: Challenges and Future Aspects, February 24, 2022
40.	MIMT Malout, India	Cold Spray and its Applications	AICTE-ISTE sponsored FDP program "Advancements in Materials & Manufacturing Technologies", January 12, 2022
41.	DAVIET Jalandhar, India	Cold Spray and its Applications	AICTE-ISTE Sponsored Induction/Refresher program on "Advances in Materials Processes and Characterization", January 10, 2022
42.	SLIET Longowal, India	Cold Spray and its Applications for Additive Manufacturing	AICTE/ATAL-FDP on "Manufacturing and Characterization of 3D Printed Materials (MC3DPM-2021)", December 16, 2021
43.	PEC Chandigarh, India	Cold Spray and its Applications for Additive Manufacturing	One-Day National Seminar on "Additive Manufacturing: Trends and Opportunities", December 16, 2021
44.	Online Conference (IIT Ropar, India)	Development of Innovative Waste Utilization Methodologies for Material Removal Processes	9th International Conference on "Advancements & Futuristic Trends in Mechanical & Materials Engineering

			(AFTMME-2021)", December 9-11, 2021
45.	Tribology Society of India (TSI)	Surface Degradation Resistant Coatings for Boilers and Hydro Turbines	TSI Technical Education Webinar series, October 27, 2021
46.	IIT Ropar, India	Strategies to Control Erosion Losses in Hydraulic Machineries	Functional Development Program for SJVN Limited, September 29, 2021
47.	AKGEC, Ghaziabad, India	Development of Innovative Waste Utilization Methodologies for Material Removal Processes	AICTE/ATAL-FDP on "Novel Materials" during October 4, 2021
48.	Online Lecture (MRSPTU Bathinda, India)	Writing a Research Proposal and Executing the Project	AICTE/ATAL FDP on "Research Methodology", August 24, 2021
49.	Online Lecture (MSME DI Ludhiana, India)	EPR & Policy Instruments for E-Waste Management	Program IMC on "Transition from Single Use Plastic", July 29, 2021
50.	Online Lecture (MSME DI Ludhiana, India)	EPR & Policy Instruments for E-Waste Management	Program IMC on "Transition from Single Use Plastic", July 27, 2021
51.	Online Lecture (NITTTR Chandigarh, India)	Use of Scanning Electron Microscopy to Characterize Thick Copper Coatings Deposited on SS316L Steel	STC on "4D Printing for Smart Manufacturing", July 2, 2021
52.	Online Lecture (GNA University Phagwara, India)	The Industry 4.0 Revolution Paradigm and Additive Manufacturing	FDP on "Advanced Materials & Manufacturing for Industry 4.0", June 26, 2021
53.	Online Lecture (DAVIET Jalandar, India)	Development of Innovative Waste Utilization Methodologies for Material Removal Processes	AICTE/ISTE STC on "Advance Materials and Processes for Sustainable intelligent Manufacturing (Phase - III)", June 9, 2021
54.	Online Lecture (Chandigarh University Mohali, India)	Development of Innovative Waste Utilization Methodologies for Material Removal Processes	Hands-on Workshop on "Sophisticated Research Equipment-2021", June 10, 2021
55.	Online Lecture (IIT Bhubaneshwar, India)	Erosion-corrosion Resistant Coatings for Power Plant Boilers	A Virtual Symposium on "Corrosion and Surface Engineering of Aerospace and other Applications", March 19, 2021
56.	Online Lecture (IIT Ropar, India)	The Industry 4.0 Revolution Paradigm and Additive Manufacturing	FDP on "Advancements and Futuristic Trends in 3-D Printing and Design", February 2, 2021
57.	Online Lecture (SOMME, India)	Adhesion Studies of Cold Sprayed Copper Coatings Deposited on SS316L Steel	Online FDP on "Coatings & Surface Engineering: Addressing the Need of Industry", June 15, 2020
58.	Online Lecture (SSM College of Engineering Kashmir, India)	Cold Spraying and its Potential Applications	Webinar on "Emerging Research Trends in Mechanical Engineering", September 22, 2020
59.	Online Lecture (NITTTR Chandigarh, India)	Additive Manufacturing: An Important Skill in Industry 4.0 Arena	STC on "Employability Skills for Industry 4.0", October 13, 2020
60.	Online Lecture (Ningbo, China)	Polytetrafluoroethylene (PTFE)-Modified HVOF-sprayed WC-10Co-4Cr Coatings for Hydraulic Applications	"10th Asian Thermal Spray Conference", November 1-3, 2020
61.	Online Conference (MRSPTU Bathinda, India)	Polytetrafluoroethylene (PTFE)-Modified HVOF-sprayed WC-10Co-	8th International Conference on "Advancements & Futuristic Trends in

		4Cr coatings for Hydraulic Applications	Mechanical & Materials Engineering (AFTMME-20)", December 19-20, 2020
62.	Vignan's Foundation for Science, Technology & Research, Guntur, India	The Industry 4.0 Revolution Paradigm and Additive Manufacturing	2nd National Conference (NCAMMME), October 30, 2020
63.	MRSPTU Bathinda, India	Writing a Research Proposal and Executing the Project	Faculty Development Program (FDP) on "Enhancing Research Capabilities", June 4, 2020
64.	NIT Jalandhar, India	My Experiences with Research in Surface Engineering	Short-term Course on "Advancements in Manufacturing and Material Processing – AMMP", January 2-6, 2020
65.	IIT Ropar, India	Cold Spray and its Potential Applications	AICTE-PTU Sponsored Short-term Course on "Surface Engineering & Materials Characterization", December 12, 2019
66.	IIT Ropar, India	My Experiences with Research in Surface Engineering	"APJ Abdul Kalam Faculty Lecture Series", December 12, 2019
67.	IIT Ropar, India	Effect of Substrate Preparation on Adhesion Strength of Cold-Sprayed Coatings	7th International Conference on "Advancements & Futuristic Trends in Mechanical & Materials Engineering (AFTMME-19)", December 5-7, 2019
68.	IIT Ropar, India	Additive Manufacturing	Short-term Course "Advanced Knowledge in Nut-shell (AKIN)", July 17, 2019
69.	IIT Madras, India	Surface Coatings for Power Industry	26th International Symposium on "Metastable, Amorphous and Nanostructured Materials", July 8-12, 2019
70.	SLIET Longowal, India	Use of Scanning Electron Microscopy to Characterize Thick Copper Coatings Deposited on SS316L Steel	TEQIP-III Sponsored Short-term Training Programme on "Material Characterization & Analytical Techniques for Research Applications (MCATRA-2019)"' July 1-5, 2019
71.	National Institute of Technology (NIT), Jalandhar, India	Characterization and Adhesion Strength Studies of Thick Copper Coatings Deposited on SS316L Steel	TEQIP Sponsored Short Term Course on "Material Characterization Techniques", June 17-21, 2019
72.	IIT Ropar, India	Sustainable Manufacturing: Modulation Assisted Machining	Workshop on "Sustainable Manufacturing" March 19, 2019
73.	Punjab University Regional Centre, Hoshiarpur, India	Design and Fabrication of Near-Perfect Broadband Absorber	6th International Conference on "Advancements & Futuristic Trends in Mechanical & Materials Engineering (AFTMME-18)", November 15-17, 2018
74.	NITTTR, Chandigarh, India	Additive Manufacturing	STC on "Industry 4.0 Standard", January 24, 2019
75.	IIT Madras, India	Cold Spraying and Potential Applications	One-day Workshop on "Thermal Spray Coatings and Applications", July 18, 2018
76.	CU Chandigarh, India	My Experiences with Research in Surface Engineering	Invited Talk, June 28, 2018
77.	MRS PTU, Bathinda, India	My Experiences with Research in Surface Engineering	FDP on "Recent Development in Materials, Manufacturing and Safety", June 25-30, 2018

