

Zaib Ali

Associate Professor
School of Mechanical & Manufacturing Engineering

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About

Dr. Zaib Ali is working as Associate Professor in the School of Mechanical & Manufacturing Engineering. Dr. Zaib Ali has a PhD in Computational Fluid Dynamics. Dr. Zaib Ali has published 42 research articles & conference papers having a citation count of 447, carried out 4 projects and filed 0 intellectual property.

Qualifications

PhD in Computational Fluid Dynamics University of Cambridge , England	2011 - 2016
MSc in Computational Mechanics University of Wales, Swansea , Wales	2007 - 2010
BE in Mechanical Engineering NUST, Islamabad , Pakistan	2002 - 2006

Experience

Associate Professor School of Mechanical & Manufacturing Engineering	2022- Present
Assistant Professor School of Mechanical & Manufacturing Engineering	2019 - 2022
Assistant Professor School of Mechanical & Manufacturing Engineering	2016 - 2019
Assistant Professor School of Mechanical & Manufacturing Engineering	2016 - 2016

Professional Memberships

PEC	Since 2010
IMECHE	Since 2020

Research Projects

National Projects

Design and Implementation of Optimized Multi-Target Aerial Delivery System for flood Relief Packages	2025
Funding Agency: N/A	
Amount: PKR 88,875.00	
Status: Completed	
Development of System to Monitor and Log the Health Status of Diesel Engine, Transmission & Driven Appliances	2020
Funding Agency: NESCOM	
Amount: PKR 250,000.00	
Status: Completed	
Design and Modeling of a Hybrid VTOL Demonstrator UAV	2021
Funding Agency: NESCOM	
Amount: PKR 500,000.00	
Status: Completed	
Design and Development of Smart Spraying System for Agricultural Drones	2022
Funding Agency: HEC	
Amount: PKR 19,874,000.00	
Status: Completed	

International Projects

Research Articles

Investigation of Compression, Impact and Post-impact Behavior of Carbon/Flax Bio-hybrid Laminates: Effects of Stacking Sequence and Fiber Hybridization	2025
Manzar Masud Aamir Mubashar Emad Ud Din Zaib Ali Dr. Adnan Tariq	
Fibers and Polymers , Volume: 26, Pages:4115-4132	
Impact Factor: 2.3 Quartile: 2	
DOI: https://doi.org/10.1007/s12221-025-01072-2	
Experimental Study on Multi-Cell Counting Using an Inertial Microfluidic Device	2025
Muhammad Zulfiqar Muhammad danish Manshad Emad Ud Din Aamir Mubashar Zaib Ali Muhammad Irfan Sibghat Ullah Jingmin Li	
Applied Sciences , Volume 15(10), Article Number 5701	
Impact Factor: 2.500 Quartile: 1	
DOI: https://doi.org/10.3390/app15105701	
Experimental Investigation of Particle Sorting in Y-Channels with Variable Bifurcation Angles for Microfluidic Applications	2024
Khola Ikram Syed Maaz Hasan Ch Abdullah Muhammad Zulfiqar Emad Ud Din Zaib Ali Muhammad Sajid	
Journal of Applied Science and Engineering, Volume 28, No 8, Pages 1679-1687	
Impact Factor: 1.100 Quartile: 3 Citations: 1	
DOI: https://doi.org/10.6180/jase.202508_28(8).0006	
Performance improvement of Savonius hydrokinetic turbine using upstream crescent shape deflector	2024
Muneeb Ur Rehman Zaib Ali	
Multiscale and Multidisciplinary Modeling, Experiments and Design, Volume 8, Article Number 3	
Impact Factor: 1.900 Quartile: 2	
DOI: https://doi.org/10.1007/s41939-024-00598-x	
An experimental investigation on the novel hybrid indirect direct evaporative cooling system	2024
Ibrahim Khan Waqas Khalid Hafiz Muhammad Ali Muhammad Sajid Zaib Ali Majid Ali	
International Communications in Heat and Mass Transfer, Volume 155, Article Number 107503	
Impact Factor: 6.400 Quartile: 1 Citations: 16	
DOI: https://doi.org/10.1016/j.icheatmasstransfer.2024.107503	
The energy, emissions, and drying kinetics of three-stage solar, microwave and desiccant absorption drying of potato slices	2023
Muhammad Usama Zaib Ali Macmanus C. Ndukwu Ravishankar Sathyamurthy	
Renewable Energy , Volume 219, Part 2, Article Number 119509	
Impact Factor: 8.7 Quartile: 1 Citations: 5	

