

JUWAIRIA ASAD

LECTURER, DEPARTMENT OF CIVIL ENGINEERING

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Objective

To explore academic prospects that will allow me to enhance my knowledge in the domain of structural engineering, conduct vital research, and optimize my competency in the discipline.

Research Interests

Mechanics of Materials | FEM | Structural resilience against fire and blast | Strengthening and Retrofitting of Existing structures | Fracture Mechanics of Composites | Durability of Building Materials |

Education

- **NED University of Engineering & Technology, Karachi, Pakistan** **2022**
Master of Engineering (Civil) in Structural Engineering
Thesis: Reinforced Concrete Slabs under Blast Loading
CGPA: 3.96/4.0
- **NED University of Engineering & Technology, Karachi, Pakistan** **2017**
Bachelor of Engineering (Civil)
Final Year Project: Behaviour of Concrete made up of Recycled Aggregates
CGPA: 3.676/4.0 (7th out of 270)
- **Hamdard College of Science & Commerce, Karachi, Pakistan** **2013**
HSC (Pre-Engineering)
Aggregate Marks: 83%
- **Hamdard Public School, Karachi, Pakistan** **2011**
SSC (Science)
Aggregate Marks: 89%

Professional Experience

- **Lecturer** [March 2023 - present]
Department of Civil Engineering, NEDUET, Karachi, Pakistan
Responsibilities:
 - Delivering structural design and detailing to undergraduate students using a combination of hands-on activities and software tools.

- Supervising final-year design projects evaluating structural behaviour using composites.
- Courses taught: **Engineering Drawing I & II**

- **Part Time Teacher** [October 2022 - February 2023]
Department of Civil Engineering, NEDUET, Karachi, Pakistan
Responsibilities:
 - Taught core mechanics courses and assisted undergrad students in experimentation and data analysis.
 - Courses taught: **Mechanics of Solids** (Practical), **Statics and Dynamics** (Practical)
- **Teacher Partner** [August 2020 - November 2020]
Dot & Line Centre, Karachi, Pakistan
Responsibilities:
Helped high school students develop their Mathematics and English language skills.
- **Junior Design Engineer** [December 2018 - February 2019]
Exponent Engineers Pvt. Ltd, Karachi, Pakistan
Responsibilities:
Designed and determined the stability of Telecommunication towers.
- **Internee** [May 2016 – June 2016]
Department of Urban Engineering, NEDUET, Karachi, Pakistan
Responsibilities:
 - Traffic Data Analysis (Analysed the amount of traffic on major arterials in Karachi, specifically in the fast lane)
 - ARC GIS (worked on major arterials in Karachi)

Skills and Competences

Software: Finite Element, ABAQUS, Python, Mathematica, MATLAB, CSI SAP, Autodesk AutoCAD, Autodesk Revit | **Microsoft Office Tools:** Word, Excel, PowerPoint | **Laboratory:** Data acquisition, Handling and testing of scaled structural members, Mechanical properties of Reinforced Concrete, Fracture Mechanics | **Personal Strengths:** Excellent English language skills; clear in verbal communication, presentation and good academic writing, Adaptability, Avid learner and problem solving, Time Management, Leadership.

Publications

- Fareed, S., Asad, J. & Khan, AuR. Simulation of Reinforced Concrete Slabs in Residential Buildings Under Internal Gas Blast. Arab J Sci Eng (2024).
<https://doi.org/10.1007/s13369-024-09100-8>.
- Numerical Investigation of Post Blast RC Slabs Strengthened with Textile Reinforced Mortar [presented in 12th International Conference on Fiber-Reinforced Polymer (FRP) Composites in Civil Engineering (CICE 2025)]
- Post Blast Behaviour of Damaged Reinforced Concrete Slabs Strengthened/ Retrofitted with NSM bars [accepted for RILEM Spring Convention & Conference on Innovative Construction Materials and Processes for Sustainable Buildings and Infrastructure 2026]

- Experimental and FEM studies of RC beams strengthened with Taperan FRP in Flexure (**in preparation**)
- Experimental and FEM studies of RC beams strengthened with Taperan FRP in Shear (**in preparation**)

Undergraduate Final Year Projects Supervised

- Numerical Investigation of Slum units under Internal Blast Loading (2024)
- Strengthening of Reinforced Concrete Beams in Flexure using Taperan FRP (2025)
- Strengthening of Reinforced Concrete Beams in Shear using Taperan FRP (2025)

Achievements

- Achieved IELTS band 7.5 in 2024.
- Received SINDH-HEC “Indigenous Scholarship for Students of MS / M.Phil. & Ph.D of Public / Private Sector Universities 2021-2022.
- Secured 7th position in Bachelors.
- Received monthly Hakim Mohammed Said Memorial Scholarship [2011-2013] for outstanding performance. [awarded by Hamdard Foundation Pakistan]
- Acknowledged as ‘**Star Laureate 2011**’ in the GALAXIES OF WHO’s WHO IN PAKISTAN 2011.
- Secured **Honorary Mention** and global village runners-up in NEDMUN III.

Certifications

- Traffic Data Analysis (05/2016 - 07/2016)
- Concretary Competition NED (runners-up) [ACI NEDUET Students Chapter] (2016)
- Certificate for AUTOCAD (2014)
- 20th Intra Board Science Essay Competition Karachi (2nd Position) (2011)