78.	AHEC, IIT Roorkee, India	Strategies to Counter Degradation in Hydroturbines	Workshop on “Abrasive Erosion in Hydropower Plants”, February 23-24, 2018
79.	Tribology Society of India, Kolkata, India	Strategies to Counter Degradation in Hydroturbines	9th International Conference on “Industrial Tribology (ICIT-2017)”, December 7-9, 2017
80.	Shaheed Udham Singh College of Engineering and Technology, Tangori, Mohali, India	Microstructural Modification of As-cast In-situ Magnesium Matrix Composites using Friction Stir-processing	5thInternational Conference on "Advancements & Futuristic Trends in Mechanical & Materials Engineering (AFTMME-17)", November 2-4, 2017
81.	Guru Nanak Dev University Regional Campus, Sathiala, India	Sustainable Manufacturing	Seminar on “Role of Academic Fraternity towards Clean and Green India”, March 3, 2017
82.	CII, Chandigarh, India	Nano-structured Coatings for Power Plant Boiler Tubes	Symposium on “Corrosive Failure Remedies for High Temperature Components”, June 29, 2016
83.	CGC-Chandigarh College of Engineering, Landran, India	Nano-structured Coatings	IKG PTU-PITTTR Sponsored Faculty Development Program, March 01-05, 2016
84.	Baba Farid College of Engineering & Technology (BFCET), Bathinda, India	Slurry Erosion and its Prevention	4thInternational Conference on "Advancements & Futuristic Trends in Mechanical & Materials Engineering (AFTMME-16)", February 25-27, 2016
85.	Guru Nanak Dev Thermal Power Plant, Bathinda, India	Nano-structured Coatings for Power Plant Boiler Tubes	February 24, 2016
86.	BBSB Engineering College, Fatehgarh Sahib, India	Surface Modification of CA6NM Hydroturbine Steel for Protection against Erosion	National Conference on “Advances in Mechanical, Industrial & Materials Engineering (AMIME-2015)”, November 6-7, 2015
87.	GNA University, Phagwara, India	Surface Modification of CA6NM Hydroturbine Steel for Protection against Erosion	Expert talk on April 6, 2015
88.	Beant College of Engineering and Technology, Gurdaspur, India	Surface Modification of CA6NM Hydroturbine Steel for Protection against Erosion	2nd National Conference on “Recent Trends in Mechanical Engineering (RTME-2015)”, March 21, 2015
89.	Akal College of Pharmacy and Technical Education, Sangrur, India	Opportunities for Research and Development in India	DST-INSPIRE Camp, March 20, 2015
90.	Centre for Nanoscience& Nanotechnology Punjab University, Chandigarh, India	Severe Plastic Deformation Routes for Producing Nano-structured Materials	Special Lecture Series for Students and Research Scholars, March 5, 2015
91.	Punjab Technical University Jalandhar, Kapurthala, India	Use of Friction-stir Process to Produce Nano-composites	International Conference on “Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME-2014)”, October 18, 2014

92.	Guru Nanak Dev Engineering College, Ludhiana, India	Development of Nano-Structured Materials and Coatings by Mechanical Routes	Faculty Development Program on "Micro/nano Material removal and Additive Technologies in Advanced Manufacturing", August 1, 2014
93.	Beant College of Engineering and Technology, Gurdaspur, India	Development of Nano-structured Materials and Coatings through Mechanical Processing	Short Term Course (TEQIP-II) on "Advances in Mechanical Engineering", June 24, 2014
94.	PEC University of Technology, Chandigarh, India	Development of Nano-structured Materials and Coatings through Mechanical Processing	Short Term Course on "Advanced and Micro Manufacturing", June 6, 2014
95.	CT Institute of Engineering, Management & Technology, Jalandhar, India	Development of Nano-structured Materials and Coatings through Mechanical Processing	AICTE Sponsored National Conference "Recent Advancements in Mechanical Engineering (RAME-2013)", December 12, 2013
96.	Punjab University, Chandigarh, India	Developing Nano-Structured Materials and Coatings through Some Mechanical Routes-Our Experiences at IIT Ropar	Faculty Development Programme (FDP) under TEQIP-II, November 26, 2013
97.	Giani Zail Singh Punjab Technical University Campus, Bathinda, India	Development of Nano-structured Materials and Coatings through Some Mechanical Routes	TEQIP II sponsored Short Term Course on "Recent Trends in Materials, Manufacturing and Safety", December 2, 2013
98.	Punjab Technical University Jalandhar, Kapurthala, India	High Temperature Behavior of HVOF Sprayed Nano-structured Ni-20Cr Coating	International Conference on "Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME-2013)", October 3-6, 2013
99.	Korean Institute of Science and Technology (KIST) Seoul, South Korea	High Temperature Corrosion Behavior of Plasma Sprayed Coatings on Some Superalloys	Expert talk, May 16, 2013
100.	ITM Universe Vadodara, India	Comparative High Temperature Corrosion Behaviour of Ni-20Cr Coatings deposited by Various Thermal Spraying Techniques	Chaired a session on Hot Corrosion and invited talk in International Conference on "Corrosion in Infrastructure & Chemical Industries (CICI 2012)", December 6-8, 2012
101.	Punjab Technical University, Jalandhar, India	Slurry Erosion in Hydroturbines and its Protection	Chaired a session and invited talk in International Conference on "Advancements & Futuristic Trends in Mechanical & Materials Engineering", October 5-7, 2012
102.	RIMT College of Engineering and Technology, Mandi Gobindgarh, Punjab, India	Slurry Erosion in Hydroturbines and its Protection	Punjab Technical University sponsored Symposium on "Recent Advances in Emerging Surface Engineering Practices", July 20, 2012
103.	CGC Colleges, Ghuraun, India	Friction Stir Processing of a Mg-based Alloy	AICTE-sponsored Faculty development Program, May 15, 2012
104.	Punjab Technical University, Jalandhar, India	Friction Stir Processing of a Mg-based Alloy	National Conference on "Advances and Futuristic Tends in Mechanical and Materials Engineering (AFTMME 2011)", October 7, 2011
105.	Malout Institute of Management and Information	An Introduction to the Recent R&D Activities in Mechanical and Materials Engineering	Faculty Development Programme on "Advances in Materials and

