# **Wael I. Alnahhal,** Ph.D., P.Eng.

Department of Civil and Architectural Engineering
Qatar University, P. O. Box 2713, Doha, Qatar
Phone: +974 4403 4197
Mobile: +974 7070 0975
E-mail: wael.alnahhal@qu.edu.qa


## CURRENT AFFILIATION

**Qatar University**, Dept. of Civil & Architectural Engineering
**Associate Professor**, September 2013–Present

## EDUCATION

**PH.D. CIVIL ENGINEERING** **GPA: 3.95/4.0**
University at Buffalo, State University of New York, January, 2007

**Area of Specialization:** Structural Engineering
**Dissertation:** "Structural Characteristics and Failure Prediction of Hybrid FRP-Concrete Bridge Deck and Superstructure Systems"

**Coursework:**

- Advanced Mathematics for Civil Engineers
- Seismology
- Structural Dynamics and Earthquake Engineering I
- Advanced Mechanics of Solids
- Advanced Finite Element Analysis
- Composite Structures

**M.S. CIVIL ENGINEERING** **GPA: 88.4 %**
Jordan University of Science and Technology, Jordan, April, 2002

**Area of Specialization:** Structural Engineering
**Thesis:** "Active Control of Wind-Excited Tall Buildings Using Artificial Neural Network"

**Coursework:**

- Finite Element Method I
- Advanced Applied Mathematics
- Advanced Reinforced Concrete
- Retaining Structures
- Advanced Concrete Technology
- Advanced Structural Mechanics
- Civil Engineering Seminar
- Special Topics in Structural Engineering

**B.S. CIVIL ENGINEERING** (***with 1st Class Honor****) **GPA: 83.6 %**
Jordan University of Science and Technology, Jordan, February, 2000
* I was ranked 1st in order of merit among 150 students.

## LICENSES AND PROFIESSIONAL MEMBERSHIP

- Registered Professional Engineer, Province of Ontario, January 2009.
- Engineering-in-Training (E.I.T.) Certificate, New York, January 2006.
- Member, American Concrete Institute (ACI), 2017.
- Member, Canadian Society for Civil Engineering (CSCE), 2008-2012.

## AWARDS AND HONORS

- Dean's Award for Teaching for Academic Year 2018-2019, College of Engineering (2019).
- Dean's Award for Services for 2017, College of Engineering- Qatar University (2017).
- First prize in 9th UREP Poster Competition, QNRF- Qatar (2017).
- Excellent Research Award-UREP- QNRF "8th Cycle", Qatar Foundation- Qatar (2016).
- Best Research Poster Award in Science and Engineering at the Annual Research Forum -Qatar University (2017).
- Graduate Fellowship- Civil, Structural and Environmental Engineering (CSEE) -University at Buffalo, State University of New York (2003-2006).
- Who's Who Among Students in American Universities & Colleges (2004).
- Teaching Assistant Scholarship-Civil, Structural and Environmental Engineering (CSEE) -University at Buffalo, State University of New York (2002).
- Teaching Assistant Scholarship–Jordan University of Science and Technology, Jordan (2000-2002).
- University award for the Academic Distinction and Recognition award for the Top Rank student on the 2000 graduation batch in Civil Engineering- Jordan University of Science and Technology.
- University award honor recipient for five Consecutive years at Bachelor of Science in Civil
- Engineering- Jordan University of Science and Technology (1995- 2000).
- College of Engineering award honor recipient for five Consecutive years at Jordan University of Science and Technology (1995- 2000).
- Recognition award for the Top Rank student in Gaza Strip on the 1995 graduation batch at high school diploma from Palestinian Ministry of Education &Higher Education (1995).
- Excellency Certificate at high school diploma from Palestinian Ministry of Education &Higher Education (1995).

## SUMMARY OF PROFIESSIONAL EXPERIENCE

Qatar University, Qatar
Dept. of Civil and Architectural Engineering
**Associate Professor**, May 2019–Present

Qatar University, Qatar
Dept. of Civil and Architectural Engineering
**Assistant Professor**, September 2013–May 2019

University of Dammam, Saudi Arabia
Department of Construction Engineering

**Assistant Professor**, September 2012– September 2013

Halcrow Yolles, A CH2M- HILL Company, Toronto, Canada
**Senior Engineer,** January 2007– September 2012

University at Buffalo, State University of New York, USA
Department of Civil, Structural and Environmental Engineering
**Research Assistant**, June 2003-January 2007

University at Buffalo, State University of New York, USA
Department of Civil, Structural and Environmental Engineering
**Teaching Assistant**, August 2002–May 2003

Jordan University of Science and Technology, Jordan
Department of Civil Engineering
**Research Assistant,** September 2001 - June 2002

Jordan University of Science and Technology, Jordan
Department of Civil Engineering
**Teaching Assistant**, February 2000 – August 2001

Industries for Construction Equipment Company, Jordan
**Design Engineer (Part-time),** July 1999 – August 2002

Maunsell Ltd., Beckenham, London, United Kingdom
**Engineer-in-Training**, June 1999 – August 1999

Rafah Municipality, Rafah, Palestine
**Engineer-in-Training**, August 1999 – September 1999

## RESEARCH AND SCHOLARLY ACTIVITIES

### *I. FUNDED RESEARCH PROJECTS*

- **Wael Alnahhal (LPI)**, Mohammed Elshafie, and Mohammed Irshidat, "Sustainable Concrete using Locally Discarded Materials and Treated Domestic Wastewater: Mechanical, Durability, and Applications in RC Elements".
  Project Number: **QUCG-CENG-22/23-561**
  Duration: **16/01/2022 – 31/12/2023**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **210,000 QR**

- **Wael Alnahhal (LPI)**, Nasser Alnuaimi, and Ramazan Kahraman, "Development and behavior of high-strength green concrete made from locally available discarded materials in Qatar under harsh environment exposures".
  Project Number: **QUCG-CENG-20/21-3**
  Duration: **1/1/2020 – 1/1/2022**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **285,000 QR**

- **Wael Alnahhal (PI)**, Alaa Taha, "Mechanical and durability properties of sustainable concrete incorporating recycled aggregates, fly ash, and basalt fibers".
  Project Number: **UREP28-242-2-066**
  Duration: **01/01/2022 – 01/01/2023**

Sponsor: **QNRF-UREP**
Funding: **$30,000.00**

- **Wael Alnahhal (LPI)**, Abdelrahman Abushanab, "Mechanical and Durability Characteristics of Concrete Made with Treated Domestic Wastewater and Various Admixtures".
  Project Number: **QUST-1-CENG-2021-20**
  Duration: **12/1/2021 – 30/04/2021**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **14,000 QR**

- **Wael Alnahhal (LPI)**, Abathar Alhamrani, "Shear Strength of One-way High Strength Fiber Reinforced Concrete Slabs Reinforced with Sand Coated BFRP Bars".
  Project Number: **QUST-1-CENG-2021-21**
  Duration: **12/1/2021 – 30/04/2021**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **14,000 QR**

