

Rehan Zahid

Associate Professor

School of Mechanical & Manufacturing Engineering

Email: rehanzahid@smme.nust.edu.pk

Contact: 009232344

LinkedIn:



About

Dr. Rehan Zahid is working as Associate Professor in the School of Mechanical & Manufacturing Engineering. Dr. Rehan Zahid has a PhD in Energy. Dr. Rehan Zahid has published 39 research articles & conference papers having a citation count of 1053, carried out 1 projects and filed 0 intellectual property.

Qualifications

PhD in Energy	2014 - 2017
Universiti Malaya , Malaysia	
MS in (Industrial Manufacturing Engg)	2011 - 2013
NUST, Islamabad , Pakistan	
BE in (Mech Engg)	2005 - 2009
NUST, Islamabad , Pakistan	

Experience

Associate Professor	2023- Present
School of Mechanical & Manufacturing Engineering	
Assistant Professor	2022 - 2023
School of Mechanical & Manufacturing Engineering	
Assistant Professor	2017 - 2022
School of Mechanical & Manufacturing Engineering	
Assistant Professor	2017 - 2017
School of Mechanical & Manufacturing Engineering	
Lecturer	2017 - 2017
School of Mechanical & Manufacturing Engineering	
Lab Engineer	2009 - 2017
School of Mechanical & Manufacturing Engineering	
Assistant Professor	2017 - 2022
NUST , Sector H-12, Islamabad	
Lab Engineer	2009 - 2017
NUST , Sector H-12, Islamabad	

Research Projects

National Projects	
Development of tribologically-advanced and environment-friendly valve train assembly for automotive engine	2019
Funding Agency: HEC	
Amount: PKR 16,914,000.00	
Status: Completed	

