Dr. SYED MUHAMMED ASAD AKHTER

Father's Name: Syed Hasnain Akhter
Current Address: R-18 Sector D Sadat-e-Amroha Cooperative Society Karachi
DOB: 19-July-1993
Email: asadakhter@neduet.edu.pk
PEC no: MECH/31966

OBJECTIVE

To excel in the field of Mechanical Engineering as a researcher and utilize my education and skills for the benefit of humanity.

EDUCATION

- Ph.D. 2023

Thesis Title**: Performance Enhancement of Lithium Air Battery using nano-structured based membrane.**
NED University of Engineering and Technology, Karachi

- Masters of Engineering in Renewable Energy. 2018

Thesis Title: **Technical and Economic Analysis of Hybrid Photovoltaic Thermal Air collector.**
NED University of Engineering and Technology, Karachi
CGPA: 3.66/4.00

- Bachelors of Engineering in Mechanical 2015

NED University of Engineering and Technology, Karachi.
CGPA: 3.42/4.00

WORKING EXPERIENCE

- **Assistant Professor** Since November 2023

NED University of Engineering and Technology
Department of Mechanical Engineering
Responsibilities

1. To teach the following courses to the students of Mechanical Engineering
   - Stress Analysis (Undergrad level)
   - Fluid Mechanics (Undergrad level)
   - Energy Planning (Postgrad level)
   - Fuel Cell and Hydrogen Integrated Systems (PhD level)
   - Condition Monitoring (PhD level)
2. To supervise the different undergrad and postgrad level research project.
3. To facilitate the department in different Outcome based Education Systems (OBE).

- **Lecturer,** January 2019 till November 2023

NED University of Engineering and Technology
Department of Mechanical Engineering
Responsibilities
To teach the different courses to the undergrad students of Mechanical Engineering.

- Engineering Mechanics
- Heat and Mass Transfer
- Clean Energy Technology

- Fluid Mechanics
- Compressible Flow and Propulsion Systems

➢ **Assistant Manager** January 2018 to January 2019
Atlas Battery Limited
Engineering and Development (Quality Assurance Division)

➢ **Trainee Engineer,** July 2016 to July 2017
THAL Engineering
Quality Assurance department

LIST OF PUBLICATIONS

Published in Science Citation Index Expanded (ISI indexed) Journals

1. **Asad A. Naqvi**, Talha Bin Nadeem, Ahsan Ahmed, Faaz Ahmed Butt, "Effective utilization of solar energy for the production of green Hydrogen from Photovoltaic powered electrolyzer", **Journal of Testing and Evaluation**. Volume 51, Issue 6, 2023 **(IF: 1.3).**
2. **Asad A. Naqvi**, Awan Zahoor, Asif Ahmed Shaikh, Muhammad Younas, "Effects of graphite flakes on the material and mechanical properties of polystyrene membranes". **Journal of Testing and Evaluation** Volume 51, Issue 5, 2023. **(IF: 1.3)**.
3. **Asad A. Naqvi,** Ahsan Ahmed, Talha Bin Nadeem, "Energy and Stress Analysis of a Hybrid Photovoltaic Thermal Module", **Case Studies in Thermal Engineering.** Volume 47, 2023. **(IF: 6.268)**
4. Muhammad Bilal Ahmed, Faaz Ahmed Butt, **Asad A. Naqvi**, Samra Asad, Zahoor ul Hussain Awan, Zain Shahid, Tayyab Azad Khan, "Design and Development of $Ti_3C_2T_x$ MXenes As Cathode Materials for Energy Storage Devices". **Journal of Testing and Evaluation** Volume 51, Issue 6, 2023. **(IF: 1.3)**.
5. Ahsan Ahmed, Talha Bin Nadeem, **Asad A. Naqvi,** Mubashir Ali Siddiqui, Muhammad Hamza Khan, Muhammad Saad Bin Khalid, Syed Muhammad Ammar "Investigation of PV utilizability on university buildings: A case study of Karachi, Pakistan". **Renewable Energy**. Volume 195, August 2022 (**IF: 8.634).**
6. Talha Bin Nadeem, Ahsan Ahmed, **Asad A. Naqvi**, Muhammad Saad, Azan Ali Abbasi, Syed Muhammad Usama Arshad, and Farooq Ahmed, "Designing of heating, ventilation, and air-conditioning (HVAC) system for workshop building in hot and humid climatic zone using CLTD method and HAP Analysis - A comparison", **Arabian Journal for Science and Engineering** 2022 (**IF: 2.807)**.
7. Awan Zahoor, **Asad A. Naqvi**, Faaz Ahmed Butt, Ghazanfar R. Zaidi, Muhammad Younus "Effect of graphene oxide on Poly Vinyl Alcohol membrane for textile waste water treatment". **Membrane and Water Treatment**. Volume 13, No. 3 2022 (**IF: 1.092)**