- **Wael Alnahhal (LPI)**, Ratiba Ghachi, "Bond Strength of FRP Bars Embedded in Ultra-High Performance Concrete".
  Project Number: **QUST-1-CENG-2020-17**
  Duration: **12/1/2020 – 30/04/2020**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **20,000 QR**

- **Wael Alnahhal (LPI)**, Mohammed Irshidat, "Effect of using carbon nanotubes (CNTs) on bond strength between concrete and basalt FRP bars".
  Project Number: **QUST-1-CENG-2019-26**
  Duration: **05/02/2019 – 02/05/2019**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **20,000 QR**

- **Wael Alnahhal (LPI)**, Nasser Alnuaimi, and Farid Abed, "Performance of Basalt Fiber Reinforced Polymer "BFRP" Reinforcing Bars under the GCC Harsh Environment".
  Project Number: **GCC-2017-008**
  Duration: **1/1/2017 – 1/1/2020**
  Sponsor: **GCC Co-Fund Program-1st Cycle**
  Funding: $**260,000.00**

- **Wael Alnahhal (LPI)**, Amjad Aref, and Jongmin Shim, "Spectral Band-structure Identification of Amplitude-dependent Viscoelastic Mechanical Metamaterials".
  Project Number: **NPRP-8-1568-2-666**
  Duration: **9/2/2016 – 9/2/2019**
  Sponsor: **QNRF-NPRP**
  Funding: **$796,032.00**

- Mohammed Hassan, Nasser Alnuaimi, **Wael Alnahhal (Co-PI)**, "Fiber-reinforced polymer (FRP) Composites for Enhanced Performance and Durability of Concrete Beams under Harsh Environment Exposures".
  Project Number: **QUCG-CAM-2018\2019-2**

Duration: **9/2/2016 – 9/2/2019**
Sponsor: **QATAR UNIVERSITY**
Funding: **300,000.00 QR**

- **Wael Alnahhal (PI)**, Alaa Taha, "Utilization of recycled materials and industrial by-products as alternative construction materials at Qatar".
  Project Number: **UREP23-113-2-04**
  Duration: **1/1/19 – 1/1/20**
  Sponsor: **QNRF-UREP**
  Funding: **$30,000.00**

- **Wael Alnahhal (PI)**, Riyadh Al-Raoush, "Construction of Qatar's Rail Using Waste Steel Slag as a Ballast Material".
  Project Number: **UREP22-006-2-002**
  Duration: **4/9/18 – 4/9/19**
  Sponsor: **QNRF-UREP**
  Funding: **$30,000.00**

- **Wael Alnahhal (PI)**, Abathar Al-Hamrani, "Shear Behavior for Fiber Reinforced Concrete Beams with Basalt FRP Reinforcing Bars".
  Project Number: **UREP21-089-2-039**
  Duration: **15/2/18 – 15/2/19**
  Sponsor: **QNRF-UREP**
  Funding: **$30,000.00**

- **Wael Alnahhal (PI)**, Ratiba Ghachi, "Behavior and Evaluation of Deflection for High-Strength MiniBar Reinforced Concrete Beams with Basalt FRP Reinforcing Bars".
  Project Number: **UREP18-162-2-065**
  Duration: **23/12/15 – 07/01/17**
  Sponsor: **QNRF-UREP**
  Funding: **$60,000.00**

- Alaa Al-Hawari, **Wael Alnahhal (Co-PI)**, "Modeling of Sand Filters Using Artificial Neural Networks (ANN)".
  Project Number: **UREP 15 -047-2-015**
  Duration: **1/3/14 – 1/3/15**
  Sponsor: **QNRF-UREP**
  Funding: **$60,000.00**

- **Wael Alnahhal (PI)**, "Flexural Behavior of Mini-Bar Reinforced Concrete Beams with Basalt FRP Reinforcing Bars".
  Project Number: **QUUG-CENG-CAE-14\15-5**
  Duration: **15/04/15 – 15/04/17**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **120,000.00 QR**

- **Wael Alnahhal (PI)**, "Behavior of Sustainable Self-Compacting Concrete using Recycled Concrete Aggregate Produced in Qatar".
  Project Number: **QUST-CENG-SPR-14/15-21**
  Duration: **15/10/2015– 15/10/2016**
  Sponsor: **QATAR UNIVERSITY**

Funding: **35,000.00 QR**

- **Wael Alnahhal (PI)**, "Effect of Chopped Basalt Fibers on the Flexural Behavior of Concrete Slabs Reinforced with FRP Bars".
  Project Number: **QUST-CENG-SPR-13/14-6**
  Duration: **01/04/14 – 01/04/15**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **150,000.00 QR**

- **Wael Alnahhal (PI), "**Optimization of Hybrid FRP-Concrete Structures**".**
  Project Number: **QUUG-CENG-CAE-13/14-7**
  Duration: **01/12/13 – 01/12/14**
  Sponsor: **QATAR UNIVERSITY**
  Funding: **120,000.00 QR**

## *II. INDUSTRY-ACADEMIA COLLABORATIVE PROJECTS*

- **Wael Alnahhal (PI), "**Behavior of Concrete made with Slag Aggregates".
  Sponsor: **SLAG AGGREGATES PRODUCER S.A.PW.L.L**
  Funding: **In Kind (Materials and Technical Support)**
  Duration: **01/09/15 – 01/07/18**

- **Wael Alnahhal (PI), "**Behavior of Concrete made with Recycled Concrete Aggregates".
  Sponsor: **Qatar Quarry Co LLC**
  Funding: **In Kind (Materials and Technical Support)**
  Duration: **01/09/15 – 01/09/17**

- **Wael Alnahhal (PI), "**Behavior of Glass FRP Reinforced Concrete".
  Sponsor: **Pultron Composites (MateenBar)**
  Funding: **In Kind (Materials and Technical Support)**
  Duration: **01/02/17 – 01/07/19**

- **Wael Alnahhal (PI), "**Behavior of Steel Fiber Reinforced Concrete".
  Sponsor: **BASF**
  Funding: **In Kind (Materials and Technical Support)**
  Duration: **01/04/18 – 01/07/20**

## *III.GRADUATE STUDENT ADVISEMENT*

1. **PhD. Thesis (Ongoing): Basalt FRP Bars: Durability and Applications in RC Elements, Qatar University.**
   Role: Dissertation sole supervisor
   Student name: Abathar Al-Hamrani
   Expected Completion date: January, 2023

2. **PhD. Thesis (Ongoing): Sustainable Concrete Using Treated Municipal Wastewater and Locally Discarded Materials: Mechanical, Durability, and Applications in RC Elements, Qatar University.**
   Role: Dissertation sole supervisor
   Student name: Abdelrahman H.F Abushanab
   Expected Completion date: May, 2023

