# CURRICULUM VITAE


## Gaurav Dinkar Sonawane

Ph. D, M. Tech, B.E, D. Tech (Mechanical Engineering)

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### CAREER OBJECTIVE

To reach the highest order research level in Materials and Manufacturing Engineering through hard work, dedication and continuously updating my work areas by assimilating the latest trends and applying my knowledge as well as abilities with a positive attitude.

### AREA OF INTEREST

- Metallurgy
- Heat Treatments
- Dry Machining (Hard Coating Materials)
- Measurement Science

### QUALIFICATIONS

| Sr. No. | Qualification | Year of passing | University | Marks/ CGPA | Class |
|---|---|---|---|---|---|
| 1 | Ph D in Mechanical (Manufacturing) | 2021 | Dr. BATU, Lonere, Raigad | **Awarded** | |
| 2 | M-Tech in Mechanical (Manufacturing) | 2010 | Dr. BATU, Lonere, Raigad | 8.6 (79%) | **Distinction** |
| 3 | B. E. (Mechanical) | 2007 | N.M. U | 70.07% | **Distinction** |
| 4 | Diploma (Mechanical) | 2003 | M.S.B.T.E. | 67.00% | **I$^{st}$ Class** |
| 5 | S.S.C | 1998 | Nasik Board | 72.00% | **I$^{st}$ Class** |

### EXPERIENCE (13 YEARS)

- Currently, working with Sandip Foundation's SITRC, as Assistant Professor since June-2009.
- Worked with S. S. Jondhale COE, Asangaon (Thane) as Lecturer from June 2008 to May 2009.

### ACHIEVEMENTS

- **Best Paper Award and most downloaded paper award** by Springer Nature (Korean Society for Precision Engineering)
- Invited as a **Session Chair** at **International Conference on Industrial, Mechanical and Manufacturing Science (ICIMMS Berlin, Germany, 2019)**
- **Best Paper Award at International Conference on Industrial, Mechanical and Manufacturing Science (ICIMMS 2019) on "Studies on Characterization and Machinability of Duplex Stainless** Steel **2205 during Dry Turning"** at Berlin, Germany, on 21$^{st}$ -22$^{th}$ May 2019
- **University Topper** of Dr. B.A.T. University Raigad for M. Tech. course in 2010 **scored CGPA 8.6.**

- The department was accredited by **NBA (653/1000)** from 2020-21 to 2022-23. I was the coordinator of Criterion 6.
- The institute was accredited with **'A' grade by NAAC** in 2018. I was the coordinator of Criterion 7.

**MEMBERSHIP**

- Life Member of **Indian Society of Technical Education (ISTE)**, Member ID- LM 9920
- Life Member of The **Indian Institute of Metals (IIM)**, Member ID- 51750

**RESEARCH PROJECTS**

- **Ph D Project: Machinability Studies of Duplex Stainless Steel 2205 during Turning.**

This work has been published in **Two** International Conferences and **Three SCI Journals.**

- **M. Tech project: Comparative Performance Evaluation of Uncoated and Coated Carbide Inserts in Dry End Milling of Stainless Steel (SS 316L).**

This work has been published in One International Conference and One International Journal.

- **BE: Surface Integrity Measurement of Al-Si Alloy**

**EXPERTISE AND AREAS OF INTEREST**

While working in the academic field, I have developed and handled two research labs including Metallurgy and Material Testing lab and Metrology and Quality Control Lab. Using these two labs, I have flourished practical expertise in some of the fields as follows:

- **Heat Treatments**

In **Metallurgy and Material Testing lab,** I have worked on Heat treatments like Hardening, Annealing, Induction and Flame Hardening.

- **Metallurgy, Material Testing and Analysis**

**Destructive testing:** Hardness, Hardenability, Toughness, Wear resistance, Fatigue Strength

**Non-Destructive Testing:** Crack detection using Fluorescent DPT, Ultrasonic Testing, Magnetic particle testing

- **Measurement and Quality control**

In MQC lab I have developed practical expertise related to measurement of different dimensions using measurement instruments including Profile projector, Sine bar, Optical flat for measuring and maintaining dimensional accuracy of finished goods.

## Notable Guided Projects:

1. Hydro-pneumatic braking system (Patent published).
2. Double disc Cutting, Grinding and Polishing machine for specimen preparation (Patent published).
3. Electric Garbage Emptier Vehicle (Sponsorship of Rs. 3.5 L).
4. Abrasive Jet Machining Test Rig.
5. Fatigue Testing Machine (Sponsorship Rs. 25000).
6. Retro Fitment of Electric Powertrain in Tata Nano (Sponsorship Rs. 1.5L).

