

Mariam Mahmood

Assistant Professor

US-Pakistan Center for Advanced Studies in Energy

Email: mariam@uspcase.nust.edu.pk

Contact: 519085529

LinkedIn: linkedin.com/in/mariam-mahmood-57353062



About

Dr. Mariam Mahmood is working as Assistant Professor in the US-Pakistan Center for Advanced Studies in Energy. Dr. Mariam Mahmood has a PhD in MACHINE AND SYSTEMS ENGINEERING FOR ENERGY,ENVIRONMENT AND TRANSPORT. Dr. Mariam Mahmood has published 32 research articles & conference papers having a citation count of 428, carried out 2 projects and filed 0 intellectual property.

Qualifications

PhD in MACHINE AND SYSTEMS ENGINEERING FOR ENERGY,ENVIRONMENT AND TRANSPORT University of Genoa , Italy	2014 - 2017
MS in Energy Systems NUST, Islamabad , Pakistan. (Duplicate)	2012 - 2014
BE in Environmental Engineering NUST, Islamabad , Pakistan	2008 - 2012

Experience

Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2023- Present
Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2021 - 2023
Assistant Professor US-Pakistan Center for Advanced Studies in Energy	2019 - 2021
Assistant Professor Centre for Energy System	2018 - 2019

Awards

TÜBITAK 2215 Winner of TÜBITAK 2215- Graduate Scholarship Program for International Students, awarded by TURKEY.	2014
--	------

Research Projects

National Projects	
To combat climate calamity by promoting energy transition In Pakistan through Knowledge creation, networking, and advocacy for enabling society. Funding Agency: Tara Climate Ltd Amount: PKR 11,312,840.00 Status: Completed	2022
Solar Assisted Desiccant Dehumidification System for Industrial Applications in Pakistan Funding Agency: NUST Amount: PKR 300,000.00 Status: Completed	2021

International Projects

Research Articles

Synthesis and analysis of a novel thermal interface material for DC-DC boost converter	2024
---	------

Ali Hamza Mariam Mahmood Abasin Ulasyar Syed Najeeb Ali Kazmi Sheeraz Iqbal Yazeed Yasin Ghadi Ali Saeed Almuflih Z. M. S. Elbarbary
Scientific Reports , Vol:14, Article Number: 22503, Pages:13

Impact Factor: 3.8 | **Quartile:** 1 | **Citations:** 3
DOI: <https://doi.org/10.1038/s41598-024-73181-6>

Unlocking the potential of passive cooling: A comprehensive experimental study of PV/PCM/TEC hybrid system for enhanced photovoltaic performance

2024

Ayesha Khan Nadia Shahzad Adeel Waqas Mariam Mahmood Majid Ali Shayan Umar
Journal of Energy Storage , Volume 80, Article Number: 110277

Impact Factor: 9.4 | **Quartile:** 1 | **Citations:** 28
DOI: [10.1016/j.est.2023.110277](https://doi.org/10.1016/j.est.2023.110277)

Techno-economic and GHG mitigation assessment of concentrated solar thermal and PV systems for different climate zones

2023

Mariam Mahmood Sheeraz Iqbal Asad Ullah Muhammad Bilal Sajid Zohaib Hassan Kareem M. AboRas Hossam Kotb Mokhtar Shouran Bdereddin Abdul Samad
Energy Reports , Volume:9, Page:4763-4780

Impact Factor: 5.2 | **Quartile:** 2 | **Citations:** 11
DOI: [10.1016/j.egy.2023.03.109](https://doi.org/10.1016/j.egy.2023.03.109)

Experimental study to optimize the thermal performance of Li-ion cell using active and passive cooling techniques

2023

Umer Iqbal Majid Ali Hassan Abdullah Khalid Adeel Waqas Mariam Mahmood Naveed Ahmed Nadia Shahzad Naseem Iqbal Khurram Mehboob
Journal of Energy Storage , Volume 70, Article Number 108013

Impact Factor: 9.4 | **Quartile:** 1 | **Citations:** 9
DOI: <https://doi.org/10.1016/j.est.2023.108013>

Performance Evaluation of an Evacuated Flat-Plate Collector System for Domestic Hot Water Applications

2023

Hamza Saeed Mariam Mahmood Hassan Nazir Adeel Waqas Naveed Ahmed Majid Ali Abdul Haseeb Muhammad Bilal Sajid
Journal of Solar Energy Engineering, Transactions of the ASME, Volume 145, Issue 5, Article Number:051006, Pages:12

