

## BIO-DATA



1. **Name** : **Dr. Talwinder Singh**  
2. **Designation** : **Assistant Professor**  
3. **Department** : **Mechanical Engineering**  
4. **Date of Birth** : **12.11.1977**  
5. **Address for Correspondence** : **Department of Mechanical Engineering,  
Punjabi University,  
Patiala - 147002**  
**Mobile** : **+91 9501460077**  
**E-mail** : **tp\_tiet@yahoo.co.in**

6. **Areas of Specialization** : **Production and Industrial Engineering,  
Environment friendly machining,  
Minimum quantity lubrication  
(MQL), cooling systems, and clean  
energy.**

### 7. **Academic Qualifications:**

Sr.No.	Degree	Year	Board / University	%age of Marks	Div./Rank	Subjects
1.	B.E.	2000	Thapar University, Patiala	C.G.P.A. 9.07 (81.63%)	With Distinction	Mechanical Engineering
2.	M.E.	2009	Thapar University, Patiala	C.G.P.A. 10.00 (100%)	Gold Medalist	Production and Industrial Engineering
3.	GATE	2007	Conducted by IIT Kanpur	Qualified	253 All India Rank	Production and Industrial Engineering
4.	Ph.D.	2019	Punjabi University, Patiala	Ph.D. Course Work Overall Grade - A		Mechanical Engineering

## 8. Membership of Professional Bodies / Organizations:

- i) Life Member – Indian Society for Technical Education (ISTE)

## 9. Medals / Awards / Honours / Received:

- i) Merit Certificate from Thapar Polytechnic.
- ii) Merit Medal from Thapar University.
- iii) Gold Medal from Thapar University.
- iv) Roll of Honour from Sri Guru Harkrishan Educational Society, Chandigarh.
- v) Tritya Sopan Scout Certificate.
- vi) Most Cited Article Award from Springer.

## 10. Scholarships:

- i) Merit Scholarship from Thapar University.
- ii) GATE Scholarship from The Ministry of Human Resource Development (MHRD).

## 11. Details of Experience:

Sr.No.	Name of the Institute / Employer	Position Held	Duration	Major Job Responsibilities and Nature of Experience
1.	Minda Group of Industries, Delhi	Engineer	04.08.2000 to 09.02.2001	Utility Maintenance
2.	Maharishi Markandeshwar University, Mullana	Lecturer	10.02.2001 to 31.05.2005	Teaching and Research
3.	Rayat Institute of Engineering and Information Technology, Ropar	Assistant Professor	14.02.2006 to 01.08.2011	Teaching and Research
4.	Sri Guru Granth Sahib World University, Fatehgarh Sahib	Assistant Professor	02.08.2011 to 13.12.2011	Teaching and Research
5.	Punjabi University, Patiala	Assistant Professor	14.12.2011 to 13.12.2016	Teaching and Research
6.	Punjabi University, Patiala	Assistant Professor (Senior Scale)	14.12.2016 to Till date	Teaching and Research

**12. Published Work (Numbers only):**

- i) Research Papers (Scopus/ESCI/SCI/peer reviewed): 19
- ii) Conferences / Seminar Presentations: 10
- iii) Books: 01
- iv) Book Chapters: 03

**13. Short term courses / Refresher courses attended (Numbers only): 12****14. Ph.D. Students Guided: 01, Ongoing: 01****M.Tech. Students Guided: 30, Ongoing: \_\_**

Sr.No.	Name of the Student / Regd. No.	Title of Ph.D. Thesis	Year of Completion
1.	Rajdeep Singh (UCE(P)2005-172)	Impact of Core Functional Competencies on Success of Indian Manufacturing Industry	2022
2.	Rupinder Singh (7141-2019-792)	Cooling of a Modified Reversible PEM Fuel Cell using Heat Pipe Technology	Ongoing

