

DR. VASIM A. SHAIKH

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EDUCATION

Doctor of Philosophy (Ph.D.) – Materials Science and Engineering **August 2013**
University of North Texas – United States of America **Texas, USA**
Dissertation: Mist and microstructure characterization during end milling
AISI 1018 steel using Microlubrication.

Master of Science (M.S.) – Mechanical Engineering Systems **December 2008**
University of North Texas – United States of America **Texas, USA**
Thesis: Effects of minimum quantity lubrication in drilling AISI 1018 Steel.

Bachelor of Engineering (B.E.) – Production Engineering **May 2005**
University of Mumbai **Mumbai, INDIA**

Diploma (Associate Degree) – Production Engineering **May 2002**
Agnel Technical College **Mumbai, INDIA**

TEACHING / ACADEMIC EXPERIENCE

Assistant Professor (Full-time) **October 2015 – present**
Fr. Conceicao Rodrigues College of Engineering **Mumbai, INDIA**
Department of Mechanical Engineering **University of Mumbai**

- Taught courses and conducted laboratories in Mechanical and Production Engineering for Ph.D., P.G., and Undergraduate student for subjects like:
 - Materials Science and Engineering.
 - Manufacturing Engineering.
 - Metrology and Quality Engineering.
 - Engineering Drawing.
 - Research Methodology.
 - CNC & 3D Printing.
 - Renewable Energy Sources.
- Approved Ph.D. Guide – Mumbai University
- Co-Advisor – 3 Ph.D. students.
- Advisor – 3 Masters students. (1 – completed, 2 – Ongoing)
- Accreditation In-charge – Mechanical Engineering Department.
- Faculty In-charge – Materials and Materials Testing Laboratory.

- Faculty In-charge – Society of Manufacturing Engineering (SME) Chapter.
- Faculty In-charge – CRCE Formula Racing Team (CFR).
- Service to the university and college through committee involvement.
 - Chairperson – Question Paper Setting Committee at University level.
 - Member – Internal Quality Assessment Cell (IQAC).
 - Member – Research Forum.
 - Member – University Syllabus Revision Committee at all levels.
 - Member – Faculty Development Program.
 - Member – Admissions Committee.
- Conducted Industrial visits to bridge the gap between theory and practice.
- Prepared and delivered weekly lectures.
- Advised interns as a project guide.
- Wrote and administered assignments and examinations at all levels.
- Written for grants to National funding agencies.
- Currently conducting research in the area of Green Sustainable Manufacturing.

Assistant Professor (Tenured-track)

August 2013 – August 2014

Millersville University – United States of America

Pennsylvania, USA

Department of Applied Engineering, Safety and Technology

- Developed and taught courses in Production Engineering including:
 - Production Materials and Processes.
 - Processing Nonmetallic Materials.
 - Polymers and Ceramics Technology.
- Prepared and delivered weekly lectures and advised students.
- Wrote and administered examinations; assessed students' performance; and assigned final grades.
- Conducted research to develop green and sustainable manufacturing processes, including mist and materials characterization.
- Pursued scholarship activities like grant writing, presentation, and publication.
- Service to the university through committee involvement
 - Member – Construction Faculty Search Committee.
 - Member - Association of Technology Management, and Applied Engineering (ATMAE) Accreditation Committee.

Teaching Assistant

January 2010 – July 2013

University of North Texas – USA

August 2007 – December 2008

- Conducted and graded laboratories for Mechanical Engineering courses including fluid mechanics, thermal engineering, mechanical design, AutoCAD, Pro-Engineering (Pro-E), and MatLab.

- Assisted in Materials Science and Engineering courses, including an introduction to materials science and engineering, mechanical properties of materials, and thermodynamics.
- Graded and evaluated student's homework.
- Conducted and graded undergraduate materials laboratories for metals, semiconductors, and ceramics.

Tutor

August 2006 – December 2007

University of North Texas

Texas, USA

- Helped students in Engineering Technology courses, including statics, dynamics, and mechanics of materials.
- Assisted students in laboratories for Business Computer Information System and Information Technology and Decision Sciences courses.

RESEARCH EXPERIENCE

Research Assistant

January 2009 – July 2013

University of North Texas

Texas, USA

- Investigated the effects of microlubrication during machining and conducted the design of experiments (DOEs) and parameter optimization using Minitab statistical software.
- Designed the computer numerical control (CNC) program for the machining center.
- Estimated the cutting zone temperature and sub-surface strengthening due to machining.
- Studied the effect of metalworking fluid on workers health and environment
- Conducted before and after machining surface texture analysis using electron backscatter diffraction (EBSD).
- Conducted microstructure, surface texture, wear and failure analysis of the workpiece and cutting tool using a scanning electron microscope (SEM) and transmission electron microscope (TEM).
- Pursued scholarship activities like presentations and publications.