3. **PhD. Thesis (Ongoing): Effective utilization of construction and demolition wastes,**

**industrial by-products, and FRP reinforcements: toward sustainable construction materials.**
Role: Dissertation sole supervisor
Student name: Alaa Taha
Expected Completion date: May, 2024

4. **PhD. Thesis (Ongoing): Flexural Performance of RC Slabs Strengthened with Near-Surface Mounted (NSM) Technique, Laval University.**
   Role: Co- supervisor
   Student name: Omar Naji Aljidda
   Expected Completion date: May, 2022

5. **PhD. Thesis (Completed): Spectral Band-structure Identification of Amplitude-dependent Viscoelastic Mechanical Metamaterials, Qatar University.**
   Role: Dissertation sole supervisor
   Student name: Ratiba Fatma Ghachi
   Completion date: May, 2021

6. **MSc thesis (Completed): Behavior of Fiber Reinforced Concrete structures with Recycled Concrete Coarse Aggregates, Qatar University.**
   Role: Thesis sole supervisor
   Student name: Omar Naji Aljidda
   Completion date: June, 2017

7. **MSc thesis (Completed): Flexural Behavior of Basalt Fiber Reinforced One-Way Concrete Slabs Reinforced with Fiber Reinforced Polymer Bars, Qatar University.**
   Role: Thesis sole supervisor
   Student name: Yousef Adnan Rihan
   Completion date: December, 2017

8. **MSc thesis (Completed): Effect of Chopped Basalt Fibers on the Shear Behavior of Concrete Beams Reinforced with BFRP Bars, Qatar University.**
   Role: Thesis sole supervisor
   Student name: Abathar Al-Hamrani
   Completion date: May, 2018

9. **MSc thesis (Completed): Parametric Study of Moment Redistribution of FRP Reinforced Continuous Beams, Qatar University.**
   Role: Thesis sole supervisor
   Student name: Abdulrahman Abu Shanab
   Completion date: May, 2019

10. **MSc thesis (Completed): Flexural Behavior of Continuous Basalt Fiber Reinforced Concrete Beams Reinforced with Basalt FRP Bars, Qatar University.**
    Role: Thesis sole supervisor
    Student name: Murad Adnan Farraj
    Completion date: May, 2019

11. **MSc thesis (Completed): Bond Durability of Basalt Fiber Reinforced Polymer Bars**

**Embedded in Fiber Reinforced Concrete under the Effect of Saline Environment and Elevated Temperatures, Qatar University.**
Role: Thesis sole supervisor
Student name: Alaa Taha
Completion date: May, 2019

12. **MSc thesis (Completed): Experimental and Analytical Investigation of Basalt FRP Tensile lap splice in High Strength Concrete Beams, Qatar University.**
Role: Thesis sole supervisor
Student name: Islam El-Tantawi
Completion date: December, 2019

13. **MSc thesis (Completed): Shear Behavior of Green RC Beams Reinforced with Basalt FRP Bars and Stirrups, Qatar University.**
Role: Thesis sole supervisor
Student name: Ayman Elahtem
Completion date: December, 2019

14. **MSc thesis (Completed): Manufacturing of High and Ultra-high Performance Concretes using Locally Available Materials, Qatar University.**
Role: Thesis sole supervisor
Student name: Nezam Altayeh
Completion date: December, 2021

15. **MSc thesis (Ongoing): Performance of Fiber Reinforced Concrete Beams with Lap-Spliced Bars, Qatar University.**
Role: Thesis sole supervisor
Student name: Mahmoud Adel
Expected Completion date: January, 2023

## *IV. UNDERGRADUATE STUDENT ADVISEMENT*

- Advising 6 students on QNRF-UREP research grant on research project entitled "Utilization of recycled materials and industrial by-products as alternative construction materials at Qatar", Qatar University, 2018-2019.
- Advising 6 students on QNRF-UREP research grant on research project entitled "Construction of Qatar's Rail Using Waste Steel Slag as a Ballast Material", Qatar University, 2018-2019.
- Advising 6 students on QNRF-UREP research grant on research project entitled "Shear Behavior for Fiber Reinforced Concrete Beams with Basalt FRP Reinforcing Bars", Qatar University, 2017-2018.
- Advising 6 students on QNRF-UREP research grant on research project entitled "Behavior and Evaluation of Deflection for High-Strength MiniBar Reinforced Concrete Beams with Basalt FRP Reinforcing Bars", Qatar University, 2016-2017.
- Advising 6 students on QNRF-UREP research grant on research project entitled "Modeling of Sand Filters Using Artificial Neural Networks (ANN)", Qatar University, 2014-2015.

## *V. EXTERNAL EXAMINATIONS*

1. **PhD. Thesis: Elastic Properties of Nanocomposite Cementitious Material, Qatar University.**

Role: Internal Examiner (Dissertation Defense Committee Member)
Student name: Ala Ghassan
Completion date: June, 2015

2. **MSc. Thesis: Effect of Curing on the Deterioration Of RC Structures in the Arabian Gulf, Qatar University.**
   Role: Internal Examiner (Thesis Defense Committee Member)
   Student name: Soheb Salim
   Completion date: November,2019

3. **MSc. Thesis: Strengthening of reinforced concrete beams with textile reinforced mortars, Qatar University.**
   Role: Internal Examiner (Thesis Defense Committee Member)
   Student name: Mohammed Afzal
   Completion date: January, 2016

4. **MSc. Thesis: Investigation of the Physical and Chemical Properties for an Old Building (42 Years) in Qatar, Qatar University.**
   Role: Internal Examiner (Thesis Defense Committee Member)
   Student name: Nasser Alnohmi
   Completion date: December, 2017

5. **MSc. Thesis: Experimental and Numerical Investigation of the Flexural Behavior of RC Slabs Reinforced with BFRP Bars with and without Basalt Fibers, Laval University, Canada.**
   Role: External Examiner
   Student name: Karim Attia
   Completion date: October, 2017

6. **MSc. Thesis: Characterization of Fiber-Reinforced Lightweight Concrete Made of Stalite Aggregates, Laval University, Canada.**
   Role: External Examiner
   Student name: Omar Metwally
   Completion date: August, 2018

7. **MSc. Thesis: Shear Contribution of Fiber-Reinforced Lightweight Concrete (FRLWC) Reinforced with Basalt Fiber Reinforced Polymer (BFRP) Bars s, Laval University, Canada.**
   Role: External Examiner
   Student name: Abdulrahman Abbadi
   Completion date: September, 2018

## *VI. PUBLICATIONS*

### ***Refereed Journal Papers***

1. Abushanab, A., & **Alnahhal, W.** (2022). Performance of sustainable concrete incorporating treated domestic wastewater, RCA, and fly ash. *Construction and Building Materials*, *329*, 127118 (***Corresponding Author***).
2. El Refai, A., **Alnahhal, W.,** Al-Hamrani, A., & Hamed, S. (2022). Shear performance of basalt fiber-reinforced concrete beams reinforced with BFRP bars. *Composite Structures*, *288*, 115443

(***Corresponding Author***).

