

Usama Bin Perwez

Assistant Professor

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About

Dr. Usama Bin Perwez is working as Assistant Professor in the College of Electrical & Mechanical Engineering. Dr. Usama Bin Perwez has a PhD in Sustainable Energy and Environmental Engineering. Dr. Usama Bin Perwez has published 21 research articles & conference papers having a citation count of 341, carried out 0 projects and filed 0 intellectual property.

Qualifications

PhD in Sustainable Energy and Environmental Engineering Osaka University , Japan	2020 - 2023
MSc in Energy NUST, Islamabad , Pakistan	2014 - 2017
BSc in Mechanical UET Taxila , Pakistan	2006 - 2010

Experience

Assistant Professor College of Electrical & Mechanical Engineering	2023- Present
Lecturer College of Electrical & Mechanical Engineering	2023 - 2023
Lecturer College of Electrical & Mechanical Engineering	2019 - 2023
Lecturer College of Electrical & Mechanical Engineering	2017 - 2019
Lab Engineer College of Electrical & Mechanical Engineering	2012 - 2017
Lecturer NUST , H12 Islamabad	2017 - 2019
Lab Engineer NUST , H12 Islamabad	2012 - 2017
Executive TOTAL Oil Pakistan , Sector I10/3 Islamabad	2010 - 2012

Research Articles

Experimental study of unglazed transpired solar collectors integrated with buildings in humid sub-tropics <i>Tariq Talha Abdur Rehman Mazhar Usama Bin Perwez Shuli Liu Muhammad Talha Muhammad Moiz Ahtasham Afzal</i> <i>Energy and Buildings</i> , Volume 339, Article Number:115767 Impact Factor: 6.6 Quartile: 1 DOI: 10.1016/j.enbuild.2025.115767	2025
UBEM-SER: Role of sufficiency, efficiency and renewable in the decarbonization of commercial building stock at city scale <i>Usama Bin Perwez Muhammad Haseeb Rasool Imran Aziz Usman Zia</i> <i>Sustainable Cities and Society</i> , Volume:121, Article Number 106214 Impact Factor: 10.500 Quartile: 1 Citations: 2	2025

DOI: <https://doi.org/10.1016/j.scs.2025.106214>

Comparative assessment of multi-objective optimization of hybrid energy storage system considering grid balancing 2023

Usama Perwez Muhammad Haseeb Rasool Onur Taylan Canras Batunlu
Renewable Energy , Volume 216, Article Number 119107

Impact Factor: 8.7 | **Quartile:** 1 | **Citations:** 31

DOI: <https://doi.org/10.1016/j.renene.2023.119107>

Multi-scale UBEM-BIPV coupled approach for the assessment of carbon neutrality of commercial building stock 2023

Usama Perwez Keita Shono Yohei Yamaguchi Yoshiyuki Shimoda
Energy and Buildings , Volume:291, Article Number: 113086

Impact Factor: 6.7 | **Quartile:** 1 | **Citations:** 36

DOI: [10.1016/j.enbuild.2023.113086](https://doi.org/10.1016/j.enbuild.2023.113086)

Large-scale building-integrated photovoltaics installation on building façades: Hourly resolution analysis using commercial building stock in Tokyo, Japan 2023

Usama Perwez Keita Shono Yohei Yamaguchi Yoshiyuki Shimoda Tao Ma Yanjun Dai
Solar Energy , Volume:253, Page:137-153

Impact Factor: 6.7 | **Quartile:** 2 | **Citations:** 30

DOI: [10.1016/j.solener.2023.02.025](https://doi.org/10.1016/j.solener.2023.02.025)

Feasibility assessment of net zero-energy transformation of building stock using integrated synthetic population, building stock, and power distribution network framework 2023

Usama Perwez Yohei Yamaguchi Yuto Shoda Tatsuya Imai Yoshiyuki Shimoda Shinya Yoshizawa Yasuhiro Hayashi
Applied Energy , Volume:333, Article Number:120568

Impact Factor: 11.2 | **Quartile:** 1 | **Citations:** 22

DOI: [10.1016/j.apenergy.2022.120568](https://doi.org/10.1016/j.apenergy.2022.120568)

Multi-scale GIS-synthetic hybrid approach for the development of commercial building stock energy model 2022

Usama Perwez Yohei Yamaguchi Tao Ma Yanjun Dai Yoshiyuki Shimoda
Applied Energy , Volume:323, Article Number:119536

Impact Factor: 11.2 | **Quartile:** 1 | **Citations:** 23

DOI: [10.1016/j.apenergy.2022.119536](https://doi.org/10.1016/j.apenergy.2022.119536)

Scenario-based techno-reliability optimization of an off-grid hybrid renewable energy system: A multi-city study framework 2022

Usama Perwez Muhammad Haseeb Rasool Zakria Qadir Syed Muhammad Hassan Ali
Sustainable Energy Technologies and Assessments , Volume:53, Article Number: 102411

Impact Factor: 8.0 | **Quartile:** 1 | **Citations:** 21

DOI: [10.1016/j.seta.2022.102411](https://doi.org/10.1016/j.seta.2022.102411)

Pharmacokinetics, Mechanism, and Docking Study of Antioxidant Aryl-Bisthiourea Derivatives for Alzheimer's Disease 2021

Ali Bahadur Shahid Iqbal Muhammad Shoaib Muhammad Zulqurnain Mazloom Shah Hisham S.M. Abd-Rabboh Usama Perwez Muhammad Abdul Qayyaum Ajmal Zaman
ChemistrySelect , Volume 6, Issue 33, Pages 8560-8565