Sr.No.	Name of the Student / Roll No.	Title of M.Tech. Thesis	Year of Completion
1.	Manpreet Singh (11193022)	Analytical study of critical failure factors of ERP in Indian SMEs.	2013
2.	Jagdeep Singh Grewal (11293047)	Experimental investigation of Mechanical properties of Friction Stir Welded AA 6061 - AA 6351 Aluminium alloy joints.	2014
3.	Harman Sodhi (11293048)	Evaluation of Mechanical behavior of Friction Stir Welded joints of dissimilar materials.	2014
4.	Harkaran Singh (11293044)	To study the Mechanical behavior of TIG Welded joints of dissimilar materials.	2014
5.	Inderpreet Singh (11273014)	Preparation and investigating Mechanical properties of rice husk fiber reinforced high density polyethylene matrix composites.	2015
6.	Manpreet Dubey (11273003)	Mechanical parameters examination of Bio-composites using grass fiber and high density polyethylene.	2015

7.	Rajat (11293043)	Optimization of MIG welding parameters affecting mechanical properties of AISI 1010 by Taguchi method.	2016
8.	Mohinder Kumar (11493045)	Mechanical parameters examination of Bio-composites using wood fiber and high density polyethylene.	2016
9.	Harjot Singh (11493022)	To optimize the mechanical properties of Titanium alloy (Grade 5) with friction stir processing by using different parameters.	2016
10.	Karanveer Singh (11493036)	Study and optimization of mechanical properties of pure titanium (Grade 2) by friction stir processing.	2016
11.	Bineet Pal Singh (11373031)	Optimizing of wire electric discharge machining parameters for Nimonic 80A alloy using response surface methodology.	2017
12.	Yadwinder Singh (11373014)	Role of failure mode effect analysis (FMEA) in manufacturing industry: A case study.	2017
13.	Harinderpal Sharma (11473010)	To analyse the factors affecting the implementation of supply chain management in SMEs	2018
14.	Gurveer Singh (11693008)	Machining of AISI 304 stainless steel under minimum quantity lubrication (MQL) using vegetable oil based cutting fluid	2018
15.	Shashank Sharma (11693033)	Turning performance evaluation of superalloy Inconel 718 under minimum quantity lubrication (MQL) using vegetable oil based cutting fluid	2018
16.	Sahil Dharwal (11693035)	Turning of stainless steel (AISI 316) under vegetable oil based minimum quantity lubrication (MQL)	2018
17.	Himanshu (11693045)	Minimum quantity lubrication (MQL) turning of hard-to-machine alloy Inconel 718 using vegetable oil based cutting fluid	2018
18.	Arshdeep Singh (11693003)	Investigation of surface integrity during Magnetic Abrasive finishing of AISI 307 stainless steel	2018
19.	Ramandeep Singh (11793004)	Eco-friendly face milling of austenitic stainless steel-302 under minimum quantity lubrication (MQL)	2019

20.	Varinder Singh (11793005)	Investigation of face milling performance of AISI-316 austenitic stainless steel under minimum quantity lubrication (MQL)	2019
21.	Preetpal Singh (11893010)	Milling Performance Evaluation of Stainless Steel 316 under Nanofluid Minimum Quantity Lubrication (MQL)	2021
22.	Jaspreet Singh Bedi (11893011)	Nanofluid Minimum Quantity Lubrication (NMQL) Turning of Stainless Steel 304	2021
23.	Chetan Kumar (11893016)	Optimizing Turning Parameters of Inconel 718 under Nanofluid Based Minimum Quantity Lubrication (MQL)	2021
24.	Jaspreet Singh (11873002)	Tool Wear and Surface Roughness Optimization under Nanofluid Minimum Quantity Lubrication	2021
25.	Aditya Chander (11993006)	Eco-friendly Machining of Stainless Steel 431 under Minimum Quantity Lubrication (MQL)	2021
26.	Princejeet Singh (11993013)	Near Dry Turning of SS 310 using Vegetable Oil based Nanofluid	2022
27.	Prabhjot Singh (12093008)	Analysing the Effect of Implementing TQM Practices on Performance of Manufacturing Industries	2022
28.	Jashandeep kaur (12093009)	To Study the Effect of Six Sigma Success Factors on Performance of Manufacturing Industries	2022
29.	Sandeep Singh (11773001)	Analyzing the barriers for Green Manufacturing Implementation in Indian MSMEs	2023
30.	Harmanpreet Singh (12193001)	Turning of Duplex Stainless Steel 2205 under Different Environments	2023