DOI: <https://doi.org/10.1016/j.renene.2023.119509>

The mechanical behavior of modified epoxy adhesive using GNPs, MWCNTs, and RGO nanomaterials <i>Hassan Ejaz Aamir Mubashar Ahsan Tanveer Emad Ud Din Zaib Ali Nabeel Arif</i> <i>Journal of Adhesion Science and Technology</i> , Pages 1-21 Impact Factor: 2.3 Quartile: 3 Citations: 6 DOI: doi.org/10.1080/01694243.2023.2268230	2023
Green Infrastructure with Actual Canopy Parameterization: A Simulation Study for Heat Stress Mitigation in a Hot-Humid Urban Environment <i>Muhammad Zeeshan Zaib Ali Qasim Ali Ranjha</i> <i>Arboriculture and Urban Forestry</i> , Volume 49, Issue 5, Pages 247-267 Impact Factor: N/A Citations: 4 DOI: 10.48044/jauf.2023.016	2023
An experimental and simulation study of RGO effects on mechanical behaviour of structural adhesive and lap shear joints strength <i>Hassan Ejaz Aamir Mubashar Emad Ud Din Zaib Ali Nabeel Arif Saad Waqar</i> <i>International Journal of Adhesion and Adhesives</i> , Volume 126, Article Number 103480 Impact Factor: 3.4 Quartile: 2 Citations: 9 DOI: https://doi.org/10.1016/j.ijadhadh.2023.103480	2023
Techno-Economic Analysis of Vacuum Membrane Distillation for Seawater Desalination <i>Hassaan Idrees Sara Baber Sial Muhammad Sajid Muhammad Rashid Fahad Iqbal Khawaja Zaib Ali Muhammad Nabeel Anwar</i> <i>Membranes</i> , Volume 13, Issue 3, Article Number 339 Impact Factor: 4.562 Quartile: 1 Citations: 8 DOI: https://doi.org/10.3390/membranes13030339	2023
Using a blue landscape to mitigate heat stress during a heatwave event: a simulation study in a hot-humid urban environment <i>Muhammad Zeeshan Zaib Ali</i> <i>Journal of Water and Climate Change</i> , Volume 14 (3), Pages 764-777 Impact Factor: 2.803 Quartile: 3 Citations: 2 DOI: https://doi.org/10.2166/wcc.2023.363	2023
Impact of solid and hollow bluff bodies on the performance and dynamics of flag-based energy harvester <i>Usman Latif M Yamin Younis Emad Uddin Zaib Ali Aamir Mubashar A. Abdelkefi</i> <i>Sustainable Energy Technologies and Assessments</i> , Volume 55, Article Number 102882 Impact Factor: 7.632 Quartile: 2 Citations: 11 DOI: https://doi.org/10.1016/j.seta.2022.102882	2023
Numerical analysis of aerodynamic characteristics of multi-pod hyperloop system <i>Zaib Ali Muhammad Omer Mirza</i> <i>Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering</i> , Pages 1-24 Impact Factor: 1.285 Quartile: 4 Citations: 8 DOI: https://doi.org/10.1177/09544100221137483	2022
A comparative study of GNPs and MWCNTs additives on dispersion behavior and strength characteristics of the adhesively bonded joints <i>Hassan Ejaz Aamir Mubashar Emad Ud Din Zaib Ali</i> <i>Journal of Dispersion Science and Technology</i> , Pages 1-12 Impact Factor: 2.057 Quartile: 4 Citations: 4 DOI: doi.org/10.1080/01932691.2022.2143369	2022
Effect of functionalised and non-functionalised GNPs addition on strength properties of high viscous epoxy adhesive and lap shear joints <i>Hassan Ejaz Aamir Mubashar Emad Ud Din Zaib Ali Nabeel Arif</i> <i>Polymer Testing</i> , Volume 113, Article Number 107680 Impact Factor: 4.931 Quartile: 1 Citations: 33 DOI: https://doi.org/10.1016/j.polymertesting.2022.107680	2022
Influence of MWCNTs on strength properties of high viscous epoxy adhesive and fracture behavior of adhesively bonded joints <i>Hassan Ejaz Aamir Mubashar Emad Ud Din Zaib Ali Nabeel Arif</i> <i>Theoretical and Applied Fracture Mechanics</i> , Volume 120, Article Number 103412	2022

