

MOHIT SINGH

PhD Student, IIT Jodhpur

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CAREER OBJECTIVE:

To passionately engage in research in which I can apply my knowledge and skills to contribute effectively for the development of engineering and society at large.

ACADEMIC QUALIFICATIONS:

Course	Institute/College	University/ Board	Year	Grade
PhD (Metallurgical and Materials Engineering)	Indian Institute of Technology, Jodhpur	Indian Institute of Technology, Jodhpur	2020- Present	8.79 (Pursuing)
M.Tech (Production Engineering)	Guru Nanak Dev Engineering College, Ludhiana	Punjab Technical University, Jalandhar	2018-20	9.48 (Gold Medalist)
B.Tech (Mechanical Engineering)	Global Institute of Management & Emerging Technologies, Amritsar	Punjab Technical University, Jalandhar	2014-18	89.84% (Gold Medalist)
Senior Secondary	Baring Collegiate Sen. Sec. School, Batala	Punjab School Education Board, Mohali	2013-14	81.3%
Matric	B.V.N. High School, Batala	Punjab School Education Board, Mohali	2011-12	73%

TRAININGS UNDERTAKEN:

Sr. No.	Organization	Duration	Place
1.	Global Institute of Management & Emerging Technologies, Amritsar	30 Days	Amritsar (Punjab)
2.	Institute For Machine Tools Technology (UNDP/UNIDO Assisted Punjab Govt. Project)	45 Days	A-4, Focal Point, Batala
3.	Central Institute of Petrochemicals Engineering & Technology, Amritsar	6 Months	Amritsar (Punjab)

GIAN COURSE:

Sr. No.	Course	Institute	Duration
1.	Medical prototyping using 3D Printing (Course code: 171036L08) (International faculty- Prof. Ian Gibson)	National Institutes of Technology, Warangal	15.07.2019 to 19.07.2019
2.	Physics-based and data-driven modelling in additive manufacturing (International faculty- Dr. Chinnapat Panwisawas)	National Institutes of Technology, Warangal	25.11.2024 to 29.11.2024

COURSE UNDER CE & QIP:

Sr. No.	Course	Institute	Grade	Duration
1.	3D Printing of Metals (Under Continuing Education & Quality Improvement Program)	Indian Institute of Technology Bombay	Successfully Completed	27.02.2020 to 28.02.2020

OTHER SHORT-TERM TECHNICAL COURSES SUCCESSFULLY COMPLETED:

Sr. No.	Course	Institute / University / Organization	Duration
1.	EBM Level 1 Application	Colibrium Additive – GE Aerospace company	10.3.2025 to 12.3.2025
2.	SLM Training	Intech	19.2.2025 to 26.2.2025
3.	EBM Level 1 Operation and Maintenance	Colibrium Additive – GE Aerospace company	10.2.2025 to 13.2.2025
4.	SprutCam X Software robot module for direct energy deposition machine	SprutCAM	2.12.2024 To 7.12.2024
5.	Additive manufacturing : Principle, technologies and application	IIT Indore and RRCAT Indore	22.9.2022 to 11.2.2023
6.	Robot programming 1	KUKA College	8.11.2021 to 12.11.2021
7.	Ultimate: 3D Printing Course	Novabeans-Gurgaon, Haryana	04.06.2019 to 15.07.2019
8.	Tribological Analysis of Four-Dimensional Printed Engineering Materials. (QIP Short Term Course)	Guru Nanak Dev Engineering College, Ludhiana	19.11.2018 to 24.11.2018

