

# Dr. ZAHID MUSHTAQ

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**Date of Birth** : 11<sup>th</sup> October 1988.

**Gender** : Male.

**Language Proficiency** : English, Urdu, Hindi, Kashmiri.

**Google Scholar** : <https://scholar.google.com/citations?user=FfPO5V4AAAAJ&hl=en>

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**Scopus Author ID** : <https://www.scopus.com/authid/detail.uri?authorId=57222165560>

QUALIFICATIONS		
Degree	Institute	Session
Doctor of Philosophy (Ph.D) in Tribology and Lubrication	National Institute of Technology, Srinagar, Jammu and Kashmir, India.	2017-22
Master of Technology (M.Tech) in Industrial Tribology and Maintenance	National Institute of Technology, Srinagar, Jammu and Kashmir, India.	2013-15
Bachelor of Technology (B.E/B.Tech) in Mechanical Engineering	University of Kashmir, Jammu and Kashmir, India.	2007-11

## EXPERIENCE

- **Lecturer** (Contractual) at Institute of Technology (IOT), Zakura Campus, University of Kashmir, J&K, India from **March 2024 – till date**. Teaching Mechanical Engineering courses to B.Tech students, conducting labs, supervising B.Tech projects, conducting exams, evaluating various answer scripts, and uploading data on the website portal.
- **Assistant Professor** (Contractual) at Government College of Engineering and Technology (GCET), Safapora, Ganderbal, J&K, India from **December 2022 – March 2024**. Teaching Mechanical Engineering courses to B.Tech students, conducting labs, supervising B.Tech projects, conducting exams, evaluating various answer scripts, and uploading data on the website portal.

## TEACHING INTERESTS

- Thermal Engineering – Applied Thermodynamics, Power Plants, Gas Turbines, I.C. Engines.
- Refrigeration and Air-Conditioning (RAC), Heat Transfer.
- Industrial Tribology.
- Manufacturing Technology.
- Engineering Materials, Strength of Materials.
- Industrial Engineering.

## RESEARCH INTERESTS

- Tribology, Green tribology, Biolubricants. Nanolubricants.
- Friction, Wear and Lubrication.
- Development of Biodegradable Green Lubricants.
- Lubricant Additives, Nano-additives.
- Surface Engineering and Characterization.

## JOURNAL PUBLICATIONS (SCI/SCIE/SCOPUS)

- **Zahid Mushtaq**, M. Hanief, “Evaluation of Tribological Performance of Jatropha Oil Modified with Molybdenum Disulphide Micro-Particles for Steel-Steel Contacts,” *Journal of Tribology – ASME*, 143 (2021) 1–13. <https://doi.org/10.1115/1.4047752>. (SCI Journal).
- **Zahid Mushtaq**, M. Hanief, “Tribological investigation of Molybdenum disulphide nanoparticles and Graphene nanoflakes as lubricant additives in Karanja oil,” *International Journal of Surface Science and Engineering* - Inderscience. <https://doi.org/10.1504/IJSURFSE.2022.10044600> (SCI Journal).
- M. Hanief, **Zahid Mushtaq**, Umar Wani, Irfan M. Qureshi “Influence of materials’ hardness and operating parameters on the surface roughness during reciprocating sliding,” *International Journal of Nanotechnology* - Inderscience, 18 (2021) 980-989. <https://doi.org/10.1504/IJNT.2021.119221> (SCI Journal).
- **Zahid Mushtaq**, M. Hanief, “Enhancing the tribological characteristics of Jatropha oil using graphene nanoflakes,” *Jurnal Tribologi* - Malaysian Tribology Society, 28 (2021) 129–143. <https://jurnaltribologi.mytribos.org/v28.html> (Scopus + eSCI Journal).
- **Zahid Mushtaq**, M. Hanief, Sohail Ahmad Manroo, “Prediction of friction and wear during ball-on-flat sliding using multiple regression and ANN: Modeling and experimental validation,” *Jurnal Tribologi* - Malaysian Tribology Society, 28 (2021) 117–128. <https://jurnaltribologi.mytribos.org/v28.html> (Scopus + eSCI Journal).
- Kaleem Ahmad Najar, Sheikh Nazir, M. A. Shah, **Zahid Mushtaq**, Sobura Altaf, “A dual-layer approach for enhancing the tribological and machining performance of carbide tools in dry turning of mild-steel alloy,” *International Journal of Machining and Machinability of Materials* – Inderscience. <https://doi.org/10.1504/IJMMM.2022.10044697> (Scopus Journal).
- **Zahid Mushtaq**, M. Hanief, “Exploring the Anti-wear and Extreme pressure lubricating performance of Jatropha oil modified with Nano-additives and Garlic oil,” *The Journal of Engineering Research* – Sultan Qaboos University, Oman. <https://journals.squ.edu.om/index.php/tjer/article/view/4606> (Scopus Journal).