**GRANTS RECEIVED FOR RESEARCH PROJECTS:**

1. The project 'Dry Turning of DSS2205 using Carbide Tools' sponsored by Department of Science and Technology, Government of India. Funding Rs. 1, 00,000/-.
2. Young scientist/teacher travel grant (Berlin, Germany) from Board of College and University Development, Savitribai Phule Pune University, Pune. Funding Rs. 52,000/-.

3. Financial assistance grant from Sandip Institute of Technology and Research Centre, Nashik. Funding Rs.22,500/-.

**PUBLICATIONS**

## I. Patents (03):

- Published: IND Patent 2098/MUM/2014 A: **"Hydro-pneumatic Braking System"**, January 01, 2016
- Published: IND Patent 3430/MUM/2014 A: **"Fabrication of Double Disc Polishing, Grinding and CuttingMachine"**, May 05, 2016.
- Published: IND Patent 2016210002617 A: **"Advanced Drilling Machine"**, July 28, 2017.

## II. SCI Publications (03)

- Paper published in 'Journal of the Brazilian Society of Mechanical Sciences and Engineering **(Springer 2.30)',** on **"Evaluation and Multi-objective Optimization of Nose Wear, Surface Roughness and Cutting Forces using Grey Relation Analysis (GRA)".**
- Paper published in 'International Journal of Precision Engineering and Manufacturing **(Springer 2.106)**', on **"Machinability Study of Duplex Stainless Steel 2205 during Dry Turning"**.
- Paper provisionally accepted in 'Machining Science and Technology **(Taylor and Francis 2.11)',** on **Comparative Performance Evaluation of HIPIMS, S3P and CAE Deposited Coatings during Dry Turning.**

## III. International Journals (04)

- Published a paper in an international journal 'AIP Conference Proceedings' **(Scopus)** on **"Analysis of Heat-Treated Materials for Fatigue Failure" in October 2018.**
- Published a paper in an international journal of computer application (Impact Factor 2.58) on **"Review on Intensive Quench- a boon to Heat Treatment Technology" in July 2014.**
- Published a paper in an International Organisation of Scientific Research, Journal of Mechanical and Civil Engineering (IOSR-JMCE 1.47) on **"Review on Recent Trends & Optimization in Heat Treatment" in June 2014.**
- Published a paper in an international journal of computer application (Impact Factor 0.8) on **"Comparative Performance Evaluation of Uncoated and Coated Carbide Inserts in Dry End Milling of Stainless Steel (SS316L)" in March 2012.**

## IV. International Conference (03):

- Presented a paper in an international conference **International Conference on Industrial, Mechanical and Manufacturing Science (ICIMMS 2019) on "Studies on Characterization and Machinability of Duplex Stainless Steel 2205 during Dry Turning"** at **Berlin, Germany,** on 21-22 May 2019
- Presented a paper in an international conference **PRECISION, MESO, MICRO AND NANO ENGINEERING (COPEN-10) "Machinability studies of Duplex Stainless Steel 2205 using coated tools"** at **IIT, Madras**, on 08-09 November 2017.
- Presented a paper in an international conference **ICCIA 2010** on **"Experimental Investigation on Surface Roughness of High-Speed Machined AL-SI ALLOY"** at Sandip Foundation's **SITRC, Nasik** on 03-05 March 2010.

**RESPONSIBILITIES CARRIED OUT**

- **Courses taught:** Engineering Metallurgy, Material Science, Metrology and Quality Control, Basic Mechanical Engineering, Automobile Engineering.
- Preparing of **video lectures** for the subject engineering Metallurgy with the help of VFX team of Sandip

Foundation Head Office.

- Writing the script, analyzing and finalizing the **animations** of the subjects Material Science.
- Coordinator (Criterion 6.0, related to Laboratories) for **NBA** accreditation of the department.
- Coordinator (Criterion 7) for **NAAC** accreditation. It was the highest scored criterion during the assessment.
- Working in Research committee of the institute and Project Review committee of the department.
- No. of project groups guided: 22
- No. of students guided for seminar: 80.
- Setting & looking after the laboratories: Material Testing and Metallurgy, Metrology and Quality Control.
- Mentoring students on academic and related matters by meeting them periodically.
- Considering the updation in the syllabus, I have carried out two fabrication projects including Double Disc polishing Machine and Fatigue Testing Machine. This activity saved the cost (Rs. 3.6 L) of purchasing new test rigs.

**Research Guide: (M. Tech and Ph. D.)**

**Prof. (Dr.) Vikas G. Sargade**
Professor, Mechanical Engineering Deptt.
Dr. B. A. T. University, Lonere.
**9730341788**

**CORRESPONDENCE ADDRESS**

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