


<i>Personal Details:</i>	
Name	Dr. Sachin Adinath Mastud
Qualification	B.E. (Production), WIT Solapur M.E. (Production), VJTI Mumbai Ph.D. (Mechanical), IIT Bombay
Designation	Associate Professor in Mechanical Engineering Department, VJTI
Date of Birth	01 st August 1980
Academic Experience	19 Years
Research Interest	Manufacturing Science, Micro-Machining, Precision Engineering, Engineering Metrology, Process Engineering <i>Google Scholar Link:</i> https://scholar.google.co.in/citations?user=s57LcFsAAAAJ&hl=en



<i>Educational Qualification:</i>				
Qualification	School /College /University	Year	% Marks	Pass Class
B.E. (Production)	Walchand College of Engineering, Solapur	June 2001	71%	1 st Class with Distinction
M.E.(Production)	Veerмата Jijabai Technological Institute (VJTI), Mumbai	June 2005	72%	1 st Class with Distinction
Ph.D. (Mechanical)	Indian Institute of Technology Bombay, Mumbai	April 2014	--	--

<i>Work Experience:</i>			
Sr. No	Designation	Institute	Period
1	Associate Professor	VJTI, Mumbai	July 2016 till date
2	Head of Mechanical Engineering, VJTI		August 2018-August 2020.
3	Head of Production Engineering Department		From 1 st August 2014 to 25 th June 2016
4	Lecturer (Senior scale)		From 18 th July 2008
5	Lecturer		From 17 th July 2003 to 16 th July 2008

M. Tech. Dissertation : **Process Parameters Optimization of Electro-polishing Process**, at VJTI Mumbai, 2005.

Ph.D. Thesis : **Development and Modeling of Reverse Micro EDM for Fabrication of High Aspect Ratio Features and Textured Surfaces**, at IIT Bombay 2014.

<i>Countries Visited:</i>
<ul style="list-style-type: none"> • South Korea: Visited South Korea during 24th-27th October 2010 to attend and present paper at 7th International Workshop on Micro-Factories <ol style="list-style-type: none"> 1. Interacted with researchers from various universities 2. Visited Korean Institute of Science and Technology (KIST), Mechanical Engineering

Laboratories (Micro-forming center)	
<ul style="list-style-type: none"> • United State of America: Visited USA during 4th to 8th June 2012 to attend and present paper at ASME- Manufacturing Engineering and Science Conference (MSEC) at Notre Dame University, Chicago. <ol style="list-style-type: none"> 1. Interacted with researchers from various countries and universities. 2. Visited Zimmer (Implant Manufacturing) Industry 3. Visited Notre Dame University Laboratories • United State of America: Visited USA during 9th to 13th June 2014 to attend and present paper at ASME- Manufacturing Engineering and Science Conference (MSEC) at University of Michigan, Detroit. <ol style="list-style-type: none"> 1. Interacted with researchers from various universities. 2. Visited University of Michigan Dearborn (CAE Lab) • Singapore: Visited Singapore in January 2019 to attend and present paper at Conference in NUS. Visited National University of Singapore to interact with Manufacturing faculty members. 	

Research and Publications: Total Publications: 17

Research Projects	01 (Department of Science and Technology)
Book Chapter	02
Papers Published in International Journals	15
Papers Published in International Conferences	16
Papers Published in National Conferences	08
Sessions Conducted in FDP/STTP	13
Short Term Courses Attended (1-2 week)	21

Research Proposals Submitted/Sanctioned:

<p><i>i. Project Approved by: Department of Science and Technology (DST) under Young Scientist Research Grant (Project number YSS/2015/001910)</i></p> <p><i>Title: Development and Modeling of Micro Electrical Discharge Machining for Fabrication of Micro Textured Surfaces for Tribological and Machining Applications</i></p> <p>Budget: 20 lakhs</p>
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Experience of Working on Research Projects:

<p>i. Worked as a Research Scholar on Project Funded by Department of Science and Technology (Project number 08-DS-058) at IIT Bombay (PI: Dr. Suhas Joshi) <i>Project Title: Development and Modeling of Dry EDM and Micro Reverse EDM</i></p> <p>ii. Worked as a Research Scholar on project Funded by Indian Space Research Organization (ISRO) at IIT Bombay (PI: Dr. Suhas Joshi) <i>Project Title: Design and Fabrication of 3D Hydrophobic structures</i></p>
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Book Chapter:

