

TALHA BIN NADEEM

Personal Information

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Academic Qualification

Aug 2016 – Nov 2018 | **Masters of Engineering Management (M.E.M.) in Energy & Plant Management**
NED University of Engineering and Technology, Karachi, Pakistan
CGPA: **3.88** on a scale of 4.00

Jan 2011 – Dec 2014 | **Bachelors of Engineering (B.E.) in Mechanical Engineering**
NED University of Engineering and Technology, Karachi, Pakistan
CGPA: **3.87** on a scale of 4.00 (2nd Position out of 226 students)

Research and Academics Experience

Dec 2018 – to date | **Lecturer – Department of Mechanical Engineering**
NED University of Engineering and Technology

- Teaching mechanical engineering courses to undergraduate students: **Internal Combustion Engine, Thermodynamics, Computer Programming and Applications.**
- Teaching mechanical engineering courses to graduate students: **Energy Modelling & Forecasting, Energy Economics, Policy & Assessment and Supply Chain Management.**
- Awarded **Best Researcher Award** by NED University of Engineering & Technology in 2023.
- Awarded **Best Teacher Award** by NED University of Engineering & Technology in association with **NED Alumni Association of Southern California (NEDAASC)** in 2022.

Awarded Funding

- Awarded funding on project titled, “**Design and Fabrication of Vertical Axis Wind Turbine (VAWT) using Magnetic Levitation (MagLev)**” by NED Alumni Association of Southern California (NEDAASC).

Published/Accepted Manuscript

- 1) **Talha Bin Nadeem**, A. Ahmed, M. Saad, and A. A. Naqvi, “Design and Optimization of Off-Grid Solar PV and Biomass-based Hybrid Renewable Energy System (HRES) for electrification of a rural community in Tharparkar, Pakistan”, **Environment, Development and Sustainability**, 2024.
- 2) **Talha Bin Nadeem**, M. A. Siddiqui, and M. Asif, “Distributed energy Generation: A review of Classification, Technologies, Applications, and Policies”, **Energy Strategy Reviews**, Volume 48, pp. 101096, 2023.
- 3) Asad A. Naqvi, **Talha Bin Nadeem**, Ahsan Ahmed, and Faaz Ahmed Butt, “Effective utilization of solar energy for the production of green Hydrogen from Photovoltaic powered electrolyzer”, **Journal of Testing and Evaluation**, Volume 52 (1), 2023.
- 4) A. A. Naqvi, A. Ahmed, **Talha Bin Nadeem**, L. A. Khan, and I. Ul Ahad, “Energy and stress analysis of a hybrid photovoltaic thermal module”, **Case Studies in Thermal Engineering**, Volume 47, pp. 103114, 2023.
- 5) **Talha Bin Nadeem**, A. Ahmed, A. A. Naqvi, M. Saad, A. A. Abbasi, S. M. Usama Arshad, and F. 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**, Volume 47, pp. 9019-

9041, 2022.

- 6) A. Ahmed, **Talha Bin Nadeem**, A. A. Naqvi, M. A. Siddiqui, M. H. Khan, M. S. B. Khalid, and S. M. Ammar, "Investigation of PV utilizability on university buildings: A case study of Karachi, Pakistan", **Renewable Energy**, Volume 195, pp. 238-251, 2022.
- 7) **Talha Bin Nadeem**, A. A. Naqvi, and A. Ahmed, "Suitable Site Selection for Ocean Thermal Energy Conversion (OTEC) systems – A case study for Pakistan", **TECCIENCIA**, Volume 17 (33), pp. 35-48, 2022.
- 8) A. A. Naqvi, A. Ahmed, **Talha Bin Nadeem**, Talha, M. H. Tariq, R. A. Abbasi, and M. A. R. Siddiqui, "An effective and simplified method to select the working fluid for waste heat recovery based Organic Rankine Cycle", **TECCIENCIA**, Volume 17 (33), pp. 23-33, 2022.
- 9) A. A. Naqvi, **Talha Bin Nadeem**, and A. Ahmed, "Designing of an off-grid Photovoltaic system for a remote location", **TECCIENCIA**, Volume 16 (31), pp. 15-28, 2021.
- 10) A. A. Naqvi, **Talha Bin Nadeem**, A. Ahmed, and S. A. A. Zaidi, "Techno-economic design of grid-tied PV system for a residential building", **Advances in Energy Research**, Volume 8 (1), pp. 59-71, 2021.
- 11) A. Ahmed, A. A. Naqvi, **Talha Bin Nadeem**, and M. Uzair, "Experimental investigation of dust accumulation on the performance of the photovoltaic modules: A case study of Karachi, Pakistan", **Applied Solar Energy**, Volume 57 (5), pp. 370-376, 2021.
- 12) A. A. Naqvi, A. Ahmed, and **Talha Bin Nadeem**, "Efficiency improvement of photovoltaic module for air cooling", **Applied Solar Energy**, Volume 57 (6), pp. 517-522, 2021.