Research Assistant

August 2006 – December 2008

University of North Texas

Texas, USA

- Studied the effects of minimum quantity lubrication in drilling.
- Analyzed the inner diameter surface roughness and the hole size deviation on workpiece.
- Conducted DOEs on the obtained drilling data.
- Developed and maintained the metrology lab.

JOURNAL SERVICE

Reviewer

- Wear Journal – Elsevier
- Journal of Advances in Materials and Processing Technologies – Taylor & Francis
- International Journal of Surface Engineering and Interdisciplinary Materials Science – IGI Global

JOURNAL PUBLICATIONS

1. Bhise, D., Patil, B, T., **Shaikh, V. A.**, and Deshmukh, S. P., (2022), Comparative Economic Analysis and Investigation of Micro Lubrication Over Conventional Cooling in Manufacturing, *Journal of Engineering, Project, and Production Management (EPPM-Journal)*. (Accepted/In press) (***Scopus Indexed***)
2. Veera Bhadra Rao, M., Patil, B, T., **Shaikh, V. A.**, Sudhakar, D. S. S., and Deshmukh, S. P., (2022), Investigation of Surface Roughness and Cutting Temperature Parameters in Turning AISI 4340 Steel using MQL Mist Technique with Nano-Fluids (n-Al₂O₃, n-MoS₂ and n-Graphene) mixed in Edible Vegetable Coconut Oils., *Journal of Engineering, Project, and Production Management (EPPM-Journal)*. (Accepted/In press) (***Scopus Indexed***)
3. **Shaikh, V. A.**, and Boubekri, N., (2020), Using Vegetable-oil based Sustainable Metal Working Fluids to promote Green Manufacturing, *International Journal of Manufacturing, Materials and Mechanical Engineering (IJMMME)*, Vol: 10, No. 1 pp. 1-19 ISSN: 2156-1680 doi:10.4018/IJMMME.2020010101 (***WoS/Scopus Indexed***)
4. Bhise, D., Patil, B, T., and **Shaikh, V. A.**, (2019), Micro lubrication: A way to enhance the machining operation, *Industrial Engineering Journal*. Vol. 12 No. 4, ISSN: 2581-4915. doi: <https://doi.org/10.26488/IEJ.12.4.1169> (*UGC approved*)
5. Veera Bhadra Rao, M., **Shaikh, V. A.**, and Patil, B, T., (2018), Recent Trends in the Effective Utilization of Minimum Quantity Lubrication (MQL) in Turning Low Carbon Steels. *Industrial Engineering Journal*. Vol. 11 No. 2, pp. 29-33. ISSN: 2581-4915 doi: <https://doi.org/10.26488/IEJ.11.2.1042> (*UGC approved*)
6. **Shaikh, V. A.**, Scharf, T. W., and Boubekri, N. (2017), Microlubrication machining of 1018 steel: the effect of a biodegradable lubricant on the microstructural integrity. *Lubrication Science*, John Wiley Publishers. doi: 10.1002/ls.1373. (***SCI//Scopus Indexed***)

7. Boubekri, N., and **Shaikh, V. A.** (2016), Nanofluids Technology Applications, *The Journal of Macro Trends in Technology and Innovation*. Vol: 4, No: 1, pp. 62-66. ISSN 2333-1011 ISSN Online 2333-102x
8. **Shaikh, V. A.,** and Boubekri, N., (2015), Minimum Quantity Lubrication (MQL) in Machining: Benefits and Drawbacks, *Journal of Industrial and Intelligent Information*. Vol: 3, No: 3, pp. 205-209. doi: 10.12720/jiii.3.3. ISSN 2301-3745
9. **Shaikh, V. A.,** Boubekri, N., and Scharf, T. W., (2014), Analyzing the effectiveness of microlubrication using a vegetable oil-based metal working fluid during end milling AISI 1018 steel, *International Journal of Manufacturing Engineering*. Article ID: 261349. 13 pages. doi: 10.1155/2014/261349 (*UGC approved*)
10. **Shaikh, V. A.,** Boubekri, N., and Scharf, T. W., (2013), Microlubrication effects during end milling AISI 1018 steel, *International Journal of Manufacturing, Materials and Mechanical Engineering*, Vol: 3, Issue:4, pp. 14-29. doi: 10.4018/ijmmme.2013100102. (***WoS/Scopus Indexed***)
11. **Shaikh, V. A.,** and Boubekri, N., (2013), Wear analysis during end milling AISI 1018 steel using microlubrication, *European International Journal of Science and Technology*, Vol: 2, Number: 8, pp. 216-225
12. Boubekri, N., and **Shaikh, V. A.** (2013), Minimum Quantity Lubrication (MQL) in Machining, *The Journal of Management and Engineering Integration*, Vol: 6, Issue: 1, pp. 51-61.
13. Boubekri, N., and **Shaikh, V. A.** (2012), Machining using minimum quantity lubrication: A technology for sustainability, *International Journal of Applied Science and Technology*, Vol: 2, Issue: 1, pp. 111-115.
14. **Shaikh, V. A.,** and Boubekri, N., (2010), Effects of minimum quantity lubrication in drilling 1018 Steel, *Journal of Manufacturing Technology Research*, Vol: 2, Issue: 1/2, pp. 1-14.
15. Boubekri, N., **Shaikh, V. A.,** and Foster, P., (2010), A technology enabler for green machining: Minimum quantity lubrication (MQL), *Journal of Manufacturing Technology Management*, Vol: 21, Number: 5, pp. 556-566. <https://doi.org/10.1108/17410381011046968> (***Scopus Indexed***)