Sachin Mastud. 'Reverse Micro EDM'. A book chapter in a book titled Micro-electrical Discharge Machining Processes (p.p. 93-124), published by Springer, Singapore, 2019

Key Publications in International Journals:

1. Amrut P Bhosale, Shreyansh Sharma, **Sachin Mastud**. Characterizing the economic competitiveness of battery electric vehicles in India. *Asian Transport Studies*, 8, 22-34, 2023.
2. Manoj Nikam, Tribeni Roy, **Sachin Mastud**. Wettability analysis of hydrophobic micro-dimpled HSS surfaces. *Journal of The Institution of Engineers (India): Series D*, 1-12, 2023.
3. MS Nagrale, **Sachin Mastud**. An experimental study to investigate the effect of solid, single-channel and multichannel electrodes in micro-electrodischarge drilling process. *Journal of the Brazilian Society of Mechanical Sciences and Engineering*. 88-98.
4. Narendra Bhople, **Sachin Mastud**, Satish Satpal. Modelling and analysis of cutting forces while micro end milling of Ti-alloy using finite element method. *International Journal for Simulation and Multidisciplinary Design Optimization*.12, 1-26, 2023.
5. Narendra Bhople, **Sachin Mastud**, Rinku Mittal. Performance analysis of uncoated, TiN coated and cryotreated micro tungsten carbide tools while micromilling of Ti-6Al-4V. *International Journal of Machining and Machinability of Materials*, 24 (1-2), 2022.
6. Manoj Nikam, Tribeni Roy, **Sachin Mastud**. Feasibility of inducing superhydrophobicity on laser-textured surfaces: development of mathematical model and experimental investigations. *Journal of Advanced Manufacturing Systems*, 21, 2022.
7. SR Dharmadhikari, **Sachin Mastud**, RH Shinde. Experimental Analysis of Wire Mask Assisted Reverse Micro-EDM (RMEDM) for Fabrication of Arrayed Rods. *Innovations in Mechanical Engineering: Select Proceedings of ICIME 2021*, Springer Nature Publication, 301-309, 2022.
8. MS Nagrale, **Sachin Mastud**. Optimisation and experimental investigation of material removal rate and tool wear rate of micro electro discharge machining (MEDM) of Hastelloy C276, *Advances in Materials and Processing Technologies*. 3582-3596, 2022.
9. Manoj Nikam, **Sachin Mastud**. Design and Development of surface texture for tribological applications, *Key Engineering Materials*, 803, 55-59, 2019.
10. S Jithin, SS Shetye, JJ Rodrigues, KS Mhetre, **Sachin Mastud** and Suhas Joshi. Analysis of electrical discharge texturing using different electrode materials. *Advances in Materials and Processing Technologies*, 4(3), 466-479, 2018.
11. **Sachin Mastud**, Naman Kothari, Ramesh Singh and Suhas Joshi. Modeling Debris Motion in Vibration Assisted Reverse Micro Electrical Discharge Machining Process (R-MEDM). *IEEE-Microelectromechanical Systems*, 24:3, 661-676, 2014.
12. Manoj Bhalwankar and **Sachin Mastud**. Applying Value Stream Mapping for Improvements in Automotive Seat Manufacturing Processes. *International Journal of Mechanical Engineering and Robotic Research*, 4:3, 165-177, 2014.
13. **Sachin Mastud**, Ramesh Singh and Suhas Joshi. Analysis of fabrication of arrayed micro-rods on tungsten carbide using reverse micro-EDM. *International Journal of Manufacturing Technology and Management*, 26:4, 176 – 195, 2012.
14. Sachin Mastud, Mayank Garg, Ramesh Singh and Suhas S Joshi. Recent developments in the reverse micro electrical discharge machining in the fabrication of arrayed micro features. *Proceedings of IMechE: Journal of Mechanical Engineering Science (Part-C)*, 226, 367-384, 2010.
15. Soham Mujumdar, **Sachin Mastud**, Ramesh Singh and Suhas Joshi. Experimental characterization of reverse micro-EDM process for fabrication of high-aspect ratio micro rod arrays. *Proceedings of IMechE: Journal of Engineering Manufacture (Part B)*, 225, 1-18, 2009.

