Abdur Rehman Mazhar

Assistant Professor

College of Electrical & Mechanical Engineering

Email: arehman.mazhar@ceme.nust.edu.pk
Contact: 512263952
LinkedIn: None

About

Dr. Abdur Rehman Mazhar is working as Assistant Professor in the College of Electrical & Mechanical Engineering. Dr. Abdur Rehman Mazhar has a PhD in Thermo fluids (Mechanical Engineering). Dr. Abdur Rehman Mazhar has published 49 research articles & conference papers having a citation count of 766, carried out 0 projects and filed 0 intellectual property.

Qualifications

PhD in Thermo fluids (Mechanical Engineering) 2015 - 2019
Coventry University , United Kingdom

MSc in Power Engineering 2011 - 2014
Technische Universität München , Germany

BS in Mechanical Engineering 2005 - 2009
Ghulam Ishaq Khan Institute of Science & Technology , Pakistan

Experience

Assistant Professor 2021- Present
College of Electrical & Mechanical Engineering

Research Scholar 2020 - 2021
University of Hull UK , University of Hull UK

PhD Student Worker 2017 - 2020
Coventry University UK , Coventry University UK

Research Specialist 2015 - 2015
Canadian Solar EMEA GmbH Germany , Canadian Solar EMEA GmbH Germany

Patent Examination Assistant 2015 - 2015
European Patent Office Germany , European Patent Office Germany

Research Assistant 2014 - 2015
Fraunhofer ISE Germany , Fraunhofer ISE Germany

Assistant Mechanical Engineer 2009 - 2011
Descon Engineering Qatar L.L.C , Descon Engineering Qatar L.L.C

Research Articles

Development, optimization, and characterization of shape stable conductive composite phase change materials for versatile thermal energy storage needs 2025

Mahesh Kumar Shuli Liu Yongliang Shen Abdur Rehman Mazhar Wenjie Jie Muhammad Saad ul Haq Arvin Sohrabi Zhiqi Xu Tingsen Chen Chongjie Xiong Sheher Yar Khan

Journal of Energy Storage, Volume 128, Article Number 117231

Impact Factor: 8.900 | **Quartile:** 1
DOI: https://doi.org/10.1016/j.est.2025.117231

An optimization method coupling the response surface methodology and multi-objective particle swarm to enhance the performance of a novel water Trombe wall 2025

Tingsen Chen Shuli Liu Yihan Wang Yongliang Shen Wenjie Ji Zhiqi Xu Wenhao Zhou Abdur Rehman Mazhar

Applied Thermal Engineering, Volume 267, Article Number 125785

Impact Factor: 6.100 | **Quartile:** 1 | **Citations:** 5
DOI: 10.1016/j.applthermaleng.2025.125785

Experimental study of unglazed transpired solar collectors integrated with buildings in humid sub-tropics 2025

Tariq Talha Abdur Rehman Mazhar Usama Bin Perwez Shuli Liu Muhammad Talha Muhammad Moiz Ahtasham Afzal

Energy and Buildings, Volume 339, Article Number:115767

Impact Factor: 6.6 | **Quartile:** 1

DOI: 10.1016/j.enbuild.2025.115767

Ballistic performance of lightweight ceramic-metal composite armour plates under blunt projectile impact 2025

Hasan Aftab Saeed Yasser Riaz Awan Hamza saleem Khan Abdur Rehman Mazhar Shahid Aziz Dong-Won Jung

Composites Part C: Open Access, Volume: 16, Article Number: 100558

Impact Factor: 5.3 | **Quartile:** 2 | **Citations:** 2

DOI: https://doi.org/10.1016/j.jcomc.2025.100558

Analysis of influencing factors on the performance of wavy-shape solar trombe walls based on orthogonal experimental design and simulation methods 2024

Yongliang Shen Hongkuan Chen Shuli Liu Wenjie Ji Haibo Jin Sheher Yar Khan Mahesh Kumar Abdur Rehman Mazhar