3. Abushanab, A., **Alnahhal, W.,** & Farraj, M. (2022). Experimental and finite element studies on the structural behavior of BFRC continuous beams reinforced with BFRP bars. *Composite Structures*, *281*, 114982 (***Corresponding Author***).

4. Ghachi, R. F., Mohamed, A. S., Renno, J., & **Alnahhal, W.** (2022). Application of Metastructures for Targeted Low-Frequency Vibration Suppression in Plates. *Journal of Vibration Engineering & Technologies*, 1-11.

5. Eltantawi, I., **Alnahhal, W.,** El Refai, A., Younis, A., Alnuaimi, N., & Kahraman, R. (2022). Bond performance of tensile lap-spliced basalt-FRP reinforcement in high-strength concrete beams. *Composite Structures*, *281*, 114987(***Corresponding Author***).

6. Wakjira, T. G., Al-Hamrani, A., Ebead, U., & **Alnahhal, W.** (2022). Shear capacity prediction of FRP-RC beams using single and ensenble ExPlainable Machine learning models. *Composite Structures*, *287*, 115381 (***Corresponding Author***).

7. Abushanab, A., **Alnahhal**, W. I. (2021). Combined effects of treated domestic wastewater, fly ash, and calcium nitrite toward concrete sustainability. *Journal of Building Engineering*, DOI: 10.1016/j.jobe.2021.103240 (***Corresponding Author***).

8. Abushanab, A., **Alnahhal,** W. I., Sohail, M. G., Alnuaimi, N. A. N. J., Kahraman, R., Altayeh, N. (2021). Mechanical and durability properties of ultra-high performance steel FRC made with discarded materials. *Journal of Building Engineering*, DOI: 10.1016/j.jobe.2021.103264 (***Corresponding Author***).

9. Abushanab, A., **Alnahhal**, W. I. (2021). Numerical Parametric Investigation on the Moment Redistribution of Basalt FRC Continuous Beams with Basalt FRP Bars. *Composite Structures*, DOI: 10.1016/j.compstruct.2021.114618 (***Corresponding Author***).

10. Al-Hamrani, A., & **Alnahhal, W.** (2021). Shear behavior of basalt FRC beams reinforced with basalt FRP bars and glass FRP stirrups: Experimental and analytical investigations. *Engineering Structures*, *242*, 112612. DOI: 10.1016/j.engstruct.2021.112612 (***Corresponding Author***).

11. Taha, A., & **Alnahhal, W.** (2021). Bond durability and service life prediction of BFRP bars to steel FRC under aggressive environmental conditions. *Composite Structures*, *269*, 114034 (***Corresponding Author***).

12. Al-Hamrani, A., **Alnahhal**, W. I., Elahtem, A. (2021). Shear Behavior of Green Concrete Beams Reinforced with Basalt FRP Bars and Stirrups. *Composite Structures*, 114619. DOI: 10.1016/j.compstruct.2021.114619 (***Corresponding Author***).

13. Abushanab, A., **Alnahhal, W.**, & Farraj, M. (2021). Structural performance and moment redistribution of basalt FRC continuous beams reinforced with basalt FRP bars. *Engineering Structures*, *240*, 112390.

14. Al-Hamrani, A., Kucukvar, M., **Alnahhal, W**., Mahdi, E. and Onat, N.C., (2021). Green Concrete for a Circular Economy: A Review on Sustainability, Durability, and Structural Properties. *Materials*, *14*(2), p.351.

15. Renno, J., Sassi, S., & **Alnahhal, W. I.** (2021). Calculating the response of waveguides to base excitation using the wave and finite element method. *Journal of Vibration and Control*, 1077546320981315.

16. Sohail, M. G., Kahraman, R., Al Nuaimi, N., Gencturk, B., & **Alnahhal, W.** (2021). Durability

characteristics of high and ultra-high performance concrete. *Journal of Building Engineering*, *33*, 101669.

17. Sohail, M. G., **Alnahhal, W.**, Taha, A., & Abdelaal, K. (2020). Sustainable alternative aggregates: Characterization and influence on mechanical behavior of basalt fiber reinforced concrete. *Construction and Building Materials*, *255*, 119365 (***Corresponding Author***).

18. Ghachi, R. , **Alnahhal, W**. , Abdeljaber, O., Renno, J., Haque, A., Shim, J., & Aref, A. (2020). Optimization of Viscoelastic Metamaterials for Vibration Attenuation Properties. *International Journal of Applied Mechanics*, 2050116.

19. Attia, K., El Refai, A., & **Alnahhal, W.** (2020). Flexural Behavior of Basalt Fiber–Reinforced Concrete Slab Strips with BFRP Bars: Experimental Testing and Numerical Simulation. *Journal of Composites for Construction*, *24*(2), 04020007.

20. Sohail, M. G., Kahraman, R., Alnuaimi, N. A., Gencturk, B., **Alnahhal, W.**, Dawood, M., & Belarbi, A. (2020). Electrochemical behavior of mild and corrosion resistant concrete reinforcing steels. *Construction and Building Materials*, *232*, 117205.

21. Taha, A., **Alnahhal, W.,** & Alnuaimi, N. (2020). Bond durability of basalt FRP bars to fiber reinforced concrete in a saline environment. *Composite Structures*, *243*, 112277 (***Corresponding Author***).

22. Tahidul H., Ghachi Ratiba, **Alnahhal W.**, Aref A, Shim J. (2019) "Hybrid Split Hopkinson Pressure Bar to Identify Impulse-dependent Wave Characteristics of Viscoelastic Phononic Crystals", **Experimental Mechanics,** 59(1), pp.95-109.

23. Attia, K., **Alnahhal, W.**, ElRefai, A, Rihan, Y., (2019). Flexural behavior of basalt fiber-reinforced concrete beams reinforced with BFRP and GFRP bars. **Composite Structures**, 211, 1-12 (***Corresponding Author***).

24. **Alnahhal, W.,** Aref, A., (2019). Numerical Evaluation of Dynamic Response by using Modified Newmark's Method. **Jordan Journal of Civil Engineering, v** 13, no. 1 (***Corresponding Author***).

25. Tahidul H., Ghachi Ratiba, **Alnahhal W.**, Aref A, Shim J. (2018) Sagittal Plane Waves in Infinitely Periodic Multilayered Composites Composed of Alternating Viscoelastic and Elastic Solids. **ASME. J. Appl. Mech**., v 85, no (4), p.041001.

26. **Alnahhal, W.**, & Aljidda, O. (2018). Flexural behavior of basalt fiber reinforced concrete beams with recycled concrete coarse aggregates. **Construction and Building Materials**, 169, 165-178 (***Corresponding Author***).