Publications in International Conferences:

1. Megha Nagrale, **Sachin Mastud**. Micro-Electrical Discharge machining for machining micro-holes. Trends in Manufacturing Processes. Lecture notes on Multidisciplinary Industrial Engineering, Springer, Delhi University, 2019.
2. Manoj Bhalwankar, **Sachin Mastud** and S. Jadhkar. A review of factors affecting thermal conductivity and societal applications of PPS matrix Nanocomposites. *Proceedings of International Conference on Advanced Technologies for Societal Applications, SVPM COE Pandharpur, 2018.*
3. Narendra Bhople, Nilesh Patil and Sachin Mastud. Application of response surface methodology to experimentally investigate the dry turning of austempered ductile iron. International Conference on Advances in Thermal Systems, Materials and Design Engineering, organized by VJTI Mumbai, 2017.
4. **Sachin Mastud**, Naman Kothari, Ramesh Singh, Johnson Samuel and Suhas Joshi. Analysis of debris in vibration assisted Reverse Micro Electrical Discharge Machining. **ASME**-International Manufacturing Science and Engineering Conference (MSEC), 9th-13th June 2014, University of Michigan, Detroit, USA.
5. **Sachin Mastud**, Mayank Garg, Ramesh Singh, Johnson Samuel and Suhas Joshi. Experimental characterization of vibration assisted reverse micro Electrical Discharge Machining (EDM) for surface texturing. **ASME**-International Manufacturing Science and Engineering Conference (MSEC), 4th-8th June 2012, University of Notre Dame, South Bend, USA.
6. Piyusha Lokhande and **Sachin Mastud**, Wavelet Analysis of Cutting Force Signals For Tool Condition Monitoring in Micro-Milling. **COPEN-7**-International Conference on Precision, Meso, Micro and Nano Engineering. 10th-11th December 2011, College of Engineering, Pune.
7. **Sachin Mastud**, Ramesh Singh, Johnson Samuel and Suhas Joshi. Comparative analysis of the process mechanics in micro Electrical Discharge Machining (EDM) and Reverse micro-EDM. **ASME**-International Manufacturing Science and Engineering Conference (MSEC), 13th-17th June 2011, Corvallis, Oregon, USA.
8. **Sachin Mastud**, Ramesh Singh and Suhas Joshi. Vibration assisted reverse micro EDM for generating high-aspect ratio arrayed micro-features. **COPEN-7**-International Conference on Precision, Meso, Micro and Nano Engineering, 10th-11th December 2011, College of Engineering, Pune.
9. **Sachin Mastud**, Ramesh Singh and Suhas Joshi. Reverse micro EDM of tungsten carbide for machining microrod arrays. International Workshop on Microfactories, 24th-28th October 2010, Daejeon, Korea.
10. Satish Mhaske, **Sachin Mastud** and R.Balasubramaniam. Design of a grooved cathode for ELID process. All India Manufacturing Technology, Design and Research (**AIMTDR**), 13th-15th December, 2010, Visakhapatnam, India.
11. **Sachin Mastud**, Ramesh Singh and Suhas Joshi. Investigation of reverse micro EDM process for generating high-aspect ratio micro-electrode arrays. International conference on Multi-Material Micro Manufacture (**4M-ICOMM**- International conference on Micro-manufacture, 23rd-25th September-2009, Karlsruhe, Germany.

National Conferences and Events Attended:

1. Poster presentation in Ph.D colloquium at VJTI, 15-16, April 2013.
2. Sachin Mastud, D.N.Raut and Y.D.Venkatesh, Machining of high aspect ratio arrayed structures by reverse micro-EDM process. National conference on Recent Trends in Mechanical Engineering, RTME, 04th-06th March, 2010, Nashik, India.

