

## Dr. M. Talha Junaid

*PhD (Civil), ME (Structures), BE (Civil)*

**Associate Professor**

Department of Civil and Environmental Engineering (CEE)

University of Sharjah (UoS)

UAE

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<b>Date of Birth</b>	24-October-1976
<b>Gender</b>	Male
<b>Nationality</b>	Australian
<b>Professional Qualifications</b>	<p><b>PhD</b>, Civil Engineering (2015) School of Engineering and Information Technology (SEIT) University of New South Wales, Canberra, Australia</p> <p><b>ME.</b>, Structural Engineering Asian Institute of Technology, Bangkok (2005)</p> <p><b>BE.</b> Civil Engineering NED University of Engg. &amp; Tech., Karachi, Pakistan (2000) with Distinction</p>
<b>Current Position</b>	<b>Associate Professor</b> , Civil Engineering University of Sharjah, UAE
<b>Last Position Held</b>	Assistant Professor Department of Civil and Environmental Engineering, College of Engineering University of Sharjah, Sharjah, UAE
<b>Professional Affiliations</b>	<ul style="list-style-type: none"><li>• Professional Engineer, P.E., Pakistan Engineering Council (Life Member)</li><li>• Life Member, Asian Centre for Engineering Computations and Software (ACECOMS)</li><li>• Member Concrete Institute of Australia</li></ul>
<b>Interests</b>	Photography, science, writing and outdoors
<b>Languages</b>	English: Read, Write, Speak Urdu: Read, Write, Speak Thai: Speak (basic)

## Research and Publications

Journal Papers: 21 | Conference Papers: 27 | h-index: 13 | i-10 index: 16 | Citations: 1002

### Journal Papers

1. R Al-Ruzouq, S Dabous, **MT Junaid**, F Hosny “Non-destructive deformation measurements and crack assessment of concrete structure using close-range photogrammetry”, Results in Engineering, Vol 18, 2023.
2. M Tarabin, M Maalej, S Altoubat, **MT Junaid**, “Review of the bond behavior between reinforcing steel and Engineered cementitious Composites”, Structures, Vol 55, 2023, pp 2143-2156.
3. **MT Junaid**, A Shweiki, S Barakat, M Alhalabi, O Mostafa, “Flexural characterization and ductility assessment of small-scale mortar beams reinforced with 3D-printed polymers”, Structures, 2022, vol 45, 1751-1761
4. **MT Junaid**, AS Karzad, A Elbana, S Altoubat “Experimental study on shear response of GFRP reinforced concrete beams strengthened with externally bonded CFRP sheets”, Structures 2022, vol 35, 1295-1307
5. M Azeem, **MT Junaid**, MA Saleem, “Correlated strength enhancement mechanisms in carbon nanotube based geopolymers and OPC binders”, Construction and Building Materials, 305, 2021
6. **MT Junaid**, A Karzad, M Leblouba, “Investigation on the properties of ambient cured alkali activated binder concrete” International Journal of Applied Science and Engineering, vol 18 (5), 2021 doi.org/10.6703/IJASE.202109\_18(5).018
7. A Elbana, **MT Junaid**, “Determination of flexural capacity for GFRP-reinforced concrete beams retrofitted using external CFRP sheet”, Structures, vol 27, 2020. <https://doi.org/10.1016/j.istruc.2020.07.003>
8. **MT Junaid**, A Elbana, S Altoubat, “Flexural response of geopolymer and fiber reinforced geopolymer concrete beams reinforced with GFRP bars and strengthened using CFRP sheets”, Structures 24, 666-677, 2020. DOI: <https://doi.org/10.1016/j.istruc.2020.02.003>
9. S Altoubat, AS Karzad, M Maalej, S Barakat, **MT Junaid** “Experimental study of the steel/CFRP interaction in shear-strengthened RC beams incorporating macro-synthetic fibers” Structures 25, 88-98, 2020. DOI: <https://doi.org/10.1016/j.istruc.2020.02.027>
10. **Junaid MT**, Elbana A, Altoubat S, Al-Sadoon Z, “Experimental Study on the Effect of Matrix on the Flexural Behavior of Beams Reinforced with Glass Fiber Reinforced Polymer (GFRP) bars”, Composite Structures, 2019. Volume 222, 2019, 110930 DOI: <https://doi.org/10.1016/j.compstruct.2019.110930>
11. P Parveen, BB Jindal, **MT Junaid**, S Saloni “Mechanical and microstructural study of rice husk ash geopolymer paste with ultrafine slag”, Advances in concrete construction 8 (3), 217-223, 2019. DOI: <https://doi.org/10.12989/acc.2019.8.3.217>
12. Singhal D, **Junaid MT**, Jindal B, Mehta A “Mechanical and microstructural properties of fly ash based geopolymer concrete incorporating Alccofine at ambient curing”, Construction and Building Materials, 180 pp298-307, 2018