	Technology, Malout, India		Manufacturing Technology", July 19, 2011
106.	University Institute of Engineering and Technology, Punjab University, Chandigarh, India	Recent R&D Activities in Mechanical Engineering	Chaired one technical session in "National Conference on Advances in Mechanical Engineering (NCAME-2011)", May 21, 2011
107.	Indo Global College of Engineering, Abhipur, India	Renewable Energy Potential	National Conference on "Advances in Renewable Energy Resources", April 29, 2011
108.	Institute of Engineering & Technology, Bhaddal, Ropar, India	Advances in Mechanical Engineering	National Seminar on "Advances in Mechanical Engineering", April 26, 2011
109.	Yadwindra College of Engineering, Talwandi Sabo, India	Friction Stir Welding-Technology and Future Potential	National Conference on "Advances and Futuristic Tends in Mechanical and Materials Engineering (AFTMME 2010)", February 20, 2010
110.	Rayat Institute of Engineering & Information Technology, Rupnagar, India	Thermal Spray Technologies for Surface Engineering	Winter Workshop in Mechanical Engineering Courses, January 13-16, 2009
111.	Shaheed Bhagat Singh College of Engineering & Technology, Ferozepur, India	Thermal Spray Technologies	ISTE-STTP on "Materials Degradation and Their Protection", December 22-26, 2008
112.	Guru Nanak Dev Engineering College, Ludhiana, India	Use of Thermal Spray Technology to Enhance Working Life of Boiler Tubes	ISTE-STTP on "Reliability Centered Maintenance", December 11-15, 2006;

Short-Term Courses/Workshops Attended-09

1. MHRD's **'Leadership for Academicians Program (LEAP)'** at Indian Institute of Technology Kanpur and Nanyang University of Technology, Singapore during November 19-December 7, 2018.
2. Short Term Course on **'Basic Concepts in Cryogenic Technology'** organized by Department of Mechanical and Production Engineering, Guru Nanak Dev Engineering College, Ludhiana from October 17-18, 1996.
3. Short Term Course on **'Productivity Enhancement Thorough Resource Waste Reduction'** organized by Department of Mechanical and Industrial Engineering, Thapar Institute of Engineering and Technology, Patiala, India from December 18-29, 2000.
4. Short Term Course on **'A Workshop on System Modeling and Simulation'** organized by Department of Mechanical Engineering, Sant Longowal Institute of Engineering and Technology, Longowal, Sangrur, India from July 31-August 11, 2000.
5. Short Term Course on **'Industrial Safety and Hazards Management'** organized by Department of Chemical Engineering, University of Roorkee, Roorkee, India from June 13-27, 2001.
6. Short Term Course on **'Corrosion and Its Protection'** organized by Department of Metallurgical and Materials Engineering, Indian Institute of Technology Roorkee, Roorkee, India from June 28-July 2, 2004.
7. Short Term Course on **'Advances in Renewable Energy Technologies'** organized by Department of Mechanical and Industrial Engineering, Indian Institute of Technology Roorkee, Roorkee, India from July 19-23, 2004.
8. Short Term Course on **'Nano Technology-Nano Materials and Their Applications'** organized by Department of Metallurgical and Materials Engineering, Indian Institute of Technology Roorkee, Roorkee, India from February 21-25, 2005.

9. A workshop on **'Thermal Spray (WTS 2007)'** organized by Metallizing Equipment Company Private Limited, Jodhpur, India from February 22-23, 2007.

Patents-Awarded 13, Filed 02

S. No.	Details of Patent	Patent/File No.	Status (Filed / Awarded)	International /National
1.	Angle Grind Coating Equipment and A Method Thereof	US 2023 / 0058272A1: 23/02/2023	Awarded-2023	USA
2.	A Technology and Process for Coating a Substrate with Swarf Particles	US 10835920 B2; 17/09/2020	Awarded-2020	USA
3.	A Technology and Process for 3D Printing Using Swarf Particles	US 2020/ 0039144A1, 2022	Awarded-2022	USA
4.	A Method for Determining a Single Discounting Rate for the Processes involving Emissions	420086	Awarded-2022	National
5.	Erosion-corrosion resistant cold spray coatings for boilers Ni-20CrTiCRe	305383	Awarded-2013	National
6.	Erosion-corrosion resistant coatings for power plant boilers	300838	Awarded-2013	National
7.	A Textured Nanocomposite Coating Composition for Absorption of Electromagnetic Waves	431318	Awarded-2023	National
8.	A Technology and Process for Coating a Substrate with Swarf Particles	482556	Awarded-2023	National
9.	A Stationary Friction Processing System for Minimizing Segregation in A Metallic Work Piece and Method Thereof	480024	Awarded-2023	National
10.	Stationary Friction Processing Process of Thermal Spray Coating for Dramatically Enhancing its Erosion and Erosion-Corrosion Resistance	409535	Awarded-2022	National
11.	Stubble Removing and Conveying Machine	489579	Awarded-2023	National
12.	Simplified Liquid Droplet Erosion Tester	501217	Awarded-2024	National
13.	A Technology and Process for 3D Printing Using Swarf Particles	520044	Awarded-2024	National
14.	System and Method for Tracking Details of Energy Associated with An Energy Generation Process	202011012620	Filed	National
15.	A biodegradable composition and a method of preparing biodegradable composite sheets and a biodegradable waste container thereof	202111013436	Filed	National

Research Publications

- **Handbook Chapter-15**

1. Metal Matrix Composites: Aluminum in Handbook of Composites, Wiley, 2011
   H. Singh and B. K. Dhindaw

2. Numerical Simulation of Erosion Using Computational Fluid Dynamics: CFD Modeling and Simulation in Materials Processing, Wiley, 2012
   H.S. Grewal, **H. Singh** and A. Agrawal

3. Cryogenic Treatment of Materials: Cutting Tools and Polymers: Polymers at Cryogenic Temperatures, Springer Berlin Heidelberg, 2013, pp. 245–273
   S.S. Gill and **H. Singh**

4. Worn Surface Characteristics of a Friction Material during Braking Simulation Test: Design and Modeling of Mechanical Systems, Springer Berlin Heidelberg, 2013, pp. 447–452
   A. Sellami, M. Kchaou, R. Elleuch, **H. Singh** and M. Zeng

5. Corrosion Behaviour in Friction Stir Processed and Welded Materials, in Advances in Friction-Stir Welding and Processing, Woodheed Publishing, 2014, pp. 295–328
   H.S. Arora, H.S. Grewal, **H. Singh** and B.K. Dhindaw

6. Slurry Erosion Behavior of Thermal Spray Coatings, in Thermal Sprayed Coatings and Their Tribological Performances, IGI Global, USA, 2015
   H.S. Grewal and **H. Singh**

7. High Velocity Oxy-Fuel Spraying and Surface Finish, in Comprehensive Materials Finishing, Elsevier Inc, 2017, Vol. 3, pp. 207-219
   H. Singh, M. Kaur and N. Bala

8. Fundamentals of Corrosion Mechanisms in Cold Spray Coatings, in Cavaliere P. (eds) Cold-Spray Coatings. Springer, Cham, 2018, pp. 351-371
   N. Bala, and **H. Singh**

9. Experimental and Numerical Procedure for Studying Effect of Ultrasonic Spot Weld Parameters on Metal Joints for Electronic Components, in Trends in Manufacturing Processes. Lecture Notes on Multidisciplinary Industrial Engineering, Springer, Singapore, 2020, pp. 11–22
   M. Raj, A. Kumar, A. Vendan, R. Kumar, L. Gao, S. Singh, **H. Singh**, X. Niu, and A. Garg

10. Effect of Some Additives on Tribological Properties of SAE20W40 Lubricant, in Lecture Notes Mechanical Engineering, S. S. Emamian et al. (Eds): Advances in Manufacturing Engineering, (Chapter 12), Springer Nature, 2020
    H. S. Grewal, S. Singh, **H. Singh** and N. Singh

11. A Review on Fundamentals of Cold Spray Additive Manufacturing, in Modern Materials and Manufacturing Techniques, (Chapter 7), CRC Press, 2023
    G. Vinay, R. Kant, **H. Singh**