3. Poster presentation on Research Activities of Machine Tool Lab, IIT Bombay at IMTEX, Bangalore, 18th-21st January 2011

Invited Talks and Lectures Delivered in FDP/STTP:

1. Conducted two sessions in STTP on Emerging Trends in Mechanical Engineering at DABACER, Nagpur, 27th April-2nd May 2015.
2. Conducted a session on Optimization Processes and Micro-manufacturing in ISTE workshop on Computational Methods at Pillai College of Engineering, Rasayani on 5th July 2015.
3. Conducted a session on in STTP on Advanced Manufacturing Techniques at DKTE Ichalkarnaji, 12th-16th January 2015.
4. Technical Session Chair in National Level Doctoral Consortium for Research Scholars at MET Bhujbal Knowledge City, Nasik during 5th-7th January 2015.
5. Delivered Expert Lecture on Un-conventional Machining Processes at Orchid College Solapur on 13th September 2014.
6. Conducted a session on Micromachining in TEQIP sponsored program on Advances in Manufacturing Technology at RIT Islampur, 30th June-4th July 2014.
7. Presented a Production Engineering curriculum development process at one day workshop on Best Practices in Outcome Based Design of Curriculum for Production Engineering at SGGS IE&T Nanded, 21st August 2014.
8. Conducted a session on 'Unconventional and Micromachining Processes' at one week workshop in Production and Industrial Engineering at WCE Sangli, 10th-14th December 2012.
9. Conducted Session on 'Micro-machining' in 5-day SDP on Advances in Manufacturing and Micromachining at VJTI, Mumbai, 14th-18th November 2011
10. Conducted session in AICTE sponsored Staff development program on Advances in Manufacturing and Micromachining Techniques, 14th-18th November 2011 at Production Engg. Department VJTI.
11. Presentation in Short Term Training Program on 'Electrical Discharge Machining' at Saraswati College of Engineering, Navi Mumbai, 13th January 2010.

Short Term (1-2 Weeks) Programs Attended/Proposed:

1. Participated in Advanced Pedagogies: Active Learning and Digital Tools –IIT Guwahati: 24-28 June 2019.
2. Participated in Professional Development Training under TEQIP-III – IIM Tiruchirapalli: 26-30 August 2019.
3. Nanotechnology opportunities and Challenges in Engineering Materials and Manufacturing- Under QIP at VJTI : 05-10 March 2018.
4. Research Methodology for Engineering and Management Research-(Under QIP) at VJTI: 9-14 July 2018.
5. Laboratory and Ergonomic Safety for Engineers (Under QIP)-IIT Bombay: 12-16 June 2017.
6. Advanced Manufacturing Processes & Management Practices (Under AICTE-AIP)-VJTI Mumbai: 23-28 December 2017.
7. Conducted GIAN program by inviting Prof. Samuel Johnson (RIP, NY, USA) for 01 week duration in August, 2016.
8. Participated in Management Capacity Enhancement Program at IIM Kozhikode, 24th-29th August 2015.
9. Participated in MHRD-TEQIP-KITE Workshop on Teaching Applied Mathematics to Post Graduate Students in Engineering at IIT Bombay, 13th-15th May 2015.
10. Participated in QIP Sponsored one week Faculty Development Program on Foundry Technology

- at VJTI Mumbai, 22nd-26th December 2014.
11. Participated in Management Capacity Enhanced Programme under TEQIP organized by IIM Udaipur, 22nd-27th September 2014.
 12. Attended AICTE sponsored two weeks Faculty Development Program on ‘Recent Trends in Manufacturing Technology’ at WCE Sangli, 12th-22nd June 2013.
 13. Attended one week Faculty Development Program on ‘Recent Trends in Finite Element Method and Introduction to Boundary Element and Mesh-Free Method at VJTI Mumbai, 18th-22nd February 2013.
 14. Participated in one-week QIP course on TRIZ and Taguchi Methods using Innovation and Optimization at IIT Bombay, 11th-16th August 2012.
 15. Attended TEQIP sponsored one week program on ‘Industrial Engineering Tools and Techniques’ at VJTI Mumbai, 12th-16th March 2012.
 16. Attended AICTE Sponsored staff development program on ‘Advances in Manufacturing and Micromachining Techniques’ at VJTI Mumbai, 14th-18th, November 2011.
 17. Attended five days International School on Nano-scale Materials and Devices at IIT Bombay, 13th-17th December 2010.
 18. Attended a four days workshop on the Micro/Nano Fabrication at IIT Kanpur, 5th-8th December 2009.
 19. Attended the SERC (DST sponsored) school on Micromachining at IIT Bombay, October, 2009.
 20. Attended two days program on ‘Effective Role Execution for Institute Development Training Module T.M.-6’ at VJTI, 4th-5th March 2009.
 21. Attended five days TEQIP sponsored Short Term Training Programme on ‘Modern Trends in Machining and Materials’ at VJTI Mumbai, 16th-20th February 2009.
 22. Attended five days Short Term Training Programme on Multimedia Systems at VJTI Mumbai from 2nd-7th February 2009.
 23. Attended one week ISTE approved Short Term Training Program on New Horizons in Engineering Materials at DJ Sanghvi COE Vile Parle, 23rd June-4th July 2008.
 24. Credit course completed at Mechanical Engineering Department IIT Bombay on ‘Ultra Precision Machining’, January-April 2008.
 25. Attended a three days course on Student Counseling and Evaluation conducted by NITTR Bhopal at VJTI Mumbai, 16th-18th April 2007.
 26. Participated in three days TEQIP program on Solid Modeling using CATIA at DKTE, Ichalkaranji, 1st-3rd February 2007.
 27. Participated in QIP Short Term Course on Analysis of Modern Manufacturing Processes at IIT Bombay, 29th November-12th December 2006