Impact Factor: 4.017 Quartile: 1 Citations: 21 DOI: https://doi.org/10.1016/j.tafmec.2022.103412	
Modelling the cooling effectiveness of street trees with actual canopy drag and real transpiration rate under representative climatic conditions <i>Muhammad Zeeshan Zaib Ali Muhammad Sajid Majid Ali Muhammad Usman</i> <i>Journal of Building Performance Simulation</i> , Pages 1-14 Impact Factor: 2.957 Quartile: 2 Citations: 10 DOI: https://doi.org/10.1080/19401493.2022.2080865	2022
Performance enhancement of vertical axis hydrokinetic turbine using novel blade profile <i>Zain Ullah Khan Zaib Ali Emad Uddin</i> <i>Renewable Energy</i> , Volume 188, Pages 801-818 Impact Factor: 8.001 Quartile: 1 Citations: 33 DOI: https://doi.org/10.1016/j.renene.2022.02.050	2022
Heat stress mitigation in urban streets having hot humid climatic conditions: Strategies and performance results from a real scale retrofitting project <i>Muhammad Zeeshan Zaib Ali</i> <i>Science and Technology for the Built Environment</i> , Pages 1-14 Impact Factor: 1.990 Quartile: 3 Citations: 5 DOI: https://doi.org/10.1080/23744731.2022.2040322	2022
The Potential of Cool Materials Towards Improving Thermal Comfort Conditions Inside Real-urban Hot-humid Microclimate <i>Muhammad Zeeshan Zaib Ali</i> <i>Environment and Urbanization ASIA</i> , Volume 13, Issue 1, Pages 56-72 Impact Factor: 1.3 (ESCI) Citations: 10 DOI: https://doi.org/10.1177/09754253221083206	2022
Thermal performance prediction of street trees inside isolated open spaces – evaluations from real scale retrofitting project <i>Muhammad Zeeshan Zaib Ali Emad Uddin</i> <i>Journal of Building Performance Simulation</i> , Pages 1-17 Impact Factor: 2.957 Quartile: 2 Citations: 11 DOI: https://doi.org/10.1080/19401493.2022.2038270	2022
Numerical Analysis of Heat Transfer and Pressure Drop in Helically Micro-Finned Tubes <i>Muhammad Ammar Ali Muhammad Sajid Emad Uddin Niaz Bahadur Khan Zaib Ali</i> <i>Processes</i> , Volume 9, Article Number 754 Impact Factor: 2.753 Quartile: 2 Citations: 7 DOI: https://doi.org/10.3390/pr9050754	2021
Experimental electro-hydrodynamic investigation of flag-based energy harvesting in the wake of inverted C-shape cylinder <i>Usman Latif Emad Uddin Muhammad Yamin Younis Jawad Aslam Zaib Ali Muhammad Sajid A. Abdelkafi</i> <i>Energy</i> , Volume 215, Part B, Article Number 119195 Impact Factor: 8.857 Quartile: 1 Citations: 46 DOI: https://doi.org/10.1016/j.energy.2020.119195	2021
Hydrodynamic energy harvesting analysis of two piezoelectric tandem flags under influence of upstream body's wakes <i>Ahmad Mujtaba Usman Latif Emad Uddin Muhammad Yamin Younis Muhammad Sajid Zaib Ali A. Abdelkafi</i> <i>Applied Energy</i> , Volume 282, Part A, Article Number 116173 Impact Factor: 11.446 Quartile: 1 Citations: 41 DOI: https://doi.org/10.1016/j.apenergy.2020.116173	2021
Numerical investigation of hydrodynamic and hydro-acoustic performance of underwater propeller operating in off-design flow conditions <i>Muhammad Rehan Naseer Emad Uddin Aamir Mubashar Muhammad Sajid Zaib Ali Khalid Akhtar</i> <i>Journal of Marine Engineering and Technology</i> , Pages 1-10 Impact Factor: 3.192 Quartile: 1 Citations: 4 DOI: https://doi.org/10.1080/20464177.2020.1865250	2020