International Projects

Research Articles

A novel approach to measure rotational dynamics of valvetrain components in production engines using miniature GMR chip	2025
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<p><i>Sehrish Shah Nawaz Riaz Ahmed Mufti Mian Ashfaq Ali Rehan Zahid Jawad Aslam Muhammad Rizwan Siddiqui Muhammad Usman Bhutta Measurement</i> , Volume 256, Part D, Article Number 118455</p> <p>Impact Factor: 5.600 Quartile: 1</p> <p>DOI: https://doi.org/10.1016/j.measurement.2025.118455</p>	
<p>Friction and Wear Properties of Phosphonium Based Ionic Liquid Used as Additive in Synthetic and Bio Based Lubricants</p> <p><i>Nouman Haider Muhammad moneeb Butt Rehan Zahid Mian Ashfaq Ali Jawad Aslam Riaz Ahmed Mufti Muhammad Usman Bhutta Tribology in Industry</i> , Volume 46, No. 4, Pages 611-623</p> <p>Impact Factor: N/A Citations: 1</p> <p>DOI: 10.24874/ti.1648.03.24.08</p>	2024
<p>Effect of micro-surface-texturing on the friction between cam/tappet interface of a commercial vehicle engine</p> <p><i>Muhammad Rizwan Siddiqui Mian Ashfaq Ali Riaz Ahmed Mufti Jawad Aslam Muhammad Usman Bhutta Rehan Zahid Muhammad Khuram Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i>, Pages 1-19</p> <p>Impact Factor: 1.600 Quartile: 3 Citations: 2</p> <p>DOI: https://doi.org/10.1177/13506501241266116</p>	2024
<p>Experimental Investigation of Engine Valve Train Friction Considering Effects of Operating Conditions and WPC Surface Treatment</p> <p><i>Muhammad Usman Bhutta Muhammad Huzaifa Najeeb Muhammad Usman Abdullah Sami Ur Rahman Shah Muhammad Khurram Riaz Ahmed Mufti Kiyotaka Ogawa Jawad Aslam Rehan Zahid Mian Ashfaq Ali Muazzam Arshad Materials</i> , Volume 16(9), Article Number 3431</p> <p>Impact Factor: 3.748 Quartile: 1 Citations: 4</p> <p>DOI: https://doi.org/10.3390/ma16093431</p>	2023
<p>Friction and Wear Performance Evaluation of Bio-Lubricants and DLC Coatings on Cam/Tappet Interface of Internal Combustion Engines</p> <p><i>Rehan Zahid Muhammad Usman Bhutta Riaz Ahmad Mufti Muhammad Usman Abdullah Haji Hassan Masjuki Mahendra Varman Muhammad Abul Kalam Mian Ashfaq Ali Jawad Aslam Khalid Akhtar Materials</i> , Volume 14(23), Article Number 7206</p> <p>Impact Factor: 3.623 Quartile: 1 Citations: 7</p> <p>DOI: https://doi.org/10.3390/ma14237206</p>	2021
<p>A Review of Friction Performance of Lubricants with Nano Additives</p> <p><i>Muhammad Waqas Rehan Zahid Muhammad Usman Bhutta Zulfiqar Ahmad Khan Adil Saeed Materials</i> , Volume 14(21), Article Number 6310</p> <p>Impact Factor: 3.623 Quartile: 1 Citations: 77</p> <p>DOI: https://doi.org/10.3390/ma14216310</p>	2021
<p>Synthesis and use of TMP ester biolubricant derived from cottonseed oil in SI engine</p> <p><i>Muhammad Bilal Khan Rehan Zahid Ali Hussain Kazim Khalid Javed Industrial Lubrication and Tribology</i> , Volume 73, No. 7, Pages 1084-1090</p> <p>Impact Factor: 1.297 Quartile: 4 Citations: 8</p> <p>DOI: https://doi.org/10.1108/ILT-05-2021-0158</p>	2021
<p>A review on tribological performance of ionic liquids as additives to bio lubricants</p> <p><i>Tehreem Naveed Rehan Zahid Riaz Ahmad Mufti Muhammad Waqas Muhammad Talha Hanif Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i>, Volume 235, issue 9, Pages 1782-1806</p> <p>Impact Factor: 1.674 Quartile: 3 Citations: 33</p> <p>DOI: https://doi.org/10.1177/1350650120973805</p>	2021
<p>A Review on Tribological Study of DLC Coatings in Combination with Bio Based Lubricants</p> <p><i>Muhammad Talha Hanif Rehan Zahid Riaz Ahmed Mufti Muhammad Waqas Tehreem Naveed International Journal of Materials Science and Applications</i> , Volume 10(3), Pages 61-78</p> <p>Impact Factor: N/A</p> <p>DOI: doi: 10.11648/j.ijmsa.20211003.13</p>	2021
<p>Impact of HHO gas enrichment and high purity biodiesel on the performance of a 315 cc diesel engine</p> <p><i>Muhammad Bilal Khan Ali Hussain Kazim Muhammad Farooq Khalid Javed Aqsa Shabbir Rehan Zahid Sadaf Fatima Muhammad Rohail Danish Qasim Ali Ijaz Ahmad Chaudhry A.E. Atabani International Journal of Hydrogen Energy</i> , Volume 46, Issue 37, Pages 19633-19644</p> <p>Impact Factor: 5.816 Quartile: 2 Citations: 29</p> <p>DOI: https://doi.org/10.1016/j.ijhydene.2021.03.112</p>	2021