Ph.D Students Guided:

Registration Year	Student Name	Title of Thesis	Remark
June 2015	Dr. Megha Nagrale	Modeling and Development of Deep Holes and Curved Holes Micro EDM Drilling Process Assisted by Electrode Vibrations and Magnetic Force	Graduated
April 2022	Dr. Manoj Nikam	Modeling and Fabrication of Textured Surfaces	Graduated
October 2022	Dr. Narendra Bhople	Cryogenic Treatment of Micro-Milling Cutters	

B.Tech Projects and M. Tech. Dissertations Guided:

<i>Activity</i>	<i>Number of students guided</i>	<i>Project Location</i>
M.Tech Dissertations	28	In-house and reputed industries like TATA, Volkswagen, SIEMENS, L&T, Godrej, HPCL, etc.
B.Tech In-plant training and Project work of 6 months duration	45	Godrej, L&T, Volkswagen, SIEMENS, HPCL, Thermax Industries, etc.

Examiner and Reviewer:

- Reviewer of ASME-MSEC 2012 Conference
- Evaluation and examination of Ph.D thesis for SGGS Nanded, Gujrat Technical University, SPP University, etc.
- Regular M.Tech examiner of SGGS IE&T-Nanded, Walchand College of Engineering-Sangli, BKC CoE-Nasik, Amrutvahini CoE-Sangamner, Singhagad CoE-Wadgaon and Lonawala, etc.

Committee Membership and Other Academic Activities:

- Board of Studies Member-SGGS IE&T, Nanded for Production Engineering Department
- Board of Studies Member at MIT, Alandi.
- Chairman, Scrap Committee, VJTI (August 2018). Institute Faculty Grievances Committee member
- Ph.D admission Department coordinator (2014), NBA Accreditation departmental co-coordinator for B.Tech Production (2009), F. Y. B.Tech admission committee member (2004-2009)
- TEQIP Department coordinator and involved in purchasing of more than 25 lakhs of equipments and software. Development of Metrology lab (in-charge, 2004-2014)
- Assisted in purchasing of Metrology Equipment through RPS (More than Rs. 15 lakhs)
- Secretary of Production Engineering Students Association (involved in organizing Annual Technical Event since 2009)
- Preparation of Department annual report, institute brochure and departmental annual report for Alumni Association

Achievements:

- Received a Young Scientist Research grant of Rs. 23.50 lakhs from Department of Science and Technology (DST)
- Best Paper Award at ICMR Conference Singapore (2019)
- 1st position in the oral presentations in ‘Manufacturing Engineering’ stream in ‘MEGRES-2014’; Research symposium at IIT Bombay, January 2014.
- Best poster award in Production Department at VJTI Ph.D colloquium in 2013.
- Received Travel Grant from DST to present research papers at USA in June 2012.
- Best Paper award for paper titled ‘Value Stream Mapping in Seat Manufacturing Plant’ at IIT Banaras (Banaras Hindu University) with Mr. Manoj Bhalwankar, 16th-19th December 2012.

Prof. Sachin Mastud

Date: 07.03.2023