Impact Factor: 2.3 | **Quartile:** 3 | **Citations:** 3
DOI: [10.1115/1.4056790](https://doi.org/10.1115/1.4056790)

Solar-assisted hybrid oil heating system for heavy refinery products storage

2023

Naseer ahmad Khan Asif Hussain Khoja Naveed Ahmed Fahid Riaz Mariam Mahmood Majid Ali M.A Kalam M.A Mujtaba
Case Studies in Thermal Engineering , Volume 49, Article Number 103276

Impact Factor: 6.8 | **Quartile:** 1 | **Citations:** 7
DOI: <https://doi.org/10.1016/j.csite.2023.103276>

Techno-economic assessment of evacuated flat-plate solar collector system for industrial process heat

2023

Zohaib Hassan Mariam Mahmood Naveed Ahmed Muhammad Hamza Saeed Rashid Khan Muhammad Mujtaba Abbas Md Abul Kalam Fares Almomani Emad Abdelsalam
Energy Science & Engineering , Volume:11, Issue:6, Page:2185-2201

Impact Factor: 3.8 | **Quartile:** 3 | **Citations:** 1
DOI: [10.1002/ese3.1447](https://doi.org/10.1002/ese3.1447)

Numerical analysis of a novel solar air heater design with V-ribs and jet cooling

2023

Muhammad haroon Iqbal Naveed Ahmed Majid Ali Mumtaz A Qaisrani Mariam Mahmood Adeel Waqas Wasif Iqbal Muhammad Bilal Sajid
Sustainable Energy Technologies and Assessments , Volume 57, Article Number 103252

Impact Factor: 7.632 | **Quartile:** 2 | **Citations:** 23
DOI: doi.org/10.1016/j.seta.2023.103252

Development and validation of Nusselt number correlations for a helical coil based energy storage integrated with solar water heating system

2022

Saqib Ayuob Mariam Mahmood Naveed Ahmed Adeel Waqas Hamza Saeed Muhammad Bilal Sajid
Journal of Energy Storage , Volume 55, Part D, Article Number 105777

Impact Factor: 8.907 | **Quartile:** 1 | **Citations:** 17
DOI: <https://doi.org/10.1016/j.est.2022.105777>

Barriers and drivers for adoption of energy efficient and environment friendly brick kiln technologies in Punjab, Pakistan

2022

Akhtar Abbas Muhammad Bilal Sajid Nadia Shahzad Emad Uddin Mariam Mahmood Usman Salahuddin
Energy Reports , Volume 8, Pages 15563-15573

Impact Factor: 5.2 | **Quartile:** 2 | **Citations:** 2

DOI: <https://doi.org/10.1016/j.egy.2022.11.128>

Charging and discharging characterization of a novel combined sensible-latent heat thermal energy storage system by experimental investigations for medium temperature applications 2022

Malik sarmad Zahid Naveed Ahmed Mumtaz A.Qaisrani Mariam Mahmood Majid Ali Adeel Waqas Mohsen Assadi
Journal of Energy Storage, Volume 55, Part C, Article Number 105612

Impact Factor: 8.907 | **Quartile:** 1 | **Citations:** 22

DOI: <https://doi.org/10.1016/j.est.2022.105612>

Evaluation of possible integration of solar chimney power plants with high-rise buildings: A numerical analysis 2022

Muhammad Saad Naveed Ahmed Lorenzo Giovannini Mariam Mahmood Muhammad Usman Rafi Mumtaz A.Qaisrani
Journal of Building Engineering, Volume 60, Article Number 105188

Impact Factor: 7.144 | **Quartile:** 1 | **Citations:** 6

DOI: <https://doi.org/10.1016/j.job.2022.105188>

Energetic, economic, and greenhouse gas emissions assessment of biomass and solar photovoltaic systems for an industrial facility 2022

Jamsheed Sajid Muhammad Bilal Sajid Muhammad Muneeb Ahmad Muhammad Kamran Rameen Ayub Naveed Ahmed Mariam Mahmood Akhtar Abbas
Energy Reports, Volume 8, Pages 12503-12521

Impact Factor: 4.937 | **Quartile:** 2 | **Citations:** 15

DOI: doi.org/10.1016/j.egy.2022.09.041

Performance enhancement of solar updraft tower plant using parabolic chimney profile configurations: A numerical analysis 2022