- Multistep electrophoretic deposition of TiO₂ film and its surface modification for dye sensitized solar cells** 2020
Sehar Shakir Hafiz Muhammad Abd-ur-Rehman Rehan Zahid Mitsumasa Iwamoto Vengadesh Periasamy
Journal of Alloys and Compounds, Volume 837, Article Number 155579
Impact Factor: 5.316 | **Quartile:** 1 | **Citations:** 16
DOI: 10.1016/j.jallcom.2020.155579
- Roller sliding in engine valve train: Effect of oil film thickness considering lubricant composition** 2020
Muhammad Khurram Riaz Ahmad Mufti Muhammad Usman Bhutta Hafiz Malik Naqash Afzal Muhammad Usman Abdullah Sami Ur Rahman Shah Saif ur Rehman Rehan Zahid Khalid Mahmood Mian Ashfaq Muhammad Umar
Tribology International, Volume 149, Article Number 105829
Impact Factor: 4.872 | **Quartile:** 1 | **Citations:** 11
DOI: 10.1016/j.triboint.2019.06.022
- Tribological compatibility analysis of conventional lubricant additives with palm trimethylolpropane ester (TMP) and tetrahedral amorphous diamond-like carbon coating (ta-C)** 2018
Dr. Riaz Ahmad Mufti Dr. Mubashir Gulzar Dr. Masjuki Dr. Abdullah Alabdulkarem, Dr. Mahendra Varman, Dr. Md Abul . Kalam, Dr. Nurin Wahidah Binti Mohd Zulkifli Dr. Robiah Yunus Rehan Zahid
Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, NULL
Impact Factor: 1.137 | **Quartile:** 3 | **Citations:** 1
DOI: 10.1177/1350650117746803
- The effect of particle size on the dispersion and wear protection ability of MoS₂ particles in polyalphaolefin and trimethylolpropane ester** 2018
Khalid Mahmood Mubashir Abdullah Alabdulkarem M. A Kalam Pervaiz Ahmad M. S. S Malik Rehan Zahid H. H Masjuki M. Varman N.W.M Zulkifli
Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, Volume 232, Issue 8, Pages 987-998
Impact Factor: 1.137 | **Quartile:** 3 | **Citations:** 11
DOI: 10.1177/1350650117749404
- Tribological characteristics comparison of formulated palm trimethylolpropane ester and polyalphaolefin for cam/tappet interface of direct acting valve train system** 2018
Rehan Zahid Masjuki Hj. Hassan Abdullah Alabdulkarem Mahendra Varman Md. Abul Kalam Riaz Ahmad Mufti Nurin Wahidah Mohd Zulkifli Mubashir Gulzar Muhammad Usman Bhutta Mian Ashfaq Ali Usman Abdullah Robiah H. Yunus
Industrial Lubrication and Tribology, Volume 70 Issue 5
Impact Factor: 1.037 | **Quartile:** 4 | **Citations:** 13
DOI: <https://doi.org/10.1108/ILT-06-2017-0156>
- Dispersion Stability and Tribological Characteristics of TiO₂/SiO₂ Nanocomposite-Enriched Biobased Lubricant** 2017
M. Gulzar H. H. Masjuki M. A. Kalam M. Varman N. W. M. Zulkifli Riaz Ahmed Mufti Rehan Zahid R. Yunus
Tribology Transactions, Volume 60, Issue 4,
Impact Factor: 1.722 | **Quartile:** 2 | **Citations:** 64
DOI: 10.1080/10402004.2016.1202366
- A Review on Effects of Lubricant Formulations on Tribological Performance and Boundary Lubrication Mechanisms of Non-Doped DLC/DLC Contacts** 2017
Rehan Zahid Masjuki Bin Haji Hassan Mahendra Varman Riaz Ahmad Mufti Md. Abul Kalam Nurin Wahidah Binti Mohd Zulkifli Mubashir Gulzar
Critical Reviews in Solid State and Materials Sciences, Volume 42, Issue 4, Pages 267-294
Impact Factor: 5.656 | **Quartile:** 1 | **Citations:** 32
DOI: <http://dx.doi.org/10.1080/10408436.2016.1186599>
- Effects of biodiesel blends on lubricating oil degradation and piston assembly energy losses** 2016
Mubashir Gulzar H.H. Masjuki M. Varman M.A. Kalam N.W.M. Zulkifli Riaz Ahmad Mufti A.M. Liaquat Rehan Zahid A. Arslan
Energy, Volume 111, Pages 713-721
Impact Factor: 4.520 | **Quartile:** 1 | **Citations:** 51
DOI: 10.1016/j.energy.2016.05.132
- Tribological performance of nanoparticles as lubricating oil additives** 2016
Mubashir Gulzar H. H. Masjuki M. A. Kalam M. Varman N. W. M. Zulkifli Riaz Ahmad Mufti Rehan Zahid
Journal of Nanoparticle Research, Volume 18, Article Number 223
Impact Factor: 2.020 | **Quartile:** 2 | **Citations:** 373
DOI: doi:10.1007/s11051-016-3537-4
- Influence of intrinsic and extrinsic conditions on the tribological characteristics of diamond-like carbon coatings: A review** 2016