13. **Junaid MT**, Kayali O, Khennane A, “Response of Alkali Activated Low Calcium Fly-Ash based Geopolymer Concrete Under Compressive load at Elevated Temperatures”, *Materials and Structures*, 50(1) 50, 2017. doi:10.1617/s11527-016-0877-6
14. Altoubat S, Rieder KA, **Junaid MT**, “Short- and long-term restrained shrinkage cracking of fiber reinforced concrete composite metal decks: an experimental study”, *Materials and Structures*, 50: 140, 2017. doi:10.1617/s11527-017-1011-0
15. Altoubat S, **Junaid MT**, Leblouba M, Badran D, “Effectiveness of fly ash on the restrained shrinkage cracking resistance of self-compacting concrete”, *Cement and Concrete Composites*, Volume 79, pp 9–20, 2017 <http://dx.doi.org/10.1016/j.cemconcomp.2017.01.010>
16. Leblouba M., **Junaid MT**, Barakat S, Altoubat S, Maalej M, “Shear buckling and stress distribution in trapezoidal web corrugated steel beams”, *Thin-Walled Structures*, Volume 113, pp 13–26, 2017 <http://dx.doi.org/10.1016/j.tws.2017.01.002>
17. Leblouba M., Barakat S, Altoubat S, **Junaid MT**, Maalej M, “Normalized shear strength of trapezoidal corrugated steel webs”, *Journal of Constructional Steel Research* 2017.
18. Altoubat S, Badran D, **Junaid MT**, Leblouba M, “Restrained shrinkage behavior of Self-Compacting Concrete containing ground-granulated blast-furnace slag”, *Construction & Building Materials* Volume 129, 30, pp 98–105, 2016 <http://dx.doi.org/10.1016/j.conbuildmat.2016.10.115>
19. **Junaid MT**, Khennane A, Kayali O, “Performance Of Fly Ash Based Geopolymer Concrete Made Using Non-Pelletized Fly Ash Aggregates”, *Materials and Structures* vol 48 (10) pp: 3357-3365, 2015 doi:10.1617/s11527-014-0404-6
20. **Junaid MT**, Kayali O, Khennane A, “A Mix Design Procedure for Low Calcium Alkali Activated Fly Ash-based Concretes”, *Construction & Building Materials*, vol79, pp 301-310, 2015. doi:10.1016/j.conbuildmat.2015.01.048
21. **Junaid MT**, Khennane A, Kayali O, Sadaoui A, Picard D, Fafard M, “Aspects Of The Deformational Behaviour Of Alkali Activated Fly Ash Concrete At Elevated Temperatures,” *Cement and Concrete Research*, vol. 60, pp. 24-29, 2014. <http://dx.doi.org/10.1016/j.cemconres.2014.01.026>

## Conference Papers

1. **MT Junaid**, M Alhalabi, O Mostafa, S Barakat, “Flexural characterization of concrete beams reinforced with 3D-printed formworks”, *7th International Conference on Structural and Civil Engineering*, 2023 (Accepted).
2. A Elbana, A Khennane, S Al-Deen, **MT Junaid**, “Multi-Scale Modelling of Particulate Composite”, *Environmental Sciences Proceedings* 12 (1), 23, 2022
3. R Rammal, MG Arab, **MT Junaid**, M Omar, “Use of alkali-activated binders for deep mixing applications in UAE”, *2022 Advances in Science and Engineering Technology International*
4. Usama Al Sabouni, ZA Al-Sadoon, **MT Junaid**, “The Effect (s) of Height of Dual-System Reinforced Concrete Buildings upon the Performance and Progression of Collapse using