BOOK CHAPTER

1. Rao, M. V. B., Patil, B. T., **Shaikh, V. A.**, Sudhakar, D. S. S., (2020) “Experimental Performance Evaluation of Mist Cooling Using Biodegradable Coconut Oil in Turning of EN24 Steel in Minimization of Tool Wear, Surface Roughness, and Chip Thickness”. In: Parwani A., Ramkumar P. (eds) *Recent Advances in Mechanical Infrastructure. Lecture Notes in Intelligent Transportation and Infrastructure*. Springer, Singapore pp. 3-12. https://doi.org/10.1007/978-981-32-9971-9_1

CONFERENCE PAPERS / PRESENTATIONS

1. Mehta, K. M., Pandey, S., **Shaikh, V. A.**, (2021) “Unconventional Machining of ceramic matrix Composites – A review”, *Materials Today: Proceedings*, Vol: 46 Part:17, pp. 7661-7669 <https://doi.org/10.1016/j.matpr.2021.01.961>. (**Scopus Indexed**)
2. Shaikh, S., **Shaikh, V. A.**, Rao, M. V. B., Patil, B. T., (2020) “A105 Work-Material Turning Experimentation using L9 Orthogonal Array runs with Dry, MQL and nano-Al₂O₃ assisted MQL machining conditions”, *International Conference on Recent Innovations in Engineering and Technology (ICRIET – 2020)* 04 - 05, December 2020, Erode, Tamil Nadu, India.
3. Bukane, S., **Shaikh, V. A.**, Rao, M. V. B., (2020) “Identifying Optimization Methods Using MQL and Cryo-Treatments for Turning Inconel Alloy with Nanofluids”, *Proceedings of the ICAPSM 2020 UK IOP: Journal of Physics Conference Series (JPCS)*, First International Conference on Advances in Physical Sciences and Materials (ICAPSM 2020), 13th -14th, August 2020, Coimbatore, Tamil Nadu, India.
4. Sikdar, H., Rao, M. V. B., Patil, B. T., **Shaikh, V. A.**, Sudhakar, D. S. S., (2020) “Turned AISI 4340 Heat-Treated Steel Surface Quality Investigations in Dry and MQL Cooling Conditions”, *Proceedings of IOP Conference Series: Materials Science and Engineering*, Vol 872., pp. 012090.
5. Bhise D. K., Patil B. T., **Shaikh, V. A.**, (2019) “Investigating the Microlubrication Flow Inside The Nozzle using Computational Fluid Dynamics”, *Materials Today: Proceedings*. First International Conference on Recent Advances in Materials and Manufacturing ICRAMM, Sept 2019, Belagavi, India. <https://doi.org/10.1016/j.matpr.2019.11.290> (**Scopus Indexed**)
6. Singh D. S., Patil B. T., **Shaikh, V. A.**, (2019) “Investigation of Cooling Time Reduction of Door Handle for Plastic Injection Molding Using Conformal Cooling Channels”, *Materials Today: Proceedings*. First International Conference on Recent Advances in

Materials and Manufacturing ICRAMM, Sept 2019, Belagavi, India. Doi: <https://doi.org/10.1016/j.matpr.2019.11.316> (**Scopus Indexed**)