**15. List of papers / Courses taught at P.G. and U.G. Level:**

Sr.No.	Paper / Course	Class
1.	Engineering Drawing	B.Tech. (1 <sup>st</sup> year)
2.	Machine Drawing	B.Tech. (2 <sup>nd</sup> year)
3.	Elements of Mechanical Engineering	B.Tech. (1 <sup>st</sup> year)
4.	Applied Mechanics	B.Tech. (1 <sup>st</sup> year)
5.	Refrigeration and Air Conditioning	B.Tech. (3 <sup>rd</sup> year)
6.	Manufacturing Processes-I	B.Tech. (1 <sup>st</sup> year)
7.	CAD / CAM	B.Tech. (4 <sup>th</sup> year)
8.	Work Study	B.Tech. (4 <sup>th</sup> year)
9.	Non-Conventional Energy Resources	B.Tech. (4 <sup>th</sup> year)
10.	Non-Traditional Manufacturing	B.Tech. (4 <sup>th</sup> year),
11.	Non-Traditional Machining Processes	M.Tech. (1 <sup>st</sup> year)
12.	Non-Traditional Machining Processes	Ph.D. Course Work

**16. Technical Proficiency:**

- i) Machining with Minimum Quantity Lubrication (MQL) systems.
- ii) Environment Friendly Machining of Aerospace alloys (Ni-Cr based).
- iii) Cooling Techniques.
- iv) Green Manufacturing.
- v) Clean Energy.

**17. List of books / papers Published:**

**(A) Books:**

1. Introduction to Mechanical Engineering (2004), (M.M. Rathore, Anil K. Berwal and **T. Singh**) - ISBN 978-93-5216-034-1, Dhanpat Rai and Sons Publishers, New Delhi, India.

**(B) Research Papers:**

1. Sodhi, H., **Singh, T.**, Singh, H. and Grewal, J.S. (2014) Investigation of Mechanical Behavior in Friction Stir Welding of Dissimilar Materials, *International Journal for Multi Disciplinary Engineering and Business Management* , 2 (3): 77–84.
2. Grewal, J.S., Singh, H., **Singh, T.** and Sodhi, H. (2014) Examining the Mechanical Properties in Friction Stir Welding of AA6061- AA6351 Aluminium Alloy Joints, *International Journal for Multi Disciplinary Engineering and Business Management* , 2 (3): 85–92.

3. Singh, H., **Singh, T.** and Singh, J. (2014) To study the Mechanical Behavior of TIG Welded joints of Dissimilar Materials, *International Journal for Multi Disciplinary Engineering and Business Management*, 2 (3): 8 – 14.
4. Dureja, J.S., Singh, R., **Singh, T.**, Singh, P., Dogra, M. and Bhatti, M.S. (2015) Performance Evaluation of Coated Carbide Tool in Machining of Stainless Steel (AISI 202) under Minimum Quantity Lubrication (MQL), *International Journal Of Precision Engineering And Manufacturing-Green Technology*, Springer (**Impact Factor: 5.671**), 2 (2): 123 – 129 (**Achieved Most Cited Article Award, 2015 to 2016**).
5. Singh, I., **Singh, T.**, Goyal, N. and Dubey, M. (2015) Preparation and investigating Mechanical properties of rice husk fiber reinforced high density polyethylene matrix composites, *International Journal for Multi Disciplinary Engineering and Business Management*, 3 (3): 42 – 49.
6. Dubey, M., Goyal, N., **Singh, T.** and Singh, I. (2015) Mechanical parameters examination of Bio-composites using grass fiber and high density polyethylene, *International Journal for Multi Disciplinary Engineering and Business Management*, 3 (3): 50 – 55.
7. **Singh, T.**, Singh, P., Dureja, J.S., Dogra, M., Singh, H. and Bhatti, M.S. (2016) A Review of Near Dry Machining / Minimum Quantity Lubrication Machining of Difficult to Machine Alloys, *International Journal of Machining and Machinability of Materials*, Inderscience, 18 (3): 213–251.
8. Singh, P., Singh, J., Dureja, J.S., **Singh, T.**, Dogra, M. and Bhatti, M.S. (2016) Performance Evaluation of Milling of Inconel-625 under Minimum Quantity Lubrication, *Journal for Manufacturing Science and Production*, DE Gruyter, 16 (1): 61 – 68.
9. Singh, S., Singh, P., **Singh, T.**, Dureja, J.S., Dogra, M. and Singh, H. (2017) Minimum quantity lubrication (MQL) milling of stainless steel 304 using coated carbide tool inserts, *International Journal of Advanced Mechatronics and Robotics*, 9 (1): 61 – 66.
10. **Singh, T.**, Dureja, J.S., Dogra, M. and Bhatti, M.S. (2018) Environment Friendly Machining of Inconel 625 under Nano-Fluid Minimum Quantity Lubrication (NMQL), *International Journal of Precision Engineering and Manufacturing*, Springer (**Impact Factor: 2.106**), 19 (11): 1689-1697.
11. **Singh, T.**, Dureja, J.S., Dogra, M. and Bhatti, M.S. (2018) Dry Turning of Superalloy Inconel 625 using Refrigerated Cooled-air jet, *International Journal of Emerging Technologies and Innovative Research*, 5 (10): 391-398.

