

## CURRICULUM-VITAE

**Dr. Tejinder Pal Singh Sarao**

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### Areas of Research:

Biomedical coatings, Manufacturing Processes, Corrosion, Composite materials, Biomaterials

### Academic Record

Degree	Institution	University	Year
Ph.D (Mechanical Engineering)	University College of Engineering, Patiala, Punjab	Punjabi University, Patiala, Punjab	2013
M.E.(Manufacturing Technology)	NITTTR, Chandigarh	Panjab University, Chandigarh	2004
B.E.(Mechanical Engineering)	Priyadarshini College of Engineering, Nagpur, Maharashtra	Nagpur University, Nagpur, Maharashtra	1996

**Ph.D. Thesis Title:** “In-Vitro Corrosion Studies of Bioactive Coatings on Some Biomedical Implant Materials”. The PhD work has been done under the ISIRD Research Grant from Indian Institute of Technology Ropar, Rupnagar, India.

**M.E. Thesis Title:** “Parametric Control to Prevent Zinc Die Casting Defects”.

### Teaching /Industry/Research Experience

Institution	Year (From-To)	Designation
Baba Farid College of Engineering and Technology, Bathinda	10.02.2016 onwards	Prof. & Head, MED
Chandigarh University, Gharuan, Mohali	24.7.2015-9.2.2016	Prof. & Head, MED
Gulzar Group of Institutes, Khanna, Ludhiana, Punjab	10.9.2010-23.7.2015	Assistant Prof. & Head, MED
SVIET, Banur, Patiala, Punjab	29.6.2007-09.9.2010	Assistant Prof. & Head, MED
Indo Global College of Engg., Abhipur, Mohali, Punjab	17.7.2006-20.6.2007	Sr. Lecturer, MED
Adesh Group of Institutes, Muktsar, Punjab	25.8.1998-16.7.2006*	Lecturer/Sr. Lecturer/Head, MED
Satia Paper Mills Ltd., Punjab	11.4.1997-23.8.1998	Trainee Engineer (Mechanical)

\*Includes Study leave period from 19.8.2002-20.7.2004, for pursuing M.E. at NITTTR Chandigarh.

## Guidance of Ph.D. and M.Tech. Thesis

- **M. Tech.:** Supervised 02

## Membership of Professional Bodies

- Life Member, Indian Society of Technical Education (ISTE)
- Member Society of Automobile Engineering (SAE)

## Additional duties

1. Controller Evaluation Center, MRSPTU Bathinda
2. Appointment as external examiner for MTech thesis in I. K. G. PTU, Jalandhar

## Short-Term Courses/Conferences Organized and Grants Received

1. As a Conference Convener Received grant **(Rs Twenty Thousand) from CSIR New Delhi** to conduct 2 days International Conference on Emerging Technologies for Computing, Communication and Smart Cities (ETCCS-2021) held on on 21-22 August 2021
2. As a Co-ordinator received grant **(Rs Two Lakh Saventy thousand) from ISTE-AICTE** to conduct three online FDPs on “Recent Developments in AI & Robotics” in 2020-21
3. As a Conference Convener Received grant **(Rs Sixty Thousand) from CSIR New Delhi** to conduct 2 days International Conference on International Conference on Inteligent Machines (ICIM-19) held on March 15-16, 2019 at BFCET, Bathinda
4. As a Coordinator Received grant **(Rs Forty Thousand) from DST- National Implementing and Monitoring Agency for Training (NIMAT)** to conduct 3 days Entreprenuership Awareness Camp (EAC) in 2019
5. As a Coordinator Received grant **(Rs Forty Thousand) from DST- National Implementing and Monitoring Agency for Training (NIMAT)** to conduct 3 days Entreprenuership Awareness Camp (EAC) in 2018
6. As a Co-ordinator received grant **(Rs Three Lakh)** from ISTE-AICTE to conduct an FDP on “Outcome baesd education: teaching learning skills in digital age” (conducted from July 2-7,2018 at BFCET, Bathinda).
7. Co-ordinated an ISTE-PTU sponsored **(Rs one lakh)** faculty development programme on “Automotive Technologies” at GGI from **July 21-25, 2014**
8. Co-ordinated a National Seminar on Automation, Robotics and Mechatronics held on **November 24, 2007**, at Swami Vivekananda Institute of Engineering and Technology, Banur, Patiala

## Patents Granted/Publishediin

1. A Sugarcane Harvesting Machine With De-Thrashing Guiding Unit (201811028252), Gurpreet Singh, Tejinderpal Singh Saraon and Kovid Sharma (patent granted)
2. Door stopper for refrigerator (202211031264), Manpreet Singh, Karan Beri, Sunil Kumar Paswan and Dr Tejinder Pal Singh Sarao (patent published)
3. Bicycle with self-driven real time monitored Air Purifier (202111044130), Manpreet Singh, Tejinderpal Singh (patent published)
4. Ultrasonic Sensor System Using Arduino And Methods Thereof (202111025119), Pushpinder Sharma, Harsimran Singh, Jyoti Bansal, Tejinderpal Singh And Tanu Taneja (patent published)