8.	3D Printer	3D Works CAD Centre (ISO 9001:2015 Certified), Ludhiana	08.10.18 to 21.10.18
9.	CNC Lathe Machine	Central Institute of Plastics Engineering & Technology Amritsar	19.03.2018 to 16.04.2018
10.	Six Sigma Green Belt	Indian Statistical Institute, Bangalore	22.01.18 to 27.01.18
11.	Part A: Uni-Graphics NX-CAM Part B: CNC Milling + Processing + Testing	Central Institute of Plastics Engineering & Technology, Amritsar	14.12.2017 to 13.06.2018
12.	Materials Characteristics & its Testing	Institute for Machine Tools Technology (UNDP/UNIDO Assisted Punjab Govt. Project) Batala	15.06.2017 to 14.08.2017
13.	Basics of Computer	Institute for Machine Tools Technology (UNDP/UNIDO Assisted Punjab Govt. Project) Batala	15.06.2017 to 14.08.2017
14.	Basics of Hydraulic & Pneumatic	Institute for Machine Tools Technology (UNDP/UNIDO Assisted Punjab Govt. Project) Batala	10.12.2016 to 09.01.2017
15.	Heat Treatment	Institute for Machine Tools Technology (UNDP/UNIDO Assisted Punjab Govt. Project) Batala	10.12.2016 to 09.01.2017
16.	Solid Works	Institute for Machine Tools Technology (UNDP/UNIDO Assisted Punjab Govt. Project) Batala	02.07.2016 to 17.08.2016
17.	Basics of Measurements	Institute for Machine Tools Technology (UNDP/UNIDO Assisted Punjab Govt. Project) Batala	02.07.2016 to 15.07.2016

18.	CNC (VMC)	Institute for Machine Tools Technology (UNDP/UNIDO Assisted Punjab Govt. Project), Batala		18.05.2016 to 01.07.2016
19.	Diploma Course in Mechanical CAD	CAD DESK, Amritsar		22.07.2016
20.	Cloud Computing	Global Institute of Management & Emerging Technologies, Amritsar	Indian Institute of Technology, Bhubaneswar	25.09.2015 to 26.09.2015
21.	Certificate Course in Mechanical Drafting using Auto CAD	CAD DESK, Amritsar		21.07.2015
22.	Workshop on Automobile Engine Design	Govt Polytechnic College, Batala	Workshop organized by Saarang Indian Institute of Technology, Madras	06.04.2015 to 07.04.2015
Online Webinars				
23.	The complete Labview Essentials – Code & Acquire Data Now	Udemy		17.4.2025
24.	Python for Data Science and Machine Learning Bootcamp	Udemy		25.2.2024
25.	Materialize Mimics : Zero to Mastery	Udemy		30.5.2021
26.	Learn COMSOL Multiphysics simulation: Basics to advanced	Udemy		16.05.2021
27.	Research Methodology	Udemy		16.5.2021

28.	COMSOL Multiphysics all features walk through	Udemy	15.05.2021
29.	Metallurgical aspect in additive manufacturing	NIT, Andhra Pradesh	19.04.2021 to 23.04.2021
30.	International workshop on 3D printing	University of Madras	09.04.2021 to 10.04.2021
31.	Metal 3D printing-technology of near future	Indian Machine Tool Manufacturers Association (IMTMA)	18.02.2021 to 19.02.2021
32.	Workshop on Hand on Research Data Analysis using SPSS	Research Culture Society	08.07.2020 to 12.07.2020
33.	Learn Robot studio	Udemy	17.11.2020
34.	Best practices of writing a research paper Fast & Easy	SS Edutech	19.06.2020 to 21.06.2020
35.	Discovering Resources Using Scopus and Functioning of Mendelay	Hisashi-Excellence Education Pvt. Ltd.	21.06.2020
36.	E-Workshop on Research Methodology and Hypothesis: Biginner Level	Academic Research Practices	28.06.2020
37.	How to prepare your Manuscripts for Publication in Top Journals	Bright TALK	26.06.2020

38.	International Faculty and Researcher Development Program	ACE International PTE Ltd.	21.06.2020
39.	Essential Tips for Publishing in Higher Impact Journals	Bright Talk	26.06.2020
American Society for Testing and Materials (ASTM) Online Courses			
40.	In-situ monitoring and controlling PBF process	ASTM-AM	29.07.2021
41.	Metal powder characterization and specification	ASTM-AM	15.07.2021
42.	Multi-material processing in additive manufacturing	ASTM-AM	17.06.2021

