Curriculum Vitae

FAWAD AHMED NAJAM

Department Address: Office No. 118, NIT Building, NUST Institute of Civil Engineering (NICE), School of Civil and Environmental Engineering (SCEE), National University of Sciences and Technology (NUST), H-12, Islamabad

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1. Personal

Gender	Male
Nationality	Pakistani
Date of Birth	9th January 1988
Marital Status	Married
Number of Children	2
Permanent and Contact Address	MM-11, Isra Apartments, NUST, H-12, Islamabad, Pakistan

2. Qualification

Doctor of Engineering in Structural Engineering (October 2017)
School of Engineering and Technology (SET), Asian Institute of Technology (AIT), Thailand
Thesis Title: Evaluation of nonlinear seismic demands of high-rise RC shear wall buildings using simplified analysis procedures

Master of Engineering in Structural Engineering (August 2011)
Department of Structural Engineering, National University of Sciences and Technology (NUST), Pakistan
Thesis Title: Development of strength vs. water-to-cement ratio relationships for concretes made with various types of cements and proposing a mix design method for Pakistan

Bachelor of Science in Civil Engineering (August 2009)
Department of Civil Engineering, University of Engineering and Technology, UET Taxila, Pakistan
Thesis Title: Computer-aided structural design and analysis of OPF college building located at Gujrat, Pakistan

3. Work Experience

Assistant Professor [Full Time] October 2017 - Present
NUST Institute of Civil Engineering (NICE) Islamabad, Pakistan
National University of Sciences and Technology (NUST), Pakistan

Job Description:
I am serving as Assistant Professor at NUST, Pakistan since October 2017. My primary job responsibilities include teaching several undergraduate and graduate level courses, and supervising undergraduate and graduate thesis students. I have also conducted several research and consultancy projects during last 2 years.

Structural Engineer December 2014 - October 2017
AIT Solutions, Thailand Bangkok, Thailand

Job Description:
During my PhD, I worked as structural engineer in a constituent organization (AIT Solutions) of my university. My primary job responsibilities included review of dynamic structural analysis for high-rise building projects and seismic performance evaluation of existing buildings. During this job, I also worked with the software development team working on the enhancement of CSI ETABS 2013, development of CSI Plant and the testing of several structural engineering software. I also remained involved in conducting trainings for practicing engineers related to nonlinear modeling of structures.

Teaching Assistant August 2012 - December 2014
School of Civil and Environmental Engineering (SET) Bangkok, Thailand
Asian Institute of Technology (AIT), Thailand

Job Description:
The job responsibilities included helping my research advisor in his postgraduate and undergraduate courses at SET, AIT. I was also involved in conducting several laboratory experiments for research and curricular activities. I worked together with several thesis students to help achieve their research objectives.

Laboratory Engineer August 2010 - August 2011
NUST Institute of Civil Engineering (NICE) Islamabad, Pakistan
National University of Sciences and Technology (NUST), Pakistan

Job Description:
The job responsibilities included teaching basic courses at undergraduate level. During this job, I was the in-charge of structural engineering laboratory at NUST. I also remain involved in material testing of indigenous construction materials in Pakistan.

Junior Lecturer August 2009 - August 2010
Department of Civil Engineering Wah Cantt, Pakistan
Swedish College of Engineering and Technology (SCET), Pakistan

Job Description:
The job responsibilities included teaching elementary courses at undergraduate level. During this job, I was also the in-charge of structural engineering laboratory at SCET.

Course Instructor June 2009 - August 2009
Department of Civil Engineering Taxila, Pakistan
University of Engineering and Technology, UET Taxila, Pakistan

Job Description:
It was a short-term job offered by my university. It was my first regular job. The responsibilities included conducting short training courses for undergraduate students related to the use of several software in civil engineering.

4. Research Interests and Involvements

a) My research interests include structural dynamics, earthquake engineering, performance-based seismic assessment and design of structures, numerical analysis, seismic hazard analysis, disaster resilience and vulnerability assessment, nonlinear modeling of structures, finite element programming, and software development.

b) Member of the core group and taskforce formulated by the Pakistan Engineering Council (PEC) for the updation of the Building Code of Pakistan (BCP 2007): I am currently working with PEC's following three working groups and sub-committees.

   i) PEC Working Group 1: To conduct an updated probabilistic seismic hazard assessment of Pakistan and develop the updated seismic hazard maps.
   ii) PEC Working Group 2: To develop an updated equivalent static seismic analysis and design procedure for Pakistan.
   iii) PEC Working Group 6: To develop guidelines and recommendations for the retrofit of existing masonry buildings in Pakistan.

c) Member of the PEC committee and working group for developing the standards and specifications for low-prefabricated cost units in Pakistan (under the Naya-Pakistan Housing Scheme).

5. Computational Skills

Program Development	MATLAB, Visual Basic.NET
Structural Engineering	Well Conversant with various finite element modeling and analysis software including SAP 2000, PERFORM 3D, ETABS, ABAQUS CAE, OPENSEES and Ruaumoko 2D.