*Nonlinear Dynamic Analysis”, 2022 Advances in Science and Engineering Technology International*

5. *Ahmed Hassan, M Talha Junaid, Samer Barakat, “Mechanical Properties of Geopolymer Concrete: Statistical analysis and Prediction Models”, 5th International Conference on Civil, Structural and Transportation Engineering (ICCSTE’20) November 12- 14, 2020*
6. *Junaid MT, Elbana A, Altoubat S, “Stress-strain behaviour and strength properties of ambient cured geo-polymer concrete”, Materials Science and Engineering Conference, Malaysia, 2019. doi:10.1088/1757-899X/839/1/012005*
7. *Junaid MT, Karzad AS, Elbana A, “Experimental study on the shear behavior of GFRP reinforced concrete beams strengthened using CFRP sheets”, Materials Science and Engineering Conference, Malaysia, 2019. doi: 10.1088/1757-899X/839/1/012018*
8. *Bara Jarah, Mohamed G. Arab, MT Junaid, Maher Omar “Effect of Alkali Activator Type on the Local UAE Sand Treated with Alkali Activated Binders” 5th World Congress on Civil, Structural, and Environmental Engineering (CSEE’20) October 18 - 20, 2019 | Lisbon, Portugal*
9. *Junaid MT, Elbana A, Altoubat S, “Predicting Flexural Capacity of Concrete Beams Reinforced with GFRP Bars and Strengthened with CFRP Sheets”, in Proceedings of the 4th World Congress on Civil, Structural, and Environmental Engineering (CSEE’19), Rome, Italy – April 7-9, 2019 (peer reviewed)*
10. *Yousuf, F., Junaid, MT, Altoubat, S. “Drying Shrinkage Performance of Ambient Cured Blended Alkali-Activated Concrete”, Defect and Diffusion Forum, 394, 109–114, 2019. <https://doi.org/10.4028/www.scientific.net/ddf.394.109>*
11. *Shewiki A, Junaid MT, Barakat S, “Flexural Characteristics of Mortar Cement Reinforced with 3D-Printed Polymer”, in Proceedings of the 4th World Congress on Civil, Structural, and Environmental Engineering (CSEE’19), Rome, Italy – April 7-9, 2019 (peer reviewed)*
12. *Junaid MT, Maalej M, “Stain Hardening Characteristics of Blended Alkali Activated Binders Cured At Ambient Temperatures”, SynerCrete’18 International Conference on Interdisciplinary Approaches for Cement-based Materials and Structural Concrete, pp 999-1004, 24-25 October 2018 Portugal (peer-reviewed)*
13. *Elbana A, Junaid MT, Altoubat S, “Flexural behavior and strengthening of Geopolymer concrete beams reinforced with GFRP bars using CRPP sheets”, SynerCrete’18 International Conference on Interdisciplinary Approaches for Cement-based Materials and Structural Concrete, pp 449-454, 24-25 October 2018 Portugal (peer-reviewed)*
14. *Arab M, Junaid MT, Omar M, Zeiada W, Shanableh A, Rammal R, “Using Alkali-Activated Binders to Improve UAE Dune Sand”, Proceedings of the 4th World Congress on Civil, Structural, and Environmental Engineering (CSEE’19) Rome, Italy – April, 2019 (peer reviewed)*
15. *Junaid MT, Properties of ambient cured blended alkali activated cement concrete, IOP Conference Series: Materials Science and Engineering 264 (1), 012004, 2017 (peer reviewed)*
16. *Junaid MT, “Deformational Behaviour of Fly-Ash Based Geopolymer Concrete at Temperatures of up to 150°C”, International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17) University of Sharjah, United Arab Emirates 18-20 April 2017 (peer reviewed)*