12. Green Composites for Sustainable Application, in Modern Materials and Manufacturing Techniques, (Chapter 1), CRC Press, 2023
    P. Bhowmik, R. Kant and **H. Singh**

13. Metallic Functionally Graded Material, in Modern Materials and Manufacturing Techniques, (Chapter 2), CRC Press, 2023
    K. Kumar, K. Rakha, S. Reza and **H. Singh**

14. Process Competencies of Modulation-Assisted Machining: Advances in Modern Machining Processes. Lecture Notes in Mechanical Engineering, Springer, Singapore, 2023
    M. Singh, S. Dhiman, **H. Singh** and C.C Berndt

15. Recycling of Metal/Polymer Waste as a Feed Stock Material via Additive Manufacturing Technology, Industry 4.0: Concepts, Processes and Systems, CRC Press, 2023
D. Patil, M. Singh, S. Chaudhary and **H. Singh**

- **International Refereed Journals-206**

Year: 2024

1. Singh, S., Kumar, A., Kamboj, M., Das, B., Rakha, K. and **Singh, H.**, (2024), "Corrosion Behaviour of Plasma-Sprayed Baghdadite Bioceramic Coatings Reinforced with Carbon Nanotubes", **J. Alloys and Compounds.**, Vol. 976, DOI: 10.1016/j.jallcom.2023, 173094.
2. Singh A.B., Bhakar, V., Gaurav, G., Khandelwal, C., Sarkar, P., **Singh, H.** and Dangayach, G.S., (2024), "Environmental Sustainability of Milk Production: A Comparative Environmental Impact Analysis and Sustainability Evaluation", **Front. Sustain.**, Vol. 5, 1352572. doi: 10.3389/frsus.2024.1352572.
3. Girish, C. V., **Singh, H.**, Prasad, R.M., (2024), "In-site Synthesized Polymer-Derived SiC Reinforced Aluminium Matrix Composites", **J. Alloys and Compounds.**, Vol. 976, DOI: 10.1016/j.jallcom.2023, 173270.
4. Vinay, G., Halder, S., Kant, R., **Singh, H.**, (2024), "Examining the Contribution of Tamping Effect on Inter-splat Bonding during Cold Spray", **Mater. Sci. Eng.-A,** Vol. 893, DOI: 10.1016/j.msea.2024.146112.

Year: 2023

5. Arora, A., **Singh, H.**, Adlakha, I., Mahajan, D.K., (2023), "On the Role of Vacancy-Hydrogen Complexes on Dislocation Nucleation and Propagation in Metals", **Modelling and Simulation in Materials Science and Engineering**, Vol. 31, No. 8, 085006 (34pp). **IF-1.8**
6. Kumar, A., **Singh, H.** and Kant, R., (2023), "Effect of Substrate Roughness and Ceramic Content on Deposition Characteristics of Cold-Sprayed Ti/TiO2 Composite Coatings", **Met. Mater. Inter.,** Vol. 29, pp. 669–1683. **IF-3.5**
7. Ghai, V., Singh, H., and Agnihotri, P. K., (2023), "Structure Dependent Broadband Optical Absorption in Carbon Nanotubes", **ACS Appl. Opt. Mater.**, Vol. 1, pp. 252-260. **IF-NA**
8. Bhowmik P, Kant R, **Singh H**., (2023), "Effect of Degumming Duration on the Behavior of Waste Filature Silk-Reinforced Wheat Gluten Composite for Sustainable Applications", **ACS Omega**., Vol. 8, No. 7, pp. 6268-6278. **IF-4.26**
9. Singh, P., **Singh, H.** and Singh, A. K., (2023) "Experimental Investigation on Combustion Characteristics of Novel Preheated Air Swirl Burner Operating on the Heavy Oil-Fired Furnace for Reducing NOx Emission", **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects,** Vol. 45, No. 1, pp. 96-110. **IF-2.9**
10. Bhowmik, P., Kant, R., Nair, R. and **Singh, H.**, (2023), "The Synergistic influence of Lemon Extract on the Physio-chemical Properties of Kibisu Silk Reinforced Wheat Gluten Biocomposite", **Polym. Bull.,** Vol. 80, pp. 4371–4386. **IF-2.843**
11. Singh, P., **Singh, H**., Singh, S., Calla, E., Grewal, H. S., Arora, H. S. and Krishnamurthy, A., (2023), "Development, Characterization and High-Temperature Oxidation Behaviour of Hot-Isostatic-Treated Cold-Sprayed Thick Titanium Deposits", **Machines**, Vol. 11. No. 8, 805. **IF-2.899**
12. Singh, S., Berndt, C. C., Singh Raman, R. K., **Singh, H**. and Ang, A. S., (2023), "Applications and Developments of Thermal Spray Coatings for the Iron and Steel Industry", **Materials**, Vol. 16, No. 2, 516. **IF-3.748**
13. Singh, P., Singh, S., **Singh, H**., Calla, E., Grewal, H. S., Arora, H. S. and Krishnamurthy, A., (2023), "Characterization and High-Temperature Oxidation Behavior of Ni–20Cr Deposits Fabricated by Cold Spray-Based Additive Manufacturing", **Coatings**, No. 13, No. 5, 904. **IF-3.4**

Year: 2022

14. Kumar, A., Goyal, D. K., Kant, R and **Singh, H.**, (2022), "Enhancing Corrosion Performance of Cold-Sprayed Titanium/Baghdadite (Ti/BAG) Bio-Composite Coatings via Laser Treatment", **Coatings**, Vol. 12, No. 7, 1010, https://doi.org/10.3390/coatings12071010.
15. Kumar, A., Kant, R and **Singh, H.**, (2022), "Microstructural and Tribological Properties of Laser-Treated Cold-Sprayed Titanium/Baghdadite Deposits, **J. Mater. Research**, Vol. 37, pp. 2698–2709.
16. Singh, N. K., Vinay, G., Ang, A. S. M., Mahajan, D. K. and **Singh, H**., (2022), "Cavitation Erosion Mechanism of HVOF-Sprayed Ni-based Cermet Coatings in 3.5% NaCl Environment", **Surf. Coat. Technol**., Vol. 434, pp. 128194.

17. Singh, A., Singh, P., Pabla, B.S., **Singh, H**. and Shiva, S., (2022), “Parametric Analysis to Explore the Viability of Cold Spray Additive Manufacturing to Print SS316L Parts for Biomedical Application”, **J. Braz. Soc. Mech. Sci. Eng.**, Vol. 44, 339.
18. Singh, P., **Singh, H.** and Singh, A.K. (2022) “Design and Development of an Energy-Efficient Oil-Fired Tilting Furnace with an Innovative Recuperator”. **Inter Metalcast.**, Vol. 16, pp.1745–1757.