27. **Alnahhal, W.,** Taha, R., Alnuaimi, N., & Al-Hamrani, A. (2019), "Properties of Fibre Reinforced Concrete Made with Discarded Materials", **Magazine of Concrete Research,** DOI:10.1680/jmacr.17.00293 (***Corresponding Author***).

28. **Alnahhal, W.,** Taha, R., Al-Nasseri, H., & Nishad, S. (2017), "Effect of using cement kiln dust as a nano-material on the strength of cement mortars", **KSCE Journal of Civil Engineering**, 22(4), 1361-1368, DOI: 10.1007/s12205-017-0010-6 (***Corresponding Author***).

29. Tahidul H., Ghachi Ratiba, **Alnahhal W.**, Aref A, Shim J. (2017), "Generalized Spatial Aliasing Solution for the Dispersion Analysis of Infinitely Periodic Multilayered Composites Using the Finite Element Method", **ASME Journal of Vibration and Acoustics**, 139(5).

30. Alaa H Hawari, **Wael Alnahhal** (2016), "Predicting the performance of multi-media filters using artificial neural networks", **Water Science and Technology**, v 74, DOI: 10.2166/wst.2016.380.

31. Tahidul H., Ghachi Ratiba, **Alnahhal W.**, Aref A, Shim J. (2019) "Hybrid Split Hopkinson Pressure Bar to Identify Impulse-dependent Wave Characteristics of Viscoelastic Phononic Crystals", **Experimental Mechanics,** 59(1), pp.95-109.

32. **Alnahhal, W.**, and Aref, A.J (2008), "Structural performance of hybrid fiber reinforced polymer-concrete bridge superstructure systems", **Journal of Composite Structures**, v 84, n 4, pp 319-336 (***Corresponding Author***).

33. **Alnahhal, W.**, Aref, A. and Alampalli, S. (2008). "Composite Behavior of Hybrid FRP-Concrete Bridge Decks on Steel Girders.", **Journal of Composite Structures**, v 84, n 1, pp 29-43 (***Corresponding Author***).

34. **Alnahhal, W**., Chiewanichakorn, M., Kitane, Y., Aref, A.J., and Alampalli, S. (2007). "Simulations of Structural Behavior of Fiber Reinforced Polymer Bridge Deck under Thermal Effects", **International Journal of Materials and Product Technology**, v 28, n 1/2, pp 122-140 (***Corresponding Author***).

35. Aref, A.J., and **Alnahhal, W**. (2007), "Experimental Evaluation of a Hybrid FRP-Concrete Bridge Superstructure System Under Negative Moment Flexural Loads", **Jordan Journal of Civil Engineering**, V 1, n 4, pp 336-342.

36. **Alnahhal, W.**, Aref, A.J., and Chiewanichakorn, M. (2006), "Temporal Thermal Behavior and Damage Simulations of FRP Deck", **Journal of Bridge Engineering, ASCE**, v 11, n 4, pp 452-465 (***Corresponding Author***).

## ***Articles in Refereed Conference Proceedings***

37. Abushanab, A., & **Alnahhal, W.** (2022). Characteristics of Concrete Made with Treated Domestic Wastewater. In *Proceedings of 2021 4th International Conference on Civil Engineering and Architecture* (pp. 231-235). Springer, Singapore.

38. Abushanab, A., **Alnahhal, W.** (2020). Performance of Basalt Fiber Reinforced Continuous Beams with Basalt FRP Bars. 3rd International Conference on Civil Engineering and Architecture (ICCEA 2020) 28-30 June 2020, Compiègne, France, IOP Conference Series: Materials Science and Engineering (Vol. 910, p. 12004).

39. Fatma, G. R., **Alnahhal**, W. I., Abdeldjaber, O. (2020). Cantilever Beam Metastructure for Passive Broadband Vibration Suppression. Doha: Qatar Univesrity Press.

40. Sohail, M. G., Kahraman, R., Alnuaimi, N. A. N. J., **Alnahhal**, W. I., Wasee, M. (2020). High and Ultra-high Performance Concretes: A Solution to Reinforced Concrete Durability under Harsh Climate of Arabian Gulf. Qatar University Press.

41. Ghachi, R. F., **Alnahhal, W. I.** (2018) "Numerical study of the attenuation properties of viscoelastic metamaterials" *IOP Conference Series: Materials Science and Engineering* (Vol. 380, No. 1, p. 012002). IOP Publishing.

42. Ghachi, R. F., **Alnahhal, W. I.** (2018) "Experimental study of the attenuation properties of metal-viscoelastic bi-layered materials" *IOP Conference Series: Materials Science and Engineering* (Vol. 380, No. 1, p. 012002). IOP Publishing.

43. Taha, A., **Alnahhal, W. I**., Rihan, Y. (2017) "Influence of FRP Reinforcement Ratio on Flexural Behavior of Concrete One-Way Slabs", Proc. of the Sixth International Conference on Advances in Civil, Structural and Environmental Engineering-ACSEE 2017, Rome, Italy, 9-10 December 2017. doi: 10.15224/ 978-1-63248-139-9-32.

44. Aljidda, O., **Alnahhal, W. I**. (2017) "Influence of Replacement Ratio of Recycled Concrete Aggregates on Flexural Behavior of Concrete Beams", Proc. of the Sixth International Conference on Advances in Civil, Structural and Environmental Engineering-ACSEE 2017, Rome, Italy, 9-10 December 2017. doi: 10.15224/ 978-1-63248-139-9-33.

45. Al-Hamrani, A., **Alnahhal, W.,** Alnuaimi, N. (2017). "Shear Behavior of Fiber Reinforced Concrete Beams Reinforced with Basalt FRP Bars", Proc. of the Sixth International Conference on Advances in Civil, Structural and Environmental Engineering-ACSEE 2017, Rome, Italy, 9-10 December 2017. doi: 10.15224/ 978-1-63248-139-9-29.

46. **Alnahhal, W.** (2017). Behaviour of fibre reinforced concrete using steel slag coarse aggregate produced in Qatar. International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17), University of Sharjah, UAE, MATEC Web of Conferences (vol. 120).

47. **Alnahhal, W.**, ElRefai, A. (2016). "Behavior of Fiber Reinforced Concrete Using Recycled Concrete Aggregate in Qatar", International Conference on Infrastructure Management, Assessment and Rehabilitation Techniques, American University of Sharjah, UAE, 6-8 March 2016.

48. **Alnahhal, W.**, (2015). "An Analytical Study of FRP-Concrete Bridge Superstructures" International Conference on Civil, Infrastructure and Urban Engineering, Vancouver-Canada, August 6-8, 2015.

49. **Alnahhal, W.**, (2014). "Preliminary Optimization of Hybrid FRP-Concrete Bridge Systems" Scientific Cooperation International Workshops on Engineering Branches, Koc University, Istanbul, 8-9 August 2014.