Analysis of the effect of passive measures on the energy consumption and zero-energy prospects of residential buildings in Pakistan <i>Muhammad Sajid Zaib Ali Emad Uddin Muhammad Wasim Anwar Abdullah Javed</i> <i>Building Simulation</i> , Pages 1-18 Impact Factor: 3.751 Quartile: 1 Citations: 22 DOI: https://doi.org/10.1007/s12273-020-0729-8	2020
Investigation of Heat Transfer and Pressure Drop in Microchannel Heat Sink Using Al₂O₃ and ZrO₂ Nanofluids <i>Muhammad Zia Ullah Khan Emad Uddin Bilal Akbar Naveed Akram Ali Ammar Naqvi Muhammad Sajid Zaib Ali Muhammad Yamin Younis Fausto Pedro García Márquez</i> <i>Nanomaterials</i> , Volume 10(9), Article Number 1796 Impact Factor: 5.076 Quartile: 1 Citations: 22 DOI: https://doi.org/10.3390/nano10091796	2020
Experimental investigation of energy harvesting eel in the wake of bluff body under ocean waves <i>Usman Latif Ehtisham Ali Emad Uddin Zaib Ali Muhammad Sajid Samiur Rahman Shah Muhammad Yamin Younis</i> <i>Proceedings of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment</i> , Pages 1-12 Impact Factor: 1.389 Quartile: 3 Citations: 14 DOI: 10.1177/1475090220949334	2020
Experimental investigation of energy harvesting behind a bluff body <i>Usman Latif Emad Uddin Chaudhary Abdullah Zaib Ali Muhammad Sajid Khalid Akhtar Samiur Rehman Shah</i> <i>Journal of Renewable and Sustainable Energy</i> , Volume 12, Issue 3, Article Number:033301 Impact Factor: 2.219 Quartile: 4 Citations: 17 DOI: https://doi.org/10.1063/1.5144347	2020
Effect of vortices on power output of vertical axis wind turbine (VAWT) <i>Ammar Naseem Emad Uddin Zaib Ali Jawad Aslam Sami Ur Rahman Shah Muhammad Sajid Syed Ali Abbas Zaidi Adeel Javed Muhammad Yamin Younis</i> <i>Sustainable Energy Technologies and Assessments</i> , Volume 37, Article Number 100586 Impact Factor: 5.353 Quartile: 2 Citations: 32 DOI: https://doi.org/10.1016/j.seta.2019.100586	2020
Efficient preprocessing of complex geometries for CFD simulations <i>James Tyacke Zaib Ali Rob Watson Paul G. Tucker Shahrokh Shahpar</i> <i>International Journal Of Computational Fluid Dynamics</i> , Volume 33, Issue 3, Pages 98-114 Impact Factor: 1.071 Quartile: 4 Citations: 8 DOI: 10.1080/10618562.2019.1606421	2019
Simulation of a Standard Store Separated from Generic Wing <i>M Shehyar Emad Ud Din Zaib Ali Qasim Zaheer Aamir Mubashar</i> <i>Journal of Applied Fluid Mechanics</i> , NULL Impact Factor: 0.914 Quartile: 4 DOI: 10.18869/acadpub.jafm.73.249.28865	2018
Optimal multi-block mesh generation for CFD <i>Zaib Ali P. Caleb Dhanasekaran Paul G. Tucker Rob Watson Shahrokh Shahpar</i> <i>International Journal Of Computational Fluid Dynamics</i> , NULL Impact Factor: 0.961 Quartile: 4 Citations: 11 DOI: 10.1080/10618562.2017.1339351	2017
Optimal mesh topology generation for CFD <i>Zaib Ali Paul G. Tucker Shahrokh Shahpar</i> <i>Computer Methods in Applied Mechanics and Engineering</i> , NULL Impact Factor: 4.441 Quartile: 1 Citations: 25 DOI: 10.1016/j.cma.2016.12.001	2017