Year: 2021

19. Sidhu, S.S., **Singh, H.** and Gepreel, M.A., (2021), “A Review on Alloy Design, Biological Response, and Strengthening of β-titanium Alloys as Biomaterials”, **Mater. Sci. Technol.**, Vol. 121, pp. 111661.
20. Singh, N. K., Kumar, A., Ang, A. S. M., Mahajan, D. K. and **Singh, H.**, (2021), “Characterization and Slurry Erosion Behavior of Nickel-based Cermet Coatings on Monel K-500”, **J. Therm. Spray Technol.**, Vol. 30, pp. 2138-2154.
21. Kumar, A., Kant, R. and **Singh, H.**, (2021), "Tribological Behavior of Cold-Sprayed Titanium/Baghdadite Composite Coatings in Dry and Simulated Body Fluid Environments", **Surf. Coat. Technol.**, Vol. 425, pp. 127727.
22. Kumar, A., **Singh, H.**, Kant, R. and Rasool, N., (2021), "Development of Cold Sprayed Titanium/Baghdadite Composite Coating for Bio-implant Applications", **J. Therm. Spray Technol.**, Vol. 30, pp. 2099-2116.
23. Singh, S., Raman, R.K.S., Berndt, C.C. and **Singh, H.**, (2021), “Influence of Cold Spray Parameters on Bonding Mechanisms: A Review", **Metals**, Vol. 11, No. 12, pp. 2016.
24. Bhowmik, P., Kant, R., Nair, R. and **Singh, H.,** (2021), “Influence of Natural Crosslinker and Fibre Weightage on Waste Kibisu Fibre Reinforced Wheat Gluten Biocomposite”, **J. Polymer Resear.**, Vol 28(4), pp. 1-14.
25. Singh, N.K., Ang, A.S.M., Mahajan, D.K. and **Singh, H**., (2021) “Cavitation Erosion Resistant Nickel-based Cermet Coatings for Monel K-500”, **Tribol. Inter.**, Vol. 159, pp. 106054.
26. Sharma, R. K., Singh, P.K., Sarkar, P. and **Singh, H.**, (2021), “Sustainability in Supply Networks: Finding the Most Influential Green Interventions Using Interpretive Structural Modelling Technique”, **Int. J. Sust. Engg.**, Vol. 14, No. 3, pp. 293-303.
27. Palodhi, L., Das, B. and **Singh, H.**, (2021), “Effect of Particle Size and Morphology on Critical Velocity and Deformation Behavior in Cold Spraying”, **J. Mater. Eng. Perform.**, Vol. 30, pp. 8276–8288.
28. Ghai, V., **Singh, H.** and Agnihotri, P.K., (2021), “Synthesis and Transfer of Large Area Graphene without Support Layer”, **Indian J. Eng. Mater. Sci.**, Vol. 27, pp. 1141-1144.
29. Singh, G., Ghai, V., Chaudhary, S., Singh, S., Agnihotri, P.K. and **Singh, H.**, (2021) “Effect of Graphene on Thermal Conductivity of Laser Cladded Copper”, **Emergent Materials**, Vol. 4, pp. 1491–1498.
30. Singh, M., Dhiman, S., **Singh, H.** and Berndt, C., (2021), “Assessment of Positional Error and Hole Quality during Modulation-Assisted Drilling of Inconel-718”, **J. Mech. Sci. Technol.**, Vol. 35, No. 12, pp. 5621-5630.

Year: 2020

31. Palodhi, L. and **Singh, H**., (2020), “On the Dependence of Critical Velocity on the Material Properties During Cold Spray Process”, **J. Thermal Spray Technol.,** Vol. 29, No. 8, pp. 1-13.
32. Singh, S., Chaudhary, S., **Singh, H**. and Buddu, R. K., (2020), “Effect of Substrate Surface Roughness on Properties of Cold-sprayed Copper Coatings on SS316L Steel”, **Surf. Coat. Technol.,** Vol. 389, pp. 125619.
33. Pal, S., Singh, S., **Singh, H.**, Phung, M. L. and Sleesongsom, S. Y. S., (2020), “Intelligent Design Optimization of Battery Pack Enclosure for Electric Vehicle by Considering Cold-spraying as an Additive Manufacturing Technology, **Energy Storage**, Vol. 2, No. 3, pp. e148.
34. Ghai, V., Baranwal, A., **Singh, H.** and Agnihotri, P.K., (2020), “Multifunctional Thin Film Optically Graded Flexible Absorber”, **Journal of Physics: Conference Series**, Vol. 1537, pp. 012016.
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- **International Conferences-123**

Year: 2024

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Year: 2022

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9. Girish, V., Singh, H. and Prasad, R.M., (2021), “In-situ Polymer-Derived SiC Reinforced Aluminum Composites”, Conference of ‘Advanced Materials Manufacturing for Sustainable Future (NMD-ATM 2021)’, November 13,2021(online mode).
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Year: 2007

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113. Kaushal, G., **Singh, H.** and Prakash, S. (2007),"Application of High-Velocity Oxy-Fuel (HVOF) Thermal Spray Technique in Enhancing Life of Boiler Steels-An Overview", Proc. 'International Conference : Metals and Alloys: Past Present and Future (METALLO 2007), ' December 07-10, held at IIT Kanpur, India, P-15.
114. Kaur, M., **Singh, H.**, and Prakash, S., (2007), "Some Observations regarding Erosion-Corrosion Performance of HVOF-Sprayed Cr3C2-NiCr and Cr3C2-NiCr-(25)WC-Co coatings in Actual Boiler Environment", Proc. 'The Sixth Pacific Rim International Conference on Advanced Materials and Processing, ' November 5-7, ICC Jeju, Jeju Island, Korea.
115. Bala, N., **Singh, H.** and Prakash, S., (2007), "An Overview of Cold Spray Technique", Proc. 'The Sixth Pacific Rim International Conference on Advanced Materials and Processing', November 5-7, ICC Jeju, Jeju Island, Korea.

Year: 2006

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118. Bala, N., **Singh, H.** and Prakash, S., (2006), "Thermal Spray Coating Processes for Steam Generating Plants", Proc. International Conference on 'Advances in Mechanical Engineering (AME2006),' December 1-3, held at BBSB Engg. College, Fatehgarh Sahib, INDIA, pp.275-280.
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Year: 2005

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Year: 2004

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- **National Conferences-33**

Year: 2023

1. Vinay, G., Kant, R. and **Singh, H.,** (2023) "Numerical and Experimental Investigation of Tamping Effect on the Properties of a Cold Sprayed Additive Manufactured Sample", '1st National Thermal Spray Conference', The Indian Thermal Spray Association, India (iTSA), February 18-19, held at Jodhpur, India.
2. Khan, S. W., Vinay, G., Kumar, A., Singh, P. and **Singh, H**., (2023), "Investigations on Corrosion Behaviour of Cold-Sprayed Titanium on SS316L Steel", '1st National Thermal Spray Conference', The Indian Thermal Spray Association, India (iTSA), February 18-19, held at Jodhpur, India.

Year: 2021

3. Singh, M., Dhiman, S., **Singh, H.**, and Berndt, C., (2021), "Process Competencies of Modulation-Assisted Machining", Proc. '8th International & 29th All India Manufacturing Technology, Design and Research Conference (AIMTDR-2021)', December 9-11, held at PSG College of Technology Coimbatore-641004, India.

Year: 2019

4. Ghai, V., **Singh H.,** Agnihotri, P., (2019) "Synthesis and Transfer of Large Area Graphene without Support Layer", Proc. 'Conference on Carbon Materials (CCM-2019)', November 20-22, 2019, held at Indian Habitat Centre, New Delhi, India.

Year: 2012

5. Arora, H.S., **Singh, H.** and Grewal, H.S., (2012), "Fabrication of Al Based Nanocomposite Using Friction Stir Processing" Proc. 'Nano Science and Technology (NanosciTech 2012)', February 15-18, held at Punjab University, Chandigarh, India.
6. Arora, H.S., **Singh, H.** and Grewal, H.S., (2012), "Cavitation Studies on Friction Stir Processed Al Based Nanocomposite" Proc. 'Nano Science and Technology (NanosciTech 2012)', February 15-18, held at Punjab University, Chandigarh, India.