50. Warn, G., **Alnahhal, W.**, and Aref, A. (2010). "Analytical and Experimental Studies of Hybrid FRP--Concrete Bridge Systems." Fiber Reinforced Polymer (FRP) Composites for Infrastructure Applications Conference, San Francisco, November 4-6, 2009.

51. **Alnahhal, W.**, and Aref, A.J., (2008), "Experimental and Analytical Evaluation of Hybrid FRP-Concrete Bridge Deck System", ACMBS-V, Winnipeg, Canada, September 2008.

52. Aref, A. and **Alnahhal, W**., (2007), "Development of Hybrid FRP-Concrete Bridge Deck System," SAMPE '07, Baltimore, Maryland, June 3-7, 2007.

53. **Alnahhal, W. I**., Aref A.J., and Alampalli, S. (2007. "Composite Action of FRP decks on Steel Girders", ASNT 16th Annual Research Symposium Program Dates: March 27-29, 2007.

54. Aref, A.J., and **Alnahhal, W. I.** (2007), "Nonlinear Behavior of Hybrid FRP-Concrete Bridge Deck and Superstructure Systems", 8th International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS-8), Patras, Greece July 16-18, 2007.

55. **Alnahhal, W.I.**, Chiewanichakorn, Alampalli, S., and Aref, A.J. (2006), "Simulations of Fire Temporal Thermal Behaviour of Fibre Reinforced Polymer Bridge Decks", Conference Proceedings, The Eighth International Conference on Computational Structures Technology (CST 2006), Las Palmas de Gran Canaria, Spain, September 12-15, 2006.

56. **Alnahhal, W. I.**, Aref, A.J., and Alampalli, S. (2006), "Experimental Evaluation of a Hybrid FRP-Concrete Bridge Deck on Steel Girders", 43rd Annual Technical Meeting Society of Engineering Science (SES 2006), University Park, Pennsylvania, August 13-16, 2006.

57. **Alnahhal, W. I.**, Aref, A.J., and Alampalli, S. (2006), "Evaluation of A Hybrid FRP-Concrete Bridge Deck on Steel Girders", 15th Annual Research Symposium of ASNT, Orlando, Florida,

March 13-17, 2006.

58. Chiewanichakorn, M., **Alnahhal, W.I.**, and Aref, A.J. (2006), "Thermal Analyses of Fiber Reinforced Polymer Bridge Deck Systems", Conference Proceedings, Earth & Space 2006– 10th ASCE Aerospace Division International Conference on Engineering, Construction and Operations in Challenging Environments, Houston, Texas, March 5-8, 2006.

59. **Alnahhal, W. I.**, Aref, A.J., and Alampalli, S. (2005), "Performance of A Hybrid FRP-Concrete Bridge Superstructure System", ASNT Fall Conference & Quality Testing Show 2005, Columbus, OH, October 17-21,2005.

60. Aref, A.J., Chiewanichakorn, M., Alampalli, S., **Alnahhal, W.I**., and Kitane, Y. (2005), "On the Temporal Thermal Behavior of Fiber Reinforced Polymer Bridge Decks", The Fourth Middle East Symposium on Structural Composites for Infrastructure Applications 2005 (MESC 2005), Alexandria, Egypt, May 20-23, 2005.

***Books and Technical Reports***

61. **Alnahhal, W.I.,** Ghachi, R. (2017), "Behavior and Evaluation of Deflection for High-Strength MiniBar Reinforced Concrete Beams with Basalt FRP Reinforcing Bars", Final UREP Research Report submitted to QNRF, Qatar Foundation, Qatar.

62. **Alnahhal, W.I.** (2017), "Flexural Behavior of Mini-Bar Reinforced Concrete Beams with Basalt FRP Reinforcing Bars", Final Research Report submitted to Research Office, Qatar University, Qatar.

63. **Alnahhal, W.I.** (2016), "Behavior of Sustainable Self-Compacting Concrete using Recycled Concrete Aggregate Produced in Qatar", Final Research Report submitted to Research Office, Qatar University, Qatar.

64. Hawari, A., **Alnahhal, W.I.** (2015), "Modeling of Sand Filters Using Artificial Neural Networks (ANN)", Final UREP Research Report submitted to QNRF, Qatar Foundation, Qatar.

65. **Alnahhal, W.I.** (2015), "Optimization of Hybrid FRP-Concrete Structures", Final Research Report submitted to Research Office, Qatar University, Qatar.

66. **Alnahhal, W.I.** (2007), "Structural characteristics and failure prediction of hybrid FRP-concrete bridge deck and superstructure systems", Ph.D. Dissertation, State University of New York at Buffalo. 301 pages.

67. Aref, A.J., and **Alnahhal, W.I.** (2007), "Hybrid FRP-Concrete Bridge Deck Systems", Report submitted to New York State Department of Transportation, Albany, New York.

68. Aref, A.J., Chiewanichakorn, M., and **Alnahhal, W.I.** (2004), "Temporal Thermal Behavior and Damage Simulations of FRP Deck", Report submitted to New York State Department of Transportation, Albany, New York.

## VII. *CONFERENCES/WORKSHOPS ATTENDANCE AND PRESENTATIONS*

1. The 6th International Conference on Nanomaterials and Materials Engineering- ICNME 2018, Langkawi, Malaysia, 23–25 March 2018.
2. Workshop about challenges of building and construction sector in Qatar due to blockade, Doha, Qatar, March 06, 2018
3. Sixth International Conference on Advances in Civil, Structural and Environmental Engineering - ACSEE 2017, Rome, Italy, 9-10 December 2017.

4. Joint Symposium on Research Activities in Qatar, Doha, Qatar, October 25, 2017.
5. Future Concrete Conference 2017, Doha, Qatar, May 15, 2017.
6. International Conference on Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17), University of Sharjah, UAE, 18-20, April 2017.
7. International Conference on Infrastructure Management, Assessment and Rehabilitation Techniques, American University of Sharjah, UAE, 6-8 March 2016
8. **Session Chair**, 17th International Conference on Civil, Infrastructure and Urban Engineering, Vancouver, Canada, August 06-07, 2015.
9. Arab Future Cities Summit 2015, Doha, Qatar, 14-15 April 2015.
10. Scientific Cooperation International Workshops on Engineering Branches, Koc University, Istanbul, 8-9 August 2014.
11. 6th Annual Facade Design & Engineering Summit 2014, Doha, Qatar, 24-25 February 2014.
12. The 6th Annual Bridges Middle East Qatar 2013, Doha, Qatar, 13-14 November 2013.
13. The Ninth U.S. National and Tenth Canadian Conference on Earthquake Engineering, Toronto, Canada, July 25-29, 2010.
14. Fiber Reinforced Polymer (FRP) Composites for Infrastructure Applications Conference, San Francisco, November 4-6, 2009.
15. 5th International Conference on Advanced Composite Materials in Bridges and Structures (ACMBS-V 2008): Winnipeg, Manitoba, Canada, 22-24 September 2008.
16. SAMPE ’07, Baltimore, Maryland, June 3-7, 2007.
17. ASNT 16th Annual Research Symposium Program, USA, March 27-29, 2007.
18. 8th International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures (FRPRCS-8), Patras, Greece July 16-18, 2007.
19. The Eighth International Conference on Computational Structures Technology (CST 2006), Las Palmas de Gran Canaria, Spain, September 12-15, 2006.
20. Annual Technical Meeting Society of Engineering Science (SES 2006), University Park, Pennsylvania, August 13-16, 2006.
21. 15th Annual Research Symposium of ASNT, Orlando, Florida, March 13-17, 2006.
22. Earth and Space 2006 Conference Houston TX, March 5-8, 2006.
23. ASNT Fall Conference & Quality Testing Show 2005, Columbus, OH, October 17-21,2005.
24. The Fourth Middle East Symposium on Structural Composites for Infrastructure Applications 2005 (MESC 2005), Alexandria, Egypt, May 20-23, 2005.