12. **Singh, T.**, Dureja, J.S., Dogra, M. and Bhatti, M.S. (2018) Machining Performance Investigation of AISI 304 Austenitic Stainless Steel under Different Turning Environments, *International Journal of Automotive and Mechanical Engineering*, Universiti Malaysia Pahang (UMP) (**Impact Factor: 1.0**), 15 (4): 5837-5862.
13. Singh, A., **Singh, T.** and Singh, R. (2018) Investigation of Surface Integrity during Magnetic Abrasive Finishing of AISI 307 Stainless Steel, *International Journal of Emerging Technologies and Innovative Research*, 5 (12): 690-697.
14. **Singh, T.**, Dureja, J.S., Dogra, M. and Bhatti, M.S. (2019) Multi-response Optimization in Environment Friendly Turning of AISI 304 Austenitic Stainless Steel, *Multidiscipline Modeling in Materials and Structures*, Emerald (**Impact Factor: 2.0**), 15 (3): 538-558.
15. Singh, R., Singh, C.D. and **Singh, T.** (2021) Quantitative analysis of factors affecting core functional competencies and the performance of the Indian manufacturing industry, *International Journal of Management Concepts and Philosophy*, Inderscience, 14 (4): 332–350.
16. Singh, R., Oberoi, A.S. and **Singh, T.** (2022) Factors influencing the performance of PEM fuel cells: A review on performance parameters, water management, and cooling techniques, *International Journal of Energy Research*, Wiley (**Impact Factor: 5.164**), 46 (4): 3810-3842.
17. Singh, R., Oberoi, A.S. and **Singh, T.** (2023) Heat pipes for PEM fuel cell cooling: State of the art review, *Materials Today: Proceedings*, Elsevier <https://doi.org/10.1016/j.matpr.2023.01.135>.
18. Singh, R., Singh, C.D. and **Singh, T.** (2023) Qualitative analysis of core functional competencies in Indian manufacturing industry, *International Journal of Process Management and Benchmarking*, Inderscience, 15 (3): 310-331.
19. Singh, R., Singh, C.D. and **Singh, T.** (2023) Fuzzy TOPSIS and fuzzy VIKOR based justification of factors affecting performance of manufacturing industry in north India, *International Journal of Process Management and Benchmarking*, Inderscience, 15 (3): 400-420.

**(C) Research papers in Conference/ Seminars:**

1. **Singh, T.** (2004) DMAIC - The Cornerstone of Six-Sigma, *National Seminar on Emerging Trends in manufacturing Systems*, S.L.I.E.T., Longowal, 18-19 Jan., pp. 269-274.
2. **Singh, T.** and Kumar, A. (2005) Lean Manufacturing: Tools & Techniques, *National Seminar on Emerging Trends in Manufacturing Systems*, J.M.I.T., Radaur, 15-16 March.