Year: 2011

7. Bala, N., **Singh, H.** and Prakash, S., (2011), "Comparative Performance of Cold Sprayed Ni-20Cr and Ni-50Cr Coatings on T22 Boiler Steel in Different Aggressive Environments", Proc. 'National Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME'11)', October 7-8, held at Punjab Technical University Jalandhar, Punjab, India.
8. Kaur, M., **Singh, H.**, and Prakash, S., (2011), "Studies on Role of Detonation-gun Sprayed WC-Co Coatings to Combat High Temperature Corrosion of Boiler Steel", Proc. 'National Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME'11)', October 7-8, held at Punjab Technical University Jalandhar, Punjab, India.
9. Kumar, H., Goyal, D.K. and **Singh, H.,** (2011), "Slurry Erosion Performance of Uncoated and HVOF Sprayed Diamalloy 4700 (CoNiCrAlY) Coated CA6NM Steel", Proc. 'First National Conference on Advances in Mechanical Engineering (NCAME-2011)', May 20-21, held at UIET, Panjab University, Chandigarh, India.
10. Grewal, H.S., Agrawal, A. and **Singh, H.**, (2011), "CFD Modeling for Evaluation of Slurry Erosion of Hydroturbine Materials", Proc. 'Advancements & Futuristic Trends in Mechanical & Materials Engineering (AFTMME 2011)', October 7-8, held at Punjab Technical University, Jalandhar, Punjab, India.

Year: 2010

11. Grewal, H.S., Bhandari, S. and **Singh, H.**, (2010), "Slurry Erosion Performance of Hydroturbine Steel and Thermal Spray Coating", Proc. 'National Conference on Futuristic Trends in Mechanical Engineering (FTME 2010)', October 29-30, held at GNDEC, Ludhiana, Punjab, India.

Year: 2008

12. Kaushal, G., **Singh, H.** and Prakash, S., (2008), " Introduction to Detonation Gun Thermal Spray Coating Technique and its Prospective Use to Enhance Life of Boiler Steels", Proc. National

Conference on 'Recent Advances in Mechanical & Production Engineering (LDMPE-08),' June13-14, RIMT-IET, MandiGobindgarh, India.

13. Singh, S., Agnihotri, S. and **Singh, H.,** (2008), "Comparative Study of Two Dimensional and Three Dimensional Stress Analysis Techniques over Ansys10", National Conference on 'Trends in Mechanical Engineering (TIME-2008),' February 08-09, held at Chandigarh Engineering College, Landran, Mohali, INDIA, pp.21-25.
14. Singh, S. and **Singh, H.,** (2008), "An Alternative Method for Selection of Equivalent Load for Design of Shafts", National Conference on 'Trends in Mechanical Engineering (TIME-2008),' February 08-09, held at Chandigarh Engineering College, Landran, Mohali, INDIA, pp.26-29.
15. Singh, S., Kaur, M. and **Singh, H.,** (2008), "A Review of Lean Manufacturing: A Feasible Solution to Industrial Objectives", National Conference on 'Trends in Mechanical Engineering (TIME-2008),' February 08-09, held at Chandigarh Engineering College, Landran, Mohali, INDIA, pp.249-253.
16. Singh, S. and **Singh, H.**, (2008), "Finite Element Analysis and Shape Optimization of Rectangular Plate with Circular Hole", Presented in '11th Punjab Science Congress,' February 7-9, held at Thapar University, Patiala, INDIA, Abstract No. D-31, pp. 51.

Year: 2007

17. Bala, N., **Singh, H.** and Prakash, S., (2007), "Hot Corrosion: its Mechanisms and Prevention", Proc. National Conference on 'Futuristic Trends in Mechanical Engineering (NCFTME-2007),' September 13-14, held at Shaheed Udham Singh College of Engineering and Technology, Tangori, Mohali, INDIA, pp. 18-24.
18. Singh, S. and **Singh, H.**, (2007), "Maintaining Air Circulation with the use of Solar Energy", Proc. National Conference on 'Futuristic Trends in Mechanical Engineering (NCFTME-2007),' September 13-14, held at Shaheed Udham Singh College of Engineering and Technology, Tangori, Mohali, INDIA, pp. 157-159.
19. Ratol, J. S. and **Singh, H.**, (2007), "Improvement in Properties by Post Treatment of Thermally Sprayed Coatings with Laser Re-melting", Proc. National Conference on 'Futuristic Trends in Mechanical Engineering (NCFTME-2007),' September 13-14, held at Shaheed Udham Singh College of Engineering and Technology, Tangori, Mohali, INDIA, pp. 166-174.
20. Gill, S. S., Singh, R. and **Singh, H.**, (2007), "Sub-Zero Treatment of Steels", Proc. National Conference on 'Futuristic Trends in Mechanical Engineering (NCFTME-2007),' September 13-14, held at Shaheed Udham Singh College of Engineering and Technology, Tangori, Mohali, INDIA, pp. 242-250.
21. Bera, A. and **Singh, H.**, (2007), "Economy of Biomass Co-combustion Using Fluidized Bed Boilers", presented in 'X Punjab Science Congress,' Punjab Academy of Sciences, Feb.7-9, held at DAV Institute of Engineering and Technology, Jalandhar, INDIA.
22. Singh, S. and **Singh, H.**, (2007), "Design of a Variable Flange Coupling for Shafts of Different Diameters", Proc. National Conference on 'Emerging Trends in Mechanical Engineering (ETME)' June 4-5, 2007 held at SardarVallabhbhai National Institute of Technology, Surat, Gujrat, INDIA, paper DE27.

Year: 2006

23. **Singh, H.,** Hira, D.S., Prakash, S. and Sidhu, T.S., (2006), "Hot Corrosion Performance of Plasma Sprayed Ni-20Cr Coatings", Proc. National Conference on 'Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME'06)' October 13-14, 2006 held at GZS College of Engineering and Technology Bathinda, INDIA, pp. 311-321.
24. Sidhu, T. S., **Singh, H.,** Prakash, S. and Agrawal, R.D., (2006), "Oxidation and Hot Corrosion behaviour of Ni-based Superalloy", Proc. National Conference on 'Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME'06)' October 13-14, 2006 held at GZS College of Engineering and Technology Bathinda, INDIA, pp.285-293.
25. **Singh, H.,**Puri, D. and Prakash, S., (2006), "Investigations on the Role of Plasma Sprayed Ni_3Al Coatings in developing Hot Corrosion Resistance", '9th Punjab Science Congress', February7-9, held at Guru Nanak Dev Dental College and Research Institute, Sunam, INDIA.

Year: 2005

26. Bala, N., **Singh, H.** and Prakash, S., (2005), "An Overview on Advanced Thermal Spray Coating Processes", presented at National Conference on 'Energy, Environment, Ecosystem and Sustainable Development (EEESD-2005),' August 4-5, held at BBSB Engg. College, Fatehgarh Sahib, INDIA.
27. Kaur, M., **Singh, H.** and Prakash, S., (2005), "Role of Thermal Spray Technologies in Surface Engineering", presented at National Conference on 'Energy, Environment, Ecosystem and

Sustainable Development (EEESD-2005),' August 4-5, held at BBSB Engg. College, Fatehgarh Sahib, INDIA.