## *VIII. TECHNICAL REVIEWER*

- Journal of Structural Engineering, ASCE.
- Canadian Journal of Civil Engineering.
- Construction and Building Materials
- Journal of Civil Engineering, KSCE.
- ASCE-Journal of Bridge Engineering.

- Advanced Composite Materials.
- Case Studies in Construction Materials.
- The Second European and Mediterranean Structural Engineering and Construction Conference.

## *IX. RESEARCH INTERESTS*

- Structural Engineering.
- Application advanced composite materials (FRP) in the infrastructure and in upgrading deteriorating structures.
- Smart Materials.
- Reuse of recycled materials in concrete.
- Composite materials damage mechanics.
- Computational mechanics.
- Earthquake Engineering.

## TEACHING EXPERIENCE

Qatar University, Qatar
Dept. of Civil & Architectural Engineering
**Assistant Professor**, September 2013–Present

Courses Taught:

***Graduate Courses***

- Advanced Topics in Civil Engineering (CVEN-610) ***"Newly Developed Course"***
  Spring, 2014: Enrollment: 9
  Spring, 2015: Enrollment: 5
  Spring, 2017: Enrollment: 6
  Spring, 2018: Enrollment: 14
- Advanced Selected Topics (CVEN-652) ***"Newly Developed Course"***
  Spring, 2016: Enrollment: 3
- Master Thesis (GENG-695)
  Fall, 2015: Enrollment: 1
  Fall, 2016: Enrollment: 2
  Fall, 2017: Enrollment: 4
  Fall, 2018: Enrollment: 6
  Spring, 2016: Enrollment: 1
  Spring, 2017: Enrollment: 2
  Spring, 2018: Enrollment: 4
- PhD Dissertation (DENG 699)
  Spring, 2018: Enrollment: 1
  Fall, 2018: Enrollment: 1

***Undergraduate Courses***

- Strength of Materials (CVEN-214)
  Spring, 2014: Enrollment: 46

Spring, 2015: Enrollment: 47
Spring, 2017: Enrollment: 34

- Analysis of Structures (CVEN-220)
  Spring, 2014: Enrollment: 27
  Spring, 2015: Enrollment: 33
  Fall, 2015: Enrollment: 31

- Design of Reinforced Concrete Members (CVEN-320)
  Fall, 2016: Enrollment: 22
  Fall, 2017: Enrollment: 35
  Spring, 2018: Enrollment: 25

- Analysis of Indeterminate Structures (CVEN-321)
  Fall, 2013: Enrollment: 32
  Fall, 2014: Enrollment: 37
  Fall, 2015: Enrollment: 36
  Fall, 2016: Enrollment: 39
  Fall, 2017: Enrollment: 39

- Practical Training (CVEN-399)
  Summer, 2014: Enrollment: 41

- Design of Steel Structures (CVEN-420)
  Fall, 2013: Enrollment: 25
  Fall, 2014: Enrollment: 14
  Fall, 2015: Enrollment: 27
  Fall, 2016: Enrollment: 41
  Fall, 2017: Enrollment: 47
  Fall, 2018: Enrollment: 70

***Senior Design Project Supervision (Main Advisor)***

- Senior Design Project I (CVEN-401)
  Fall, 2013: Enrollment: Three groups
  Spring 2014: Enrollment: One group
  Fall, 2014: Enrollment: One group
  Spring, 2015: Enrollment: One group
  Fall, 2015: Enrollment: Three groups
  Spring 2016: Enrollment: One group
  Fall, 2016: Enrollment: Five groups
  Fall, 2017: Enrollment: One group
  Spring, 2018: Enrollment: One group
  Fall, 2018: Enrollment: One group

- Senior Design Project II (CVEN-402)
  Spring 2014: Enrollment: Three group
  Fall, 2014: Enrollment: One group
  Spring, 2015: Enrollment: One group
  Fall, 2015: Enrollment: One group
  Spring 2016: Enrollment: Three groups
  Fall, 2016: Enrollment: One groups
  Spring, 2017: Enrollment: Five groups
  Fall, 2017: Enrollment: One group
  Spring, 2018: Enrollment: One group

Fall, 2018: Enrollment: One group

University of Dammam, Saudi Arabia
Department of Construction Engineering
**Assistant Professor**, September 2012– September 2013

Courses Taught:

- Topics in Concrete Structures (CONEN-583)
  Fall, 2012; Enrollment: 19
- Senior Graduation Project I (CONEN-521)
  Fall, 2012; Enrollment: 4
- Strength of Materials (ENG-351)
  Fall, 2012; Enrollment: 39
- Senior Graduation Project II (CONEN-522)
  Spring, 2013; Enrollment: 4
- Topics in Structural Analysis (CONEN-573)
  Spring, 2013; Enrollment: 11
- Statics (ENG-232)
  Spring, 2013; Enrollment: 44

University at Buffalo, State University of New York
Department of Civil, Structural and Environmental Engineering
**Teaching Assistant**, August 2002–May 2003
Duties:

- Organize, lecture, and grade two undergraduate classes in "Material Science" and "Dynamics".
- Assist graduate-level "Finite Element Method" class in structural modeling using ABAQUS.

University at Buffalo, State University of New York

Department of Civil, Structural and Environmental Engineering
**Teaching Assistant**, September
2005 Duties:

- Assist in a Professional Engineer short-course (3 days workshop) on structural modeling using ABAQUS and PATRAN software.

Jordan University of Science and Technology
Department of Civil Engineering
**Teaching Assistant,** February 2000 – August
2001 Duties:

- Organize, lecture, and grade six undergraduate classes in "Materials Construction Laboratory", "Structural Analysis", "Concrete Design", "Materials Science", "Economic Engineering", and "Construction of Material and Structure Management".
- Organize, lecture, and grade graduate-level class in "Structural Dynamics".