## CONFERENCE PAPERS / BOOK CHAPTERS

- **Zahid Mushtaq**, M. Hanief, “Friction and Wear Performance of Jatropha Oil Added with Molybdenum Disulphide Nanoparticles,” *Intelligent Manufacturing and Energy Sustainability* – Springer, 213 (2021) 715-722. [https://doi.org/10.1007/978-981-33-4443-3\\_69](https://doi.org/10.1007/978-981-33-4443-3_69).
- **Zahid Mushtaq**, M. Hanief, Kaleem Ahmad Najar, “Non-Edible Biodegradable Plant Oils: The Future of the Lubricant Industry,” *Industrial Tribology* – Taylor and Francis, (2022) 25-37. <https://doi.org/10.1201/9781003243205-2>.

## **EQUIPMENT EXPOSURE**

- Four-Ball Tester (Ducom).
- Reciprocating Friction Monitor (Magnum).
- Universal Tribometer (R-Tec).
- Optical Microscope (Leica).
- Scanning Electron Microscope (SEM).
- ZEISS Field Emission Scanning Electron Microscope (FESEM).
- X-Ray Diffraction (XRD) (Rigaku).
- Raman Spectroscope (Renishaw).
- 3D Surface Profilometer (R-Tec).
- Rheometer (Anton-Paars).
- Ultrasonicator.

## **B.TECH PROJECTS GUIDED**

- ‘Solar panel cleaner and tracker’ at Government College of Engineering and Technology (GCET), Safapora, Ganderbal, J&K, May 2023.

## **WORKSHOPS / COURSES ATTENDED**

- Attended and Volunteered in organizing of TEQIP-III sponsored One Week Short Term Course on “*Pinch Technology: A Heat Exchanger Network Analysis Tool*” organized by the Department of Chemical and Mechanical Engineering, National Institute of Technology, Srinagar from 29<sup>th</sup> July to 2<sup>nd</sup> August 2019.
- Participated in TEQIP-III sponsored One Week Faculty Development Programme on “*Outcome Based Education*” organized by the Department of Mechanical Engineering, National Institute of Technology, Srinagar from 18<sup>th</sup> to 22<sup>nd</sup> May 2019.
- Participated in a 5 days virtual International Short Term Course on “*Tribology & Sustainability*” organized by SRM Institute of Science and Technology from 24<sup>th</sup> to 28<sup>th</sup> August 2020.
- Attended an All India Council for Technical Education (AICTE) sponsored One Week Online Short Term Training Programme on “*Recent Advances in Tribology and Surface Engineering: series 4 of 4 – Surface Characterization and Treatments in Tribology*” organized by the Department of Mechanical Engineering, Saintgits College of Engineering, Kottayam, Kerala from 23<sup>rd</sup> to 28<sup>th</sup> November 2020.
- Participated in an international Webinar on “Advances in Tribology” organized by the Department of Mechanical Engineering, The Assam Kaziranga University on 23<sup>rd</sup> May 2022.

## **INDUSTRIAL TRAININGS**

- 4 weeks HVAC Designing, Drafting and Maintenance Course from Dhanush MEP Centre, National Skill Development Corporation of India (NSDC), New Delhi.
- 2 weeks training in Boiler House, Central Heating System & Air Conditioning Plant (HVAC) at Sher-I-Kashmir Institute of Medical Sciences (SKIMS), Soura, Srinagar.
- 2 weeks training at Highland Automobiles Pvt. Ltd. Srinagar – Authorized dealers for Maruti Udyog Limited.
- 4 weeks training in the manufacturing of TMT Bars, Square Bars, Angles, Flats etc. at Kashmir Ispat, SIDCO Industrial Complex, Jammu.

## SOFTWARE EXPOSURE

- Auto-CAD.
- Origin Pro.
- MATLAB.
- M.S. Office.
- Mendeley.
- Latex.

## ACHIEVEMENTS

- Qualified Graduate Aptitude Test in Engineering (**GATE**) 2013 with 92.84 percentile.
- Received 2-year Junior Research Fellowship (**JRF**) from Ministry of Education, Govt. of India.
- Received 3-year Senior Research Fellowship (**SRF**) from Ministry of Education, Govt. of India.

## REFERENCES

### **Dr. M. Hanief**

Associate Professor

Department of Mechanical Engineering  
National Institute of Technology Srinagar

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### **Prof. M. F. Wani**

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### **Dr. M. S. Charoo**

Associate Professor

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