6. Academic Awards

1. Represented Pakistan in 46th International Mathematical Olympiad (IMO 2005) in Merida, Yucatan, Mexico
2. Won Higher Education Commission (HEC) Scholarship for PhD studies at Asian Institute of Technology (AIT), Thailand. 4.00/4.00 CGPA.
3. Won NUST Indigenous Scholarship for Masters Degree Program at National University of Sciences and Technology (NUST), Islamabad, Pakistan
4. Selected in top 6 students from all over Pakistan after competing in a series of Camps held in School of Mathematical Sciences (SMS), Government College University (GCU), Lahore, Pakistan
5. Got top position in Design Phase of Humanitarian Shelter Design Contest (HSSDC) organized by American Society of Mechanical Engineers (ASME), in 2008
6. Won Pakistan Ordnance Factories (POF) Merit Scholarship twice for Matriculation (2001-2003) and FSc. (2003-2005)
7. Won University Merit Scholarship thrice in BSc. Civil Engineering (2005-2009)
8. Selected first in top 15 Students from all over Pakistan in Aptitude tests of STEM Careers Project held by Higher Education Commission (HEC) and Pakistan Atomic Energy Commission (PAEC)
9. Have the Honor of Attending the 1st meeting of Nobel Laureates with Pakistani Students/Young Scholars in Islamabad (March 27-31, 2006)

7. Research & Consultancy Projects

1. **Non-destructive Testing of Damaged Foundation of Siemens Steam Turbine (G-13 for 415 MW CCPP TPS) Located at Guddu Power Station, District Kashmore, Pakistan.**
   Role: Principal Investigator
   Client: National Engineering Services Pakistan (NESPAK)
   Scope: To perform the detailed on-site non-destructive testing and assess the material degradation (e.g., concrete and steel strengths, rebar layout and corrosion, forensic evaluation of damaged foundation structure). The determination of vibration properties of the structure (natural time periods and mode shapes) using the eccentric mass vibrator (EMV) was also included in the scope.
   Grant: 2.4 Million PKR
   Duration: 03 Months, Project Status: Complete (Year 2021)

2. **Structural Evaluation and Retrofit Design of an Overhead Water Tank (50,000 gallons) at Falcon Complex, Rawalpindi, Pakistan.**
   Role: Principal Investigator
   Client: Pakistan Air Force (PAF), Rawalipindi, Pakistan
   Scope: To perform the detailed on-site non-destructive testing and design a strengthening scheme for the overhead water tank (with a capacity of 50,000 gallons) at falcon complex, Rawalpindi, Pakistan. The testing, structural evaluation, development of BOQ, tender documents and drawings were also included in the scope.
   Grant: 1.0 Million PKR
   Duration: 02 Months, Project Status: Complete (Year 2021)

3. **Site-specific Probabilistic Seismic Hazard Analysis (PSHA) of Apartments Site under Naya Pakistan Housing Scheme, Islamabad, Pakistan.**
   Role: Principal Investigator
   Client: Faisal Margalla City, Islamabad, Pakistan
   Scope: To perform the detailed PSHA for this site and determine the ground motion parameters and seismic analysis inputs for the design of 3 apartment buildings (each 25-storey high).
   Grant: 0.9 Million PKR
   Duration: 02 Months, Project Status: Complete (Year 2020)

4. **Performance-based Seismic Evaluation of Existing High-rise Buildings in Pakistan.**
   Role: Principal Investigator
   Funding Agency: Higher Education Commission (HEC), Pakistan
   Scope: A comprehensive performance-based seismic assessment of existing buildings stock in Rawalpindi and Islamabad cities of Pakistan using nonlinear dynamic analysis procedure.
   Grant: 0.45 Million PKR
   Duration: 12 Months, Project Status: Complete (Year 2020)

5. **Site-specific Probabilistic Seismic Hazard Analysis (PSHA) and its Design Implications at Pakistan Gulpur Hydropower Project, District Kotli, AJK.**
   Role: Principal Investigator
   Client: Daelim-Lotte, South Korea
   Scope: To provide an expert opinion on the level of seismic hazard considered in the design of main dam structure, weir structure and power plant.
   Grant: 1.275 Million PKR
   Duration: 02 Months, Project Status: Complete (Year 2019)

6. **Material- and Component Level Evaluation and Testing of Baltit Fort, Hunza, Pakistan.**
   Role: Principal Investigator
   Client: AIT Solutions, Thailand
   Scope: To provide consulting services for detailed testing of Baltit fort, Pakistan. To perform lateral reversed-cyclic testing of masonry units, columns and other components constructed using cribbage system.
   Grant: 1.2 Million PKR
   Duration: 04 Months, Project Status: Complete (Year 2018)