7. Rao, M. V. B., Patil, B. T., **Shaikh, V. A.**, Sudhakar, D. S. S., (2019) "Recent Studies of Al₂O₃, Graphene and MoS₂ Nano-Materials in Metal Working Fluids for Turning Steel – A Review", First International Conference on Recent Advances in Materials and Manufacturing ICRAMM, Sept 2019, Belagavi, India.
8. Mohite, R., **Shaikh, V. A.**, (2019) "Analysing the effect of Minimum Quantity Lubrication (MQL) on Cutting Tool Wear during Turning using a Novel Two Nozzle Technique", International Conference on Recent Trends in Mechanical Engineering (ICRTME-2019), January 2019, organized by A. P. Shah Institute of Technology under ICASTe-2019 "The Prism of Conferences".
9. Devtale, S. S., Patil, B. T., **Shaikh, V. A.**, (2018) "A Review on Effect of Particle Fibers in Reinforced Polymer Composite" Third National Conference on Industrial Engineering and technology Management (NCIETM-2018), December 2018, organized by National Institute of Industrial Engineering (NITIE), Mumbai.
10. Rao, M. V. B., Patil, B. T., **Shaikh, V. A.**, Sudhakar, D. S. S., (2018) "Comparative Evaluation of tool Wear, Chip Study and Machined Roughness Characteristics in Turning of EN24 Steel in Dry Condition, Water flooded and Bio-degradable Coconut Oil based Mist cooling systems at constant machining conditions" Third National Conference on Industrial Engineering and technology Management (NCIETM-2018) December 2018, organized by National Institute of Industrial Engineering (NITIE), Mumbai.
11. Bhise D. K., Patil B. T., **Shaikh, V. A.**, (2018) "Micro Lubrication: A Way to Enhance the Machining Operation" Third National Conference on Industrial Engineering and technology Management (NCIETM-2018) December 2018, organized by National Institute of Industrial Engineering (NITIE), Mumbai.
12. Rao, M. V. B., Patil, B. T., **Shaikh, V. A.**, Jaware, R., (2018) "Benefits of Using Nano-fluids in Minimum Quantity Lubrication (MQL) Turning of Steel", International Conference on Role of Industrial Engineering in Industry 4.0 Paradigm, organized by IIIE, Bhubaneshwar in association with SOA, ICIEIND– September 2018
13. Bhise D. K., Patil B. T., **Shaikh, V. A.**, (2018) "A Review of Micro Lubrication for Metal Working Process", International Conference on Role of Industrial Engineering in Industry 4.0 Paradigm, organized by IIIE, Bhubaneshwar in association with SOA, ICIEIND– September 2018 Conference

14. Bhise, D. K., Patil, B. T., **Shaikh, V. A.**, Kawade, P. B., and Vaishnav, H. B. (2017) "A Review of Semi Solid Casting", International Conference on Manufacturing and Industrial Engineering (ICMIE-2-17), Indian Institute of Industrial Engineering, Aurangabad, India, 14-16 September 2017
15. Boubekri, N., and **Shaikh, V. A.** (2016) "Nanofluids Technology Applications", 4th Macro Trend Conference on Technology and Innovation; Paris (France), December 2016
16. **Shaikh, V. A.**, Boubekri, N., and Scharf, T. W., (2013), Microlubrication effects in milling AISI 1018 steel: An approach towards Green Manufacturing, *120th ASEE Annual Conference and Exposition*. Conference code: 99351.
17. Boubekri, N., **Shaikh, V. A.**, and Foster, P., "Management of Lubricants in Machining"; 19th Annual International Conference on Industry, Engineering, and Management Systems; Florida, March 2013

CONFERENCE SESSION CHAIRMANSHIP

- **Session Chair** – 5th International Conference on Advances in Computing, Communication and Control (ICAC3) held on December 1st 2017 at Fr. Conceicao Rodrigues College of Engg. Mumbai – INDIA.

INVITED TALKS / GUEST LECTURES / RESOURCE PERSON

- **Resource person** for delivering a session on "Composite Materials" in a 5 days AICTE-ISTE approved STTP on "Recent Trends in Chemical and Manufacturing Industries" organized by Department of Chemical Engineering on 5th July 2022 at S. S. Jondhale College of Engg. Mumbai – INDIA.
- **Guest Lecture** on "How to Write a Technical Paper" on 3rd September 2021 organized by St. Xaviers Institute of Technology Mumbai – INDIA.
- **Guest lecture** on "How to Write a Research Paper" for IIIE CRCE Chapter on 8th February 2018 at Fr. Conceicao Rodrigues College of Engg. Mumbai – INDIA.
- **Resource person** for Faculty Development Program on "Research Methodology and Statistical Techniques in Research" organized by Department of Production Engineering on 9th – 10th March 2018 at Fr. Conceicao Rodrigues College of Engg. Mumbai – INDIA.

GRANTS RECEIVED

- Received Minor Research Grant (**MRG**) from University of Mumbai for Academic Year 2017-18 to conduct research on topic “Sustainable Manufacturing (Green Machining)”.

REFERENCES

1. Dr. Nourredine Boubekri
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2. Dr. Thomas W. Scharf
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4. Prof. D. S. S. Sudhakar
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