17. **Junaid** MT, Siddique M, and Venkatachalam S, "Multiple-Choice Versus Descriptive Exams for Direct Evaluation of Engineering Courses at University Of Sharjah", Proceedings of the joint 8th IFEE2017 and 3rd TSDIC2017 Sharjah, United Arab Emirates, April 18 – 20, 2017 (accepted-peer reviewed)
18. **Junaid** MT, Khennane A, and Kayali O, "*Stress-Strain Behaviour of Alkali Activated Fly Ash Concrete at Elevated Temperatures*", 2<sup>nd</sup> International Conference on Advances in Cement and Concrete Technology in Africa, Page 301-308, January 27-29, 2016, Tanzania (peer reviewed)
19. **Junaid** MT, Khennane A, Kayali O, "*Investigation into the Effect of the Duration of Exposure on the Behaviour of Geopolymer Concrete at Elevated Temperatures*" Matec Web of Conferences Journal, International Congress on Materials & Structural Stability, volume 11, 2014 doi: 10.1051/mateconf/20141101003
20. **Junaid** MT, Kayali O, and Khennane A, "*Properties Of Fly Ash Based Geopolymer Concrete Made Using Special Fly Ash Aggregates*" Proceedings of the 7<sup>th</sup> RILEM International Conference on Self-Compacting Concrete and 1st RILEM International Conference on Rheology and Processing of Construction Materials, Page 381-388, September 2-4, 2013 Paris France (peer reviewed)
21. **Junaid** MT, Kayali O, and Khennane A, "*A Mix Design Procedure for Alkali Activated Fly Ash-based Geopolymer Concretes*" In: International Conference on Engineering and Applied Science, Page 139-152, Beijing, China, 2012. Oxford University Press (peer reviewed)
22. **Junaid** M.T., "*Use of Commercial Structural Engineering Software in Structural Analysis Courses at the Undergraduate Level*", 5th International Forum on Engineering Education (IFEE-2010), 2010, Sharjah, UAE
23. **Junaid** M.T., Narong T., Pichai N., "*Reducing Bleeding in Mix for Bored Pile Application without affecting other Fresh Concrete Properties: Methodology and Procedure*", Proceedings of the Tenth East Asia-Pacific Conference on Structural Engineering and Construction, 2006, Bangkok, Thailand (blind peer reviewed)
24. **Junaid** M.T., Narong T., Pichai N., "*Reducing Bleeding in Mix for Bored Pile Application without affecting other Fresh Concrete Properties: Results and Discussion*", Proceedings of the Tenth East Asia-Pacific Conference on Structural Engineering and Construction 2006, , Bangkok, Thailand (blind peer reviewed)
25. Naveed A., **Junaid** M.T., "*Concrete Filled Steel Tubes, Determination and Visualization of Cross-section Behaviour*", Advances in Structures Steel, Concrete, Composite and Aluminium (ASSCCA'03), 23-25 June 2003, Sydney, Australia (peer reviewed)
26. Naveed A., Haroon U., **Junaid** M.T., "*Progressive Analysis of Cross-sections Exposed to Fire*", International Conference on Tall Buildings, Proceedings of the CIB-CTBUH International Conference on Tall Buildings, Strategic for Performance in the Aftermath of World Trade Centre, 20-23 October 2003, KL, Malaysia (blind peer reviewed)
27. Naveed A., **Junaid** M.T., "*Generating Finite Element Mesh from Parametric Shell Models*", Proceedings of the 5th International Conference on Computation of Shell and Spatial Structures June 1-4, 2005 Salzburg, Austria (peer reviewed)

## Reports and Articles

1. Naveed A., **Junaid** M.T., Sara G. *Truss Models for Concrete Member Design*, Civil Computing Magazine March-June 2007 Issue M32
2. Naveed A., **Junaid** M.T., *Cross-Sectional Behaviour of Concrete Filled Steel Tubes*, Civil Computing Magazine April-August 2004 Issue M29
3. Naveed A., **Junaid** M.T., *Analysis Procedure for Cross-Sections Exposed to Elevated Temperatures* Civil Computing Magazine September 2003-March 2004 Issue M28
4. **Junaid** M.T., *Developments during the Last Decades in Computer Hardware*, Civil Computing Magazine September 2003-March 2004 Issue M28
5. Buddhi S. S., **Junaid** M.T., *The Earthly Matters*, Civil Computing Magazine April-August 2003 M27
6. **Junaid** M.T., *Gaining Insight into GEAR2003*, Civil Computing Magazine January-March 2003 Issue M26
7. Naveed A., **Junaid** M.T., *Strengthening and Retrofitting of Concrete Members*, Civil Computing Magazine March-September 2002
8. **Junaid** M.T., *How the Twins Collapsed*, Civil Computing Magazine October 2001-February 2002
9. Naveed A., **Junaid** M.T., *Building Complex Cross-Sections for Analysis and Design*, Civil Computing Magazine October 2001-February 2002 Special Issue