7. **Finite Element Analysis of 3-D Masonry Structures for Crack Prediction using Continuum and Discrete Models.**
   Role: Co-Principal Investigator
   Funding Agency: Higher Education Commission (HEC), Pakistan
   Scope: To perform a detailed structural analysis for identifying the typical failure modes of load-bearing and non-load-bearing masonry walls in Pakistan.
   Grant: 0.45 Million PKR
   Duration: 12 Months, Project Status: Complete (Year 2020)

8. **Assessing Physical and Infrastructural Vulnerability to Urban Flooding: A Case Study of Pakistan.**
   Role: Co-Principal Investigator
   Funding Agency: Higher Education Commission (HEC), Pakistan
   Scope: To evaluate the physical vulnerability of building structures against floods in Rawalpindi and Islamabad cities of Pakistan.
   Grant: 0.30 Million PKR
   Duration: 12 Months, Project Status: Complete (Year 2020)

9. **Gap Analysis of NDMA's Institutional Capacity in Disaster Preparedness and Response.**
   Role: Team Member
   Client: National Disaster Management Authority (NDMA), Pakistan
   Scope: To identify the areas which need an enhancement in NDMA's capacity to improve disaster preparedness and response.
   Grant: 3.1 Million PKR
   Duration: 04 Months, Project Status: Completed

10. **Structural Performance Based Evaluation of Shangri-La at The Fort, Philippines.**
    Role: Team Member
    Client: Sy^2 Associates, Inc., Philippines

Scope: To perform nonlinear dynamic analysis of the 61-storey building.
Duration: 06 Months, Project Status: Complete (Year 2013)

11. **Testing and Evaluation of CSI ETABS 2013.**
    Role: Team Member
    Client: ACECOMS Thailand, Computers and Structures Inc. (CSI), USA
    Scope: To test various functionalities (especially connection and foundation design modules) of CSI ETABS 2013 and compare its results with other commercial software.
    Duration: 06 Months, Project Status: Complete (Year 2013)

12. **Testing and Evaluation of CSI PLANT.**
    Role: Team Member
    Client: ACECOMS Thailand, Computers and Structures Inc. (CSI), USA
    Scope: To test various functionalities (especially connection and foundation design modules) of CSI PLANT and compare its results with other commercial software.
    Duration: 06 Months, Project Status: Complete (Year 2015)
13. **Probabilistic Seismic Hazard Assessment for Metro Manila, Philippines.**
    Role: Team Member
    Client: Sy^2 Associates, Inc., Philippines
    Scope: To perform the probabilistic seismic hazard assessment for Metro Manila, focusing on determining appropriate earthquake ground motion parameters for the seismic design of high-rise buildings located in Metro Manila, Philippines.
    Duration: 12 Months, Project Status: Complete (Year 2013)

14. **Strategy and Master Plan for Disaster Risk Reduction of Schools in Nepal: Capacity Development for School Sector Program Implementation.**
    Role: Team Member
    Client: Asian Development Bank, Nepal Resident Mission
    Scope: To develop a comprehensive plan and propose retrofit strategies for school buildings in Nepal for effective disaster risk reduction.
    Duration: 12 Months, Project Status: Complete (Year 2014)

15. **Seismic Assessment and Mitigation of Seismic Risk in Bangkok, Thailand.**
    Role: Team Member
    Client: Bangkok Metropolitan Administration (BMA), Bangkok, Thailand
    Scope: To conduct the detailed performance-based evaluation of six high-rise buildings (20, 27, 29, 33, 38 and 44 story mixed occupancy buildings in Bangkok, Thailand.
    Duration: 24 Months, Project Status: Complete (Year 2015-2017)

16. **Structural Analysis and Design of Flyover Bridge at Okokomaiko, Lagos, Nigeria.**
    Role: Team Member
    Client: Advanced Engineering Consultants, Lagos, Nigeria
    Scope: To review the design and structural system of the Flyover Bridge at Okokomaiko, Lagos in terms of suitability of the selected structural system, cost effectiveness, efficient use of materials and other resources, conformance to the acceptable codes, with special emphasis on the effects due to all applicable demands.
    Duration: 12 Months, Project Status: Complete (Year 2013)

17. **Review of Draft Myanmar National Building Codes (MNBC).**
    Role: Team Member
    Client: Technical Working Group, Myanmar Engineering Society (MES), Myanmar
    Scope: To review and develop guidelines for incorporating environmental sustainability and disaster resilience into Myanmar National Building Code (MNBC).
    Duration: 12 Months, Project Status: Complete (Year 2012)

18. **In-situ Health Assessment and Load Test of a Pre-stressed Concrete Bridge in District Sialkot, Pakistan.**
    Role: Team Member
    Client: Provincial Highway Division, Local Government Authority, District Sialkot, Pakistan
    Scope: To perform a comprehensive in-situ health assessment and numerical modeling of an existing bridge and determine the existing factor of safety of the structure.
    Duration: 04 Months, Project Status: Complete (Year 2011)