Energy, Volume 313, Article Number 133868

Impact Factor: 9.0 | **Quartile:** 1 | **Citations:** 2

DOI: 10.1016/j.energy.2024.133868

Flow and heat transfer characteristics of fractal tree-shaped heat pipe in enhancing the melting process of phase change material 2024

Yongliang Shen Binxu Gao Shuli Liu Haibo Jin Abdur Rehman Mazhar

International Journal of Heat and Mass Transfer, Volume 233 , Article Number 126026

Impact Factor: 5.000 | **Quartile:** 1 | **Citations:** 9

DOI: 10.1016/j.ijheatmasstransfer.2024.126026

A novel numerical investigation of a solar PCM heat exchanger for indoor temperature stabilization 2024

Aurang Zaib Abdur Rehman Mazhar Tariq Talha Yongliang Shen Shuli Liu

Journal of Energy Storage, Volume 100, Part A, Article Number 113560

Impact Factor: 8.900 | **Quartile:** 1 | **Citations:** 3

DOI: 10.1016/j.est.2024.113560

Data analysis and review of the research landscape in performance-enhancing thermal management strategies of photovoltaic technology 2024

Sheher Yar Khan Shuli Liu Mahesh Kumar Abdur Rehman Mazhar Yongliang Shen Tingsen Chen Adeel Waqas Shaoliang Zhang Jasur Rashidov

Sustainable Energy Technologies and Assessments, Volume 70, October 2024

Impact Factor: 7.100 | **Quartile:** 1 | **Citations:** 7

DOI: 10.1016/j.seta.2024.103938

Scientific mapping and data analysis of the research landscape in perovskite solar cell technology 2024

Mahesh Kumar Sheher Yar Khan Shuli Liu Wenjie Ji Yongliang Shen Arvin Sohrabi Tingsen Chen Shaoliang Zhang Abdur Rehman Mazhar

Solar Energy, Volume 273, Article Number 112509

Impact Factor: 6.700 | **Quartile:** 2 | **Citations:** 10

DOI: 10.1016/j.solener.2024.112509

Effect of the shape of flapping airfoils on aerodynamic forces 2024

Fahad Butt Tariq Talha Muhammad Rehan Khan Abdur Rehman Mazhar Mahad Butt Jana Petru Asiful H. Seikh

Heliyon, Volume 10, Issue 8, Article Number e29561

Impact Factor: 4.000 | **Quartile:** 2

DOI: https://doi.org/10.1016/j.heliyon.2024.e29561

Viability of low-grade heat conversion using liquid piston Stirling engines 2024

Abdur Rehman Mazhar Yongliang Shen Shuli Liu

Wiley Interdisciplinary Reviews: Energy and Environment, Volume 13, Issue 2, Article Number e509

Impact Factor: 6.100 | **Quartile:** 2 | **Citations:** 2

DOI: 10.1002/wene.509

Hybrid Additive Manufacturing: A Review from a Process Planning Perspective 2024

Rabiah Tabassum Uzair Khaleeq Uz Zaman Aamer Ahmed Baqai, Abdur Rehman Mazhar Sajid Ullah Butt

Journal of Advanced Manufacturing Systems, Volume 23, No. 01, Pages 227-262

Impact Factor: 0.900 | **Quartile:** 4 | **Citations:** 1

DOI: 10.1142/S0219686724500100

Thermal investigation and parametric analysis of cascaded latent heat storage system enhanced by porous media 2024

Yongliang Shen Shuli Liu Haibo Jin Abdur Rehman Mazhar Shaoliang Zhang Tingsen Chen Yihan Wang
Applied Thermal Engineering, Volume 238, Article Number 121982
Impact Factor: 6.4 | **Quartile:** 1 | **Citations:** 15
DOI: 10.1016/j.applthermaleng.2023.121982

Experimental investigation of a solar PCM heat exchanger for indoor temperature stabilization 2023

Aurang Zaib Abdur Rehman Mazhar Tariq Talha Muhammad Inshal
Energy and Buildings, Volume 297, Article Number 113478
Impact Factor: 6.7 | **Quartile:** 1 | **Citations:** 6
DOI: 10.1016/j.enbuild.2023.113478