Several Technical Project Reports with total of over 200 pages. Author of several User and Technical Manuals for engineering software, with a total of over 500 pages Co-author of over 10 workshop presentations, with over 500 slides, covering a wide range of topics falling under the category of Structural Modelling and Analysis, Concrete Design, and Computer Applications to Structural Design.

## Academic Research

1. **Junaid** MT., *Performance of Geopolymer Concrete at Elevated Temperatures*, PhD Thesis, 2015, University of New South Wales at the Australian Defence Force Academy, Canberra, Australia
2. **Junaid** MT., *Enhancing Fresh Tremie Concrete Properties for Bored/Deep Pile Applications* M. Engineering Thesis, 2005, Asian Institute of Technology (AIT), Bangkok, Thailand
3. **Junaid** MT., et al, *Compare compressive strength and Modulus of rupture from theoretical design and experimental results of Prestressed RC Beams*, 2005, School of Civil Engineering AIT
4. **Junaid** MT., et al, *Investigation into the cracking of the Hyperbolic Paraboloid Slab System*, 2005, School of Civil Engineering AIT
5. **Junaid** MT., and Sara Ghadimi, *Thermal Analysis of Reinforced Concrete Tee Beam Using MATLAB*, 2004 School of Civil Engineering AIT
6. **Junaid** MT., *Evaluation and Remedial Measures for Slab and Foundation Problems at AIT 2004* School of Civil Engineering AIT
7. **Junaid** MT., *Non-Linear Analysis of Reinforced Concrete Flexural Elements*, B. Engineering. Research Study, 2000, NED University of Engineering and Technology Karachi, Pakistan

## Grants, Graduate Supervision and Scholarships

### Project Lead Investigator:

- Lead Investigator, Competitive Research funding from University of Sharjah, “Flexural and Shear Response of Geopolymers Concrete Beams Reinforced with BFRP bars and strengthened using CFRP sheet”, AED 116,000
- Lead Investigator, Competitive Research funding from University of Sharjah, “3D-Printed Polymer-Based Reinforcement for Structural Elements”, AED 80,000.
- Lead Investigator, Spotlight Project from College of Engineering, University of Sharjah, “Mechanical and Micro-Structural Properties of Geopolymer Concrete containing Nano Particles”, AED 40,000.
- Lead Investigator, Research funding from University of Sharjah, “Investigation on the Performance of Geopolymer Concrete reinforced with Glass Fibre Reinforced Polymer” , AED 39,000.
- Lead Investigator, Competitive Research funding from University of Sharjah, “Restrained Shrinkage and Cracking Behaviour of Ambient Cured Geopolymer Concrete”, AED 69,100

### PhD Supervision:

- Principal Supervisor, PhD Thesis at UoS “Experimental Study on the Strength and Bond Parameters of Concrete Reinforced with FRP Bars Subjected to Environmental Conditioning”, Nadia Nassif, 2022-ongoing
- Secondary Supervisor, Ph.D Thesis at University of New South Wales, Australia, "Multiscale Modeling of Particulate Composites". Abdalla Albanna, 2021-ongoing