## TECHNICAL WORKSHOPS

- OFID Workshop, "Qwickly Attendance Tool", Qatar University, Qatar, March 01, 2018.
- Department of Civil Engineering Workshop, "challenges of building and construction sector in Qatar due to blockade", Qatar University, Qatar, March 03, 2018.

- Department of Civil Engineering Workshop, "Advances in Civil Engineering and potential developments and implementations for Qatar", Ashghal, Qatar, April 4, 2018.
- Fourth Symposium and Workshop on Design for Fire Safety in Buildings and Built Infrastructure, Qatar University, Qatar, 7-8 March, 2017
- OFID Workshop, "Helping At-Risk Students Succeed", Qatar University, Qatar, March 01, 2017.
- College of Engineering Workshop, "Advances on Engineering Innovation & Education: Practice and Research", Qatar University, Qatar, June 15, 2016.
- Department of Civil Engineering Workshop, "Nondestructive Techniques for Structural Evaluation ", Qatar University, Qatar, April 24, 2015.
- OFID Workshop, "Teaching First-Year Students: Mistakes Made and Lessons Learned", Qatar University, Qatar, January 20, 2015.
- College of Engineering Workshop, "Aggregates Recycling in Concrete Structures", Doha, Qatar, March 29, 2015.
- ReforceTech Workshop, "Reinforced Freedom- All about Basalt MiniBars", Doha, Qatar, June 24, 2014.
- OFID Workshop, "Promoting Academic Integrity", Qatar University, Qatar, November 11, 2013.
- Deanship of Education Development workshop, "Communication Skills", University of Dammam", December 3, 2012.
- Deanship of Education Development workshop, "Assessment Strategies in Higher Education", University of Dammam", November 28, 2012.
- Deanship of Education Development workshop, "Students Learning Outcomes", University of Dammam", December 10, 2012.
- Deanship of Education Development workshop, "Interactive Lecturing Skills", University of Dammam", November 26, 2012.
- CISC continuing education course, "Seismic Design of Steel Framed Buildings", March 2009.
- CISC continuing education course, "Bolting and Welding for Design Engineers", November 2007.
- CISC continuing education course, "Steel-Framed Commercial Building Design", March 2007.
- University at Buffalo CTLR Teaching Workshop for Teaching Assistants, January 2003.
- GIS (Arc View) Workshop, Yarmouk University, Jordan, 02-15 January 2000.
- Construction Management (Primavera) Workshop, Jordan University of Science & Technology, Jordan, June 28, 1999- July 5, 1999.

## SERVICES AND COMMUNITY ENGAGEMENT

- Member of the Faculty Senate Board at Qatar University: January 2016 until present.
- Chair of the Civil Engineering Department Scheduling Committee: January 2014 until present.
- Instructor at Honor Program at Qatar University: Fall 2017-Fall 2018.
- Member/chair of the Different Recruitment Committees: different dates.
- Chair of the Organizing Committee for the Fourth High-School Wooden Bridge Competition: Spring 2017.
- Chair of the Organizing Committee for the sixth High-School Wooden Bridge Competition: Spring 2019.

- Guest Speaker at Local Workshops and Conferences in Qatar: different dates.
- Member of MSc and PhD Thesis Supervisory Committees: different dates.
- Member of Technical Committees Appointed by Qatar's Attorney General to Look into the Reasons of the Damage Caused by Rain Occurred on November 25, 2015.
- Technical Reviewer of Scientific Papers in a Number of International Journals and Conferences: different dates.
- Collaboration with industry (local and international companies): different dates.
- Middle Eastern Student Club (MESC), Senator – University at Buffalo: August 2004 - September 2005.
- Middle Eastern Student Club (MESC), Treasurer – University at Buffalo: August 2004 – December 2006.

## PROFESSIONAL EXPERIENCE (INDUSTRY)

Halcrow Yolles, A CH2M- HILL Company, Toronto, Canada
**Senior Engineer,** January 02, 2007– September 01, 2012

Duties:

- Project engineer on a wide range of engineering projects, includes both large and small scale structures utilizing concrete, steel, timber, FRP composites, and masonry construction.
- A member in the research and development committee at Halcrow Yolles.
- Design and supervise the construction of a variety of projects in the Industrial, Commercial, Health Care, Institutional, and Transportation sectors in Canada, UK, and Middle East.
- Peer review of the seismic design of tall and ultra-tall buildings and bridges.
- Conceptual and detailed design according to American, Canadian, and British Standards, preparation of construction drawings and specifications, and site review of new construction, and structural evaluation of existing buildings.
- Develop and maintain client relationships as well as relationships with building officials and review agencies.
- Finite Element vibration analysis of various structures and pedestrian bridges.
- Supervise, mentor and train new engineers and interns.

Selected Project Experience:

- TTC Eglinton West LRT Extension – A new underground LRT Station at Eglinton West Station which provides a multi-model link interchange with the main line TTC and bus routes – Toronto, Canada
- 18 York Street- 28-Story Tower, Toronto, Canada.
- Oqyana World First- Total gross floor area of the islands is about 494,000 m2, Dubai, United Arab Emirates.
- Millharbour Quarter- Four High-Rise Towers (1.2 million ft2 gross floor area), London, UK.
- Richmond Adelaide Centre-100 Adelaide Tower (38 story Tower), Toronto, Canada.
- Heron Quay West- Three High-Rise Towers, London, UK.
- Qatar Integrated Railway Project- Doha Metro- Redline North Underground Stations, Doha, Qatar.
- Riverside South- Two High-Rise Towers, and a Podium, London, UK.
- 20 Fenchurch Street- 38-Story Tower (91,200 m2 gross floor area), London, UK.
- Hotel Dieu Grace Hospital (19,200 m2 gross floor area), Windsor, Canada.

Industries for Construction Equipment Company, Jordan
**Design Engineer (Part-time),** July 1999 – August 2002

Duties:

- Design of formwork for bridges, and high-rise buildings.
- Design of reinforced concrete residential buildings.
- Development of construction specifications.
- Conduct site visits and writing reports.

Maunsell Ltd., Beckenham, London, United Kingdom
**Engineer-in-Training**, June 1999 – August 1999

Duties:

- Construct a number of drawings and specifications for the Copenhagen Metro.

Rafah Municipality, Rafah, Palestine
**Engineer-in-Training**, August 1999 – September 1999

Duties:

- Design and monitor part of the Rafah Park.

## COMPUTER SKILLS

- Programming: FORTRAN 90, and Matlab.
- Engineering graphics: AutoCAD (14, 2000-2016).
- Finite elements: ABAQUS, ATENA, SAP2000, and MSC PATRAN.
- Engineering software: ETABS, SAP, SAFE, RAM Steel, FASTRAK, S-Frame, S-Steel, RAM Concept, and S-Concrete