A novel triangular pulsating heat pipe with enhanced heat transfer performance for building energy efficiency 2023

Tingsen Chen Shuli Liu Yongliang Shen Binxu Gao Abdur Rehman Mazhar
Case Studies in Thermal Engineering, Volume 49, Article Number 103286
Impact Factor: 6.8 | **Quartile:** 1 | **Citations:** 19
DOI: 10.1016/j.csite.2023.103286

Heat Transfer Augmentation Using Duplex and Triplex Tube Phase Change Material (PCM) Heat Exchanger Configurations 2023

Aurang Zaib Abdur Rehman Mazhar Shahid Aziz Tariq Talha Dong-Won Jung
Energies, Volume 16 (10), Article Number 4037
Impact Factor: 3.252 | **Quartile:** 3 | **Citations:** 10
DOI: 10.3390/en16104037

A Tree-Shaped Layout Heat Pipe to Enhance Heat Transfer in a Phase-Change Material Storage Process 2023

Abdur Rehman Mazhar Binxu Gao Shuli Liu Yongliang Shen Tingsen Chen Shaoliang Zhang
Journal of Enhanced Heat Transfer, Volume 30, Issue 5, Pages 23-42
Impact Factor: 2.449 | **Quartile:** 3 | **Citations:** 8
DOI: 10.1615/JEnhHeatTransf.2023046022

Structure optimization of tree-shaped fins for improving the thermodynamic performance in latent heat storage 2023

Abdur Rehman Mazhar Yongliang Shen Pengwei Zhang Shuli Liu
International Journal of Thermal Sciences, Volume 184, Article Number 108003
Impact Factor: 4.779 | **Quartile:** 1 | **Citations:** 48
DOI: 10.1016/j.ijthermalsci.2022.108003

Phase change materials embedded with tuned porous media to alleviate overcharging problem of cascaded latent heat storage system for building heating 2022

Abdur Rehman Mazhar Yongliang Shen Shuli Liu Jihong Wang Yongliang Li
Energy and Buildings, Volume 281, Article Number 112746
Impact Factor: 6.7 | **Quartile:** 1 | **Citations:** 28
DOI: 10.1016/j.enbuild.2022.112746

Comprehensive review on cascaded latent heat storage technology: Recent advances and challenges 2022

Abdur Rehman Mazhar Yongliang Shen Shuli Liu
Journal of Energy Storage, Volume 55, Article Number 105713
Impact Factor: 8.907 | **Quartile:** 1 | **Citations:** 43
DOI: 10.1016/j.est.2022.105713

Experimental analysis of a fin-enhanced three-tube-shell cascaded latent heat storage system 2022

Abdur Rehman Mazhar Yongliang Shen Pengwei Zhang Hongkuan Chen Shuli Liu
Applied Thermal Engineering, Volume 213, August 2022
Impact Factor: 6.4 | **Quartile:** 1 | **Citations:** 25
DOI: 10.1016/j.applthermaleng.2022.118717

Investigation of the volume impact on cascaded latent heat storage system by coupling genetic algorithm and CFD simulation 2022

Abdur Rehman Mazhar Yongliang Shen Pengwei Zhang Shuli Liu
Journal of Energy Storage, Volume 48, Article Number 104065

Impact Factor: 6.583 | **Quartile:** 1 | **Citations:** 17
DOI: 10.1016/j.est.2022.104065

An algorithm to assess the heating strategy of buildings in cold climates:a case study of Germany 2022
Abdur Rehman Mazhar Yuliang Zou Cheng Zeng Yongliang Shen Shuli Liu
International Journal of Low-Carbon Technologies, Volume 17, Pages 662-677
Impact Factor: 2.455 | **Quartile:** 2 | **Citations:** 3
DOI: 10.1093/ijlct/ctac023

A dynamic method to optimize cascaded latent heat storage systems with a genetic algorithm: A case study of cylindrical concentric heat exchanger 2022
Yongliang Shen Yunqi Liu Shuli Liu Abdur Rehman Mazhar
International Journal of Heat and Mass Transfer, Volume 183, Part B, Article Number 122051
Impact Factor: 5.2 | **Quartile:** 1 | **Citations:** 21
DOI: 10.1016/j.ijheatmasstransfer.2021.122051