8. Publications

8.1. Books and Book Chapters

1. Anwar N., and **Najam F. A.** "Structural Cross-sections: Analysis and Design", 1st Edition. ISBN: 9780128044438, Publisher: Elsevier, Butterworth-Heinemann, 2016
   (Details: www.amazon.com/Structural-Cross-Sections-Analysis-Design/dp/0128044438)
2. **Najam F. A.** "Nonlinear Static Analysis Procedures for Seismic Performance Evaluation of Existing Buildings – Evolution and Issues", Sustainable Civil Infrastructures: Innovative Infrastructure Geotechnology: Facing the Challenges in Structural Engineering, ISBN 978-3-319-61913-2, DOI: 10.1007/978-3-319-61914-9, July, 2017.
3. Suhail S. A., **Najam F. A.**, Nawaz A. "Modeling and Analysis of Soil-Pile Interaction for Dynamic Loading- A Review", Sustainable Civil Infrastructures: Innovative Infrastructure Geotechnology: Soil Dynamics and Soil-Structure Interaction, ISBN 978-3-319-63542-2, DOI: 10.1007/978-3-319-63543-9, July, 2017.

8.2. Journal Articles

1. **Najam F. A.**, Warnitchai P., Qureshi M. I., Mehmood T. "Simplified Seismic Demand Estimation for Existing Tall Buildings in Thailand", Structures and Buildings, ISSN 0965-0911, E-ISSN 1751-7702, Volume 172 Issue 6, June, 2019, pp. 391-406, DOI: 10.1680/jstbu.16.00088. [Impact Factor: 0.877]
2. **Najam F. A.**, Qureshi M. I., Warnitchai P., Mehmood T. "Prediction of Nonlinear Seismic Demands of High-rise Rocking Wall Structures using a Simplified Modal Pushover Analysis Procedure", The Structural Design of Tall and Special Buildings, ISSN 1541-7808, Volume 27, Issue 15, 25 December 2018, John Wiley & Sons Ltd. DOI: 10.1002/tal.1506. [Impact Factor: 2.204]
3. **Najam F. A.**, Warnitchai P., Qureshi M. I., Mehmood T. "A Modified Response Spectrum Analysis Procedure to Determine Nonlinear Seismic Demands of High-rise Buildings with Shear Walls", The Structural Design of Tall and Special Buildings, ISSN 1541-7808, Volume 27, Issue 1, January 2018, John Wiley & Sons Ltd. DOI: 10.1002/tal.1409. [Impact Factor: 2.204]
4. Mehmood T, Qureshi M. I., **Najam F. A.**, Maqsoom A., Nawaz A., Salahuddin H., Tufail R. F. "New Nonlinear Modal Decomposition Method for Seismic Analysis of Tall RC Core Wall Buildings", Iranian Journal of Science and Technology, Transactions of Civil Engineering, E-ISSN 2364-1983, Springer Nature. 23 March 2020, DOI: 10.1007/s40996-020-00376-y. [Impact Factor: 0.8]
5. Rahman A., **Najam F. A.**, Zaman S., Rasheed A., Rana I. A. "An Updated Probabilistic Seismic Hazard Analysis of Pakistan", Bulletin of Earthquake Engineering, Springer. February 2021, DOI: 10.1007/s10518-021-01054-8. [Impact Factor: 2.602]
6. Rahman A., Rasheed A., **Najam F. A.**, Zaman S., Rana I. A., Aslam F., Khan S. "An Updated Earthquake Catalogue and Source Model for Seismic Hazard Analysis of Pakistan", Arabian Journal for Science and Engineering, Springer Berlin Heidelberg. February 2021, DOI: 10.1007/s13369-021-05439-4. [Impact Factor: 1.711]
7. Anwar N., Uthayakumar A. and **Najam F. A**. "Significance of Soil-Structure Interaction in Seismic Response of Buildings", NED University Journal of Research, Special Issue on First South Asia Conference on Earthquake Engineering (SACEE'19), Vol. 1, 2019. DOI: 10.35453/NEDJR-STMECH-2019-0004.

8. Thilakarathna S. N., Anwar N., Norachan P. and **Najam F. A.** “The Effect of Wind Loads on the Seismic Performance of Tall Buildings”, Athens Journal of Technology and Engineering - Volume 5, Issue 3 – Pages 251-276, DOI: 10.30958/ajte.5-3-3.
9. Rizwan S. A., Qureshi M. A., **Najam F. A.** “In-Situ Health Assessment of a Poorly Executed Pre-stressed In-Service Concrete Bridge and Suggesting a Rehabilitation Strategy - A Case Study”, Procedia Engineering, Vol. 54, 2013, PP 636-647, ISSN 1877-7058, DOI: 10.1016/j.proeng.2013.03.058.
10. **Najam F. A.**, Khushnood R. A., Rizwan S. A. “Paradigms for Employing Interactive Computing Tools and GUIs in Structural Engineering Problems”, International Journal of Engineering and Technology. PP 23-31, ISSN: 1793-823, DOI: 10.7763/IJET.2016.V6.853.