### MSc Supervision:

- Principal Supervisor, MSc Thesis at UoS “Evaluation of Flexural and Shear Behaviour of Reinforced concrete beams with Glass Fibre Reinforced Polymer”, Abdallah Albanna, 2016-2018.
- Principal Supervisor, MSc Thesis at UoS “3D Printed Polymer Reinforcement for Mortar Cement”, Ahmed Shweiki , 2018-2020.
- Principal Supervisor, MSc Thesis at UoS “Restrained shrinkage behaviour of Alkali Activated Binders”, Fatima Yousef, 2017-2019.
- Principal Supervisor, MSc Thesis at UoS “Mechanical Properties of Geopolymer Concrete: Statistical analysis and Prediction Models”, Ahmed Hasan Mehdi, 2019-2021.
- Co-Supervisor, MSc Thesis at UoS “Using Alkali-Activated Binders to improve sandy soil in UAE”, Bara Ayman Amin Jarah, 2018-2020.
- Co-Supervisor, MSc Thesis at UoS “Progressive Collapse of Reinforced Concrete Building: Parametric Study”, Usama Faisal Mohammed Hassan Al Saboun, 2019-2021.
- Co-Supervisor, MSc Thesis at UoS “Flexural Creep Behavior of Pre-Cracked Fiber-Reinforced Concrete Beams”, Ibrahim Mahmoud Haj Fattouh, 2019-2021.

**Project Co- Investigator:**

- Co-Investigator, Competitive Research funding, “Development of locally produced 3D printed concrete in UAE: Rheology, Guidelines, and Performance” AED 119,000
- Co-Investigator, Competitive Research funding, “Progressive Collapse of Reinforced Concrete Building and Strengthening Assessment Through the Use of FRP: Parametric Study”
- Co-Investigator, Competitive Research funding, “Using Alkali-Activated Binders to Improve UAE Sabkha Approval Soils” AED 79,000
- Co-Investigator, Competitive Research funding, “Experimental Study on the Shear Strength of Externally Bonded Carbon Fiber Reinforced Polymer (EB-FRP) Reinforced Concrete (RC) Beams” AED 75,000

**Awards:**

- Judge and honourable contribution in the evaluation of research papers for the Research and Innovation Award - First Edition 2022-2023, Ministry of Energy and Infrastructure.
- Recipient the best Applied Scientific Research Outstanding Student’s Award at the Sharjah Sustainability Award 2021 for MSc advisee Rajaa Ramal
- Recipient the best Applied Scientific Research Outstanding Student’s Award at the Sharjah Sustainability Award 2019 for MSc advisee Fatima Yousef
- Recipient of several best paper and best presentation awards at conferences
- Recipient University College Postgraduate Research Scholarship (UCPRS) at the University of New South Wales, Australia (yearly worth of ~A\$ 25,000)
- Recipient Establishment Scholarships for Commencing Research Scholarship Students at the University of New South Wales, Australia (worth of ~A\$ 1,000)
- Recipient Australian Post-Graduate Award at the University of New South Wales, Australia (worth of ~A\$ 25,000)



## Advisory Role

Performed advisory role in several capstone undergraduate research projects in the following institutions.

### University of Sharjah - UAE

- Analysis and designs for a Multi-Story Building including, foundations, Water Tanks, with cost and planning
- Ground plus one story Villa (G+1 Villa) including, foundations, and Water Tank
- Analysis and designs for a Basement+ Ground + 35 floors +Roof (B+G+35TF+R) including, foundations, swimming pool, Water Tank, and Parking
- Analysis and designs for a Basement+ Ground + 15 typical floors +Roof (B+G+15TF+R) including, foundations, swimming pool, Water Tank, and Parking
- Analysis and designs for a Ground + 14 typical floors +2Roof (G+14TF+2R) including, foundations, Water Tank, and Parking

### University of New South Wales – Australia

- Mix Design Procedure for Alkali Activated Fly Ash-based Geopolymer Concretes
- A Comparative Study of Residual Properties of Ordinary Portland and Geopolymer Concrete
- Performance of Alkaline Activated Class F Fly Ash-Based Geopolymer Concrete at Elevated Temperatures and the Effects of Aggregate Types
- Development of Fly Ash Aggregates for Use in Geopolymer Concrete Applications

## Teaching and Trainings

### Summary

Taught various course, tutorials and labs at undergraduate and graduate level. Speaker/Instructor at over 10 International Seminars and Workshops.