Muhammad Saad Naveed Ahmed Mariam Mahmood Muhammad Bilal Sajid
Energy Reports, Volume 8, Pages 4661-4671

Impact Factor: 4.937 | **Quartile:** 2 | **Citations:** 17

DOI: <https://doi.org/10.1016/j.egy.2022.03.134>

Techno-economic analysis of a hybrid district heating with borehole thermal storage for various solar collectors and climate zones in Pakistan 2022

Hafiz muhammad Ushamah Naveed Ahmed K.E.Elfeiky Mariam Mahmood Mumtaz A.Qaisrani Adeel Waqas Qian Zhang
Renewable Energy, Volume 199, Pages 1639-1656

Impact Factor: 8.634 | **Quartile:** 1 | **Citations:** 23

DOI: <https://doi.org/10.1016/j.renene.2022.09.059>

Thermal management of solar photovoltaic module by using drilled cylindrical rods integrated with phase change materials 2022

Muhammad Shoaib Sheher Yar Khan Naveed Ahmed Mariam Mahmood Adeel Waqas Mumtaz A.Qaisrani Nadia Shehzad
Journal of Energy Storage, Volume 52, Part B, Article Number 104956

Impact Factor: 8.907 | **Quartile:** 1 | **Citations:** 21

DOI: <https://doi.org/10.1016/j.est.2022.104956>

Designing, Modelling and Experimental Investigation of Direct Evaporative Cooling System Coupled With Commercial Desiccant Dehumidifier 2022

Abdul Basit Mariam Mahmood Adeel Waqas Majid Ali Waqas Khalid
Journal of Thermal Science and Engineering Applications, Volume 14(7), Article Number 071006

Impact Factor: 1.470 | **Quartile:** 4 | **Citations:** 2

DOI: <https://doi.org/10.1115/1.4052378>

Techno-economic assessment of solar water heating systems for sustainable tourism in northern Pakistan 2022

Muhammad Naveed Arif Adeel Waqas Faaz Ahmed Butt Mariam Mahmood Asif Hussain Khoja Majid Ali Kafait Ullah M. A Mujtaba M.A Kalam
Alexandria Engineering Journal, Volume 61, Issue 7, Pages 5485-5499

Impact Factor: 6.8 | **Quartile:** 1 | **Citations:** 18

DOI: [10.1016/j.aej.2021.11.006](https://doi.org/10.1016/j.aej.2021.11.006)

Multiparametric optimization of a reheated organic Rankine cycle for waste heat recovery based repowering of a degraded combined cycle gas turbine power plant 2022

Muhammad Reshaeel Adeel Javed Ahmad Jamil Majid Ali Mariam Mahmood Adeel Waqas Ahmad
Energy Conversion and Management, Volume 254, Article Number 115237