8.3. Journal Articles (Under Review)

11. Munir S., **Najam F. A.**, “Seismic Performance of Existing RC Buildings in Pakistan under Repeated Earthquakes”, Structures and Buildings, Institution of Civil Engineers, ICE Publishing. (under review)

8.4. Conferences

1. Suwal N., Warnitchai P. and **Najam F. A.** “Seismic Base Isolation of High-rise RC Shear Wall Building using Lead Core Rubber Bearings” Paper 19, NZSEE 2020 Annual Conference, New Zealand Society for Earhquake Engineering, April 2020, Wellington, New Zealand.
2. Anwar N., and **Najam F. A.** “How Latest Technological Advancements are Transforming the Structural Engineering Profession?”, 10th International Civil Engineering Conference (ICEC-2019) on Technological Transformation of Civil Engineering, February 2019, Karachi, Pakistan
3. **Najam F. A.,** Warnitchai P., Qureshi M. I. and Mehmood T. “A Simplified Modal Pushover Analysis Procedure based on Displacement Modification Approach”, 7th Asia Conference on Earthquake Engineering, 22-25 November 2018, Bangkok, Thailand.
4. Pandey S., Vasanthapragash N., Warnitchai P. and **Najam F. A.** “Development of Modal Hysteretic Model for the Seismic Response Analysis of Tall Buildings with RC Shear Walls”, 7th Asia Conference on Earthquake Engineering, 22-25 November 2018, Bangkok, Thailand.
5. Rajbhandari A. M., Anwar N., Castilo J. and **Najam F. A.** ”A Machine Learning-based Approach to the Preliminary Design of High-rise Buildings”, Thirteenth International Conference on Computational Structures Technology, September 2018, Barcelona, Spain.
6. Toe N. N. S., Anwar N., Aung T. H. and **Najam F. A.** “Seismic Loss Estimation of Nonstructural Components Based on Actual Parameters in High-Rise RC Shear Wall Buildings”, Australasian Structural Engineering Conference, September 2018, Adelaide, Australia.
7. Anwar N., Uthayakumar A. and **Najam F. A.** “Significance of Soil-Structure Interaction in Seismic Response of Buildings”, 7th Asia Conference on Earthquake Engineering, 22-25 November 2018, Bangkok, Thailand
8. Anwar N., and **Najam F. A.** “Composite Concrete Steel Constructions in Tall Buildings”, 1st International Conference on Concrete and Steel Technology Engineering and Design (CASTED), May 24-26, 2018, Manila, Philippines.
9. Hassan W., Anwar N., Norachan P. and **Najam F. A.** “The Seismic Performance Evaluation of RC High-rise Buildings Designed to Various Building Codes”, IABSE Conference – Engineering the Developing World, April 25-27 2018, Kuala Lumpur, Malaysia.
10. Anwar N., Muhammad A. I. and **Najam F. A.** “Construction Monitoring and Reporting using Drones and Unmanned Aerial Vehicles (UAVs)”, The Tenth International Conference on Construction in the 21st Century (CITC-10), July 2nd-4th, 2018, Colombo, Sri Lanka.