Published in Emerging Science Citation Index (ISI indexed) Journals

1. Muhammad Uzair, **Asad A. Naqvi**, Umair Hasan Kazmi, "Estimation of the Diffused Solar Irradiation on the Tilted Plane of Photovoltaic Solar Panels". **Memoria Investigaciones en Ingeniería** Num 24, 2023.
2. Awan Zahoor, Ghadia Ahmed, Muhammad Amir, Faaz Butt, **Asad A Naqvi** "Effect of varying percentages of Co_3O_4 Nanoparticles on the Behavior of (ORR/OER) Bifunctional Co_3O_4/α-MnO_2 Electrocatalyst", **TECCIENCIA** Vol 18 No. 34 (2023)

3. **Asad A. Naqvi**, Awan Zahoor, Asif Ahmed Shaikh, Faaz Ahmed Butt, Faizan Raza "Aprotic Lithium Air Batteries with Oxygen Selective Membrane". **Materials for Renewable and Sustainable Energy.** Volume 11, Issue 1, 2022.
4. Awan Zahoor, **Asad A. Naqvi,** Zain Shahid, Faaz Ahmed Butt, Faizan Raza, "Synthesis and Characterization of Graphene sheets from graphite powder by using ball milling". **Revista UIS Ingenierías**. Volume 21, No. 3, 2022
5. **Asad A. Naqvi**, Talha Bin Nadeem, Ahsan Ahmed, S. Asad Ali Zaidi. "Techno-economic design of grid-tied PV system for a residential building". **Advances in Energy Research**. Volume 8, Number 1, March 2022.
6. **Asad A. Naqvi**, Talha Bin Nadeem, Ahsan Ahmed "Designing of an off-grid Photovoltaic system for a remote location". **TECCIENCIA** Vol 16 No. 31 (2021).

Published in Scopus Indexed Journals

1. **Asad A. Naqvi**, Ahsan Ahmed, M. Jamal Murtaza, Abdul Majeed, Khizar Uddin Ahmed, Shaheer. M.Bari "Performance Evaluation of Hybrid PVT Air Collector: A comparative study" **GMSARN International Journal**, Issue 2, Jun. 2022.
2. **Asad A. Naqvi**, Talha Bin Nadeem, Ahsan Ahmed. "Efficiency improvement of photovoltaic module for air cooling". **Applied Solar Energy,** Volume 57, Issue 6, 2021.
3. Ahsan Ahmed, **Asad A. Naqvi**, Talha Bin Nadeem & Muhammad Uzair Experimental "Investigation of Dust Accumulation on the Performance of the Photovoltaic Modules: A Case Study of Karachi, Pakistan". **Applied Solar Energy,** Volume 57, Issue 5, 2021.

Conference Papers

1. **Asad A. Naqvi,** Ahsan Ahmed, Muhammad Kazim, "Techno-Economic Analysis of Hybrid Photovoltaic Thermal air collector". Proceedings of 10th International Mechanical Engineering Conference 2021 (IMEC), Pakistan.
2. Muhammad Farhan, **Asad A. Naqvi**, Muhammad Uzair, "Increasing Photovoltaic Performance through Temperature Regulation by Soy Wax as Phase Change Material". Proceedings of 11th International Mechanical Engineering Conference 2022 (IMEC), Pakistan.

Under Review/Revisions

1. **Asad A. Naqvi,** Awan Zahoor, Faaz Ahmed Butt, Ghadia Ahmed, "Effective utilization of Polystyrene based membranes for operation of Lithium Air Batteries in moist gas", **journal of Energy Storage.**

PROJECTS SUPERVISED

- Performance Analysis of Hybrid Photovoltaic/Thermal air collector.
- Performance Analysis of Hybrid Photovoltaic/Thermal water collector.
- Experimental investigation of Solar panel cooling with phase change material.
- Techno-Economic Analysis of Solar Integrated Organic Rankine Cycle.
- Design and fabrication of Photovoltaic driven Simple Electrolyzer for production of Hydrogen.
- Design of a heat recovery system for Indus Motor Company Paint shop.
- Technical and Economic Analysis for the electrification of Electric Vehicles in Pakistan.

RESEARCH INTEREST

- Membranes
- Lithium Air Batteries
- Solar Energy
- Hydrogen Energy

HONOR AND AWARDS

- Ph. D student on National Research Program for Universities (NRPU) project.
- Highest feedback of 9.348 in Fall Semester 2022 for Fluid Mechanics taught in Mechanical Engineering Department.
- Awarded Gold medal for the best paper award in 10^{th} Mechanical Engineering Conference 2020.
- Reviewed research articles for different JCR, Master list and Scopus indexed Journals.
- Highest feedback of 9.508 in Spring 2019 for Engineering Mechanics taught in Metallurgical Engineering Department.
- Honored as Chief Guest in Teachers Day organized by Govt. Delhi College in 2019.

REFERENCE

To be furnished upon request.