Development of a PCM-HE to harness waste greywater heat: A case study of a residential building 2022
Abdur Rehman Mazhar Yuliang Zou Shuli Liu Yongliang Shen Ashish Shukla
Applied Energy , Volume 307, Article Number 118164
Impact Factor: 9.746 | **Quartile:** 1 | **Citations:** 8
DOI: 10.1016/j.apenergy.2021.118164

Numerical investigation of the heat transfer enhancement using corrugated pipes in a PCM for grey water harnessing 2021
Abdur Rehman Mazhar Shuli Liu Ashish Shukla
Thermal Science and Engineering Progress , Volume 23, Article Number 100909
Impact Factor: 4.560 | **Quartile:** 1 | **Citations:** 21
DOI: 10.1016/j.tsep.2021.100909

Numerical analysis of rectangular fins in a PCM for low-grade heat harnessing 2020
Abdur Rehman Mazhar Ashish Shukla Shuli Liu
International Journal of Thermal Sciences, Volume 152, Article Number 106306
Impact Factor: 3.744 | **Quartile:** 1 | **Citations:** 59
DOI: 10.1016/j.ijthermalsci.2020.106306

Experimental study on the thermal performance of a grey water heat harnessing exchanger using Phase Change Materials 2020
Abdur Rehman Mazhar Shuli Liu Ashish Shukla
Renewable Energy , Volume 146, Pages 1805-1817
Impact Factor: 8.001 | **Quartile:** 1 | **Citations:** 9
DOI: 10.1016/j.renene.2019.08.053

An optimizer using the PSO algorithm to determine thermal parameters of PCM: A case study of grey water heat harnessing 2019
Abdur Rehman Mazhar Shuli Liu Ashish Shukla
International Journal of Heat and Mass Transfer, Volume 144, Article Number 118574
Impact Factor: 4.947 | **Quartile:** 1 | **Citations:** 13
DOI: 10.1016/j.ijheatmasstransfer.2019.118574

A key review of non-industrial greywater heat harnessing 2018
Abdur Rehman Mazhar Shuli Liu Ashish Shukla
Energies , Volume:11, Issue:2, Article Number:386
Impact Factor: 2.072 | **Quartile:** 3 | **Citations:** 36
DOI: 10.3390/en11020386

Conference Proceedings

Evolution of thermal management systems for lithiumion battery using flexible phase change material: a comprehensive scientific mapping 2024
Mahesh KUMAR Shuli LIU Abdur Rehman Mazhar Arvin SOHRABI
21st International Conference on Sustainable Energy Technologies 12 to 14th August 2024, Shanghai, China res.country(48,)
Citations: N/A
DOI: https://nottingham-repository.worktribe.com/output/42837471

Design and Development of Power Generation System for Thermo-Acoustically Driven Devices 2024

Muhammad Zeeshan Ur Rehman Uzair Khaleeq uz Zaman Abdur Rehman Mazhar Umar Nawaz Bhatti Kanwal Naveed
2nd International Conference on Modern Technologies in Mechanical & Materials Engineering (MTME-2024), res.country(177,)
Citations: N/A
DOI: 10.1051/matecconf/202439801010

Effect of displacing the separation plate on the heat exchange effectiveness of unglazed double skin transpired solar collector 2024
Muhammad Talha Tariq Talha Abdur Rehman Mazhar Ahtasham Afzal Muhammad Moiz
2nd International Conference on Modern Technologies in Mechanical & Materials Engineering (MTME-2024), res.country(177,)
Citations: N/A
DOI: 10.1051/matecconf/202439801026

Development and analysis of a smart cold storage system for fruit warehouses 2024
Ahsan Sher Umais Khan Mouhammad Nouman Rafique Muhammad Asjad Ikram Abdur Rehman Mazhar
2nd International Conference on Modern Technologies in Mechanical & Materials Engineering (MTME-2024), res.country(177,)
Citations: N/A
DOI: 10.1051/matecconf/202439801027