Year: 2004

28. **Singh, H.,**Puri, D. and Prakash, S., (2004), "Hot Corrosion of Some Superalloys and Role of Plasma Spray Coatings- A Review", '7th Punjab Science Congress', February7-9, held at GNDU, Amritsar, INDIA.

Year: 2003

29. **Singh, H.**, Singh, B. and Prakash, S., (2003), "Characterisation of Plasma Sprayed Fly Ash Coatings", presented in 'XIII National Conference of Indian Society of Mechanical Engineers (ISME-2003)', held at Indian Institute of Technology Roorkee, Roorkee. INDIA.

Year: 2001

30. **Singh, H.** and Hira, D. S., (2001), "Simulation Study of A Steel Re-Rolling Mill", presented in 'Fourth Punjab Science Congress', Punjab Academy of Sciences, February 9-10, held at PAU, Ludhiana, INDIA.

- **General Papers-03**

31. Kaur, G. and **Singh, H.,** (2002), "Integrating Human Values in Technical Education", presented in Annual Convention & National Seminar on 'Integrating Human Values in Technical Education,' April 26, held at BBSB Engg. College, Fatehgarh Sahib, INDIA.
32. **Singh, H.** and Kaur, G., (2000), "Teacher-Student Relationship", presented in National Seminar on 'Role and Place of Teacher in the Age of IT & Humanism,' Sept.5, held at SLIET, Longowal, INDIA.
33. Kaur, G. and **Singh, H.**, (2000), "Teacher and Information Technology", presented in National Seminar on 'Role and Place of Teacher in the Age of IT & Humanism,' Sept.5, held at SLIET, Longowal, INDIA.

(Dr Harpreet Singh)

ANNEXURE A
Guidance of Ph.D. and M.Tech. Theses

Ph.D. Completed-24

1. **Dr. Niraj Bala:** "Investigations on Hot Corrosion Behaviour of Cold Spray and HVOF Spray Coatings on T22 and SA516 Steels" Punjab Technical University Jalandhar, India, 2010.
2. **Dr. Manpreet Kaur:** "Studies on Role of High-Velocity Oxy-Fuel Spray coatings to enhance Erosion Corrosion Resistance of Boiler Steels" Punjab Technical University Jalandhar, India, 2011.
3. **Dr. Simranpreet Singh Gill:** "Investigations on Characterisation and Machining Performance of Cryo-treated Single Point Cutting Tools Punjab Technical University Jalandhar, India, 2011.
4. **Dr. Gagandeep Kaushal:** "Erosion Corrosion Studies on High-Velocity Oxy-Fuel Thermal Spray Coating over Some Boiler Steels" Punjab Technical University Jalandhar, India, 2011.
5. **Dr. Tejinder Pal Singh:** "In-vitro Corrosion Studies of Bioactive Coatings on Some Biomedical Implant Materials" Punjabi University Patiala, India, 2013.
6. **Dr. Harpreet Singh Arora:** "Investigations on Friction Stir Processing of Mg-based AE42 Alloy" Indian Institute of Technology Ropar, India, 2013.
7. **Dr. Sanjeev Bhandari:** "Slurry Erosion Behaviour of Detonation Gun Sprayed Coatings on Some Hydraulic Turbine Materials" Sant Longowal Institute of Engineering and Technology Longowal, Sangrur, India, 2013.
8. **Dr. Harpreet Singh Grewal:** "Surface Modification of CA6NM Hydroturbine Steel for Protection against Erosion" Indian Institute of Technology Ropar, India, 2014.
9. **Dr. Deepak Goyal:** "Investigations on Role of High-Velocity Oxy-Fuel Spray Coatings to control Slurry Erosion of Hydraulic Turbine Materials" Sant Longowal Institute of Engineering and Technology Longowal, Sangrur, India, 2015.
10. **Dr. Ravinder Singh Joshi: "**Parametric Studies of Modulation-assisted Machining and its Chip Characteristics" Indian Institute of Technology Ropar, India, 2015.
11. **Dr. Manoj Kumar: "**Erosion-Corrosion Studies of Nanostructured Ni-Cr Coatings on SAE 213-(T22) and SA 516 (Gr -70) Steels" Indian Institute of Technology Ropar, India, 2016.
12. **Dr. Chelliah Machavallavan Nagaraj,** "Processing and Characterization of In-situ Magnesium Metal Matrix Composites Containing SiCNO Particles" Indian Institute of Technology Ropar, India, 2017.
13. **Dr. Patel Amit Rajnikant,** "Decentralized Off-grid Electricity Generation from Biooil Produced using the Intermediate Pyrolysis of Agricultural Residual Waste" Indian Institute of Technology Ropar, India, 2019.
14. **Dr. Surinder Singh, "**Characterization and Adhesion Strength Studies of Thick Copper Coatings Deposited on SS316L Steel by Cold-Spraying" Indian Institute of Technology Ropar, India, 2019.
15. **Dr. Viney Ghai,** "Design and Fabrication of Near Perfect Ultra Black Broadband Absorber" Indian Institute of Technology Ropar, India, 2020.
16. **Dr. Anuj K. Bansal, "**Slurry Erosion Behavior of Polytetrafluoroethylene (PTFE)-Modified Thermal Spray Coatings on Hydro-Machinery Steels" Sant Longowal Institute of Engineering and Technology Longowal, Sangrur, India, 2020.
17. **Dr. Rachit Kumar Sharma,** "Assessing and Improving Sustainability in Supply Networks of Manufacturing Organizations" Indian Institute of Technology Ropar, India, 2021.
18. **Dr. Malkeet Singh,** "Development of Innovative Waste Utilization Methodologies for Material Removal Processes" Indian Institute of Technology Ropar, India, 2021.
19. **Dr. Navneet K. Singh,** "Investigations on Cavitation Erosion of High-Velocity Oxy-Fuel (HVOF)-Sprayed Nickel-Based Cermet Coatings on Monel K-500 Alloy" Indian Institute of Technology Ropar, India, 2022.
20. **Dr. Aman Arora,** "Role of Metallic Microstructure on Hydrogen-assisted Crack Initiation under Monotonic and Cyclic Loading" Indian Institute of Technology Ropar, India, 2022.
21. **Dr. Avneesh Kumar,** "Experimental Investigations on Cold-Sprayed Ti-Based Coatings for Bio-Implant Applications" Indian Institute of Technology Ropar, India, 2023.
22. **Dr. Papiya Bhowmik,** "Development and Characterisation of Waste Kibisu Silk Reinforced Biodegradable Polymer Composite" Indian Institute of Technology Ropar, India, 2023.
23. **Dr. Prabhjot Singh, "**Design and Development of an Energy Efficient Oil-fired Tilting Furnace with an Innovative Recuperator and Burner" Indian Institute of Technology Ropar, India, 2023.
24. **Mr. Parminder Singh**, "Investigation on Cold Spray based Additive Manufacturing of IN 718 Superalloy" Indian Institute of Technology Ropar, India, 2024.

Ph.D. Guidance-12 (On-going)

1. **Mr. Vishnu Girish C,** Indian Institute of Technology Ropar, India, Registered in 2018.
2. **Mr. Sukhwinder Singh,** Indian Institute of Technology Ropar, India, Registered in 2019.

