Fatima Khalid

Assistant Professor in Civil Engineering Department, NEDUET
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Academic Qualification

2023	**PhD** Civil Engineering from NEDUET, Karachi	**3.95 CGPA**
2017	**ME** Structural Engineering from NEDUET, Karachi	**3.96 CGPA**
2013	**BE** Civil Engineering from NEDUET, Karachi	**87.01% (2nd position)**

Experiences

2023	**Assistant Professor** at Dept. of Civil Engineering, NEDUET, Karachi
2016-2023	**Lecturer** at Department of Civil Engineering, NEDUET, Karachi
2014-2016	**Research Assistant** at Dept. of Earthquake Engineering, NEDUET, Karachi
2014	**Bridge Design Engineer** at AA Associates, Karachi

Research Projects

2024-current	Disaster Resilience Improvement in Pakistan (DRIP) - Funded by HEC (78.94 M PKR) – (Co-PI) • Micro zonation of Karachi
2024	Repair cost for different building typologies in Pakistan affected through earthquake using HAZUS
2020-2023	Artificial Intelligence based constitutive modelling of recycled aggregate concrete (PhD Research) • ANN modelling through MatLAB and Python • Constitutive modelling through FORTRAN • Experiments to study mechanical properties of RAC, structural components testing in lab
2018-2020	Multiple seismic assessment were conducted for different textile industries throughout the country
2015-2016	Seismic Assessment of more than 250 schools, a project initiated by Aga Khan Planning and Building Services, Pakistan (AKPBS,P) • Tier 1, 2 and 3 assessments through ASCE-31-03 • Modelling through Etabs • Physical assessment checklist
2015-2017	Vulnerability Assessment of Masonry Infilled RC Structures (ME Research) • Macro-modelling through Seismostruct • Fragility curves of existing structures in Karachi
2012-2013	Development Of Groundmotion Attenuation Relationship Using Worldwide Seismic Data (BE research)

Certifications

Life Time Member	IEP (Institute of Engineers Pakistan)
July 2024	PEC Registered as Professional Engineer
October 2014	PEC Registered as Registered Engineer

Research Publication

1. **KHALID, F**., Khan, A. U. R., & Fareed, S. (2025). Pre-and post-peak stress-strain response of recycled aggregate concrete: Experimental and numerical investigation. Computers and Concrete, 35(5), 483-495.
2. **KHALID, F**., Khan, A. U. R., & Fareed, S. (2025). Estimation of parameters for constitutive modelling of recycled aggregate concrete using artificial neural networks. Engineering Computations, 42(4), 1471-1501.
3. **KHALID, F.** & Razbin, M. (2024). Modeling peak ground acceleration for earthquake hazard safety evaluation. Scientific Reports 14, 31032.
4. Khan, A. U. R., Fareed, S., & **Khalid, F.** (2024). Simulation of Reinforced Recycled Aggregate Concrete Frames Subjected to Seismic Loading. Arabian Journal for Science and Engineering, 1-15.
5. Khan, AuR., Fareed, S., **Khalid, F.** (2023). Behaviour of Reinforced Recycled Aggregate Concrete Beams Subjected to Torsional Loading. In: Ilki, A., Çavunt, D., Çavunt, Y.S. (eds) Building for the Future: Durable, Sustainable, Resilient. fib Symposium 2023. Lecture Notes in Civil Engineering, vol 349. Springer, Cham.
6. **KHALID, F**., & Masood, S. **(**2022) Review Of Infill Wall Modelling Techniques: Macro And Micro Models. In *4th Conference on Sustainability in Civil Engineering (CSCE'22) 31st August 2022, Islamabad, Pakistan*
7. Mohammad, A.F., **KHALID, F.**, & Khan, R.A. (2022). Finite element micro-modelling of RC frames with variant configurations of infill masonry. Structural Engineering and Mechanics, An International Journal, 81(4), 395-409.
8. **KHALID, F.**, Khan, A. U. R., & Fareed, S. (2021). Elasto-Damage constitutive modelling of recycled aggregate concrete. Computers and Concrete, An International Journal, 28(1), 13-23. https://doi.org/10.12989/cac.2021.28.1.013
9. Khan, M.S. & **KHALID, F.** (2019). Comparison Of Inelastic Modeling Techniques Using Static Pushover Analysis And Non-Linear Time History Analysis *In Proceedings of First South Asia Conference on Earthquake Engineering (SACEE'19) 21-22 February 2019, Karachi, Pakistan*
10. Mohammad, A.F., **KHALID, F.**, Dahar, A.B., & Rafi, M.M. (2019). Performance Evaluation Of Reinforced Concrete Buildings With Smrf And Brb Framed Structural Systems *In Proceedings of First South Asia Conference on Earthquake Engineering (SACEE'19) 21-22 February 2019, Karachi, Pakistan*
11. Kumar, M., **KHALID, F.**, Ahmad, N. (2018). Macro-Modelling Of RC Frame Infilled With Weak Masonry For Seismic Action. *Ned University Journal of Research - Structural Mechanics,* 15(1), 15- 38.
12. Kumar, M., **KHALID, F.**, Afreen, R., & Lodi, S. (2017). Fragility Functions of Low-Rise Reinforced Concrete Structures With And Without Infill Walls. *Ned University Journal of Research - Structural Mechanics, 14(3),* 57-76
13. Kumar, M., **KHALID, F.**, Afreen, R., & Lodi, S. (2017). Gross and Yield Period of Vibration of Low- Rise Reinforced Concrete Frames in Karachi. *Sindh University Research Journal-SURJ (Science Series), 49*(3), 547-552.