11. San H. S., Anwar N. and **Najam F. A.** “Optimum Span Length for Steel Composite Girder Expressway Bridges”, The Tenth International Conference on Construction in the 21st Century (CITC-10), July 2nd-4th, 2018, Colombo, Sri Lanka.
12. Rajbhandari A. M., Anwar N. and **Najam F. A.** “The use of Artificial Neural Networks (ANN) for the Preliminary Design of High-rise Buildings”, Eccomas Proceedia, 6th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2017), 15-17 June 2017, Pages 3949-3962, Rhodes Island, Greece.
13. **Najam F. A.** and Warnitchai P. “A Modified Response Spectrum Analysis Procedure to Determine Nonlinear Seismic Demands of High-Rise Buildings with Shear Walls”, 16th World Conference on Earthquake Engineering (16WCEE), Santiago Chile, January 9th-13th 2017, Paper No. 1468.
14. Warnitchai P., Mehmood T., Suwansaya P., **Najam F. A.** “Seismic Performance Evaluation of Tall Buildings using Modal Decomposition Approach”, 6th Asia Conference on Earthquake Engineering (6ACEE), September 22-24, 2016, Cebu City, Philippines.
15. **Najam F. A.** and Warnitchai P. “The Evaluation of Nonlinear Seismic Demands of RC Shear Wall Buildings using a Modified Response Spectrum Analysis Procedure”, Proceedings of the International Conference on Earthquake Engineering and Structural Dynamics (ICESD), 12-14 June 2017, Reykjavik, Iceland.
16. Zain M., Anwar N., **Najam F. A.** and Mehmood T. “A Simplified Methodology for Seismic Fragility Assessment of Reinforced Concrete High-rise Buildings”, Proceedings of the International Conference on Earthquake engineering and Structural Dynamics (ICESD), 12-14 June 2017, Reykjavik, Iceland.
17. Zar Oo C. T., Anwar N., Aung T. H., **Najam F. A.** “The use of Linear Time History Analysis (LTHA) instead of Response Spectrum Analysis (RSA) for the Seismic Design of High-rise RC Shear Wall Buildings”, The 15th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-15), 11-13 October 2017, Xian, China.
18. **Najam F. A.** and Warnitchai P. “A Modified Response Spectrum Analysis (MRSA) Procedure to Evaluate the Nonlinear Seismic Demands of Tall Buildings”, The 15th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-15), 11-13 October 2017, Xian, China.
19. Nirman S., Anwar N., Norachan P., **Najam F. A.** “Effect of Wind Loads on the Seismic Performance of Tall Buildings”, 2nd Annual International Conference on Structural Engineering and Mechanics, 9-22 June 2017, Athens, Greece.
20. Rajbhandari A. M., Anwar N. and **Najam F. A.** “The use of Artificial Neural Networks (ANN) for the Preliminary Design of High-rise Buildings”, 6th ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2017), 15-17 June 2017, Rhodes Island, Greece.
21. Anwar N. and **Najam F. A.** “Progression of Structural Design Approaches: Working Stress Design to Consequence-Based Engineering”, International Conference on Structural Engineering, ISCE - 2015, Society of Structural Engineers, Pages 13-25, Society of Structural Engineers, Sri Lanka, ISBN: 978-955-9347-17-8.
22. Anwar N., Aung T. H. and **Najam F. A.** “Smart Systems for Structural Response Control - An Overview”, 5th ASEP Convention on Concrete Engineering Practice and Technology (a. concept 16), May 19-20, 2016, Manila, Philippines.
23. Anwar N., **Najam F. A.**, Aung T. H. and Norachan P. “From Performance to Resilience A Recent Account of Seismic Design Philosophy”, 5th ASEP Convention on Concrete Engineering Practice and Technology (a. concept 16), May 19-20, 2016, Manila, Philippines.
24. **Najam F. A.**, Rizwan S. A. and Khushnood R. A. “Developing knowledge-based computational tools using MATLAB Novel applications in Concrete Materials Technology”, The second International Conference on Advances in Chemically-activated Materials (CAM 2014-China), E-ISBN: 978-2-35158-142-1, Pages 175-183, RILEM Publications, ISBN: 978-2-35158-141, Bagneux, France, 2014

25. **Najam F. A.**, Rizwan S. A. “Development and Automation of an Empirical Mix Proportioning Method for concretes with Indigenous Aggregates and Cements of Pakistan”, International conference on Advanced Concrete Technology & its Applications (ACTA-2012), Islamabad, Pakistan, 6-7 November 2012.
26. Rao A. K, Giuseppe A. F, Sajjad A. and **Najam F. A.** “A Comparative Study on Highway Bridge Barriers Reinforced with Steel And GFRP Bars”. 72nd Annual Session of Pakistan Engineering Congress, Paper No. 742, Pages 197-224, 2013.
27. Khushnood R. A, **Najam F. A.** and Sabir Z. A. “Retrofitting of Existing Columns of Buildings and Bridges Using Fiber Reinforced Polymer (FRP) Sheets”. The 8th Central European Congress on Concrete Engineering and Durability of Concrete Structures, Plitvice Lakes, Croatia, October 4th 6th 2012.

8.5. Public Education, Magazine Articles and Media-related Activities

1. I run a YouTube channel named “***Understanding Structures with Fawad Najam***” and frequently develop online learning content for my students and practicing engineers related to structural modeling, analysis and design.
2. I maintain an educational website named “***www.structurespro.info***” for public education in the areas of structural modeling, analysis, and design. This website also serves as a platform to disseminate my educational resources, online classes, and other related content.
3. **Najam F. A.** “The Science of Earthquakes”, MIT Technology Review (Pakistan), October 8, 2017, http://www.technologyreview.pk/the-science-of-earthquakes/
4. **Najam F. A.** “12 Years After the October Earthquake, Is Pakistan Prepared to Handle Another ‘Big One’?”, MIT Technology Review (Pakistan), October 8, 2017, http://www.technologyreview.pk/12-years-october-earthquake-pakistan-prepared-handle-another-big-one/
5. **Najam F. A.** “When will the next Big One Come?” Express News (in Urdu Language), October 18, 2017, https://www.express.pk/story/968021/
6. Anwar N. and **Najam F. A.** “A Well-kept Secret in Structural Design: Importance of Ductility in Structural Performance Analysis”, Technology - Asian Outlook on Engineering and Technology (M43-1215) published by AIT Solutions, AIT, ISSN 2286-9158, October 2017, Thailand.
7. Anwar N., **Najam F. A.** “Consequence-based Engineering Approach towards Earthquake Disaster Mitigation”, Technology - Asian Outlook on Engineering and Technology (M43-1215) published by AIT Solutions, AIT, ISSN 2286-9158, December 2015, Thailand.
8. Anwar N., Aung T. H., **Najam F. A.** “Smart Systems for Smart Structures”, Technology - Asian Outlook on Engineering and Technology (M44-1014-0215) published by AIT Solutions, AIT, December 2016, Thailand.
9. Anwar N., Aung T. H., **Najam F. A.** “From Prescription to Resilience: Innovations in Seismic Design Philosophy”, Technology - Asian Outlook on Engineering and Technology (M44-1014-0215) published by AIT Solutions, AIT, December 2016, Thailand.