Rehan Zahid Haji Hassan Masjuki Mahendra Varman Muhammad Abul Kalam Riaz Ahmad Mufti Nurin Wahidah Binti Mohd Zulkifli Mubashir Gulzar Siti Safiyah Binti Nor Azman

Journal of Materials Research, Volume 31, Issue 13, Pages 1814-1836

Impact Factor: 1.673 | **Quartile:** 3 | **Citations:** 36

DOI: doi:10.1557/jmr.2016.31

Study of tribological properties of lubricating oil blend added with graphene nanoplatelets

2016

Siti Safiyah Nor Azman Nurin Wahidah Mohd Zulkifli Hassan Masjuki Mubashir Gulzar Rehan Zahid

Journal of Materials Research, Volume 31, Issue 13, Pages 1932-1938

Impact Factor: 1.673 | **Quartile:** 3 | **Citations:** 124

DOI: <https://doi.org/10.1557/jmr.2016.24>

Effect of lubricant chemistry on the performance of end pivoted roller follower valve train

2016

Muhammad Khurram Riaz Ahmad Mufti Rehan Zahid Hafiz Malik Naqash Afzal Muhammad Usman Bhutta Mushtaq Khan

Tribology International, Volume: 93, Special Issue:SI, Pages:717-722, Part:B

Impact Factor: 2.903 | **Quartile:** 1

DOI: 10.1016/j.triboint.2014.10.021

Tribological Characteristics of Calophyllum inophyllum–Based TMP (Trimethylolpropane) Ester as Energy-Saving and Biodegradable Lubricant

2015

M. Habibullah H. H. Masjuki M. A. Kalam Mubashir Gulzar A. Arslan Rehan Zahid

Tribology Transactions, Volume 58, Issue 6, Pages 1002-1011

Impact Factor: 1.418 | **Quartile:** 2 | **Citations:** 58

DOI: <https://doi.org/10.1080/10402004.2015.1025934>

Experimental measurement of roller slip in end-pivoted roller follower valve train

2015

Muhammad Khurram Riaz Ahmad Mufti Rehan Zahid Hafiz Malik Naqash Afzal Muhammad Usman Bhutta

Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, Volume 229, Issue 9, Pages 1047-1055

Impact Factor: 0.907 | **Quartile:** 3 | **Citations:** 16

DOI: 10.1177/1350650115572198

Innovative technique of measuring follower rotation in real production engine using Gradiometer sensor and the effect of friction modifier

2015

Riaz Ahmed Mufti Rehan Zahid Farrukh Qureshi Jawad Aslam

Industrial Lubrication and Tribology, Volume 67 Issue 4 Pages 285-291

Impact Factor: 0.406 | **Quartile:** 4 | **Citations:** 5

DOI: 10.1108/ILT-07-2013-0076

Measuring the tribological performance of all the tappets in a production engine using magnetometer sensors and the effect of lubricant rheology

2015

Riaz Ahmad Mufti Rehan Zahid Farrukh Qureshi Jawad Aslam Hafiz Malik Naqash Afzal Muhammad Usman Bhutta

Lubrication Science, Volume 27, Issue 4, Pages 251-263

Impact Factor: 1.384 | **Quartile:** 2 | **Citations:** 5

DOI: 10.1002/lis.1276

Effect of Lubricant Formulations on the Tribological Performance of Self-Mated Doped DLC Contacts: a review

2015

Rehan Zahid H. H. Masjuki Mahendra Varman Riaz Ahmad Mufti Md. Abul Kalam Mubasher Gulzar