ACHIEVEMENTS:

- ✚ **B.Tech Gold Medalist**
- ✚ **M.Tech Gold Medalist**
- ✚ **Prime Minister's Research Fellowship (PMRF), IIT Jodhpur (2021-2024)**
- ✚ **Design and development of Indigenous DED metal 3D printer at IIT Jodhpur under DST AMT Project**
- ✚ **Received 1st place award - Oral presentation in MatRS 2024, IIT Jodhpur**
- ✚ **Received 1st place award - Poster presentation in ICAMSD 2025, MNIT Jaipur**
- ✚ **Received 1st place award - Oral presentation in NSRS 2025, IIT Kanpur**
- ✚ **Received 1st place award - Poster presentation in ICAMC 2025, IIT Bombay**
- ✚ **Received 2nd runner up award TiE Rajasthan: Startup**
- ✚ **IIM Life membership**
- ✚ **Appreciation Letter from Hon'ble Chief Minister of Punjab.**

INTELLECTUAL PROPERTY (IP) FILED:

Sr. No.	Title	Indian Patent Application No.	Patent/ Design registration	Year	Status
1.	Powder splitter and method thereof	202311023249	Product	2023	Full filed
2.	Integrated modular setup for seamless adaption of polymer extruder, post processing unit, syringe extruder, coating, and welding unit	391218-001	Design	2023	Full Filed
3.	System and method for generating an operational plan for a printing nozzle	202411004042	Process	2024	Full Filed
4.	Adjustable discrete powder feeding	202411015210	Product	2024	Full Filed
5.	Optical emission spectrometer probe guard	202411021830	Product	2024	Full Filed
6.	Discrete powder splitter system	202411088303	Product	2024	Provisional Filed
7.	Plasma signal based closed loop control system and method for additive manufacturing process	202411088545	Product & Process	2024	Provisional Filed
8.	Collimating lens probe guard for laser additive manufacturing	438737-001	Design registration	2024	Full Filed

9.	Real time porosity prediction and categorization method for direct energy deposition process using optical emission spectrometer	202411095837	Product & Process	2024	Provisional Filed
10.	Adjustable discrete- powder feeding nozzle	438736-001	Design registration	2025	Full Filed
11.	Discrete powder splitter system	451912-001	Design registration	2025	Full Filed

PUBLICATIONS:

Sr. No.	Title	SCI- Journals	Year	Status
1.	Investigating Heat Transfer Strategies for Geometrical Accuracy and Solidification Behavior of Additively Manufactured SS316L Thin Clad Structures.	Transactions of the Indian Institute of Metals	2024	Published
2.	Fabrication of superhydrophobic PLA surfaces by tailoring FDM 3D printing and chemical etching process.	Applied Surface Science	2023	Published
3.	Multi stage primary and secondary recycled PLA composite matrix for 3D printing applications.	Proceedings of the National Academy of Sciences, India Section A: Physical Sciences	2022	Published
4.	On shear fracture and morphological features of fused filament fabrication based almond skin powder reinforced PLA structures.	Advances in Materials and Processing Technologies	2022	Published
5.	Mechanical, thermal, morphological and shape memory effect of Sol-gel prepared	Proceedings of the National Academy of	2022	Published