3. **Singh, T.** (2006) Hybridization of Non-Traditional Manufacturing Processes, *National Seminar on Emerging Technologies in Mechanical Engineering*, S.U.S.C.E.T., Tangori, 28 April, pp. 80 – 85.
4. **Singh, T.** (2006) Lean Manufacturing Systems – A Review, *National Seminar on Emerging Technologies in Mechanical Engineering*, S.U.S.C.E.T., Tangori, 28 April, pp. 95 – 101.
5. **Singh, T.** (2006) Lean Manufacturing: A smarter way to manufacture, *I.S.T.E. Sponsored National Conference on Recent Advances in Mechanical Engineering*, R.I.E.I.T., Ropar, 8 - 9 Sept., pp. 306.
6. **Singh, T.** and Dwivedi, D.D. (2012) Formulation of Bio-active material from Fish bone through heat treatment method, *2nd International Conference on Advances in Materials and Manufacturing Technology*, Chitkara University, Rajpura, 6 Oct., pp. 6 - 9.
7. Singh, M., Khanna, K., Singh, C.D. and **Singh, T.** (2013) Analytical study of critical failure factors of ERP in Indian SMES, *International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering*, Punjab Technical University, Jalandhar, 3 - 6 Oct., pp. 253-258.
8. Singh, R., Oberoi, A.S. and **Singh, T.** (2022) Heat pipes for PEM fuel cell cooling: State of the art review, *4<sup>th</sup> International Conference on Contemporary Advances in Mechanical Engineering (ICCAME-2022)*, Chandigarh Engineering College, Landran, Mohali, Punjab, 15-16 September.
9. Singh, R., Singh, C.D. and **Singh, T.** (2022) Impact of Core Functional Competencies on Indian Manufacturing Industry: Case Study, *International Conference on Advances in Material Science and Technology (ICAMST - 2022)*, Lovely Professional University, Punjab, 25-26 November.
10. Singh, R., Singh, C.D. and **Singh, T.** (2022) Factors Affecting Performance of Indian Manufacturing Industry: Case Study, *International Conference on Advances in Material Science and Technology (ICAMST - 2022)*, Lovely Professional University, Punjab, 25-26 November.

#### **18. List of Short term courses / Refresher courses Attended:**

1. ISTE - AICTE Sponsored Short term course (2003) *Alternate fuels, Low emission Engines & Pollution Control*, S.L.I.E.T. Longowal, 15 - 26 December.
2. Training Program (2004) *Quality Assurance in Technical Education*, M.M.E.C., Mullana, 17 - 21 August.

3. Training Program (2006) *Total Quality Management*, NITTTR, Chandigarh, 17 - 21 July.
4. ISTE - AICTE Sponsored Short term course (2008) *Lean Manufacturing – Today and Tomorrow*, B.B.S.B.E.C. Fatehgarh Sahib, 8 - 19 December.
5. UGC – sponsored Refresher course (2012) *Mechanical Engineering*, Academic Staff College, Punjabi University, Patiala, 14 May - 2 June.
6. UGC – sponsored Orientation course (2014) Academic Staff College, Punjabi University, Patiala, 7 April - 3 May.
7. AICTE Sponsored Short term course (2019) *Modeling and Simulation using MATLAB*, NITTTR, Chandigarh, 20 - 24 May.
8. AICTE Sponsored Faculty Development Programme (2019) *Entrepreneurial Career Orientation for Mechanical Engineering and Allied Disciplines*, Punjabi University, Patiala (Organized by: NITTTR, Chandigarh), 14 - 18 October.
9. AICTE Sponsored Faculty Development Programme (2020) *Green Manufacturing*, Punjabi University, Patiala (Organized by: NITTTR, Chandigarh), 03 - 07 February.
10. AICTE Sponsored Faculty Development Programme (2020) *Sustainable Environmental Management*, Punjabi University, Patiala (Organized by: NITTTR, Chandigarh), 10 - 14 February.
11. UGC – sponsored Refresher course (2020) *Research Methodology*, HRDC, Punjabi University, Patiala, 03 – 16 October.
12. AICTE Sponsored Short term course (2022) *Smart Materials and Nanotechnology*, Punjabi University, Patiala (Organized by: NITTTR, Chandigarh), 17 - 21 October.

#### 19. Research Indices (available at)

1.  <https://scholar.google.co.in/citations?hl=en&user=mpPqGn8AAAAJ>
2.  Author ID: 57199974523  
<https://www.scopus.com/authid/detail.uri?authorId=57199974523>
3. : 0000-0003-2944-4310

4. : Web of Science ResearcherID: O-6023-2019  
<https://publons.com/researcher/2930828/talwinder-singh/>
5.   
[https://www.researchgate.net/profile/Talwinder\\_Singh5](https://www.researchgate.net/profile/Talwinder_Singh5)

**(Dr. Talwinder Singh)**