### Undergraduate Teaching

The following courses and labs were taught at the following institutions and universities:

#### University of New South Wales - Canberra

- Structural Analysis
- Statics
- Dynamics and Dynamics Lab
- Reinforced and Pre-stressed Concrete Design
- Sustainability of Concrete Structures

#### Canberra Institute of Technology, Reid, Canberra

- Building Construction
- Construction Documentation
- Building Design

#### University of Sharjah ([www.sharjah.ac.ae](http://www.sharjah.ac.ae))

- Statics
- Mechanics of Materials
- Structural Analysis
- Dynamics
- Reinforced Concrete Design 1
- Advanced Materials in Construction (MSc)
- Reinforced Concrete Design of Buildings
- Fundamentals of Structural Analysis
- Materials for Civil Engineering
- Introduction to Engineering
- Surveying Lab
- Trainings on basic and advance use of ETABS and GRASP

#### American University of Sharjah ([www.aus.edu](http://www.aus.edu))

- Statics
- Mechanics of Materials
- Statics and Mechanics for Architects
- Introduction to Engineering

- Fundamental of Computer Graphics and Programming
- Various trainings on basic and advance use of SAP2000, ETABS and other Structural Software

**Workshops and Seminars conducted on Computer Application in Civil Engineering**

Presented at over 10 international workshops and seminars on various topics within the spectrum of Computer Applications in Civil Engineering. Teaching sessions were augmented by extensive use and hands-on practice of relevant computer tools. Topics include;

- Computer aided analysis and design of Structures
- Computer aided analysis and design of Foundations
- Integrated analysis and design of tall buildings
- Soil Structure Interaction
- Modelling, analysis, and design of shear walls
- Analysis and design of Floor slab floor systems
- Retrofitting of structural members
- Strut and Tie Model for Modelling and Analysis of RC Members
- Analysis and Design of Piers and Columns
- Innovative Modelling Techniques

## Professional Experience

### Summary

Over 10 years of experience in the conception, planning, analysis, design and detailing of buildings, bridges, industrial buildings and special projects.

### Projects

#### **Dynamic Analysis and Review of Steel Lighting Mast for Bangkok II Airport Facility, Thailand**

Performed design review for a 90 m high steel lighting mast for Bangkok II International Airport facility. The analysis involved usage of SAP2000 and CSISectionBuilder software as well as development of a customized software to study the dynamic response of the mast in wind loading.

#### **Modelling, Analysis and Design of Earthquake Steel Relief Shelter, Pakistan**

Carried out the modelling analysis and design for temporary steel shelter for the earthquake hit areas of northern Pakistan 2005. The structures needed to be inexpensive, easy to erect and safe to withstand any further aftershocks.

#### **Modelling and Analysis of Steel Factory Structures, Bangkok**

Performed the modelling, analysis and design of three steel structures, part of a larger industrial complex, to determine the current state of the structure. The structure has been abandoned for several years and part of the work was to identify the areas of concern and make the structure operational.

#### **Fire Damage Assessment of an Industrial Steel Structure, Thailand**

Assessed a factory building's post-fire usability. The factory building was a steel structure, which was exposed to one-hour of high temperatures. The work included the mapping of the damage, identification of the extent of damage, report on the usability of the structure or part thereof and recommendations on retrofitting.

#### **Design of Steel Billboards, Pakistan**

Carried out the structural steel design of four advertisement billboards 60 m wide and 35 m tall in accordance with UBC regulations.

#### **Forensic Investigation of the Second Thai-Laos Bridge, Thailand**

Part of the team which carried out the assessment of the Second Thai-Laos Friendship Bridge after a construction accident. The assessment included the installing of strain gages to determine the strains developed in prestressing strands and concrete in response to load test.

**Testing of Round Panel Fibre Reinforced Concrete for Toughness, Sharjah, UAE**

Carried out various tests on FRC round panels on UTM and reported the toughness of such panels according to relevant ASTM standards. Parametric study on the suitability of fibres to improve toughness.

**Modelling, Analysis and Design of a 6-Story Commercial Complex, Pakistan**

Carried out the modelling analysis and design of a reinforced concrete commercial complex in Pakistan. ETABS was used for carrying out the project. Total floor area = 70,000 sq. ft.