3. **Mr. Vinay Gidla,** Indian Institute of Technology Ropar, India, Registered in 2020.
4. **Mr. Krishan Kumar,** Indian Institute of Technology Ropar, India, Registered in 2020.
5. **Mr. Saiful Walikhan,** Indian Institute of Technology Ropar, India, Registered in 2021.
6. **Mr. Mustufa Haider Abidi,** Indian Institute of Technology Ropar, India, Registered in 2021.
7. **Mr. Rahul Soni,** National Institute of Technology Jalandhar, India, Registered in 2022.
8. **Mr. Varun Kumar,** Indian Institute of Technology Ropar, India, Registered in 2022.
9. **Mr. Pavan Kumar,** Indian Institute of Technology Ropar, India, Registered in 2023.
10. **Mr. Jitendra Kumar,** Indian Institute of Technology Ropar, India, Registered in 2023.
11. **Mr. Mohd Nadeem Akhtar,** Indian Institute of Technology Ropar, India, Registered in 2024.
12. **Mr. Vinod Kumar,** Indian Institute of Technology Ropar, India, Registered in 2024.

M. Tech. Guidance-27

1. **Mr. Harpreet Singh Sekhon;** M.Tech. (CAD/CAM) Thesis entitled "Studies on the Role of Al_2O_3/TiO_2 and Cr_2O_3 Coatings to Reduce Wear of SS 309 Steel" Punjab Technical University, Jalandhar, India in the year 2007.
2. **Mr. Amit Handa;** M. Tech. (Machine Design) Thesis entitled "Effect of Axial Pressure and Rotational Speed on the Mechanical Properties of the Friction Welded Mild Steel Bars" Punjab Technical University, Jalandhar, India in the year 2007.
3. **Mr. Amit Kohli;** M.Tech. (CAD/CAM) Thesis entitled "Studies on the Role of Cold Spray Ni-20Cr and Ni-50Cr Coatings to reduce Wear of T-22 and SA-516 Steels" Punjab Technical University, Jalandhar, India.
4. **Ms. Maninder Kaur;** M. Tech. (Machine Design) Thesis entitled "Sliding Wear Performance of Plasma Sprayed Ni-20Cr and Ni_3Al Coatings despoiled on AISI 309SS Steel" Punjab Technical University, Jalandhar, India.
5. **Mr. Bhalinder Singh;** M. E. (Mechanical Engineering) Thesis entitled "Role of Detonation Spray Coating to reduce Erosion-Corrosion of Some Boiler Steels" Punjab Engineering College, Chandigarh, India.
6. **Ms. Shakunpreet Kaur;** M. Tech. (Machine Design) Thesis entitled "Role of WC-Co Blending in Enhancing Wear Resistance of HVOF-sprayed Cr_3C_2-25NiCr Coatings on Some Boiler Steels" Punjab Technical University, Jalandhar, India.
7. **Mr. Sukhjit Singh;** M. Tech. (Machine Design) Thesis entitled "EDM Machining of Some Steels" Punjab Technical University, Jalandhar, India.
8. **Mr. Harpreet Singh**; M. Tech. (Machine Design) Thesis entitled "Wear Performance of Cold Spray Coatings" Punjab Technical University, Jalandhar, India.
9. **Mr. Harprabhjot Singh**; M.Tech. (Mechanical Engineering) Thesis entitled "Corrosion Resistant Hydrophobic Coating for Metallic Surfaces" IIT Ropar, India in the year 2017.
10. **Mr. Sheshanth Pallakonda;** M. Tech. (Mechanical Engineering) Thesis entitled "Developing a Sustainable Supply Chain Using Life Cycle Assessment and Waste Minimization Approaches" IIT Ropar, India in the year 2018.
11. **Mr. Mohit;** M. Tech. (Mechanical Engineering) Thesis entitled "Characterization of Pure Magnesium Processed by Friction Stir Processing" IIT Ropar, India in the year 2019.
12. **Mr. Gurpreet Singh;** M. Tech (Mechanical Engineering) Thesis entitled "Graphene Growth on Laser Cladded Copper Coin by Direct Thermal Chemical Vapor Deposition" IIT Ropar, India in the year 2020.
13. **Mr. Mohit Kadyan;** M. Tech (Mechanical Engineering) Thesis entitled "Effect of Heat Treatment on Fatigue and Tensile Behaviour of Additively Manufactured Cold Sprayed Copper Deposits" IIT Ropar in the year 2020.
14. **Mr. Kuldeep;** M. Tech (Mechanical Engineering) Thesis entitled "Hydrogen Embrittlement of Cold Sprayed Copper Coating on SS316L Steel" IIT Ropar in the year 2020.
15. **Mr. Mohit Sharma;** M. Tech (Mechanical Engineering) Thesis entitled "Development of Efficient Powder Feeding Mechanism for Portable Cold Spray System Applications" IIT Ropar in the year 2021.
16. **Mr. Prajapati Parth Rajendrabhai;** M. Tech (Mechanical Engineering) Thesis entitled "Design and Development of Gas Heater for A Low Pressure Portable Cold Spray system---" IIT Ropar in the year 2021.
17. **Mr. Dipak Arvind Patil;** M. Tech (Mechanical Engineering) Thesis entitled "Recycling of Metal/Polymer Waste as a Feed Stock Material via Additive Manufacturing Technology" IIT Ropar in the year 2021.
18. **Mr. Ajit Singh;** M. Tech (Mechanical Engineering) Thesis entitled "Design and Development of Spray Gun and the Nozzle for Low-Pressure Cold Spray System" IIT Ropar in the year 2021.
19. **Mr. Arjun Singh;** M. Tech (Mechanical Engineering) Thesis entitled "Investigation on Friction Stir Processing of Additively Manufactured IN-718 Superalloy Deposit" IIT Ropar in the year 2022.

20. **Mr. Harmanpreet Mahey;** M. Tech (Mechanical Engineering) Thesis entitled “Investigations on 4D printing of Polylactic acid (PLA) sheets” IIT Ropar in the year 2022.
21. **Mr. Teekam Chand;** M. Tech (Mechanical Engineering) Thesis entitled “Corrosion Behaviour of Titanium-Based Cold Sprayed and Laser Treated Composite Coatings” IIT Ropar in the year 2022.
22. **Mr. Tejas;** M. Tech (Mechanical Engineering) Thesis entitled “High Temperature Oxidation and Hot Corrosion Studies on Cold Sprayed Additively Manufactured Inconel 718” IIT Ropar in the year 2022.
23. **Mr. Lokesh Meena;** M. Tech (Mechanical Engineering) Thesis entitled “Machine Learning Techniques for Predicting FEA Based Output Parameters in Cold Spray Process Simulations” IIT Ropar in the year 2022.
24. **Mr. Rahul Gupta;** M. Tech (Mechanical Engineering) Thesis entitled “Pitting Characteristics of Nickel-Based Superalloy Exposed to Hot Corrosion” IIT Ropar in the year 2023.
25. **Mr. Praveen Jakka**; Thesis entitled “Experimental Investigation on Laser Transmission Welding of Polymer Composite Material” IIT Ropar in the year 2023.
26. **Mr**. **Amit Chhipa;** M. Tech (Mechanical Engineering) Thesis entitled “Waste Utilization via Additive Manufacturing Technology for the Development of Polymer Matrix Composite Material” IIT Ropar in the year 2023.
27. **Mr**. **Bhaskar Kumar Jyotishi;** M. Tech (Mechanical Engineering) Thesis entitled “Effect of Line Energy and Clamp Pressure in Laser Transmission Welding” IIT Ropar in the year 2023.