Evaluating domestic in-pipe turbines as energy harvesting devices for tropical climates 2023
Abdur Rehman Mazhar Abdusslaam Majid Ahsen Ali Muhammad Fouzan Butt Ahtasham Ahmad Virk
2023 3rd International Conference on Digital Futures and Transformative Technologies (ICoDT2), res.country(177,)
Citations: N/A
DOI: 10.1109/ICoDT259378.2023.10325698

Development of an Electric Powertrain for the Conversion of an ICE Vehicle 2023
Ali Ubaid Abdur Rehman Mazhar Yasser Riaz Awan Shahid Aziz Krishna Singh Bhandari Dong-Won Jung
5th International Conference on Metal Material Processes and Manufacturing, res.country(121,)
Citations: N/A
DOI: 10.1007/978-981-97-1594-7_10

Investigation of the Simultaneous Cooling and Heating Using a Thermoelectric Peltier 2023
Abdur Rehman Mazhar Ali Ubaid Syed Muhammad Hamza Shah Suhaib Masood Muneeb Zafar Alvi
Third International Conference on Advances in Mechanical Engineering 2023, res.country(177,)
Citations: N/A
DOI: 10.3390/engproc2023045013

Erosion of pipe bends for multiphase flow: An Overview 2023
Muhammad Abdullah Muhammad Rehan Khan Uzair Khaleeq uz Zaman Bilal Anjum Muhammad Ali Khan Abdur Rehman Mazhar
2023 6th International Conference on Energy Conservation and Efficiency (ICECE), res.country(177,)
Citations: N/A
DOI: 10.1109/ICECE58062.2023.10092492

Development and Analysis of a Liquid Piston Stirling Engine 2022
Abdur Rehman Mazhar Abdur Rehman Mazhar Hassan Zamir Khan, Muhammad Kashif Khan Adeel Ahmed Muhammad Hassaan Yousaf
2nd International Conference on Advances in Mechanical Engineering (ICAME-22), res.country(177,)
Citations: N/A
DOI: 10.3390/engproc2022023034

Development of Reciprocating Inkjet System for Printed Electronic Devices 2022
Shahid Aziz Uzair Khaleeq uz Zaman Abdur Rehman Mazhar Junaid Ali Dong Won Jung
55th CIRP Conference on Manufacturing Systems 2022, res.country(43,)
Citations: N/A
DOI: 10.1016/j.procir.2022.05.085

A Review of Recent Studies of Dynamometers for Cutting Force Measurement in Machining Processes 2021
Abdul Raheem Rehan Khan Abdur Rehman Mazhar Hamdan H. Ya Mohammad Azad Alam Tauseef Ahmed Mohammad Azeem
2021 International Conference on Robotics and Automation in Industry, res.country(177,)
Citations: N/A
DOI: 10.1109/ICRAI54018.2021.9651342

Experimental Validation of a Numerical Model of a Corrugated Pipe-Phase Change Material (PCM)-Based Heat Exchanger to Harness Greywater Heat 2019
Abdur Rehman Mazhar Shuli Liu Ashish Shukla
16th UK Heat Transfer Conference (UKHTC2019), res.country(231,)
Citations: N/A

DOI: 10.1007/978-981-33-4765-6 _111

Book Chapters

On-farm applications of solar PV systems 2020

Abdur Rehman Mazhar Shiva Gorjian Renu Singh Ashish Shukla

In: *Book on Photovoltaic Solar Energy Conversion: Technologies, Applications and Environmental Impacts*, 1st Edition, Chapter 6, Pages 147-190

Citations: 58

DOI: 10.1016/B978-0-12-819610-6.00006-5

Comprehensive Study of District Heating (DH) in the UK: techno-economic aspects, policy support and trends 2020

Abdur Rehman Mazhar Shuli Liu Ashish Shukla

In: *Book on Low Carbon Energy Supply Technologies and Systems*, 1st Edition, Chapter 12, Pages 153-188

Citations: N/A

DOI: 10.1201/9780429353192-12