8.6. Talks/Seminars/Non-refereed Publications

1. **Najam F. A.** “Are We Prepared Enough to Handle the Next “Big One”, International Seminar and Hands-on Training Workshop on Seismic Performance and Health Assessment of Structures, 18th September 2018, National University of Sciences and Technology (NUST), Islamabad, Pakistan.
2. **Najam, F. A.** “The Scope of Performance-based Design in Pakistan”, International Seminar and Workshop on Performance-based Seismic Design of Tall Buildings, 20th April 2018, NED University of Engineering and Technology (NEDUET), Karachi, Pakistan.
3. **Najam, F. A.** and Warnitchai, P. “A Modified RSA Procedure to Determine Nonlinear Seismic Demands of Buildings”, International Seminar on “Design of Tall Buildings: Trends and Advancements for Structural Performance”, 7-11 November 2016, Sofitel, Bangkok, Thailand.

4. **Najam, F. A.** and Warnitchai, P. “Estimating the Nonlinear Seismic Demands of High-rise RC Shear Wall Buildings using the MRSA Procedure”, International Seminar and Workshop on “Design of Tall Buildings” 24-25 April 2017, National University of Sciences and Technology (NUST), Islamabad, Pakistan.
5. **Najam, F. A.** Panel discussions on road and transport infrastructure in Jakarta, Indonesia. International Student Conference 2015 on “Sustainable Urban and Human Settlements: Creating a Smart City for All” 16-25 January, 2015. Bandung, Indonesia.
6. **Najam, F. A.** and Warnitchai, P. “A Modified Response Spectrum Analysis Procedure” Research Exhibition by the AIT Student Union at Conference Centre, November 2016, Asian Institute of Technology (AIT), Thailand.
7. **Najam, F. A.** and Warnitchai, P. “How safe are our buildings?” Research Exhibition by the AIT Student Union at Conference Centre, August 2015, Asian Institute of Technology (AIT), Thailand.

9. Teaching of Academic Courses

In last two years, I have taught following courses at undergraduate and graduate level at National University of Sciences and Technology (NUST), Islamabad, Pakistan. Student teaching evaluation reports for years 2018-2020 are shown in Appendix A.

1. Fall 2020, Fall 2019 – CE 809 – Structural Dynamics [MS]
2. Fall 2019 – CE 412 – Design of Concrete Structures [BS]
3. Spring 2021, 2020, 2019, 2018 – CE 897 – Performance-based Seismic Design of Buildings [MS]
4. Spring 2021, 2020, 2019, 2018 – CE 416 – Earthquake Engineering [BS]
5. Summer 2018 – CE 206 – Structural Analysis [BS]
6. Summer 2018 – CAD using CSI ETABS 2016 [BS]
7. Fall 2017 – CE 101 – Engineering Mechanics [BS]

10. Research Theses Supervision

I have supervised several undergraduate, graduate and PhD students in their thesis and research projects as part of my job responsibilities. A quick overview of some completed and on-going theses under my supervision is provided as follows.

10.1. Completed Dissertations (NUST, Islamabad, Pakistan)

Sr. No.	Degree	Student Name	Thesis Title	Start Year
1	MS	Zohaib Sattar Nagra	Performance-based Seismic Assessment of High-rise Buildings with Tubular Structural System	2016
2	MS	Atif Baloch	Probabilistic Seismic Hazard Assessment (PSHA) of Pakistan using Conventional Area Sources Model	2017
3	MS	Saima Munir	Effect of Repeated Earthquakes on the Seismic Performance of Mid-rise RC Shear Wall Buildings in Pakistan	2016
4	MS	Zeeshan Khan	Performance-based Seismic Assessment of Existing High-rise RC Shear Wall Buildings in Pakistan	2016
5	MS	Asad Ur Rehman	An Updated Probabilistic Seismic Hazard Assessment (PSHA) of Pakistan	2017