Co-Supervised Independent Study Projects (Master's Thesis)

Thesis Title	Duration
Estimation of energy potential for harnessing wind energy using Offshore Wind Farm in Arabian Sea.	2022 (1 year)
Generalized Angstrom – Prescott coefficients and estimation of solar radiation using sky models for different regions of Pakistan.	2021-22 (1 year)

Supervised Undergraduate Senior Design Projects

Group ID	Project Title	Duration
G18-B2019	Design of steel structure gantry for filling of tank lorry with allied pipeline works	
G58-B2019	Design and feasibility study of solar powered carport for university campus parking	2022-23 (1 year)
G63-B2019	Energy generation forecasting of rooftop Photovoltaic (PV) system based on real-time data	
G14-B2018	Design and Feasibility study of the Solar Powered Carport for University Campus parking.	2021-22 (1 year)
G52-B2018	Techno-economic analysis of Rooftop Grid Tied PV System under Pakistan's net metering scheme using HOMER.	
G04-B2017	Designing of HVAC system for new workshop building of K-Electric in Korangi town gas turbine power station via HAP software.	2020-21 (1 year)
G21-B2017	Design and analysis of Shell and Tube type Heat Exchanger.	
G63-B2017	Designing and fabrication of Vertical Axis Wind Turbine using MagLev.	
G47-B2016	Design of HVAC System for Latifa Hospital (UAE).	2019-20 (1 year)

Industrial Work Experience

- Sept 2015 - Dec 2018** | **Maintenance Engineer – Maintenance Department
National Refinery Limited**
- Responsible for the complete maintenance activities of Boiler & its Auxiliaries including **preventive & break-down maintenance**.
 - Responsible for conducting Boiler **Annual Shutdown**.
 - Maintenance & trouble shooting of Rotary equipment such as **Centrifugal Pumps, Reciprocating & Screw Compressors** as well as Stationary equipment such as **Heat Exchangers, Cooling Towers & Storage Tank**.
- Apr 2015 – Sept 2015** | **Trainee Engineer – Maintenance Department
Auvitronics Limited**
- Make the **Preventive Maintenance Schedule** of the Port Qasim plant **Injection Molding machines**, its accessories & other Utilities equipment such as **compressors, boiler, chillers, cooling towers** and **AHU Systems**.
 - Designing of the **layouts** of the existing & under construction building in Port Qasim plant.
 - Estimation, preparation and assignment of the resources such as **manpower, materials, consumables, equipment, tools, etc.**, required for all mechanical and related works prior to execution.

Certifications

- Dec 2019 – Feb 2020** | **Certified course of Web Engineering
NED University of Engineering and Technology**
- Web development using HTML, CSS, and jQuery.
- June 2012** | **Certified Course of Unigraphics NX8
NED University of Engineering and Technology**
- 2D/3D modeling of different metal, plastic parts and design of sheet metal parts.
 - Draft technical drawing of designed parts with geometric tolerances.

Computer Skills

Renewables Energy Software	HOMER, RETScreen, PVsyst and PV*SOL
Programming Software	MATLAB and MS Visual Studio Web Development
Designing Software	Unigraphics NX8
Statistical Software	Minitab and SPSS

Language Skills

Urdu (Native) and English (Fluent)

Interest/Hobby



Cricket



Video Games



Music