## **RESEARCH PAPERS PUBLISHED/PRESENTED**

### **International Refereed Journals**

1. Tejinder Pal Singh Sarao, Harpreet Singh & Hazoor Singh, (2018), Enhancing Biocompatibility and Corrosion Resistance of Ti-6Al-4V Alloy By Surface Modification Route, Journal of Thermal Spray Technology, Vol 27 (8), 1388–1400
2. Luis Manuel Becerra Lucatero, David Turcio-Ortega, Thangarasu Pandiyan, Narinder Singh, Harpreet Singh, Tejinder pal Singh, (2016), Corrosion inhibition studies of cigarette waste on the iron surface in acid medium: Electrochemical and surface morphology analysis, Anti-Corrosion Methods and Materials, (I.F. 0.414), 63(4), 245-255.
3. Tejinder Pal Singh, Harpreet Singh, Hazoor Singh, (2014), Characterization of Thermal Sprayed Hydroxyapatite Coatings on Some Biomedical Implant Materials, Journal of Applied Biomaterial and Functional Materials (I.F. 0.761), 12(1): 48-56.
4. Tejinder Pal Singh, Harpreet Singh, Hazoor Singh, (2012), Characterization and In-vitro Investigations of Thermal Sprayed HA and HA/TiO<sub>2</sub> Coatings on 316L SS, Journal of Thermal Spray Technology (I.F. 1.812), 21(5), 917-927.
5. Tejinder Pal Singh, Hazoor Singh, Harpreet Singh, (2012), Characterization and In- Vitro Corrosion Investigations of Thermal Sprayed Hydroxyapatite and Hydroxyapatite- Titania Coatings on Ti-Alloy, Metallurgical and Materials Transactions-A (I.F.1.545), 43 (11), 4365-4376.
6. Tejinder Pal Singh, Harpreet Singh, Hazoor Singh, Characterization, Corrosion Resistance, and Cell Response of High-Velocity Flame-Sprayed HA and HA/TiO<sub>2</sub> Coatings on 316L SS, Journal of Thermal Spray Technology, 21, 917–927, (2012)

### **International Conferences**

1. Presented a paper titled Blockchain an Introduction from the industrial prospective in International Conference on Intelligent Machines (ICIM'19) held on March 15-16, 2019 at BFCET, Bathinda

2. B. Walia, T.P Singh Sarao, J.S Grewal, (2014), Corrosion Studies of Thermal Sprayed HA and HA+Al<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> Coatings on 316L stainless steel, Proc. 'National Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME-14), held at Punjab Technical University Jalandhar, Punjab, India, (October16-18), pp 569-575.
3. Tejinder Pal Singh, Harpreet Singh, Hazoor Singh, (2013), Plasma-Sprayed Hydroxyapatite Coatings-An Overview, Proc. 'National Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (AFTMME-11), held at Punjab Technical University Jalandhar, Punjab, India, (October 3-6), pp 259-264.
4. Rajesh Kumar and Tejinder Pal Singh, (2013), Participated and presented a Poster titled "Vehicular Emission in Ludhiana (Punjab) & Preventive Action" in Indo-US Workshop on, Recent Advances in Micro/Nanoscale Heat Transfer and Applications in Clean Energy Technologies, Sponsored by, Indo-US Science & Technology Forum, (December 21-22), Indian Institute of Technology Ropar, Rupnagar, Punjab, INDIA.
5. Tejinder Pal Singh, Harjinder singh, Hazoor Singh, Harpreet Singh Saheet, (2012), The Electrochemical Behavior of Surgical Grade 316L SS with and without HA Coatings in Simulated Body Fluid, Supplemental Proceedings: Materials Processing and Interfaces, TMS 2012 Conference, Orlando, USA, (March 11-15), pp. 79-86.
6. T.S. Sarao, H. Singh, H. Singh, and R. Chhibber, (2011), Thermal Sprayed Bioceramics Coatings for Metallic Implants, Biomaterials Science-Processing, Properties, and Applications, 228, R. Narayan, A. Bandyopadhyay, and S. Bose (Editors), John Wiley & Sons, pp. 159-171.
7. T.S. Sarao, H. Singh, H. Singh, H.S. Saheet, R. Chhibber, (2009), Surface Modification Techniques for Metallic Implants Used in Biomedical Applications, Proceedings of Materials Science & Technology Conference (MS&T'09), Pittsburgh, USA, (October 25-29,), pp. 2542-25

### **National Journals/Conferences**

1. Prashant, Gurpreet Singh and Tejinder Pal Singh Sarao, " Experimental Investigation of Heat Transfer Characteristics of Plate Heat Exchanger using Alumina - Water based Nanofluids at Different Orientations," Indian Journal of Science and Technology, Vol 9(48), Dec.2016, pp. 1-14.
2. B. Walia, T.P Singh Sarao, J.S Grewal, (2015), Corrosion Studies of Thermal Sprayed HA/HA+Al<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> Bond Coatings on 316L stainless steel, Trends in Biomaterials and Artificial Organs, 29(3), pp. 245-252.
3. T.S. Sarao, H.S Sidhu, H. Singh, R. Chhibber, Metallic Biomaterials, (2010), Indian Journal of Engineering, Science & Technology, 4 (1), pp. 46-50.