10.2. On-going Dissertations (NUST, Islamabad, Pakistan)

Sr. No.	Degree	Student Name	Thesis Title	Start Year
6	PhD	Junaid Shah Khan	Seismic Performance Evaluation of Low-rise Masonry Buildings made with Interlocking Compressed Earth Bricks (ICEBs)	2018
7	MS	Hafiz Zain Akram	Seismic Performance Assessment of Existing Mid- to High-rise Buildings in Pakistan using Modal Decomposition Techniques	2017
8	MS	Luqman Ahmed	Effect of Foundation Modelling and Soil-Structure Interaction (SSI) on the Seismic Response of Low- to Mid-rise Buildings	2017
9	MS	Usama Bin Naseem Kiani	Seismic Preparedness and Perceived Risk in AJK Region: Why Some People Take Precautionary Actions While Others Do Not?	2017
10	MS	Muhammad Touqeer	Development of a Proxy-based V_s^{30} Map of Pakistan and its Applications in Site-Response Analysis	2017
11	MS	Faheem Aslam	Development of an Online System for Selection and Processing of Ground Motions for Dynamic Analysis of Buildings in Pakistan	2017
12	MS	Haseeb Ahmed	Vibration-based Structural Health Assessment of RC Industrial Structures	2017
13	MS	Allah Yar Khan	Nonlinear and Equivalent Linear Modelling of Soil for Ground Response Analysis of Selected Sites in Pakistan	2018
14	MS	Hamza Mazhar	A Displacement-based Design Procedure for Low- to Mid-rise Buildings with Masonry Infill Walls in Pakistan	2018
15	MS	Ahmed Anas	An MATLAB-based Application for Static and Dynamic Analysis of 2D and 3D Structures	2018
16	MS	Muhammad Zubair Bashir	Scenario-based Seismic Loss Estimation in Pakistan using the HAZUS and FEMA P-58 Methodologies	2018
17	MS	Hassan Irfan	Nonlinear Modelling of Load-bearing and Non-load-bearing Masonry Walls in Low- to Mid-rise Buildings in Pakistan	2018

10.3. On-going Dissertations (AIT, Bangkok, Thailand)

Sr. No.	Degree	Student Name	Thesis Title	Start Year
18	PMTB	Samard Buddee	Seismic Performance Evaluation of High-rise RC Shear Wall Buildings using Modal Decomposition Approach	2020
19	PMTB	Kyaw Thu Naing	Optimization of Core Wall Design for Dynamic Response using Modal Separation Techniques	2020
20	PMTB	Robert Christopher Niebres	Seismic Performance Evaluation of High-rise RC Shear Wall Buildings using Multi-mode Pushover Analysis Procedures	2020
21	MS	John Lorenz Tuala	A Displacement-based Design Procedure for Low- to Mid-rise Buildings with Masonry Infills in Philippines	2019
22	MS	Dustin Glenn Cuevas	Systematic Assessment of Seismic Performance Factors of Code-Based Designed Reinforced Concrete Buildings	2019

10.4. External Examiner

I also serve as external examiner for thesis students studying at other universities. A list of some thesis dissertations which I have evaluated as examiner is as follows.

Sr. No.	Degree	Student Name	University	Thesis Title	Year
1	PhD	Hammad Raza (17-UET-PhD-CE-28)	University of Engineering and Technology (UET), Taxila, Pakistan	Liquefaction Potential of Local Soils in Sindh Region, Pakistan	2018
2	MS	Muhammad Usman Tarar (MCE173021)	Capital University of Sciences and Technology (CUST), Islamabad, Pakistan	Effect of Different Ground Motion Scaling Methods on Behavior of 40-story RC Core Wall Building	2020

11. Personal Interests

a. Developing online training content for my YouTube Channel (*Understanding Structures with Fawad Najam*)
b. Writing Blogs, Magazine Articles and Social Media Activities (*www.fawadnajam.com*)
c. Maintaining an educational website (*www.structurespro.info*)
d. Photography, Videography, Cinematography and related Art Fields
e. Tourism and Participation in Literary Activities, Competitions, Cultural Festivals etc.
f. Working with different Blood Donor Societies, A Devoted Regular Donor.

12. Referees

The contact details of my suggested referees are as follows. Prof. Pennung Warnitchai was my PhD supervisor at Asian Institute of Technology (AIT), Thailand. Dr. Naveed Anwar was the member of my PhD thesis committee. Prof. Syead Ali Rizwan was my MS Thesis supervisor at the National University of Sciences and Technology (NUST), Islamabad, Pakistan.

1. **Prof. Dr. Pennung Warnitchai**, Professor and Department Head of Civil and Infrastructure Engineering, Chair of Chapter on the effects of earthquakes and wind loads at the Engineering Institute of Thailand (EIT), School of Engineering and Technology (SET), Asian Institute of Technology (AIT), Klong Luang, Pathumthani, Thailand. Phone: (662) 524 5530, E-mail: pennung.ait@gmail.com, pennung@ait.ac.th
2. **Dr. Naveed Anwar**, Vice President (Knowledge Transfer). Director, Asian Center for Engineering Computations and Software (ACECOMS). Affiliated Faculty of Structural Engineering at Asian Institute of Technology (AIT), Pathumthani, Thailand. Phone: +(662) 524 6388, Email: nanwar@ait.ac.th, dr.naveedanwar@gmail.com
3. **Prof. Dr. Syed Ali Rizwan**, Professor of Civil Engineering, Department of Civil Engineering, National University of Computer and Emerging Sciences (FAST), Lahore, Pakistan. Phone: +923344255188, Email: syedalirizwan@hotmail.com, syed.ali@nu.edu.pk

13. Certification

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describe myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification.

Fawad A. Najam