Tribology Letters, Volume 58, Article Number 32

Impact Factor: 1.758 | **Quartile:** 2 | **Citations:** 54

DOI: DOI:10.1007/s11249-015-0506-5

- An Advanced Method for Measuring Shim and Tappet Dynamics and Analysing the Effects of Friction Modifiers in Engine Valvetrains** 2025
Sehrish Shahnawaz Riaz Ahmed Mufti Waleed Al-Sallami Mian Ashfaq Ali Rehan Zahid Jawad Aslam
50th Leeds Lyon Symposium on Tribology, res.country(231,)
Citations: N/A
DOI: Nil
- Effect of Roller Sliding and Lubricant Composition on Engine Valve Train Friction** 2023
Muhammad Khurram Dr Riaz Ahmad Mufti Dr Muhammad Usman Bhutta Dr Naqash Afzal Muhammad Usman Abdullah Tayyab Ul Islam Ali Raza Dr Rehan Zahid Irfan Gondal
Leeds-Lyon Symposium on Tribology, res.country(231,)
Citations: N/A
DOI: Available after Publishing of Article
- Experimental Study of Lubrication Conditions in Roller Follower Valve Train** 2023
Muhammad Khurram Riaz Ahmad Mufti Muhammad Usman Bhutta Muhammad Usman Abdullah Naqash Afzal Ali Raza Tayyab Ul Islam Irfan Gondal Rehan Zahid Sami Ur Rehman
Leeds-Lyon Symposium on Tribology, res.country(231,)
Citations: N/A
DOI: Available after Publishing of Article
- Effect of WPC Surface Treatment on the Performance of an Engine Valve Train** 2023
Dr Muhammad Usman Bhutta Shahbaz Ahmad Samiur Rahman Shah Muhammad Khurram Riaz Ahmad Mufti Dr Muhammad Usman Abdullah Kiyoo Ogawa
Rehan Zahid Dr Jawad Aslam Mian Ashfaq Ali Tayyab Ul Islam
Leeds-Lyon Symposium on Tribology, res.country(231,)
Citations: N/A
DOI: Available after Publishing of Article
- Effect of Lubricant Formulations on the Friction Performance of Diamond-Like Carbon (DLC) Coated Direct-Acting Valve Train Components** 2026
Dr. Rehan Zahid HH Masjuki Dr. Riaz Ahmad Mufti MA Kalam M Varman Robiah Yunus
4th International Congress on Technology - Engineering & Science, res.country(157,)
Citations: N/A
DOI: Nil
- AW/EP behavior of WS2 nanoparticles added to vegetable oil-based lubricant** 2015
Dr. Mubashir Gulzar HH Masjuki MA Kalam M Varman Dr. Riaz Ahmad Mufti Dr. Rehan Zahid Robiah Yunus
Malaysian International Tribology Conference 2015, res.country(157,)
Citations: N/A
DOI: Nil
- Comparison of tribological performance of zinc dialkyldithiophosphate (ZDDP) in poly-alpha-olefin (PAO) and palm oil-based trimethylpropane (TMP) Ester** 2015
Dr. Rehan Zahid HH Masjuki M Varman Dr. Riaz Ahmad Mufti MA Kalam Dr. Mubashir Gulzar Robiah Yunus
Malaysian International Tribology Conference 2015, res.country(157,)
Citations: N/A
DOI: Nil
- Tribological evaluation of palm oil-based trimethylpropane (TMP) ester with glycerol mono-oleate (GMO) using four-ball machine** 2015
Dr. Rehan Zahid HH Masjuki Mahendra Varman Dr. Riaz Ahmad Mufti Md. Abul Kalam NWM Zulkifli
1st International Sustainable Technology, Energy and Civilization Conference, res.country(157,)
Citations: N/A
DOI: Nil
- The use of Giant Magneto Resistive sensors for measuring the performance of direct acting tappets and the effect of lubricant rheology** 2013
Jawad Aslam Rehan Zahid Riaz Ahmad Mufti Farrukh Qureshi
5th World Tribology Congress, res.country(109,)
Citations: N/A
DOI: N/A