4. T.P. Singh and B. Kumar, (2007), Maintenance Management System for Heavy Earthmoving Machines - A Goal Programming Approach, Proceedings 'National Conference on Trends in Mechanical Engineering' held on January 19, at CIET, Patiala.
5. Amandeep Kaur and Tejinder Pal Singh, (2007), Linear and Non Linear Edge Detection a Survey, Proceedings of National Seminar on Automation, Robotics and Mechatronics held on November 24, at Swami Vivekananda Institute of Engineering and Technology, Banur, Patiala.
6. T.S. Sarao, S. C. Laroyia, (2006), Machine Vision, National Conference on Advances in CAD/CAM Technology held at NITTTR, Chandigarh from March 22-24.
7. T.S. Sarao, S. C. Laroyia, (2005), Parametric Control to Prevent Zinc Die Casting Defects, National Conference on Advances in Manufacturing Technology held at NITTTR, Chandigarh from Oct 26 -28.

### **Faculty Development Programme /Workshops Participated**

1. Participated in AICTE sponsored FDP on "Python programming" at CUP Bathinda, Bathinda from July 22.7.19 to 26.7.19 (One week)
2. Participated in one day workshop on "Sustainable Manufacturing" sponsored by Materials and Manufacturing (M&M) panel, Aeronautical Research and Development Board at IIT Ropar, Roopnagar on 19.3.2019
3. Participated in one day National workshop on "3D printing of Smart Materials" at YCoE, Punjabi University Guru Kashi Campus, Talwandi Sabo on 7.2.2019
4. Participated in One day conference on Education 4.0: Reimagining & Transforming Learning Environments at NITTTR, Chandigarh on 12.12.18
5. Participated in ISTE-AICTE sponsored FDP on "Recent Advancements in Materials, Manufacturing and Safety" at GZSCET, Bathinda from June 25.6.18 to 30.6.18 (One week)
6. Participated in ISTE-AICTE sponsored FDP on "Outcome Based Education-Teaching Learning skills in Digital age" at BFCET, Bathinda from July 16.7.18 to 21.7.18 (One week).
7. One day Awareness Workshop on 'Outcome Based Education and Accreditation' at NITTTR, Chandigarh on 21.01.17
8. Participated in AICTE recognized STC on "Accreditation of Programmes' at NITTTR, Chandigarh from 05.06.17 to 9.06.17 (One week).
9. Participated in one day FDP on "Ansys Workbench & Ansys CFD Software" organized at Baba Farid Group of Institutions by CADD CENTRE, Bathinda conducted on 19.3.2018
10. Successfully completed four week (Feb-March 2019) NPTEL online certification course on "Teaching and learning in Engineering (TALE)"
11. Participated in ISTE-PTU sponsored one week FDP on "Automotive Technologies" from July 21- 25, 2014 at Gulzar Group of Institutes, Ludhiana
12. Faculty Development Programme, on Renewable Energy Technologies and Energy Conservation Methods, from June 9-13, 2014 at Rayat Institute of Engineering and Information Technology, Ropar (One week).
13. Staff Development Programme, Thermal Spray Techniques and their Applications in

14. Surface Engineering, from June 22, 2009 to July 3, 2009 at BBSB Engineering College, Fatehgarh Sahib, sponsored by DST, New Delhi (Two Weeks).
15. Patent Awareness Workshop at Rayat & Bahra Institute of Engineering & Biotechnology Mohali sponsored by DST Govt of India and PSCST, Chandigarh on 09-12-06.
16. Faculty Development Programme by Regional Centre for Entrepreneurship Development (RCED) on behalf of Deptt. of Science & Technology, GOI, New Delhi in association with Directorate of Technical Education and Industrial Training, Punjab from 18-9-06 to 29-9-06 (Two weeks).
17. STC on CNC Technology (National Institute of Technical Teacher's Training & Research, formerly TTTI), Chandigarh from 26.12.05 to 30.12.05 (One week).
18. STC on CNC Technology at NITTTR, Chandigarh from 06.06.05 to 10.06.05 (One week).
19. STC on Refrigeration & A.C Maintenance at NITTTR, Chandigarh from 08.11.04 to 12.11.04 (One week).
20. STC on Auto-CAD at NITTTR, Chandigarh from 21.06.04 to 25.06.04 (One week).
21. Induction Training Programme for newly recruited teachers of polytechnic colleges from 30.07.01 to 10.08.01 conducted by Technical Teacher's Training institute (TTTI), Chandigarh (Two weeks).

**(Tejinder Pal Singh Sarao)**