Impact Factor: 10.4 | **Quartile:** 1 | **Citations:** 30

DOI: <https://doi.org/10.1016/j.enconman.2022.115237>

- Thermal analysis of macro-encapsulated phase change material coupled with domestic gas heater for building heating** 2021
Fawad Ahmed Mariam Mahmood Naveed Ahmad Majid Ali Adeel Waqas
Sustainable Energy Technologies and Assessments, Volume 47, Article Number 101533
Impact Factor: 7.632 | **Quartile:** 2 | **Citations:** 11
DOI: <https://doi.org/10.1016/j.seta.2021.101533>
- Techno-economic evaluation of a solar PV integrated refrigeration system for a cold storage facility** 2021
Hamid Ikram Adeel Javed Mariam Mahmood Musannif Shah Majid Ali Adeel Waqas
Sustainable Energy Technologies and Assessments, Volume 44, Article Number 101063
Impact Factor: 7.632 | **Quartile:** 2 | **Citations:** 41
DOI: <https://doi.org/10.1016/j.seta.2021.101063>
- Enhanced CO2 capture using organic acid structure modified waste eggshell derived CaO sorbent** 2021
Azra Nawar Asif Hussain Khoja Mustafa Anwar Mariam Mahmood Adeel waqas Majid Ali
Journal of Environmental Chemical Engineering, Volume 9, Issue 1, Article Number 104871
Impact Factor: 7.968 | **Quartile:** 1 | **Citations:** 68
DOI: [10.1016/j.jece.2020.104871](https://doi.org/10.1016/j.jece.2020.104871)
- Thermal management of solar PV module by using hollow rectangular aluminum fins** 2020
Sheher Yar Khan Adeel Waqas Naveed Ahmad Mariam Mahmood Nadia Shahzad Muhammad Bilal Sajid
Journal of Renewable and Sustainable Energy, Volume 12, Article Number 063501
Impact Factor: 2.219 | **Quartile:** 4
DOI: <https://doi.org/10.1063/5.0020129>
- Effect of structural promoters on calcium based sorbents from waste derived sources** 2020
Azra Nawar Majid Ali Mariam Mahmood Mustafa Anwar Muhammad Zeeshan Ali Khan
Materials Today Communications, Volume 24, Article No. 101075
Impact Factor: 3.383 | **Quartile:** 2 | **Citations:** 12
DOI: [10.1016/j.mtcomm.2020.101075](https://doi.org/10.1016/j.mtcomm.2020.101075)
- Thermal energy storage for CSP hybrid gas turbine systems: Dynamic modelling and experimental validation** 2018
Mariam Mahmood Alberto Traverso Alberto Nicola Traverso Aristide F. Massardo Davide Marsano Carlo Cravero
Applied Energy, NULL
Impact Factor: 8.426 | **Quartile:** 1 | **Citations:** 34
DOI: [10.1016/j.apenergy.2017.12.130](https://doi.org/10.1016/j.apenergy.2017.12.130)
- Optimizing the Performance of Membrane-Less Biosolar Cells** 2015
Shah Mir Ahmad Mariam Mahmood Ehsan Ali Muhammad Irfan Fareed
Journal of Biobased Materials and Bioenergy, Volume: 9 Issue: 5 Pages: 471-475
Impact Factor: 0.635 | **Quartile:** 4 | **Citations:** 2
DOI: [10.1166/jbmb.2015.1541](https://doi.org/10.1166/jbmb.2015.1541)

Conference Proceedings

- Numerical analysis of novel solar central receiver using different types of heat transfer fluids** 2021
Hassan Bashir Naveed Ahmed Adeel Waqas Mariam Mahmood Nadia Shahzad
3rd International Conference on Sustainable Energy Technologies (ICSET 2021), res.country(177,)
Citations: N/A
DOI: 0000
- Mathematical Modeling and Thermal Analysis of Evacuated Flat Plate Collector in Pakistan** 2021
Zohaib Hassan Mariam Mahmood Mariam Mahmood Adeel Waqas Majid Ali Naveed Ahmed
IEEE International Conference on Emerging Power Technologies (ICEPT-2021), res.country(177,)
Citations: 2
DOI: <https://doi.org/10.1109/ICEPT51706.2021.9435492>
- Effect of fixed and seasonal tilt angles on the performance of an ON-Grid PV plants** 2021
Adnan Aslam Naveed Ahmed Mariam Mahmood Atif Naveed Naseer Ahmed Kashif Imran
2021 International Conference on Emerging Power Technologies (ICEPT), res.country(177,)
Citations: N/A
DOI: 10.1109/ICEPT51706.2021.9435464
- Performance analysis of combined humidification dehumidification (HDH) system coupled with air conditioning system** 2021
Muhammad Zeeshan Islam Adeel Waqas Hafiz Abd-ur-Rehman Majid Ali Sehar Shakir Mariam Mahmood
International Conference on Energy, Water and Environment, res.country(177,)
Citations: N/A
DOI: NA
- Model Based Diagnostics Of AE-T100 Micro Humid Air Turbine Cycle** 2018
Mariam Mahmood Alessio Martini Aristide F. Massardo Ward De Paepe
ASME Turbo Expo 2018: Turbo machinery Technical Conference And Exposition, res.country(166,)
Citations: N/A
DOI: 10.1115/GT2018-75979
- Fault Detection Through Model Based Diagnostics of AE-T100 Micro Gas Turbine.** 2017
Mariam Mahmood Alessio Martini Alberto Traverso
ASME Turbo Expo 2017, res.country(233,)
Citations: N/A
DOI: 10.1115/GT2017-64619

Trainings

- Shanghai Cooperation Organization (SCO) Clean Energy Power System Technical Training 02-21 July 2019, NCEPU- Beijing China.** 2019
Partner: FFC-Pakistan
Duration: 02-Jul-2019 to 21-Jul-2019