**Modelling, Analysis and Design of Residential Houses, Thailand**

Performed analysis and design of various residential houses in and around the Bangkok area, in line with the local codes of practice

**Pile Capacity Check for a 35-Story Residential Building, Bangkok**

Performed checks for the adequacy of mat thickness and for pile capacity for a medium rise building in Bangkok. The objective was to check if a 2.5 meter mat was rigid enough to attain a reasonable distribution over the entire pile arrangement. SAP2000, ETABS and SAFE were used in the analysis.

**Analysis, Design and Detailing of Ngabi Bridge and Semtokha Bridge, Bhutan**

Worked on the two Bridges, with a team of professional engineers. The bridges are a part of the Thimpu-Babesa Highway. Total length of Ngabi (arch-bridge) is 123m with a maximum span of 22m. Semtokha Bridge is a 65m, single span, prestressed box girder bridge with an underpass.

**Design Review and Investigation into Industrial Floor Slab Cracking, Thailand**

Performed design review and investigated the cracking of a floor slab of a tannery factory. Performed various onsite and laboratory tests on slab and samples extracted from it. Performed analysis of the structural.

**Software Proficiency**

Professional expertise of SAP2000, ETABS, SAFE, PCACOL, GEAR2003, CSI Section Builder, AutoCAD, CSICOL, MATLAB, MAPLE, GRASP, MS Office, Visio, and working knowledge of other graphic designing packages. Very user friendly and capable of learning new software without formal training.

## Community Service

- Administrative/Literary**
- Judge for the Research and Innovation Award - First Edition 2022-2023, Ministry of Energy and Infrastructure.
  - Chair – Department Teaching and Learning Committee 2021-2022
  - Member – College Teaching and Learning Committee, 2021-2022
  - Member – College Accreditation Committee, 2021- ongoing
  - Member, ABET Accreditation Committee, Department of Civil & Environmental Engineering, University of Sharjah
  - Member, ABET Steering Committee, Department of Civil & Environmental Engineering, University of Sharjah
  - Associate Chair-Academics, Department of Civil and Environmental Engineering, University of Sharjah, (2017-2018)
  - Chairman, Community Service, Outreach and Communication, College Committee, University of Sharjah, (2016-2018)
  - Member, Undergraduate Program Committee, Department of Civil & Environmental Engineering, University of Sharjah, 2015 to date
  - Member, Graduate Studies and Research Committee, Department of Civil & Environmental Engineering, University of Sharjah, 2015 to 2018
  - Scientific Reviewer for several top journals and conferences in the field of materials and structural engineering.
  - Member, Organizing Committee, International Conference on Advances In Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17)
  - Executive Secretary, International Conference on Advances In Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17)
  - Member, Outreach and Communication Committee, College of Engineering, University of Sharjah, 2015-16
  - Team Leader, Student Activities, Department of Civil & Environmental Engineering, University of Sharjah, 2015-16
  - Department Academic Assistant, Department of Civil and Environmental Engineering, University of Sharjah, 2008 to 2011

- Member, Program Assessment Unit, Department of Civil and Environmental Engineering, University of Sharjah, 2008 to 2011
- College Financial Officer, College of Engineering, University of Sharjah, 2009 to 2010
- Member, Department Website and Publicity Committee, Department of Civil and Environmental Engineering, University of Sharjah, 2008 to 2011
- Member Local Organizing Committee, Tenth East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-10), Bangkok Thailand, 2006
- Assistant Editor, Civil Computing Magazine, ACECOMS, Asian Institute of Technology, 2003-2005
- Speaker, Architectural Conservation Workshop, International Centre for the Study of the Preservation and the Restoration of Cultural Property, ICCROM, 2008.
- Successfully completed the 'Graduate Tutor Training Program' conducted at the UNSW-Canberra 2012

#### **Recreational**

- Chairperson, Leisure Committee, Student Union, Asian Institute of Technology, Bangkok Thailand, January 2005 – December 2005
- Captain and Vice-Captain for AIT Cricket Team, Bangkok Cricket League, 2004 – 2006
- Member, Research and Analytical Wing of Quest Campus Journal at NED University, 1998-1999

#### **References**

Upon Request