Impact Factor: 2.109 | **Quartile:** 3 | **Citations:** 2

DOI: [10.1002/slct.202101634](https://doi.org/10.1002/slct.202101634)

Long-term scenario pathways to assess the potential of best available technologies and cost reduction of avoided carbon emissions in an existing 100% renewable regional power system: A case study of Gilgit-Baltistan (GB), Pakistan 2021

Arif Hussain Usama Perwez Kafait Ullah Chul-Hwan Kim Nosheen Asghar
Energy , Volume 221, Article Number 119855

Impact Factor: 8.857 | **Quartile:** 1 | **Citations:** 41

DOI: <https://doi.org/10.1016/j.energy.2021.119855>

Numerical Investigation of Design and Operating Parameters of Thermal Gradient Continuous-Flow PCR Microreactor Using One Heater 2019

Usama Bin Perwez Imran Aziz Faisal Ahmed Mohsin Raza Khan
Processes , Volume 7(12), Article Number 919

Impact Factor: 2.753 | **Quartile:** 2 | **Citations:** 3

DOI: <https://doi.org/10.3390/pr7120919>

The long-term forecast of Pakistan's electricity supply and demand: An application of long range energy alternatives planning

2015

Usama Bin Perwez Ahmed Sohail Syed Fahad Hassan Usman Zia

Energy , Volume 93, Pages, 2423-2435, Part 2

Impact Factor: 4.292 | **Quartile:** 1 | **Citations:** 130

DOI: 10.1016/j.energy.2015.10.103

- Cross-over analysis of building-stock modelling approaches for bottom-up engineering model** 2021
Usama Perwez Yohei Yamaguchi Yoshiyuki Shimoda
17th Conference of IBPSA, res.country(20,)
Citations: N/A
DOI: 10.26868/25222708.2021.30586
- Development of Geo-spatial building stock model for Japanese Commercial Buildings** 2020
Usama Perwez Yohei Yamaguchi Yoshiyuki Shimoda
2nd Proceedings of the Society of Air-Conditioning and Sanitary Engineers of Japan Conference, res.country(113,)
Citations: N/A
DOI: https://doi.org/10.18948/shasetaikai.2020.10.0_25
- The Long-term Forecast Of Gilgit Baltistan (GB)'s Electricity Demand** 2018
Arif Hussain Kafiati Ullah Usama Bin Perwez Muhammad Shahid
4th International Conference on Power Generation Systems and Renewable Energy Technologies (PGSRET), res.country(177,)
Citations: N/A
DOI: 10.1109/PGSRET.2018.8685966
- Thermal Modeling and Design Analysis of a Hybrid Microdevice for Continuous-Flow PCR using One Heater** 2016
Usama Bin Perwez Imran Akhtar Imran Aziz Tahir Zaidi
2016 International Mechanical Engineering Congress and Exposition IMECE2016, res.country(233,)
Citations: N/A
DOI: <https://doi.org/10.1115/IMECE2016-65594>
- Three Dimensional Flow Investigation in One and a Half Stage Axial Turbine** 2016
Usama Perwez Imran Aziz Imran Akhtar Auwais Ahmed
ASME 2016 International Mechanical Engineering Congress and Exposition IMECE2016, res.country(233,)
Citations: N/A
DOI: <https://doi.org/10.1115/IMECE2016-66703>
- Free Cooling Investigation of SEECS Data Center** 2015
Syed Fahad Hassan Musahib Ali Attique Sajid Usama Perwez
The 7th International Conference on Applied Energy - ICAE 2015, res.country(2,)
Citations: N/A
DOI: 10.1016/j.egypro.2015.07.233
- Free Cooling Investigation of RCMS Data Center** 2015
Syed Fahad Hassan Musahib Ali Usama Perwez Attique Sajid
The 7th International Conference on Applied Energy - ICAE2015, res.country(2,)
Citations: N/A
DOI: 10.1016/j.egypro.2015.07.175
- GHG emissions and monetary analysis of electric power sector of Pakistan: Alternative scenarios and it's implications** 2014
Usama Perwez Ahmed Sohail
6th International Conference on Applied Energy - ICAE2014, res.country(227,)
Citations: N/A
DOI: 10.1016/j.egypro.2014.12.020
- Forecasting of Pakistan's net electricity energy consumption on the basis of energy pathway scenarios** 2014
Usama Perwez Ahmed Sohail
6th International Conference on Applied Energy - ICAE2014, res.country(227,)
Citations: N/A
DOI: 10.1016/j.egypro.2014.12.015

Editorial Activities

Sustainable Cities and Society Reviewed Papers for Journals Impact Factor: 10.5	2025
International Journal of Hydrogen Energy Reviewed Papers for Journals Impact Factor: 8.1	2024
Edited Journal Issue / Proceeding / Book Impact Factor: 3.3	2024
Applied Energy Reviewed Papers for Journals Impact Factor: 11.2	2024
Energy Reviewed Papers for Journals Impact Factor: 9	2024
Energy and Buildings Reviewed Papers for Journals Impact Factor: 6.7	2024
Energy Reviewed Papers for Journals Impact Factor: 9	2024
Sustainable Energy Technologies and Assessments Reviewed Papers for Journals Impact Factor: 8	2024
Energy Reports Reviewed Papers for Journals Impact Factor: 5.2	2024
Energy Reviewed Papers for Journals Impact Factor: 8.9	2023
Applied Energy Reviewed Papers for Journals Impact Factor: 11.2	2023
Energy and Buildings Reviewed Papers for Journals Impact Factor: 6.7	2023
Energy Strategy Reviews Reviewed Papers for Journals Impact Factor: 8.2	2023