	ZnO nano particle reinforced PLA composites materials.	Sciences, India Section A: Physical Sciences		
6.	Multi-material 3D printing of PLA-PA6-TiO₂ polymeric matrix: flexural, wear and morphological properties.	Journal of Thermoplastic Composite Materials	2022	Published
7.	On flexural, wear and morphological properties of 3D printed almond skin powder reinforced PLA matrix.	Advances in Materials and Processing Technologies	2022	Published
8.	Multi-material 3D printed functional prototypes of PLA/PA6-TiO₂ composite matrix: rheological, thermal, tensile, morphological and 4D capabilities.	Advances in Materials and Processing Technologies	2022	Published
9.	On shear resistance of almond skin reinforced PLA composite matrix-based scaffold using cancellous screw.	Advances in Materials and Processing Technologies	2022	Published
10.	ZnO nano particle grafted PLA thermoplastic composites for 3D printing applications: Tuning of thermal, mechanical, morphological and shape memory effect.	Thermoplastic Composite Materials	2022	Published
11.	On compressive and morphological features of 3D printed almond skin powder reinforced PLA matrix.	Materials Research Express	2020	Published
12.	On ZnO nano particle reinforced PVDF composite materials for 3D printing of biomedical sensors.	Journal of Manufacturing Processes	2020	Published
13.	Thermomechanical and morphological properties of sustainable mortars employing blast furnace slag and fly ash reinforced cement.	IOP Conference Series: Materials Science and Engineering	2020	Published
14.	On 3D printed ZnO reinforced PLA matrix composite: tensile, thermal,	Thermoplastic Composite Materials	2020	Published

	morphological and shape memory characteristics.			
15.	On mechanical, thermal, and morphological investigations of almond skin powder reinforced polylactic acid feedstock filament.	Thermoplastic Composite Materials	2019	Published

BOOK CHAPTERS:

Sr No.	Book Chapter	Journal	Year	Status
1.	Twin screw extrusion for recycling of thermoplastics.	Elsevier: Encyclopedia of Materials: Plastics and Polymers	2022	Published
2.	Biocompatible thermoplastics as implant/ scaffold.	Elsevier: Encyclopedia of Materials: Plastics and Polymers	2022	Published
3.	Chemical assisted thermoplastic joining for sustainability.	Elsevier: Encyclopedia of Materials: Plastics and Polymers	2022	Published
4.	Hydrogels for additive manufacturing in scaffolding applications: A review.	Innovative processes and materials in additive manufacturing	2023	Published

PAPER / POSTER PRESENTED:

Sr No.	Title	Conference/Symposium/Institute	Year
1.	Real-time monitoring of plasma plume during direct energy deposition of Stainless Steel 316L	International conference on Additive manufacturing and characterization, IIT Bombay	2025

2.	Investigation of plasma plume and spatter dynamics: Advancing process control in direct energy deposition of SS316L	National symposium of research Scholars, IIT Kanpur	2025
3.	In-situ monitoring and control of plasma plume in direct energy deposition of SS316L	International conference on Advanced materials for sustainable development, MNIT Jaipur	2025
4.	Predicting The Porosity Formation During The Additive Manufacturing Of Stainless Steel 316L Using Optical Based In-situ Monitoring Method	Material research symposium (MatRs), IIT Jodhpur	2024
5.	Investigating Heat Transfer Strategies for Geometrical Accuracy and Solidification Behaviour of Additively Manufactured SS316L Thin Clad Structures	Eighth International conference on solidification science and processing (ICSSP8), Jodhpur	2023
6.	In-situ monitoring of clad during 3D printing of SS316L using CMOS camera	Industry 4.0, Indian Institute of Technology, Jodhpur	2023
7.	Development of process map for customized directed energy deposition machine for SS316L based on clad geometry	IIM ATM, Hyderabad	2022
8.	Development of process map for customized directed energy deposition machine for SS316L based on clad geometry and mechanical properties	Latest developments in engineering materials and manufacturing processes, IIE, Jaipur	2022
9.	Effect of process parameters on melt pool geometry during laser scanning of SS316L	INAE Youth Conclave, Indian Institute of Technology, Jodhpur	2022

STARTUP:



Director, TempVision 3D Pvt. Ltd.

Technology Innovation and Startup Center (TISC), IIT Jodhpur

Tenure: October 2023 – Present

DIN: 10369420