Conference Proceedings

- An Experimental Machine Learning Analysis on Adaptive Thermal Comfort and Energy Management in Hospitals** 2024
Ibrahim Khan Waqas Khalid Hafiz Muhammad Ali Emad Ud Din Zaib Ali Majid Ali Hira Javed Noor Zali Khan
21st International Conference on Sustainable Energy Technologies, res.country(48,)
Citations: N/A
DOI: <https://easychair.org/conferences/overview?a=32572726>
- Experimental Study on the Effect of Convective Drying of Potato Slices with Sequentially Reducing Temperature** 2022
Muhammad Usama Muhamad Khizar Hayat Ammar Ahmed Muhammad Ali Dr Zaib Ali Aashir Iqbal
The 1st International Precision Agriculture Pakistan Conference 2022 (PAPC 2022), res.country(282,)
Citations: N/A
DOI: 10.3390/environsciproc2022023010
- Effect of corner modification on flow characteristics of a 3D square Cylinder** 2019
Ahmad Hammad Emad Uddin Zaib Ali Syed Atif Iqrar Muhammad Yamin Younis Ahmad Hammad Emad Uddin Zaib Ali Syed Atif Iqrar Muhammad Yamin Younis
World Congress on Advances in Structural Engineering and Mechanics (ASEM19), res.country(121,)
Citations: N/A
DOI: http://www.i-asem.org/publication_conf/asem19/8.WF/YF3E.4.WF2471_5758F1.pdf
- Numerical Simulation of Inline Arrangement of Spheroid Particles in Different Orientations** 2019
Abuzar Jamil Emad Uddin Ali Abbas Zaidi Zaib Ali Jawad Aslam Omer Gilani Abuzar Jamil Emad Uddin Ali Abbas Zaidi Zaib Ali Jawad Aslam Omer Gilani
ASME-JSME-KSME 8th Joint Fluids Engineering Conference, res.country(233,)
Citations: N/A
DOI: <https://doi.org/10.1115/AJKFluids2019-4623>
- On power augmentation of VAWT in the wake of a bluff body** 2019
Ammar Naseem Zaib Ali Emad Uddin Ammar Naseem Zaib Ali Emad Uddin
6th International Conference of Fluid Flow, Heat and Mass Transfer (FFHMT'19), res.country(38,)
Citations: N/A
DOI: 10.11159/ffhmt19.108
- Metal erosion due to particles at high velocity and temperature** 2019
Bushra Zaheer Emad Uddin Aamir Mubashar Zaib Ali Nabeel Arif Bushra Zaheer Emad Uddin Aamir Mubashar Zaib Ali Nabeel Arif
6th International Conference of Fluid Flow, Heat and Mass Transfer (FFHMT'19), res.country(38,)
Citations: N/A
DOI: 10.11159/ffhmt19.104
- Hydrodynamic Design and Performance Analysis of Underwater Vehicles Using CFD** 2018
Talha Atta Dr. Zaib Ali Syed Mudassir Ali Dr. Emad Uddin
13th International Symposium on Numerical Analysis of Fluid Flows, Heat and Mass Transfer – ICNAAM, 2018, res.country(88,)
Citations: N/A
- Numerical Analysis of Alternating Strand Diameter in Spiral Wound Membrane to Maximize Permeate Flux** 2018
G. Shoukat M. Sajid Emad Uddin Z. Ali
ASME 2018 5th Joint US-European Fluids Engineering Division Summer Meeting, res.country(38,)
Citations: 1
DOI: 10.1115/FEDSM2018-83368

Trainings

- Training in Precision Agriculture through Innovative Technologies under USAID-ERDA** 2023
Partner: USAID-ERDA
Duration: 15-Aug-2023 to 06-Sep-2023