Workshops/Conferences/Courses

- Organized two week course on "***Disaster Resilient Structures***" on 22nd April 2024- 3rd may 2024 organized by NED, COMSTECH and Russian association of earthquake engineering.
- Attended one-day short course on "**Retrofitting at Earthquake affected structures**" on March 08, 2024 at NEDUET
- Reviewer for **"14th International Civil Engineering Conference"** held on 15-16th November 2024
- Reviewer for **"Technology Enabled Civil Infrastructure Engineering & Management**

Conference" held on 15-16 December 2023

- Attended UNOPS seminar on "**GHAR: Green housing, affordable, resilient challenges and opportunities**" November 2023
- Completed 15 hr non-credit course on "**Machine Learning**" offered by Neurocomputation Lab, National center of Artificial Intelligence, NEDUET, Karachi in 2021
- Attended online **"XVI International Conference on Structural Repair and Rehabilitation CINPAR2020"** organized by FEUP (Portugal), IC (Portugal), CONSTRUCT (Portugal) and UVA (Brazil), on 13th to 15th of July 2020 (14 hours)
- Seminar on ***Building Conservation by Mr Randolph Langenback*** in Karachi at NEDUET on 5th March 2019
- Organizer at "***10th International Civil Engineering Conference***" held at IEP, Karachi on 23rd and 24th February 2019
- Organizer at "***1st South Asian Conference on Earthquake Engineering-SACEE 2019***" held at Karachi on 21st and 22nd February 2019
- Workshop on "***Performance Based Structural Design of Tall Buildings***" held at Department of Civil Engineering, NEDUET on 20 and 21st April 2018
- TC-22 National Workshop on "***Retrofitting and Strengthening of Existing Structures/Infrastructures***" held at NEDUET on 23rd and 24th February 2018
- Organizer at "***9th International Civil Engineering Conference***" held at IEP, Karachi on 22nd and 23rd December 2017
- Seminar on "***Performance Based Design of Tall Building***" organized by NED and AIT Thailand held on 24th November 2017
- Seminar on "***Shaking Table Test of Buckling Resistant Bracing (BRB) system***" held at Department of Earthquake Engineering, NEDUET on 13th May 2017
- Workshop on "***Recent Advancement in Earthquake Engineering and Seismology in South Asian Countries***" held at NEDUET on 9-10 August 2016
- Seminar on "***Strengthening & Seismic Retrofitting of RC and Masonry Structures with FRP and TRM: Behaviour and Design***" held at IEP on 29th March 2016

Technical Skills

- **Engineering Tools:** AutoCAD, REVIT, CSI Package (SAP, Etabs, SAFE), Response 2000, MATLAB, ATENA 3D, SPSS, SeismoSignal, SeismoStruct
- **Office Automation**: MS Word, MS Excel, MS Power point, MS Project, MS Access
- **Language:** Fortran, Python

References

- **Prof. Dr. Asad-ur-Rehman Khan**
  Dean, Department of Civil Engineering, NEDUET, Pakistan
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- **Dr. Shamsoon Fareed**
  Associate Professor, Department of Civil Engineering, NEDUET, Pakistan
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